7-2-2014

The Amplification of Deviance Following Police Contact: An Examination of Individual and Neighborhood Factors among a Sample of Youth

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A Dissertation Submitted to The Graduate School at
the University Of Missouri – St. Louis in
partial fulfillment of the requirements for the degree
Doctor of Philosophy in Criminology and Criminal Justice

July 2014

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Research indicates that police contact has many negative ramifications. Individuals who are stopped or arrested have fewer educational and employment opportunities, more deviant identities and attitudes, increased involvement with delinquent peers, and higher levels of delinquency. Less is known about whether these adverse consequences are universal or if they are more prevalent among some segments of the population. In this dissertation I draw on labeling theory to explore the effects of police contact for a sample of juveniles. According to labeling theory and its extensions, official labels such as those associated with police contact should lead to delinquency through three primary mechanisms: social exclusion and the attenuation of prosocial bonds, development of a deviant identity, and involvement with deviant groups. Because few studies have examined the effects of police contact on these labeling mechanisms simultaneously, this dissertation extends prior research by assessing whether the labeling process varies by race, sex, age, attitudes toward the police, and neighborhood structural characteristics.

This dissertation uses self-report data collected from a sample of 1,534 youth who participated in the National Evaluation of the Gang Resistance Education and Training (G.R.E.A.T.) program. In addition, information on the neighborhoods in which the youth reside is taken from the 2000 United States Census. Using four waves of data to ensure proper temporal ordering, path modeling is used to examine the relationship between police contact, the proposed mediators, and later delinquency. Propensity score matching is used to adjust for selection bias associated with observed characteristics.

The results indicate that the effects of police contact are consistent with labeling theory and are largely invariant across groups. Overall, youth who experience police contact are more delinquent, and this relationship is accounted for by each of the labeling mechanisms to some degree, with involvement in delinquent groups explaining the largest increases in delinquency. Police contact also retains a direct effect on delinquency, which suggests that the labeling mechanisms included in this study do not fully capture the labeling process. The results are discussed in terms of the development of labeling theory and the implications for delinquency prevention and intervention efforts.

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DISCLAIMER

This research was made possible, in part, by the support and participation of seven school districts, including the School District of Philadelphia. This project was supported by Award No. 2006-JV-FX-0011 awarded by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. The opinions, findings, and conclusions or recommendations expressed in this publication are those of the author and do not necessarily reflect the views of the Department of Justice or of the seven participating school districts.

ACKNOWLEDGEMENTS

The completion of this dissertation came with guidance and support from a number of people. First, my dissertation chair and advisor for the past five years, Finn Esbensen, provided both academic and non-academic socialization and offered countless words of wisdom. His support (along with some prodding) helped me to complete the Ph.D. in a relatively timely manner and allowed me to attend some amazing conferences along the way. I am thankful to have had the opportunity to work with him in Finnland and I look forward to many more years of collaboration. My adopted advisor and soccer teammate, Lee Slocum, also deserves great thanks for putting up with my constant questions and requests for advice. I have learned so much from her analytic expertise and ability to think critically, and hope that we continue to collaborate even after I leave UMSL. Another invaluable member of the dissertation committee who also shaped my graduate school experience is Bob Bursik. His feedback regarding coursework, the qualifying papers, the dissertation, and Oreo cupcakes has made this process an amazing learning experience while somehow managing to make it a little less boring. Finally, Karen Heimer's kind words and thoughtful insight helped to shape the final product, and I am happy to have gotten to know her better through this experience.

Outside of the academic world, I would like to recognize my family for their support and patience. Although I am sure they are not happy that I live so far away, my parents, Jim and Shelley Wiley, were always available to listen to my concerns and share their pride for my work. My husband, John Kusner, deserves huge thanks for listening to the ins and outs of this process, putting up with my odd work hours, and for being my go-

to tech genius. Finally, thanks go to my younger brother, Nick, who proofread this dissertation.

I am truly grateful to have had this experience at UMSL and lucky to have gotten to know so many great people among the students and faculty. I am happy to leave here knowing that I have made lifelong friends and colleagues. By my side throughout this entire process was Kim Kras, who started and completed this journey with me. As we go our separate ways, I hope that we will both end up on the West Coast again, but if not, at least I know I will have a conference buddy for life!

CHAPTER ONE: INTRODUCTION

For many youth, police contact (i.e., being stopped and/or arrested) appears to be a relatively common experience. National estimates indicate that anywhere between 16 and 27 percent of youth are arrested by the age of 18 (Brame, Turner, Paternoster, and Bushway, 2012). Official arrest statistics suggest that the majority of these arrests – over 82 percent – are due to non-index offenses (OJJDP, 2012). Despite evidence that police contact is associated with detrimental consequences, including fewer educational and employment opportunities, more deviant attitudes and beliefs, greater involvement with delinquent peers, and increased offending (Ageton and Elliott, 1974; Bernburg, Krohn, and Rivera, 2006; Kaplan and Johnson, 1991; Kirk and Sampson, 2013; Lopes et al., 2012; Wiley, Slocum, and Esbensen, 2013), many current deterrence-oriented policing strategies increase the number of youth being stopped by the police and processed by the justice system. For instance, aggressive "stop and frisk" policies, arrests for minor violations, and the increased presence of officers in schools have increased the number of youth coming into contact with the justice system (for review, see Jones-Brown, Gill, and Trone, 2010; Petteruti, 2011). Furthermore, calls for collaboration between the juvenile justice system and schools to provide early intervention services (e.g., Farrington, 2012; Wright et al., 2012) could result in justice system contact beginning long before youth reach adolescence.

Given that nearly one in four youth report ever being arrested and an unknown, but presumably, greater number are stopped and questioned, it is necessary to understand the potential ramifications of police contact and whether they vary across individuals and communities. One promising avenue of research is labeling theory, or the deviance

amplification hypothesis. The theory posits that deviant labels increase youths' involvement in delinquency through exclusion from the prosocial community, commitment to deviant identities, and involvement with delinquent groups (Lemert, 1951; 1967; see also, Becker, 1991 [1963]; Bernburg, 2009; Paternoster and Iovanni, 1989). Although prior research has examined the relationship between official labels and some of these factors, few studies have assessed the effects of police contact on each of these mechanisms simultaneously while also examining whether the effects vary across groups.

A number of studies have found support for labeling theory, but some research has indicated that police contact has a deterrent or null effect (for review, see Huizinga and Henry, 2008). Some of these divergent findings are attributable to operational and methodological differences. For instance, studies that utilize self-report data or examine outcomes associated with early justice system intervention (i.e., arrest or less serious contact) often find support for labeling theory, but those that rely on official delinquency records or assess the effects of later system involvement (e.g., court processing) are more likely to find a deterrent or null effect. Researchers have suggested that this is likely due to the fact that the labeling process has nearly run its course by the time youth are processed by the courts, and processed youth are immune to additional effects the label may have (Paternoster and Iovanni, 1989). Alternatively, researchers have argued that labeled youth are more likely to participate in delinquency after justice system contact simply because they are different to begin with, and unless researchers properly account for selection bias associated with police contact or justice system involvement, they may

incorrectly conclude that police contact amplifies deviance (Smith and Paternoster, 1990).

Another explanation for variation in support for labeling theory is the failure to consider the intervening mechanisms through which police contact leads to deviance amplification. Researchers are more likely to conclude that police contact has a direct effect on delinquency when they do not include measures of social exclusion, delinquent peers, and deviant identity, which are the mechanisms thought to explain the police contact-delinquency relationship. Moreover, improper temporal ordering or too few waves of data do not adequately allow researchers to assess whether the proposed labeling mechanisms account for the relationship between police contact and delinquency. More recent research has emphasized the importance of these intervening mechanisms, and several studies have found that prosocial bonds, involvement with delinquent peers, deviant identity, and deviant attitudes independently or simultaneously mediate the relationship between police contact and delinquency (Bernburg and Krohn, 2003; Bernburg et al., 2006; Kaplan and Johnson, 1991; Wiley et al., 2013).

While operational and methodological differences explain some of the differences in support for labeling versus deterrence, researchers have suggested that differences are also due to variations in the conditions and factors under which official labels lead to deviance amplification (Bernburg, 2009; Paternoster and Iovanni, 1989). Divergent findings may be explained, then, by the failure to assess interactions between label application and relevant characteristics or conditions. For example, individual- or family-level characteristics such as race, sex, age, personality, socioeconomic status (SES), or criminal history likely place individuals at greater risk for deviance amplification because

they increase the application of delinquent stereotypes or act as additional barriers to conventional opportunities and behavior (Bernburg and Krohn, 2003; Hagan and Palloni, 1990; Lemert, 1951). Perceptions of the law and its enforcers may also affect the labeling process because they influence the quality of the police-citizen interaction and youths' responses to that interaction (e.g., Piliavin and Briar, 1964; Rosenbaum et al., 2005). Finally, neighborhood-level variation should help explain whether police contact leads to increased offending because communities differ in their responses to and tolerance of delinquency (Lemert, 1951; Thorsell and Klemke, 1972; Tittle, 1975). For example, police presence is often greater in disadvantaged and minority communities (Kirk, 2008; Sampson, 1986), and if police contact is common or considered normative, being stopped or arrested is unlikely to generate negative social consequences (Hirschfield, 2008).

Although prior studies have examined some of these potential mediating processes and moderating conditions, a number of questions regarding the effects of police contact remain. Labeling research has not systematically assessed a wide range of potential moderators while also taking into account the labeling processes associated with social exclusion and opportunities, deviant identity and attitudes, and delinquent group involvement, and it is unclear whether the labeling process varies across groups or conditions. Furthermore, much of the labeling and police contact research has been limited to adult populations or long-term effects (i.e., later employment, educational attainment, and offending), and less is known about the more immediate impact of police contact on youth.

This dissertation extends prior research by examining the effects of police contact on subsequent delinquency through three proposed mediating mechanisms—social

exclusion/bond attenuation, deviant attitudes, and involvement with delinquent peers—while assessing whether the effects of police contact vary by race, sex, age, attitudes toward the police (ATP), and neighborhood structural characteristics. Relying on a multi-site sample of youth surveyed as part of the National Evaluation of the Gang Resistance Education and Training (G.R.E.A.T.) program, this dissertation uses four waves of data to account for observed selection bias and to ensure proper temporal ordering between pre-contact measures, police contact, moderators, proposed mediators, and delinquency. The findings from this study will help to inform criminological theory as well as juvenile justice policies by identifying the mechanisms through and conditions under which police contact negatively affects youth.

To examine the consequences of police contact and potential variation across individual- and neighborhood-level characteristics, this dissertation proceeds as follows. Chapter Two provides a theoretical overview of labeling theory, beginning with the historical roots of the theory and continuing on to the elaborations and extensions relevant to the intervening mechanisms and factors that should enhance or minimize the consequences of police contact. In Chapter Three, empirical tests of labeling theory are assessed, and particular attention is paid to the indirect effects of police contact on delinquency, as well as the factors that moderate the labeling process. Chapter Four includes a detailed discussion of the data used in this dissertation and descriptions of the sample and variables included in this study. The analyses used in this dissertation are identified and justified in Chapter Five. Findings are presented in chapters six through nine, beginning with preliminary or baseline analyses in Chapter Six, followed by three chapters devoted to specific moderator categories: demographic characteristics, ATP, and

neighborhood structural factors. Finally, the results and their implications for theory and policy, along with the limitations of this study and directions for future research, are discussed in Chapter Ten.

CHAPTER TWO: THEORETICAL OVERVIEW

The roots of labeling theory lie in symbolic interactionism, or the idea that identity is shaped by interactions between the individual and society. In his proposal of the 'looking-glass self' concept, Cooley (1902) suggested that identities are formed by our interpretations of how others view us. Elaborating on this idea, Mead (1934) proposed that while our interpretations of the environment shape our identities, we also react to the environment. This interplay between interpretations and reactions, in effect, leads to continually changing social processes that shape our own, as well as others', perceptions. Shortly after the groundwork for labeling theory was laid, Tannenbaum (1938) integrated symbolic interactionism and societal reactions with his notion of the *dramatization of evil*. Tannenbaum argued that society creates the deviant individual through a process of dramatizing the evil, or "tagging, defining, identifying, segregating, describing, emphasizing, making conscious and self-conscious…and evoking the very traits that are complained of" (1938, pp. 19-20). That is, once society has identified or labeled the individual as deviant, he or she begins to act in a manner consistent with the label. Furthermore, because labeled youth become isolated from society, youth may turn to deviant groups for companionship (Tannenbaum, 1938). The labeled individual begins to adopt the norms of the deviant group and comes to be seen as a member of the deviant group by society.

In what is often considered the first complete formulation of labeling theory, Lemert (1951) specified the role that society plays in labeling, excluding, and otherwise shaping the individual's deviant identity in his discussions of *primary* and *secondary deviance*. Specifically, primary deviance occurs when society rationalizes, forgets, or

otherwise tolerates deviant behavior. Often, deviant behavior goes unnoticed or is corrected by society and quickly forgotten, but when multiple deviant acts are committed or deviance is highly visible or egregious, societal reaction is stronger and more punitive. This type of reaction may cause the deviant to harbor feelings of resentment or hostility. Eventually, the behavior is no longer tolerated by society and official (e.g., legal sanctions) or unofficial (e.g., societal exclusion) action is taken, causing the individual to feel labeled, stigmatized, or ostracized. When the labeled individual continues the deviant behavior "as a means of defense, attack, or adjustment to the overt and covert problems created by the consequent societal reaction," the deviance is secondary (Lemert, 1951, p. 76). Thus, deviance becomes secondary primarily through the individual's internalization of the delinquent label, role, or identity, but also through the construction of societal barriers to prosocial opportunities and groups.

Additional contributions to the labeling perspective have clarified the processes through which labels lead to increased delinquency, including commitment to deviant identities or roles, stigmatization, exclusion from prosocial society, and involvement with deviant groups (notably, Becker, 1991 [1963]; Erikson, 1966; Garfinkel, 1956; Goffman, 1963; Kitsuse, 1962; Lofland, 1969; Scheff, 1966; Schur, 1971). Not long after these contributions, however, labeling theory was subjected to a number of criticisms. Labeling theory was all but dismissed after theorists identified issues such as poor conceptualization of key constructs, lack of empirical support, inability to explain the etiology of deviance, and an overly deterministic position (Gove, 1980; Hirschi, 1980; Tittle, 1975; 1980). More recently, others have noted that many of the criticisms were directed at simplistic versions of labeling theory and incomplete or inadequate tests, and

scholars have emphasized the need to consider the potential mediating processes and moderating conditions to adequately test and further develop the theory (Bernburg, 2009; Wellford and Triplett, 1993; Paternoster and Iovanni, 1989; Triplett, 1993).

The two remaining sections in this chapter focus on the mediating processes and contingent conditions that researchers have identified as areas for the development of labeling theory (see, for example, Bernburg, 2009; Paternoster and Iovanni, 1989). First, the three mechanisms thought to explain the transition from primary to secondary deviance—social exclusion and attenuation of conventional bonds, development of a deviant identity, and involvement with deviant others—are discussed. Then, the potential moderating roles of demographic characteristics, ATP, and neighborhood context are explored.

POTENTIAL MEDIATING PROCESSES

Social Exclusion and the Attenuation of Prosocial Bonds

Once the individual has been labeled, society often creates barriers to limit the labeled individual's participation in conventional activities, groups, and opportunities. The stigma associated with justice system contact, in particular, may trigger social exclusion and barriers to conventional opportunities because the deviant label becomes a master status, whereby labeled individuals are seen primarily as delinquent or criminal (Becker, 1991 [1963]). Thus, exclusion from conventional groups and institutions (e.g., school, the labor force, religion) is often more likely when official labels are applied.

Elaborating on the relationship between labels and social bonds and opportunities, Link and colleagues (Link, 1982; Link et al., 1989) outlined the effects that mental health

labels have on the exclusionary process. Specifically, they argued that societal rejection and the labeled individual's expectations of rejection and subsequent withdrawal from others lead to diminished social network ties. This, in turn, affects future opportunities related to employment and education and increases the likelihood that the individual will continue the deviant behavior. A similar process, described by Sampson and Laub (1993, 1997), indicates that labeling increases criminal involvement through attenuated attachment to prosocial others, reduced commitment to education, and fewer employment opportunities.

Label Internalization and Adoption of a Deviant Identity

The idea that the labeled individual must internalize the deviant label and accept societal expectations regarding his or her behavior and attitudes is one of the earliest and most central contributions to the labeling perspective. Lemert (1951) stated that the agencies of formal social control, including the justice system, social welfare organizations, and schools, are important actors in the development of deviant identities, and sanctions associated with such institutions are often cause for "dramatic redefinitions of the self and role of deviants" (1951: 71). Elaborations of this idea suggest that identity transformation occurs during a ritualistic separation from the group, which may take the form of, for example, being arrested, going to jail, or being processed by the court (Garfinkel, 1956; Lofland, 1969).

Much of the theoretical development regarding deviant identity is attributed to Matsueda's (1992) model of symbolic interaction. Although the model is largely concerned with unofficial labels or those applied by parents, teachers, and peers,

Matsueda suggested that role-taking processes and reflected appraisals shape self-concept or identity. In short, the role-taking process involves the "projecting of oneself into the role of other persons and appraising, from their standpoint, the situation, oneself in the situation, and possible lines of action" (Matsueda, 1992, p. 1580). Reflected appraisals originate during the role-taking process and are defined as individuals' interpretations of others' perceptions. When youth feel that they are appraised or labeled by others as 'rule violators,' they are more likely to view themselves as delinquent and engage in delinquency.

As the individual begins to adopt the deviant identity or role, he or she reorganizes delinquent orientations, values, attitudes, and self-definitions (Ageton and Elliott, 1974). Furthermore, these changes should be apparent after youth adopt the deviant identity. Referring to the movement from primary to secondary deviance, Lemert suggested that "objective evidence of this change will be found in the symbolic appurtenances of the new role, in clothes, speech, posture, and mannerisms, which in some cases heighten social visibility, and which in some cases serve as symbolic cues to professionalization" (1951): 76. Thus, adoption of a deviant identity or role should be preceded and evidenced by changes in personality, beliefs, and appearance.

Deviant Group Involvement

Due to decreased attachment to prosocial others, fewer conventional opportunities, and more deviant orientations and attitudes, labeled individuals often seek acceptance from and involvement with deviant groups. This process is largely based on the principle of homophily, whereby individuals seek out similar others based on shared

experiences, values, and beliefs (Warr, 2002). For example, labeled youth may gravitate to others who have been stigmatized or labeled because they anticipate rejection (Link, 1982; Link et al., 1989) or feel uncomfortable in day-to-day interactions with 'normals' (Goffman, 1963).

Not only does involvement in the deviant group provide protection from societal rejection, it also offers labeled individuals an opportunity to experience group solidarity and shared experiences. Some have argued that involvement with deviant groups is the final step in the labeling process because acceptance by deviant others is necessary for individuals to fully accept the deviant label (Lemert, 1951). As Becker (1991 [1964]) indicated, joining others who have similar attitudes, beliefs, behaviors, and societal expectations has a powerful impact on labelees because it symbolizes the deviant identity.

To summarize, the labeling process, or movement from primary to secondary deviation, unfolds through three general mechanisms: social exclusion and the attenuation of prosocial bonds, development of a deviant identity and identification with the new role, and involvement with delinquent groups. Official labels such as those applied by the criminal justice system may be particularly detrimental because they are often publicly known and symbolize the separation of the deviant from normal others; therefore, it is particularly important to consider these labeling mechanisms in association with police contact or other forms of justice system involvement. In the next section, the interactions between police contact and individual characteristics and neighborhood-level factors are discussed in terms of their potential effects on the labeling process.

CONTINGENCIES OF THE LABELING PROCESS

In his early contributions to labeling theory, Lemert (1951) noted that individual characteristics or neighborhood factors should moderate label application and subsequent reactions by the labelee and the community. For example, the effects of a deviant label may be dependent on individual-level factors such as race, SES, sex, age, social mobility, physical appearance, personality, and attitudes. Moreover, societal contingencies, including social visibility, tolerance of deviance within the community, and reinforcement of the deviant label, may affect how the labeling process unfolds. Several researchers have called for examination of these conditions, suggesting that they should help explain why support for labeling theory varies across studies (Bernburg, 2009; Braithwaite, 1989; Paternoster and Iovanni, 1989; Tittle, 1975; Thorsell and Klemke, 1972). Yet, because few theorists have provided detailed explanations for the interactive effects of official labels and individual- or neighborhood-level characteristics, it is unclear how each mechanism in the labeling process will vary under specified conditions. To explain potential variations in the labeling process, I draw on theories, processes, and research findings relevant to the effects of police contact across the three categories of contingencies examined in this dissertation.

Demographic Characteristics

Along with roots in symbolic interactionism, the labeling perspective has origins in conflict theory, or the notion that rules are created and enforced by those in power to maintain the status quo (Erikson, 1966; Kitsuse, 1962; Lemert, 1951; Lofland, 1969). The relationship between conflict and labeling theories was clearly articulated by Becker, who

stated that, "…*social groups create deviance by making the rules whose infractions constitute deviance*, and by applying these rules to particular people and labeling them as outsiders" (emphasis in original, 1991:9 [1963]). According to Schur (1971), conflict between the labelers and the labelees occurs at three levels: 1) collective rulemaking, 2) organizational processing, and 3) interpersonal relations. At the rulemaking level, conflict occurs when the economic and political elite create rules, which are often biased against poor and minority citizens. As agents of the political elite, justice system organizations enforce the rules that target poor and minority citizens, creating official labels. At the interpersonal level, stereotypes are applied and individuals may be labeled deviant regardless of actual behavior.

According to conflict theory, members of disadvantaged and less powerful groups are most likely to be labeled by the justice system because they are the targets of rulemaking and enforcement. Specifically, minorities, females, youth, and others belonging to lower social classes should be differentially processed by the justice system (Akers and Sellers, 2004). This argument informs labeling theory's status characteristics hypothesis, which states that extralegal attributes such as race, SES, age, or sex determine, to some degree, justice system involvement and the application of labels (Paternoster and Iovanni, 1989; Triplett, 1993). But while the status characteristics hypothesis is informed by the conflict perspective, conflict theory alone cannot explain how power differentials created and enforced at the collective rulemaking and organizational processing levels influence label applications and stereotyping at the interpersonal level (Melossi, 1985; Triplett, 1993). Because the processes that lead to secondary deviance (i.e., social exclusion and attenuated bonds, deviant identity, and

involvement with delinquent others) are largely dependent on interpersonal relations, it is unlikely that the labelee will suffer the negative consequences of an official label if those around him or her do not recognize or enforce the label (see, for example, Garfinkel, 1956). Triplett (1993) argued that the integration of symbolic interactionism and conflict theory should help inform the status characteristics hypothesis because symbolic interactionism accounts for our need to use stereotypes to categorize and process information. Therefore, even when collective bodies create social categories, individuals generally use stereotypes to characterize others and make sense of behaviors, which results in recognition and enforcement of official labels at the interpersonal level.

Drawing from the conflict and interactionist perspectives then, status characteristics should help predict not only who is most likely to be labeled by the justice system, but also those most vulnerable to the detrimental effects of labels. Because socially and economically disadvantaged individuals are the targets of enforcement, they are more likely to be stereotyped as deviant and tend to have fewer stakes in conformity, weak social bonds, and less access to conventional social opportunities. When individuals belonging to disadvantaged groups encounter the justice system, they may be more vulnerable to the negative effects of labeling because the official label serves as an additional barrier to conventional society and opportunities, resulting in cumulative disadvantage (Braithwaite, 1989; Sampson and Laub, 1997; Tittle, 1975). According to this argument, socially disadvantaged groups such as racial and ethnic minorities are at greatest risk for justice system contact and official labeling, but because they have fewer resources to counteract or resist labeling process, they suffer the greatest consequences. Moreover, Lemert suggested that individuals are most susceptible to adoption of the

deviant label when, "the preexisting self-conception of the individual closely conforms to a more generalized societal definition of the person's status or 'class' as sociopathic" (1951:318). Because minorities are often stereotyped prior to official labeling, they may be more likely to adopt deviant identities and become involved in groups with similarly situated individuals. It is from this argument that the first hypothesis is formed:

> H_1: Black and Hispanic youth will experience more deleterious effects of police contact compared with Whites.

An alternative argument posits that preexisting stereotypes help to insulate socially and economically disadvantaged individuals from the detrimental consequences of official labels. As Harris (1976) has noted, individuals who have been assigned full societal membership may lose status or privilege because of deviant labels, but deviant labels should have no effect on those who are deemed nonmembers because they are redundant with or less stigmatizing than the labels that have already been applied. Because members of socially disadvantaged groups are often labeled deviant regardless of actual involvement in delinquent activity, police officer and justice system contact should have little to no effect on their opportunities, deviant identity and attitudes, or friends. Society holds individuals with wealth and social prestige, on the other hand, to higher expectations and when these individuals are labeled deviant they risk losing prosocial family members and friends, financial support, and employment opportunities. Specifically, this argument suggests that individuals with higher social status, including Whites, males, and older youth, are less likely to be formally labeled or stereotyped as deviant. However, when labels are applied to these individuals, they should trigger the labeling process because deviance falls outside of the range of expected behavior.

Following from the idea that the labeling process is more detrimental for those who are not expected to participate in delinquency, the following hypothesis states:

> H_2: Whites will experience more deleterious effects of police contact compared with Black and Hispanic youth.

Theoretical developments regarding differential effects of police contact by demographic characteristics emphasize race and SES in the construction, application, and consequences of labels, but it is less clear how the process might vary by age and sex. From a conflict perspective, the status characteristics hypothesis predicts that rules and laws target socially and economically disadvantaged groups, including females and juveniles, which lead to differential and often disproportionate justice system processing and deviant stereotyping. Yet, societal reactions to deviant females and adolescents are generally less severe than reactions to their male or older counterparts. In addition to more lenient justice system treatment, there are differences in role expectations and the application of stereotypes. These differential reactions to, and expectations of, females and juveniles may help inform variation in the effects of police contact.

As Lemert (1951) noted, women are generally treated more leniently by the justice system and are considered 'out of place' in deviant roles and therefore unlikely to enter into those roles. The chivalry hypothesis posits that because actors involved in the justice system (e.g., police officers, judges) are predominantly male, they extend chivalrous attitudes to female offenders and tend to treat them more leniently (Pollak, 1950; see also, Anderson, 1976). Compared with males, society tends to view females as nurturers and caretakers and expects that they are more concerned with the maintenance of social bonds (Hagan, Gillis, and Simpson, 1985; Heimer, 1996). Based on the chivalry hypothesis and societal expectations of females, then, labels associated with police

contact are unlikely to trigger the labeling process because females presumably have more prosocial bonds and they are able to better counteract detrimental consequences when labels are applied. The first hypothesis regarding the effects of the labeling process by sex follows:

> H_3: Males will experience more deleterious effects of police contact compared with females.

Alternatively, the effects of police contact may be more detrimental for females precisely because society does not view females as delinquent. In this case, females should be more likely to experience social exclusion, involvement with delinquent peers, and dramatic shifts in identity after experiencing police contact because their behavior does not fit with societal expectations. This argument forms a competing hypothesis:

> H_4: Females will experience more deleterious effects of police contact compared with males.

Adolescents, unlike females, account for a disproportionate number of offenses, but reactions to their involvement in delinquency are generally lenient. Because juveniles engage in high levels of offending, society often dismisses delinquency as a normal part of adolescence (Feld, 1999; Moffitt, 1993; Rutter, Giller, and Hagell, 1998). Yet, even among adolescents, society distinguishes "immature children" from "violent teens" (see, for example, Agnew, 2001; Feld, 1999) and because the age-crime curve suggests that delinquency may not be considered "normal" until the mid- to late-teens, there is reason to suspect that the labeling process varies during adolescence. If delinquency is considered normal during the mid-to-late teens (Moffitt, 1993), teenagers may be stereotyped as rebellious, egocentric troublemakers. These youth might also have strained relationships with parents or trouble at school because of their perceived or actual

behavior and attitudes. If these youth experience police contact, they may be seen as adult-like and accountable for their behavior, while their attenuated social bonds result in the inability to counteract the delinquent label. Pre-teens, on the other hand, are still considered innocent and their relationships with parents and teachers are more likely to be strong. In this case, the effects of police contact should be less deleterious for younger youth because society views their behavior as the result of immaturity or experimentation and quickly corrects or dismisses their behavior. Additionally, because younger youth generally have less access to delinquent groups or are seen as undesirable group members, movement into delinquent groups should be less common for younger youth who experience police contact. Regarding age, then, the first hypothesis is given:

> H_5: Older adolescents will experience more deleterious effects of police contact compared with younger adolescents.

The alternative argument posits that being a "normal" teenager who participates in delinquency serves as a protective factor because the youth is participating in behavior that is otherwise expected. Furthermore, if a youth's bonds with parents, teachers, and other authority figures are attenuated, the youth is arguably less likely to value the opinions of authority figures who are applying the labels. If teenage delinquency is considered normal and society views deviation from normal behavior as problematic, younger youth who experience police contact should be at greater risk for the detrimental effects of labels. Nondelinquent peers may also be more likely to exclude younger youth because delinquency is not yet viewed as normative, which might also facilitate movement into deviant groups. Younger youth might also be more susceptible to the deviant label because they are less secure in their identities and easily influenced by the

opinions of authority figures (Lofland, 1969). These arguments shape the alternative hypothesis regarding age:

> H_6: Younger adolescents will experience more deleterious effects of police contact compared with older adolescents.

To summarize, the roles that demographic characteristics have in moderating the labeling process are varied. Conflict theory and the status characteristics hypothesis posit that less powerful or low status groups, including minorities, females, and children, are the most likely targets of the law and its enforcers. For females and adolescents, though, expectations regarding the effects of police contact are likely more nuanced than those informed by conflict theory alone because of the unique social roles they occupy. Still, hypotheses regarding the effects of police contact on the labeling process can be grouped into general categories based on norms, expectations, and stereotypes across demographic characteristics. The first set of hypotheses (H_1, H_3, and H_5) predicts that the overall negative consequences of police contact will be greatest among youth with demographic statuses that are associated with deviant stereotypes and expectations, including minorities, males, and older adolescents. An alternative set of hypotheses (H_2, H_4, and H_6) posits that police contact leads to more detrimental consequences for groups that are less likely to be labeled delinquent because they are stigmatized or have more to lose because of their advantaged statuses or unique role expectations. Thus, Whites, females, and younger youth should be more negatively affected by police contact.

Attitudes toward the Police

One area of research that has garnered considerable attention over the past few decades is the effect that experiences with and attitudes toward the law and its enforcers have on behavior. Although few, if any, studies have attempted to examine whether ATP moderate the labeling process, there is reason to believe that the effects of police contact differ among youth with varying attitudes toward the law and its enforcers.[1] The labelee's attitudes toward the labelers may determine how she or he reacts to the label and treatment. Furthermore, individuals' attitudes are likely to carry over into direct experiences with the police and influence their reactions to the police, as well as officers' subsequent responses (see, for example, Piliavin and Briar, 1964; Rosenbaum et al., 2005).

Attitudes toward the law and its enforcers are seen as part of a larger legal socialization process whereby youths' attitudes are shaped by direct and vicarious experiences with the law and general societal norms and morals (Fagan and Tyler, 2005; Leiber, Nalla, and Farnworth, 1998). As such, positive ATP should reflect strong bonds to conventional norms and prosocial society. Other research has indicated that attitudes toward the law and its enforcers remain relatively stable over time, and are more likely to be reinforced, rather than altered, by direct contact with the police (Brandl, Frank, Worden, and Bynum, 1994; Brick, Taylor, and Esbensen, 2009; Gau, 2010; Rosenbaum et al., 2005). Together, this body of research suggests that youth with unfavorable ATP

[1] A large body of research examines the relationship between legitimacy (i.e., the perceived obligation to defer to the law and its actors), satisfaction with the police-citizen encounter, and legal compliance (see Tyler, 1990; Sherman, 1993). While these theoretical contributions should not be ignored, they provide alternatives to labeling theory by explaining why individuals obey or defy the law. Because the focus of this dissertation is on ATP as a moderator of the labeling process, the alternative theories that assume fairness, perceived procedural justice, or satisfaction with the police and law account for later offending are not discussed here.

are often socialized to have unfavorable views of the law and its enforcers, and that such views are unlikely to change as a result of a seemingly pleasant encounter with the police. Youth with negative ATP should also be more likely than youth with positive ATP to recount their experiences with the police as unfavorable. This is because, as Brandl and colleagues (1994) have noted, more general attitudes regarding officers and their ability to effectively police the community (i.e., global ATP) are predictive of specific attitudes related to direct experiences with the police (i.e., specific ATP).

Although the studies that inform the relationship between police contact and ATP do not generally address the labeling process, they have important implications for labeling theory, particularly if contact is due to questioning or apprehension. If negative attitudes are evident in a youths' demeanor during an encounter with the police, the youth might provoke negative reactions from the police, which may serve to reinforce the label (Piliavin and Briar, 1964; Rosenbaum et al., 2005). Still, even if the youth's attitudes are not evident in his or her demeanor, or if officers' reactions are neutral, negative ATP might enhance the labeling process if the youth recounts the experience as unpleasant and embodies the delinquent role that he or she believes was assigned. If unfavorable attitudes are also indicative of attenuated bonds to conventional society and antisocial norms because they develop as part of a broader legal socialization process (Fagan and Tyler, 2005; Leiber et al., 1998), youth with unfavorable attitudes should be more susceptible to official labels because they have fewer conventional bonds and opportunities to counteract detrimental effects of the label. Based on these arguments, the first hypothesis regarding ATP and the labeling process is:

> H_7: Youth with negative ATP will experience more deleterious effects of police contact than those with positive ATP.

There is also reason to believe that negative attitudes could insulate youth from the harmful effects of labels. Because ATP develop within a larger socialization process and are influenced by vicarious experiences and tend to be stable over time (Gau, 2010; Leiber et al., 1998; Rosenbaum et al., 2005), influential family members and friends of youth with unfavorable attitudes should hold similar negative views about the law and its enforcers. In this case, negative ATP should reduce the detrimental effects of police contact because the labeled youth, along with close family and friends, are unlikely to accept or reinforce the delinquent label. Youth with positive ATP should have more respect for officers and the labels they apply, but are also more likely to have prosocial ties and nondelinquent behavioral expectations based on societal norms. For youth who have positive ATP then, being stopped or arrested is more likely to trigger the labeling process. Thus, the alternative hypothesis states:

> H_8: Youth with positive ATP will experience more deleterious effects of police contact than those with negative ATP.

In summary, the research on the development and stability of ATP produces two competing hypotheses. If unfavorable attitudes are associated with weak conventional bonds and an increased likelihood that officers and youth will react with resentment or hostility to the encounter, then negative ATP should strengthen the labeling process (H_7). Alternatively, because youths' attitudes are influenced by family and friends who share similar attitudes toward legal authorities, unfavorable ATP are unlikely to trigger the labeling process because labeled individuals and their family and friends place less stock in official labels. Youth who have positive ATP, on the other hand, are more committed to social norms and are more likely to be influenced by the opinions and beliefs of

mainstream society, resulting in a more pronounced labeling effect among these youth (H_8).

Neighborhood Characteristics

Labeling theorists have argued that the community plays a key role in inhibiting or facilitating the labeling process, from label application to reinforcement and social exclusion (Braithwaite, 1989; Lofland, 1969; Thorsell and Klemke, 1972; Tittle, 1975). Lemert (1951) suggested that a community's tolerance quotient determines the tipping point at which a community takes action to eradicate an undesirable behavior. Although it cannot be measured precisely, the tolerance quotient is the ratio of deviant behavior to the community's tolerance of that behavior. It follows, then, that in communities where the tolerance quotient is high, youth are less likely to be labeled or to experience the negative effects of the label. In neighborhoods where the tolerance quotient is low, youth are more likely to be labeled, stigmatized, and ostracized for delinquent behavior.

In deconstructing the tolerance quotient, it becomes clear that the community's role in applying, recognizing, and enforcing the label is not simply a function of the level of undesirable behavior and tolerance for that behavior. First, the tolerance quotient implies that communities are aware of problems and that members agree on acceptable and unacceptable behaviors. The tolerance quotient also suggests that the community will collectively gather to address or eradicate problems, or to call upon authorities to do so. Therefore, tolerance and knowledge of deviant behavior, the community's ability to gather to eradicate problems, residents' willingness to report to and cooperate with legal authorities, and the level of problem behavior are constructs that inform the tolerance

quotient and the potential neighborhood-level contingencies of the labeling process. These components and their respective indicators are discussed in the following sections.

The first component of the tolerance quotient is the community's tolerance of deviance. In some communities, delinquency or justice system intervention may not trigger the labeling process because those behaviors are tolerated or even considered normal. Lemert (1951) suggested that one measure of tolerance of deviance is the neighborhood's official crime statistics, but while this is an indicator of the level of crime, it does not necessarily identify the tolerance for or normality of delinquent behavior. To understand the types of behaviors that are considered acceptable, some researchers have suggested that researchers incorporate measures of the structural properties of neighborhoods because they "contextualize the aspirations, values, and behaviors" of community members (McCall, Land, Dollar, and Parker, 2013: 169). In areas characterized by high levels of institutional disengagement residents have few conventional opportunities associated with education or employment and are more likely to be involved in crime (McCall et al., 2013). Thus, in areas where the number of disengaged youths (i.e., youth are not actively involved in school, employment, or the military) is high, delinquency is more likely to be tolerated and should not trigger labeling processes such as exclusion from prosocial groups. Moreover, because economic opportunities are likely to be structured around illicit activities, the impact that police contact has on educational and employment opportunities should be minimal.

Other indicators of structural disadvantage come from social disorganization theory. According to Bursik, one definition of social disorganization is "the inability of a local community to regulate itself in order to attain goals that are agreed to by the

residents of that community" (1988: 535). Beginning with its fundamental components, the social disorganization model asserts that economically disadvantaged communities are unable to exercise the social control and supervision necessary to maintain low levels of crime due to high population turnover, a lack of strong social networks, and racial/ethnic heterogeneity and the community's subsequent inability to communicate shared goals (Bursik and Grasmick, 1993; Shaw and McKay, 1942). Under the assumption that the common goal of a community is to maintain a relatively crime-free neighborhood (see Bursik and Grasmick, 1993), realization of that goal is dependent, in part, on ecological dynamics such as economic disadvantage, residential mobility, and racial/ethnic heterogeneity. Because it is unlikely that a community has shared goals and values or an ability to realize the tipping point in highly disorganized areas, the tolerance quotient is a function of social disorganization and the demographic characteristics with which it is associated.

Other components of the tolerance quotient, including residents' tolerance of deviance and legal cynicism, are also central to determining how residents might react to official labels. If residents are tolerant of deviance or cynical of conventional social rules and their enforcers, they are less likely to report crimes to the police and place less stock in official labels. Although the concepts of tolerance and legal cynicism are distinct, they are in many ways related (see Sampson and Bartusch, 1998). As a result of increased police presence in socially disorganized communities, youths' risk of being stopped or arrested increases (Crutchfield et al., 2009; Kirk, 2009; Sampson, 1986). When arrest is a common occurrence, communities may relax their reactions to police contact, or even come to accept contact as normal, even if they do not tolerate deviance. Some researchers

find that one reason for this type of reaction lies in legal cynicism; although Blacks and Hispanics are often less tolerant of deviance compared with Whites, racial and ethnic minorities are more likely to live in disadvantaged areas where crime is generally expected and legal authorities treat residents unfairly (Sampson and Bartusch, 1998). Thus, in areas characterized by socioeconomic disadvantage and legal cynicism, residents are less likely to call on the police for crime control or problem resolution because law enforcement is seen as illegitimate, untrustworthy, or unresponsive to citizens and issues of public safety (Drakulich and Crutchfield, 2013; Kirk and Papachristos, 2011; Sampson and Bartusch, 1998). Furthermore, when official labels are applied, residents of disadvantaged and minority communities should be less likely to recognize or reinforce the label because bonds to conventional norms and rules are not especially strong, or because labelees are seen as victims of unfair treatment.

To summarize, police contact is expected to have differential effects across neighborhoods due to several factors. In areas characterized by low levels of institutional engagement, crime is more likely to occur and may be considered an acceptable alternative to participation in conventional opportunities. Such communities are often socially disorganized and unable to realize common goals and values or take action to achieve those goals. Although residents in disadvantaged communities may be less tolerant of deviance (particularly minorities), they are often more cynical of the law and its application and place less stock in official labels due to mistrust and weaker beliefs in social norms. If the labeling process is contingent on the tolerance quotient, and these factors help account for a community's tolerance of and reaction to deviance, police contact should be less likely to trigger subsequent labeling processes in communities

characterized by social disorganization, lack of conventional opportunities, and legal cynicism:

> H_9: The effects of police contact will be less detrimental for youth living in areas characterized by higher levels of racial/ethnic heterogeneity, economic disadvantage, greater residential instability, and more disengaged youth.

As with previous contingencies, the neighborhood characteristics identified above may also be associated with an alternative outcome, which comes from the notion that individual-level disadvantage is associated with increased barriers to prosocial opportunities and resources that help mitigate the effects of official labels (Braithwaite, 1989; Sampson and Laub, 1997). In areas where social disorganization and disadvantage are high, residents are unlikely to have the resources to counteract official labels. As Braithwaite (1989) argued, high levels of stigmatization and labeling foster crime by encouraging the development of deviant subcultures, and because stigmatization attenuates conventional bonds, a large number of individuals become detached from conventional society and are more likely to develop deviant subcultures. This may lead to further depletion of the resources necessary to counteract official labels. What follows is the hypothesis representative of these expectations:

> H_{10}: The effects of police contact will be less detrimental for youth living in areas characterized by lower levels of racial/ethnic heterogeneity, less economic disadvantage, less residential instability, and fewer disengaged youth.

Overall, the expectations regarding neighborhood-level contingencies of the labeling process reflect competing hypotheses. The first suggests that because police contact is seen as common in highly disadvantaged areas and residents are either more tolerant of crime or more cynical of the law, youth living in these neighborhoods are less likely to experience negative effects associated with police contact (H_9). The alternative

hypothesis states that communities characterized by disadvantage and disorganization serve as additional barriers to a life free of stigma, causing the effect of police contact to lead to more deleterious consequences (H_{10}).

An overview of labeling theory and its extensions, as well as research regarding contingent conditions, indicates that youths' demographic characteristics, ATP, and the neighborhoods in which youth live are expected to shape the degree to which police contact influences the labeling process and later delinquency. Yet, with little guidance from labeling theory regarding the exact ways in which these factors should moderate the effects of police contact and the labeling mechanisms, the hypotheses included in this dissertation do not specify the strength of these relationships. That is, the hypotheses include general statements regarding whether the effects of police contact will be more or less detrimental for particular groups, but do not specify whether labeling processes occur or do not occur under specific conditions. It is also possible that contingencies will affect some but not all of the labeling processes. For example, while the detrimental effects of police contact on deviant identity and attitudes could be stronger for Whites, the effect that police contact has on involvement with delinquent peers may be stronger among Blacks. While it is beyond the scope of this dissertation to explain these relationships a priori, any differences in the labeling mechanisms are discussed in Chapter Ten. In the next chapter, a review of the extant literature provides an overview of what others have found regarding the labeling process and contingent conditions and helps to frame expectations regarding contingencies associated with specific labeling mechanisms.

CHAPTER THREE: EMPIRICAL LITERATURE

Much of the research regarding the effects of justice system contact has provided support for labeling theory; yet some studies have not found support for labeling theory or have indicated that police contact deters individuals from future offending. The purpose of this chapter is to review the literature regarding the effects of police contact and to highlight some of the operational and methodological differences across studies that may account for inconsistent findings.[2] First, the literature regarding the direct effects of police contact on offending is assessed. Next, findings related to the indirect relationship between police contact and later offending through each of the proposed mediators – social exclusion and attenuation of bonds, deviant identity and attitudes, and involvement with delinquent others – are discussed. Finally, an overview of the research concerning the conditions under which police contact leads to increased offending is included, and studies related to demographic characteristics, attitudes toward the police and other agents of social control, and neighborhood-level factors are discussed. This chapter concludes with a summary of limitations of prior research and a discussion of the current study.

Over time and across analytic methods, many studies have found that police contact is associated with overall increases in offending. For example, prior studies that have assessed the relationship between police contact and offending using matching techniques have indicated that arrest is related to increases in offending (Farrington,

[2] Although a number of studies find support for the labeling effects of court processing and imprisonment (see, for example, Klein, 1986; Jolliffe and Hedderman, 2012; Loughran et al., 2009; McAra and McVie, 2007; Nieuwbeerta, Nagin, and Blokland, 2009), only those relevant to police contact (i.e. being stopped or arrested) or the mediating mechanisms and contingencies are reviewed here. As prior research indicates, labels associated with later system involvement may not have the same effect as labels assigned during initial contact with the justice system (Paternoster and Iovanni, 1989).

1977; Gold and Williams, 1969; Huizinga, Esbensen, and Weiher, 1996). Unfortunately, youth are often matched only on demographic characteristics and prior levels of delinquency, and other attitudinal and behavioral characteristics are not controlled. More recent studies have found support for a labeling effect using newer analytic techniques such as propensity score matching to control for demographic, behavioral, and attitudinal factors related to police contact and offending. Specifically, Morris and Piquero (2011) showed that involvement in delinquency after arrest was more likely to increase for high-risk youth, while Wiley and Esbensen (2013) concluded that both being arrested and being stopped increased delinquent behavior and attitudes. Although these studies did not detail the nuances of the labeling process, they supported the overarching notion that police contact amplifies deviance.

Still, some studies have not provided support for a deviance amplification effect associated with being stopped or arrested. For example, McAra and McVie (2007) found that although youth who were involved in court hearings were significantly more delinquent after justice system involvement, those who were charged or referred were not. In a study that focused on the effects of arrest and school sanctions, Hemphill and colleagues (2006) indicated that school sanctions predicted later antisocial behavior, but arrest did not. Interestingly, these studies provided evidence that the effects of labels vary by type of sanction, but they did not find a deviance amplification effect associated with police contact.

MEDIATING MECHANISMS

Social Exclusion and Attenuation of Conventional Bonds

Studies that have assessed the effects of police contact on social exclusion and the attenuation of conventional social bonds have consistently found that such contact bars access to conventional opportunities. For instance, a number of studies have indicated that arrest leads to lower educational attainment because arrested youth are more likely to drop out of school (Kirk and Sampson, 2013; Lopes et al., 2012; Sweeten, 2006). Others have found that justice system contact decreases opportunities for employment, which may further increase the likelihood of offending (Bernburg and Krohn, 2003; De Li, 1999; Lopes et al., 2012; Wiesner, Kim, and Capaldi, 2010). Relying on official police records, Lopes and colleagues (2012) found that nontrivial police contact (i.e., being stopped and questioned and/or arrested) during adolescence leads to low educational attainment, unemployment, crime and drug use, and arrest in early adulthood. Although they hypothesized that unemployment and reliance on welfare in early adulthood would mediate the effects of early police contact on later offending, they did not find support for this relationship.

Other research has found that the relationship between police contact and later offending is mediated by access to conventional opportunities. Specifically, De Li's research (1999) revealed that the relationship between convictions during adolescence and delinquency is partially explained by unemployment. Additional research that has examined the effects of police contact (being stopped or arrested) or justice system intervention (e.g., detention, court referral, transfer to adult institution) indicated that both types of system involvement are associated with a decreased likelihood of high school

graduation and later unemployment, which helps explain increased offending (Bernburg and Krohn, 2003). Such findings reiterate the notion that even less severe forms of justice system contact have deleterious consequences.

Together, these studies indicate that arrest affects later delinquency by creating barriers to opportunities largely related to education and employment. Although the studies reviewed here do not address exclusion from society directly, they provide evidence that police contact stigmatizes individuals in a way that decreases their participation in conventional activities. Because the life course perspective and cumulative disadvantage hypothesis (see Sampson and Laub, 1993; 1997) have guided much of the recent labeling research related to processes of exclusion and decreased opportunity, researchers have generally focused on the detrimental effects of police contact over time. Therefore, much less is known about the effects of police contact before youth have reached the ages associated with school completion or regular employment.

Deviant Identity and Attitudes

Early contributions to the labeling perspective emphasized the role of deviant identity and many theorists argued that identity alteration must take place before increased offending occurs (Lemert, 1951; Lofland, 1969). Yet, the evidence regarding the relationship between police contact, adoption of a deviant identity, and subsequent delinquency is mixed. Early labeling research assessed the effects of justice system contact on deviant identity using measures of self-esteem and self-concept, but provided inconsistent support for the deviance amplification hypothesis. For instance, Gibbs'

(1974) research indicated that arrested juveniles perceived themselves as more delinquent immediately following police contact, but this effect disappeared after 45 days. In examining youths' levels of agreement with delinquent self-concepts, Thomas and Bishop (1984) reported only modest changes in self-concept following formal sanctions, and found no effect on delinquency. Other research has revealed that police contact does not have an effect on self-concepts or delinquency, but has found that disposition severity is associated with later delinquency (Hepburn, 1977). Together, these studies indicate that justice system contact has, at most, a minimal effect on deviant identity and later delinquency. However, limitations related to too few waves of data and short follow-up periods may account for the lack of support for labeling theory.

By focusing on deviant identity as a measure of reflected appraisals (see Matsueda, 1992), more recent research has provided consistent support for the effect of labels on deviant identity. Because much of this work has focused on informal labels, less is known about the relationship between official contact, reflected appraisals, and delinquency. Nevertheless, these studies have found that when youth feel they are perceived negatively by family, friends, or teachers, they are less committed to school (Triplett and Jarjoura, 1994), experience greater social isolation (Zhang, 1997), and become more involved in delinquent activities (Heimer and Matsueda, 1994; Kaplan and Johnson, 1991; Matsueda, 1992; Zhang, 1997). For example, Heimer and Matsueda (1994) found that when parents viewed their children as rule-violators, their children were more likely to report negative reflected appraisals, which led to greater involvement in delinquency. The authors also found that other indicators of the role-taking process,

including peer delinquency and delinquent attitudes (i.e., the perceived wrongness of delinquent acts), were associated with later delinquency.

The labeled individual is also expected to reorganize his or her orientations and attitudes toward deviance as he or she takes on the new role or internalizes the deviant label. For this reason, Ageton and Elliot (1974) examined the relationship between justice system involvement and delinquent orientations and found that youth who were officially labeled were at greater risk for adopting deviant orientations. In line with this research, others have shown that youth who are officially labeled are less likely to view delinquency as wrong and are more likely to adopt neutralization techniques and other deviant dispositions (Cechaviciute and Kenny, 2007). Others have found that these delinquent orientations and attitudes partially mediate the effects of police contact on delinquency. For example, Kaplan and Johnson (1991) found that deviant dispositions (e.g., antisocial defenses, blaming conventional social structures) accounted for increases in delinquency following police or school sanctions. Similarly, Wiley and colleagues (2013) indicated that the effect of being stopped or arrested on delinquency was partly mediated by increased use of neutralization techniques and less anticipated guilt associated with delinquent acts.

Involvement with Delinquent Groups

The third mechanism proposed to mediate the relationship between police contact and offending is delinquent peers. In fact, research indicates that justice system involvement leads to increases in the number of delinquent peers. A longitudinal study by Johnson, Simons, and Conger (2004) revealed that justice system involvement (including

arrest, detention or jail, court involvement, and sanctions) increases youths' delinquent behavior as well as the number of delinquent peers they report. Perhaps the most concrete evidence that justice system contact increases delinquency through involvement in delinquent groups comes from a study of the labeling process and gang membership. According to research by Bernburg and colleagues (2006), gang involvement fully mediates the relationship between justice system contact and later delinquency, supporting the notion that justice system labels promote or strengthen involvement with deviant groups.

Other research that has assessed the effects of multiple mediators simultaneously underscores the importance of delinquent groups in the labeling process. For instance, Kaplan and Johnson (1991) found that deviant peer involvement mediates the effects of school- and justice system labels on delinquency. Other findings reported by Wiley and colleagues (2013) indicate that the relationship between being stopped or arrested and delinquency is partly explained by delinquent peers. Interestingly, these studies show that delinquent peers account for increases in delinquency better than other labeling mechanisms such as deviant identity and social exclusion or bond attenuation (Kaplan and Johnson, 1991; Wiley et al., 2013).

The studies reviewed here provide varying levels of support for the labeling process. While some reveal a direct effect between police contact and delinquency, others help to specify the processes through which deviance amplification occurs. However, few studies have assessed all three potential mediating mechanisms in a single model and it is unclear whether these mediating processes are consistent for all types of labels or across

different groups of individuals. The studies described in the next section suggest that these processes, in fact, may vary across individual- and neighborhood-level factors.

CONTINGENT CONDITIONS

Status Characteristics

Prior research has indicated that demographic characteristics such as race, sex, age, and SES affect deviant outcomes following police contact, but the research is inconsistent and represents two conflicting expectations. Some studies have provided support for the idea that socially and economically disadvantaged youth are more likely to experience justice system processing and subsequent negative consequences. Findings reported by Bernburg and Krohn (2003) indicate that the relationship between police contact and serious crime in early adulthood is stronger for African Americans and those from impoverished backgrounds. Their findings also revealed that disadvantage might matter even more at later stages of justice system processing. Others have found that minority youth, lower class, and lower social standing increase the risk of label application and deleterious consequences (Jensen, 1972). Together, this research suggests that disadvantaged youth are at greater risk for the detrimental consequences of police contact.

Other studies support the hypothesis that youth from advantaged backgrounds are more susceptible to the negative consequences of official labeling because the expectations for maintaining a high social status are greater. Findings specific to race have indicated that the consequences of police contact are greatest for White youth, as evidenced by increased offending (Adams, Robertson, Gray-Ray, and Ray, 2004) and

changes in deviant identity (Ageton and Elliott, 1974; Harris, 1976; Kaplan and Damphousse, 1997). Compared with Black and Hispanic youth, Ageton and Elliott (1974) found that Whites reported more delinquent orientations post-contact. Research conducted by Harris (1976) provides a potential explanation for this: Black youth are already barred access from conventional society, so official labels do not affect their self-esteem, personal control, or stability of self. Other studies consistent with this hypothesis have focused on offending following adjudication. For instance, Chiricos, Barrick, Bales, and Bontrager (2007) found higher levels of recidivism among White offenders, while Klein's (1986) findings indicated that the negative effects of labeling were greatest for White youth and those with higher SES.

A small body of literature indicates that label application and the effects of justice system contact vary by sex, but as with research regarding race and SES, the results are mixed. Some studies have found that labels are more detrimental for males, largely because they are more likely to identify with a deviant label once defined as such or because they receive less social and financial support following justice system contact (Ageton and Elliott, 1974; Kaplan and Damphousse, 1997; Ray and Downs, 1986). Others have found that females are more negatively affected by labels, and suggest that this could be explained by the fact that females are not expected to engage in crime and are, therefore, more likely to be stigmatized (Chiricos et al., 2007; Klemke, 1978; McGrath, 2010). Additional research has identified similar processes for females and males in terms of the effects of unofficial labels. For example, Bartusch and Matsueda (1996) found that while parental appraisals of youths as 'rule violators' were associated

with delinquency for males and females, the magnitude of the effect of parental labeling on delinquency was greater for males.

Much of the research on age and the labeling process comes from the informal labeling literature. These studies examined the likelihood that youth are labeled by parents and the implications those labels have for youths' identity and behavior. Several studies have indicated that parents are more likely to label younger youth delinquent (Triplett, 1993; Zhang, 1997). In a study of youth between the ages of 11 and 17, Heimer and Matsueda (1994) found that, controlling for prior delinquency, parents were more likely to label younger youth as "rule-violators." Other research concerned with the effects of informal labels has indicated that younger youth, compared with their older peers, are more likely to assess parental labeling as negative (Triplett and Jarjoura, 1994).

In one of the few studies to examine whether the effects of police contact on delinquency and labeling mechanisms vary during adolescence, De Li (1999) found that convictions at younger ages (i.e., 10-13) were associated with a greater likelihood of unemployment, which was in turn associated with increased delinquency. While youth who experienced conviction between the ages of 14 and 16 were more delinquent later in life, the magnitude of this relationship was smaller than the effect of earlier conviction on delinquency. Although this study did not address the effects of official labels on deviant identity or involvement with delinquent groups, it demonstrated that the effects of justice system involvement on prosocial bonds and opportunities and delinquency are most consequential for younger youth.

Attitudes toward the Police

The effect of ATP as a moderator of the labeling process has received little, if any, attention. Therefore, research tangential to the relationship between ATP and the labeling process is discussed here. Tyler's (1990) research on procedural justice and legitimacy explains why citizens cooperate with legal authorities; he found that individuals who view the police with legitimacy are most likely to comply with the law, and that this relationship is strongest when attitudes about the police are favorable. While this research was not concerned with labeling theory, it indicated legal compliance is greatest when attitudes are more favorable, which provides reason to believe that ATP explains other differences in decisions to offend or obey the law.

Other research concerning the effects of police contact on later offending has indicated that there are differences associated with varying levels of stakes in conformity and prosocial bonds. That is, studies of adolescents and adults have suggested that the effects of arrest on later offending are strongest when stakes in conformity are low and bonds to conventional others are weak (Jackson and Hay, 2013; Sherman, Smith, Schmidt, Rogan, 1992). Although these studies did not assess the role of ATP in the labeling process, they indicate that strong prosocial bonds and ties to conventional norms serve to protect individuals against the deleterious effects of police contact. Situated within a broader framework of legal socialization—whereby weak prosocial bonds and few ties to conventional social norms are indicative of poor socialization and consistent with negative views of the law and its actors (see, for example, Fagan and Tyler, 2005; Leiber et al., 1998)—these studies indicate the importance of considering ATP as a moderator of the labeling process.

Neighborhood Characteristics

Because policing efforts are often concentrated in areas characterized by social and economic disadvantage, youth living in these neighborhoods are more likely to experience police contact (Kirk, 2008; 2009; Sampson, 1986). Yet, few studies have examined the relationship between neighborhood context and official labeling and it is unclear whether neighborhood disadvantage enhances or weakens the effects of police contact. Much like the research regarding ATP as a moderator of the labeling process, the research on neighborhood-level factors is limited, at best. Based on existing research, however, there is reason to believe that neighborhood factors should condition the effects of police contact.

In examining the contextual effects of self-reported offending on arrest, Kirk (2008) found that residents are less likely to be arrested following the commission of a crime in neighborhoods where tolerance of deviance is high–due, in large part, to the fact that residents who are tolerant of deviance report fewer crimes to the police. In this study, Kirk (2008) also examined ecological indicators of social disorganization (i.e., poverty, percent foreign-born, residential stability, and collective efficacy), but did not find that the indicators of social disorganization interacted with self-reported offending to differentially affect the likelihood of arrest across neighborhoods. Still, these results have important implications for the role of the neighborhood in moderating the labeling process because they indicate that in neighborhoods where deviance is tolerated, residents are unlikely to report illegal behavior to the police and assign formal labels.

Other studies have explicitly examined the effects of labels on later behavior while considering neighborhood context, but the methods and findings vary considerably.

Based on 20 interviews conducted with teenage and young adult residents of disadvantaged, urban neighborhoods, Hirschfield (2008) reported that respondents were largely unaffected by police contact. That is, the majority of respondents reported no changes in deviant identity or social exclusion following police contact. Although not generalizable to other neighborhoods, this research provides support for the hypothesis that police contact is irrelevant to youth residing in disadvantaged communities because contact is considered normative. In one of the only empirical assessments of the moderating effect of neighborhood context within a labeling framework, Chiricos and colleagues (2007) analyzed whether the effects of formal adjudication on recidivism varied across county measures of crime rates and concentrated disadvantage among a sample of 95,919 adults. They found that the relationship was not contingent on county-level factors, but because the level-two measures were aggregated at the county, they may not have been specific enough to detect cross-level interactions.

Together, the research on the conditional effects of police contact is limited, particularly where the effects of ATP and neighborhood factors are concerned. In addition, prior research has not widely examined the moderated indirect effects of police contact where multiple mediators are included. Much of the labeling and police contact research has been limited to adult populations or long-term effects (i.e., later employment and offending), and less is known about the more immediate impact of police contact on youth. The deleterious effects of police contact may be particularly harmful during adolescence, a time when the importance of peer groups is nearly unrivaled and youth are developing self-conscious identities (see Moffitt, 1993). Given these limitations, a necessary step in the development of labeling theory involves assessing whether the

relationships between police contact, the proposed mediating mechanisms, and later delinquency are contingent on individual- or neighborhood-level factors.

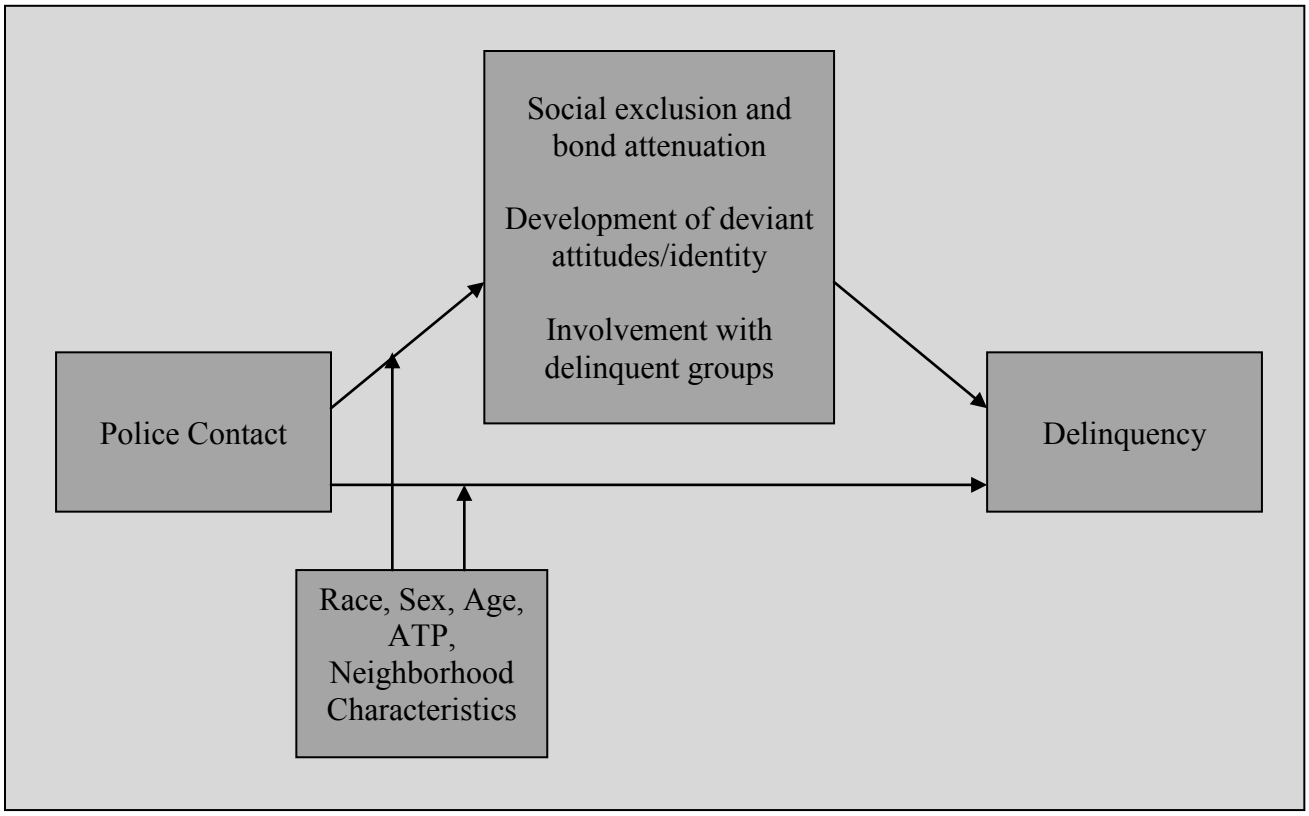
THE CURRENT STUDY

Although the current body of knowledge points to support for labeling theory, substantial gaps regarding the specific effects of police contact for youth limit the ability to make further theoretical contributions and policy recommendations. The diagram in Figure 3.1 shows the theoretical model that incorporates interaction effects and the proposed mediating mechanisms. The relationships between police contact, the mediators, and delinquency are assessed separately for each moderator, but are grouped here for ease of reference. According to this model, demographic characteristics, ATP, or neighborhood factors should interact with police contact to vary the effect that police contact has on the labeling mechanisms. Differential effects of police contact through the mediators may also occur because any of the contingencies that alter the effect that police contact has on the mediators may in turn affect delinquency indirectly.

Labeling theory and its extensions indicate that the direct effect of police contact on delinquency should disappear once the mechanisms that account for increased delinquency are taken into account (e.g., see Bernburg, 2009; Paternoster and Iovanni, 1989). Yet prior research has shown that with the mediators specific to this study, a direct effect between contact and delinquency will likely be found (Wiley et al., 2013). A direct effect between police contact and delinquency is included in the model to capture any direct effects of police contact that are not accounted for through the labeling

mechanisms specified in this study, and moderation of this direct effect is assessed to determine whether there are differences across groups.

Figure 3.1: Theoretical Model



Regarding the specific expectations for the effect of police contact on the labeling mechanisms and delinquency for different groups and characteristics, the findings from prior research are limited and fairly mixed, and do not provide clear support for the hypotheses outlined in Chapter Two. The first group of hypotheses (H_1, H_3, and H_5) suggests that the effects of police contact should be greatest for youth who are more likely to be stereotyped as delinquent or expected to participate in delinquency, including minorities, males, and older youth. The alternatives (H_2, H_4, and H_6) propose that disadvantage and stereotypes insulate youth from the deleterious effects of labels because youth who are labeled or stereotyped prior to official labeling already suffer the

consequences of existing negative stereotypes and have less to lose as a result of official labels. While the research is mixed regarding sex, some differences emerge for race and age. The majority of studies have found support for H_2, indicating that compared with minorities, Whites are more negatively affected by official labels. Research that has considered the differential effects of official and unofficial labels by age suggest that the effects of labels are more deleterious for younger youth, providing support for H_4.

The potential effects of police contact on the labeling mechanisms by ATP are unknown, as prior research, from my review of the literature, has not examined this relationship. Thus, there are no clear expectations as to whether support will be found for H_7 or H_8. The review of the impact of neighborhood structural characteristics on the labeling process is also limited, but some of this research indicates that in areas where tolerance for crime or disadvantage is high, youth are less likely to be officially labeled or negatively affected by those labels, which suggests that support may be found for H_9 and not H_{10}. To determine which of these hypotheses, if any, bear out, this dissertation uses data from a multi-site sample of youth to analyze the effects of police contact. These data and methods are discussed in the next chapter.

CHAPTER FOUR: DATA AND METHODOLOGY

Prior labeling research that examines the relationship between police contact and delinquency indicates that there is a deviance amplification effect, but few studies assess whether the labeling process is contingent on individual- and neighborhood-level characteristics. In this dissertation, I rely on two data sources to examine the effects of police contact more thoroughly by assessing the contingent effects of demographic characteristics, attitudes, and neighborhood-level factors on the labeling process. To capture the effects of police contact among individuals, and to determine whether those effects vary across demographic characteristics or ATP, I use data from the G.R.E.A.T. program evaluation (2006-2013). Youth from the G.R.E.A.T. sample with complete addresses are matched to tract-level data from the 2000 U.S. census to allow for examination of neighborhood-level factors. These data are suited to the research questions for several reasons. First, the G.R.E.A.T. data are longitudinal and allow for proper temporal ordering of the pre-treatment, treatment, moderating, mediating, and outcome variables included in this dissertation. Second, the variety of measures available in the G.R.E.A.T. data capture a wide range of concepts central to labeling theory and its extensions. Finally, the G.R.E.A.T. dataset is a multi-site sample of youth, which allows for generalizability across a range of communities throughout the United States.

THE NATIONAL EVALUATION OF G.R.E.A.T.

The G.R.E.A.T. program is a gang and delinquency prevention program taught by police officers in middle schools throughout the United States. The stated goals of the G.R.E.A.T. program are to 1) help youth avoid gang membership, 2) prevent violence

and delinquency, and 3) develop positive relationships between youth and law enforcement officers (Esbensen, Peterson, Taylor, and Osgood, 2012). G.R.E.A.T. was first developed in 1991 by law enforcement agencies in Phoenix, AZ as a way to prevent gang involvement among youth. With assistance from the Bureau of Alcohol, Tobacco, and Firearms and the Federal Law Enforcement Training Center, G.R.E.A.T. was implemented in schools across the country shortly after its inception (for a full review of the development and implementation processes, see Winfree, Peterson Lynskey, and Maupin, 1999). Although evaluations of the program indicated that G.R.E.A.T. did not effectively meet its long-term goals of reducing delinquency or gang membership, it did have an impact on several risk factors related to gang joining, including reductions in risk seeking and victimization as well as increases in number of prosocial peers, positive attitudes toward the police, and negative attitudes about gangs (Esbensen, Osgood, Taylor, Peterson, and Freng, 2001). As a result of these findings, the G.R.E.A.T. curriculum was changed from 9 lecture-based lessons to 13 interactive lessons aimed at teaching life-skills such as communication, refusal skills, conflict resolution, and anger management. This revised G.R.E.A.T. program was piloted in 2001 and fully reimplemented in 2003.

Following a competitive peer-review process, the National Institute of Justice selected the University of Missouri – St. Louis to evaluate the revised program in 2006. The process and outcome evaluation consisted of several components, including observations of G.R.E.A.T. officer training (G.O.T.), observations in G.R.E.A.T. and non-G.R.E.A.T. classrooms, surveys and interviews with G.R.E.A.T. officers and supervisors, school personnel surveys, observations of G.R.E.A.T. families sessions, and

longitudinal student surveys. The data for the current study come from the student surveys conducted within the school setting as part of the G.R.E.A.T. outcome evaluation, and the remainder of this chapter will describe the G.R.E.A.T. evaluation and methods as they relate to these surveys.

The G.R.E.A.T. evaluation was designed as an experimental longitudinal panel design. Evaluation sites were selected based on three main criteria: 1) existence of an established G.R.E.A.T. program, 2) geographic and demographic diversity, and 3) evidence of gang activity (Esbensen et al., 2012). The seven sites selected for evaluation include Albuquerque, NM; Chicago, IL; Dallas/Fort Worth area, TX; Greeley, CO; Nashville, TN; Philadelphia, PA; and Portland, OR. After sites were selected, the G.R.E.A.T. research staff sought cooperation from the primary law enforcement agencies and school districts within each city. Upon school district approval, four to six middle schools were identified within each site for participation in the evaluation. These schools were generally representative of the populations in their corresponding districts, but due to underrepresentation of African American students in Chicago, two additional schools were added to the evaluation the following year (Esbensen et al., 2012).[3] In total, 31 middle schools were involved in the evaluation.

Within each school, classrooms were randomly assigned to treatment and control conditions (for more information about the evaluation design, see Esbensen et al., 2012). Approximately half of the classrooms were provided with the G.R.E.A.T. program

[3] Because one of the Chicago schools originally selected for the evaluation was unable to meet the requirements for the G.R.E.A.T. evaluation, the school was dropped from the sample and researchers were unable to select a replacement school before the start of the school year. To increase representativeness, two primarily African American schools were added to the evaluation at the start of the 2007-2008 school year, which resulted in a one-year lag for the two replacement schools throughout the timeframe of the evaluation.

curriculum and half of the classrooms served as controls. This resulted in a total of 102 G.R.E.A.T. classrooms and 93 control classes. All students from the selected classrooms were eligible to participate in the study (N=4,905). Completed parental consent forms were returned by 89.1 percent of the students (N=4,372), with an active consent rate of 77.9 percent (N=3,820) (for review of the active consent process, see Esbensen, Melde, Taylor, and Peterson, 2008).[4]

Beginning in the Fall of 2006, when youth were in 6th or 7th grade, students completed pre-test surveys prior to implementation of the G.R.E.A.T. program. Post-test surveys were administered three to four months later and annual follow-up surveys were completed over the next four years, resulting in a total of six waves of survey data. Following youth from middle school through high school poses a number of attrition-related issues. Although students were surveyed in 31 schools during the first wave of data collection, researchers were in more than 220 schools by the fifth wave of data collection. When students were surveyed outside of the 31 original schools, researchers sought approval from school principals and made attempts to survey youth who moved to neighboring school districts. Attrition across the six waves of data collection is remarkably low considering this highly mobile population of youth: 98 percent of youth completed the pre-test (N = 3,756), followed by 95 percent for the post-test (N = 3,614), 87 percent at wave 3 (N = 3,334), 83 percent at wave 4 (N = 3,161), 74 percent of youth at wave 5 (N = 2,837), and 72 percent at wave 6 (N = 2,748).

This dissertation relies on data from the post-test and waves 3 through 5. The post-test, rather than the pre-test was chosen for the first wave in this analysis due to the

[4]It should be noted that while Esbensen et al. (2008), reported a 79% consent rate, the addition of the two schools in the 2007-2008 school year resulted in the 78% overall consent rate reported here.

shorter lag between the post-test and wave 3. Because police contact was first measured at wave 3, this allows for the attitudes and behaviors most temporally relevant to youths' reports of police contact to be captured. There is a six to nine month lag between the post-test and wave 3, and a one year lag each between waves 3, 4, and 5. These lags allow for proper temporal ordering of the pre-contact measures, police contact, moderators, mediators, and outcome. For ease of reference, the waves are referred to as times 1 through 4 (T1-T4).

SAMPLE DESCRIPTION

Of the 3,820 students in the final evaluation sample, nearly 70 percent (n = 2,661) completed the waves of data included in these analyses. Of these youth who completed all waves of data included in this dissertation, 46 were missing address information and could not be matched to census tracts. An additional 844 youth were missing data on one or more key variables included in the study. Along with the loss of cases due to missing or incomplete data, an additional 237 youth were not included in the analyses because their race was coded in the "other" category. These youth were excluded because race is a focal variable in this dissertation, and when comparing the effects of police contact across race, the groups comprising the "other category" are too small to examine separately.[5] After taking into account missing or incomplete data and purposeful exclusion, the final analysis sample size is 1,534.

While missing data is a concern, prior research indicates that complete case analysis and imputed data analysis provide substantively similar results with these data

[5] These youth listed their race as Native American (n = 27), Asian (n = 65), biracial (n = 128), or other (n = 17).

(see Wiley et al., 2013). Analyses indicate that youth who are excluded from the analyses due to missing data or having their race coded as "other" are significantly different on a number of factors. Specifically, youth who were missing data are more likely to be male and Black or Hispanic, and are more likely to have experienced police contact. Youth in the missing sample score higher on several T1 values of the mediators, including poor grades, prosocial activity and peer exclusion, and lack of guilt. Excluded youth also tend to come from neighborhoods with more Black residents, higher levels of disadvantage, more residential instability, and more disengaged youth. A full report of the missing and attrition analysis is available in Appendix A.

At each wave of data collection, youth were asked to provide their address information. Addresses were matched to codes unique to the state, county, tract, and block group. The tract-level information included in this dissertation corresponds to addresses provided by youth at T1. When addresses were incomplete or missing at T1, address information was substituted from later waves if youth indicated that they had not moved since T1. To minimize the loss of cases due to missing census tract information, addresses from T2 were substituted if youth indicated that they had moved or if their mover status was unknown (n = 11). As a result, census tract information corresponds to youths' addresses prior to measuring police contact for most respondents, but is concurrent with police contact for a small number of youth. The 1,534 youth retained in the analyses for this dissertation live in 357 census tracts. On average, there are 4.3 youth per census tract, but singletons occupy nearly 35 percent of the tracts.

Demographic characteristics for the analysis sample are presented in Table 4.1 (a complete list of descriptive characteristics is available in Table 5.1). Information is

reported for the full analysis sample and separately for the no contact and contact groups. Respondents in the full sample are just under 12 years of age at T1 and approximately half of these youth are male. The largest percentage of the full sample is Hispanic (44%), followed by White (37%) and Black (19%). The majority of respondents had no contact with the police (68%), whereas approximately 32 percent reported having been stopped or arrested.

Table 4.1: Sample Demographic Characteristics

			Full Sample (n = 1,534)		No Contact (n = 1,042)		Contact (n = 492)	
	Variable	Range	Mean/ Percent	SD	Mean/ Percent	SD	Mean/ Percent	SD
Age		9 – 15	11.83	.74	11.75	.69	12.01	.81
Sex:	Male	0 – 100	47.7%		41.6%		60.6%	
Race:	White	0 – 100	37.3%		43.1%		25.0%	
	Black	0 – 100	19.0%		16.7%		23.8%	
	Hispanic	0 – 100	43.7%		40.2%		51.2%	

ABBREVIATIONS: SD = standard deviation

DESCRIPTION OF MEASURES

To ensure proper temporal ordering, variables are measured at four time points. Control variables and the covariates used to create the propensity scores are measured at T1. The proposed moderators are time-stable (e.g., race, sex) or measured prior to the treatment due to expectations related to existing ATP (T1) or neighborhood factors (T1/T2). Police contact is measured at T2 and T3. The mediators are measured at T3 and because these variables primarily capture current status, proper temporal ordering is maintained. Finally, delinquency is measured at T4. Unless otherwise noted, all variables are mean scale scores that were computed if at least half the items had non-missing data.

Refer to Appendix B for a complete list of survey questionnaire items and response categories.

Delinquency

To capture delinquent activity, respondents were asked how many times in the last six months they had participated in 14 different delinquent activities ranging in seriousness from "skipped classes without an excuse" to "attacked someone with a weapon." The 11 response categories capture the number of times youth participated in each activity, from "0" to "more than 10." Responses for each item were summed to create a *delinquency frequency* measure ranging from 0 to 154. On average, respondents reported 7.57 delinquent acts (SD = 16.67).[6]

The delinquency frequency measure includes several questions about involvement in activities that are often considered minor (e.g., "skipped class without an excuse," "avoided paying for things such as movies, bus, or subway rides"). To determine whether these minor acts drive the results, an additional frequency measure capturing street delinquency, or the eight most serious offenses, was created as an alternative outcome measure. Delinquency frequency is also highly skewed with a large number of respondents reporting no delinquency. Therefore, delinquency frequency was transformed by adding one and taking the log. Examining a log-transformed variable with OLS regression could lead to biased results (see O'Hara and Kotze, 2010); yet, the calculation of indirect effects relies on the principles of linear regression (Hayes, 2013). Still, the sensitivity of the direct effects can be assessed with an alternative outcome. A negative binomial model with a variety score outcome (ranging in values from 0 to 14)

[6] A number of youth had extreme or highly unusual values on delinquency frequency given their predictors. To ensure that cases with influential and outlying data points did not influence the results, these youth were removed (n = 74) and direct effects were reexamined. The results were substantively similar.

was included to assess the direct effects of police contact. The results of the alternative models with the street delinquency and variety score outcomes alternative models are discussed in Chapter Six, with full results available in Appendix C.

Police Contact

The independent variable in this study is a dichotomous measure of *police contact* at T2 and/or T3. Contact at these two waves was combined due to the fact that a number of youth experienced contact at either one or both of these time points.[7] Respondents were asked how many times in the past 6 months they had: 1) been stopped by the police for questioning, and 2) been arrested. Because prior research indicates that the labeling process is similar for both stopped and arrested youth (see Wiley and Esbensen, 2013; Wiley et al., 2013), the police contact measure captures any contact rather than identifying stopped youth as distinct from arrested youth. If youth indicated that they were stopped or arrested at one or both waves, they were coded as "1. Contact." If they did not experience any police contact at T2 or T3, they were coded "0. No Contact."

Moderators

Demographic Characteristics. Individual-level characteristics that are expected to moderate the effect of police contact on later delinquency include age, race, and sex. *Age* is based on respondents' ages at T1. The majority of the youth in this sample were between the ages of 11 and 13 at T1, but a small number reported being younger than 11 or older than 13. To reduce the likelihood that these outliers affect the results, but to

[7] A number of youth experienced police contact at T3, but either did not indicate contact at T2 (n = 348) or are missing information on T2 police contact (n = 64). By combining T2 and T3 contact, these cases can be retained in the "contact" group.

retain them in the sample, age was truncated at 11 and 13 and was treated as a categorical variable in the path models. *Sex* is measured with a dichotomous variable, with females coded as "0" to serve as the reference group and males coded as "1". Dichotomous variables for two racial/ethnic categories, *Hispanic* and *Black* are included, with White youth serving as the reference group.

Attitudes toward the Police. To examine the relationship between attitudes toward the police and the labeling process, a variable capturing youths' global *attitudes toward police officers* is included. This measure is based on a 6-item likert scale assessing how much youth agree or disagree with statements about the police ($\alpha = .85$). Questions range from how respondents feel about whether police officers are honest or hardworking, to whether youth feel safer with police officers in school, with higher values indicating more positive attitudes.

Neighborhood Structural Characteristics. To determine whether the effects of police contact are contingent on neighborhood structural characteristics, measures from the 2000 U.S. Census tract-level data are included to capture the ecological components central to social disorganization (e.g., see Bursik, 1988). First, because poverty, racial/ethnic heterogeneity, and residential instability are associated with a community's inability to maintain networks and exercise social control (Shaw and McKay, 1969 [1942]), variables that capture the *percentage of Hispanic residents*, *percentage of Black residents*, *percentage of foreign-born residents*, *residential instability*, *and economic disadvantage*. Consistent with prior research, economic disadvantage is a four-item scale consisting of the percentage of: female-headed households, households with incomes below the poverty line, families receiving public assistance, and unemployed civilians in

the labor force (α = .93), while residential instability incorporates two factors: percentage of residents who are renters and percentage of residents over the age of five who did not live at the same house five years earlier (α = .63) (Kirk, 2008; 2009). An additional variable is included to account for institutional disengagement as a measure of prosocial bonds and opportunities available to youth and the tolerance associated with crime and delinquency (McCall et al., 2013). The *percentage of disengaged youth* captures the percentage of youth between the ages 16 of 19 who are unemployed and not enrolled in school or the military.

Proposed Mediators

Because the secondary deviance hypothesis proposes that official labeling affects delinquency indirectly through social exclusion/attenuated bonds, deviant identity, and involvement with delinquent peers, several indicators of each proposed labeling mechanism are incorporated in this dissertation. Where noted, variables are reverse-coded so that positive values are consistent with labeling effects.

Social Exclusion/Attenuated Bonds. Four variables are included in this study to capture the role of social exclusion and attenuated social bonds in the secondary deviance process. To assess the strength of youths' bonds to conventional society, two variables are included. The first is *lack of school commitment*, which is a seven-item scale (α = .78). Youth were asked to indicate how much they agree or disagree with statements such as, "I try hard in school," and "grades are very important to me." Response categories are reverse-coded to range from "1. Strongly agree," to "5. Strongly disagree." A measure of *poor grades* is also included to help capture students' academic achievement. Students

indicated whether their grades were closest to A's, B's, C's, D's, or F's, and corresponding numerical values are reverse-coded so that higher scores represent worse grades.

The next two variables capture exclusion from conventional activities and peers. Youth were asked whether they had participated in any school activities or athletics, community activities, religious activities, or their own family activities in the past year. Responses are reverse-coded to determine *prosocial activity exclusion*, such that "0" corresponds to "Yes" and "1" corresponds to "No" and summed across the four activities. The *prosocial peer exclusion* measure consists of a four-item scale ($\alpha = .84$). Youth were asked how many of their friends, for instance, "have been thought of as good students," or "have generally been honest and told the truth." Response categories are reverse-scored such that "1. All of them" and "5. None of them."

Deviant Attitudes. Two measures of deviant attitudes are included in this study to capture youths' attitudes as precursors to and evidence of deviant identity (see Ageton and Elliott, 1974; Lemert, 1951). The first, which captures *anticipated lack of guilt*, relies on respondents' anticipations of guilt if they were to participate in delinquent activities ranging from "stealing something worth less than $50" to "attacking someone with a weapon." Responses for the seven-item scale are reverse-coded such that "1. Very guilty," "2. Somewhat guilty," and "3. Not very guilty" ($\alpha = .93$). The second measure of delinquent attitudes, *agreement with neutralization techniques*, comes from a nine-item scale capturing how much respondents agree with statements such as, "It's okay to tell a small lie if it doesn't hurt anyone," "It's okay to steal something if that's the only way you could ever get it," and "It's okay to beat someone up if they hit you first." Response

choices are based on a five-point Likert scale ranging from "1. Strongly disagree" to "5. Strongly agree" (α= .84).

Deviant Group Involvement. Regarding involvement with delinquent peers, two measures are included in this dissertation. *Delinquent peers* consists of seven questions asking youth, for example, how many of their current friends "skipped school without an excuse," "attacked someone with a weapon," or "used marijuana or other illegal drugs" (α = 86). Responses range from "1. None of them" to "5. All of them." To account for the possibility that youth become more committed to their delinquent friends as they increasingly take on a deviant identity, a three-item scale of *negative peer commitment* is included. This variable captures the likelihood that youth would continue to hang out with their delinquent friends if those friends were getting them into trouble: 1) at school, 2) at home, and 3) with the police. Responses are scored on a five-point Likert-type scale with one equal to "not at all likely" and five equal to "very likely" (α = .81).

Control Variables

This study controls for the propensity to experience police contact to help decrease selection bias associated with the mediators and outcome variable (see, for example, Austin, 2011; Williamson, Morley, Lucas, and Carpenter, 2011). Controls for age, sex, and race are included in the models, as well as prior levels of the mediators and outcome (i.e., poor grades, lack of school commitment, prosocial activity exclusion, prosocial peer exclusion, lack of guilt, neutralizations, delinquent peers, negative peer commitment, and delinquency all measured at T1). To ensure that involvement in the G.R.E.A.T. program does not influence the results, a control variable is included, with

youths who did not participate in G.R.E.A.T. coded as “0” and those who participated coded as “1.” In addition, a number of youth moved to new homes at some point during the survey. Because this could affect societal reactions to police contact, a dichotomous variable (“0. Non-mover” “1. Mover”) captures whether youth indicated that they had moved at any point between T1 and T4.

CHAPTER FIVE: ANALYSES

The primary foci of this dissertation are the differences in the effects of police contact and subsequent labeling processes across individual- and neighborhood-level characteristics. To examine whether the effects of police contact are consistent with labeling theory, the principal analytic method used in this dissertation was path analysis with maximum likelihood estimation, while Wald tests were used to determine whether there were differences in parameters across groups. Because youth who are stopped by the police or arrested are often more likely to encounter the police due to higher levels of, or more serious involvement in, delinquency, it is important to determine whether a labeling effect exists after observed group differences are taken into account. To this end, the analyses began with propensity score matching to identify whether a relationship between police contact, the proposed mediators, and delinquency held after adjusting for observed selection bias. The methods and justifications for the propensity score matching and path model analyses are described below.

PROPENSITY SCORE MATCHING ANALYSIS

Youth who experience police contact often have characteristics and behaviors that predispose them to later delinquent activity, regardless of the effect that police contact has on delinquency. For example, youth who are involved in higher levels of delinquency, have more delinquent friends, and less parental monitoring may be more likely to come to the attention of law enforcement, but they are also at greater risk for participating in delinquent behavior in subsequent years. Unless these baseline characteristics are taken into account, analyses may provide support for labeling theory

when in fact the results are due to selection bias. The majority of labeling studies have used multiple regression analysis to control for factors associated with the labeling event (e.g., police contact, arrest, incarceration) and later delinquency; however, as Smith and Paternoster (1990) noted, this technique does not adequately account for selection effects. The authors compared a standard multiple regression analysis approach with a two-step selection bias correction method to examine the effects of court processing on delinquency and found support for labeling theory using the regression analysis, but no support after employing the bias correction method. The authors concluded that if researchers do not properly control for factors associated with police contact and delinquency, they may incorrectly find a labeling effect (Smith and Paternoster, 1990).

In addition to issues associated with selection bias, multiple regression is not always suitable when dealing with dissimilar groups such as those who have and have not experienced police contact. This is because regression relies on linear functional form to estimate treatment effects, and estimates may be biased if the variable distributions between the two groups do not overlap sufficiently (Zanutto, 2006). As seen in Table 5.1, there are significant differences between the contact and no contact groups on nearly all of the focal variables included in the analyses. These differences suggest that there is insufficient overlap across groups and that there is a possibility that the results could be biased if differences are not properly accounted for. As evidenced by differences in T1 values of the mediators as well as neighborhood characteristics, the results in Table 5.1 indicate that youth who were stopped or arrested at T2 or T3 were, in fact, at greater risk of experiencing police contact. If these differences are not taken into consideration, selection bias may influence the results.

Table 5.1: Differences in Focal Variables across Contact Groups

	Full Sample (n = 1,534)		No Contact (n = 1,042)		Contact (n = 492)	
Variable	Mean/ Percent	SD	Mean/ Percent	SD	Mean/ Percent	SD
Age: 11 and younger	34.7%		38.1%		27.4%	
12	48.8%		49.2%		48.0%	
13 and older	16.5%		12.7%		24.6%	
Sex: Male*	47.7%		41.6%		60.6%	
Race: White*	37.3%		43.1%		25.0%	
Black*	19.0%		16.7%		23.8%	
Hispanic*	43.7%		40.2%		51.2%	
Involvement in G.R.E.A.T.	53.3%		52.8%		54.5%	
Moved	35.1%		31.6%		42.5%	
Time 1 Variables						
Poor grades*	2.11	.84	1.98	.81	2.39	.84
Lack of school commitment*	2.19	.75	2.05	.67	2.48	.83
Prosocial activity exclusion	1.59	1.18	1.55	1.17	1.68	1.20
Prosocial peer exclusion*	2.52	1.00	2.31	.95	2.97	.96
Lack of guilt*	1.35	.53	1.25	.46	1.57	.60
Neutralizations*	2.56	.84	2.35	.77	3.01	.82
ATP*	3.75	.92	3.92	.83	3.38	.98
Delinquent peers*	1.32	.54	1.19	.37	1.59	.72
Negative peer commitment*	1.75	.88	1.59	.69	2.08	1.12
Delinquency frequency*	5.34	12.84	2.41	6.21	11.54	19.39
Delinquency (logged)*	.96	1.17	.63	.92	1.66	1.33
Neighborhood Variables (T1/T2)						
Percent Black*	13.6%		12.4%		16.1%	
Percent Hispanic*	25.2%		22.4%		31.1%	
Percent foreign-born*	14.5%		13.9%		15.8%	
Percent disengaged youth*	12.1%		11.1%		14.1%	
Economic disadvantage*	-0.09	.88	-0.21	.80	0.15	.97
Residential instability	-0.04	.82	-0.05	.82	-0.02	.82

NOTES: *denotes significant differences between contact and no contact groups. Significance levels calculated using chi-square tests for categorical and t-tests for continuous variables.

Alternatives to multiple regression analysis include random assignment and matching techniques. Ideally, individuals would be randomly assigned to either a control group or police contact group to ensure that the outcome is not influenced by selection

bias, but such assignment is often unrealistic due to practical and ethical limitations.[8] One-to-one matching allows researchers to match two individuals with different experiences (e.g., with and without police contact) on one or more variables (e.g., sex, race) to identify whether the individuals vary in their outcomes. While this technique allows for comparison of outcomes across individuals who are similar on demographic characteristics and prior behavior, limitations arise as the number of matching variables increases. Prior studies have examined the effects of police contact using one-to-one matching, but because no two respondents have identical demographic characteristics, behavioral traits, and attitudes or beliefs, the number of variables used in the matching procedure is generally low (e.g., fewer than 10) and researchers are often unable to match on important preexisting characteristics (Farrington, 1977; Huizinga et al., 1996).

When random assignment and one-to-one matching are not feasible, propensity score matching is often considered an acceptable alternative (Rosenbaum and Rubin, 1985). This method allows researchers to examine the level of overlap between groups, ensure that groups are similar on observed characteristics, and assess the average effects of the treatment independent of the effects of other variables included in the model. Recently, researchers have applied this technique to assess the impact of police contact, arrest, and incarceration on delinquency and offending, and found support for labeling theory (see, for example, Loughran et al., 2009; Morris and Piquero, 2011; Nieuwbeerta et al., 2009; Wiley and Esbensen, 2013).

Propensity scores reduce multiple variables, or covariates, associated with the treatment and outcome to a single score that represents the predicted probability that the

[8] Some studies have, however, successfully used random assignment to examine differences across police-citizen encounters (Mazerolle et al., 2013), court processing and sentencing (Klein, 1986) and police response (Sherman and Berk, 1984).

individual will experience a given treatment. Individuals from treatment and control groups can be matched on these propensity scores and when balance is achieved the groups appear similar on the covariates included in the propensity score model. As a result of this matching procedure, the effects of the treatment can be estimated as though the groups were randomly assigned (Coffman, 2011). However, it is important to note that one of the major limitations of propensity score matching is omitted variable bias; that is, groups are matched only on the covariates included in the model, and selection bias may remain if important predictors of treatment are omitted.

The propensity score matching approach is based on Rubin's (1974) potential outcomes framework, which identifies two possible outcomes for a single individual. The causal effect of the treatment for any given individual is determined by the difference between the two potential outcomes. Yet, because two outcomes for the same individual cannot be observed simultaneously, researchers estimate the average treatment effect (ATE) for the target population by calculating the average difference in outcomes as if every individual experienced both the treatment and control conditions.

In some contexts, it is of greater import to researchers to identify the effect of the treatment only on those who, in fact, experienced the treatment condition. That is, the average treatment effect on the treated (ATT) is of interest when researchers are concerned with outcomes for individuals who select treatment or are more likely to experience the treatment condition (Heckman, 1992). Because not all individuals are at risk for experiencing police contact and some may never be stopped or arrested, it is of primary interest in this dissertation to examine how police contact affects those who are, in fact, stopped or arrested. Unlike the ATE, the ATT represents the expected treatment

effect only for those individuals who received the treatment. In this case, it is the average difference in outcomes as if every individual in the contact group had also been in the no contact group.

The first step in estimation of the ATT is assignment of propensity scores to each individual, regardless of treatment status. The propensity scores represent the predicted probability that youth will experience police contact given their selected individual- and neighborhood-level characteristics. Propensity scores were estimated using a multilevel logistic regression model with individuals as level one units and neighborhoods at level two. Due to the small average number of individuals per census tract (4.3) and the fact that 35 percent of the tracts are occupied by lone respondents, full multilevel modeling is not included in this dissertation, but random intercepts across census tracts are included to capture variation in the likelihood of being stopped or arrested while the effects of the individual- and neighborhood-level variables on police contact are fixed across census tracts. This model was selected because prior research indicates that the likelihood of experiencing police contact varies across neighborhoods, with police contact being more common in disadvantaged and minority communities (Kirk, 2008; Sampson, 1986; Simcha-Fagan and Schwartz, 1986).

Selection of covariates for the propensity score model was based on individual and neighborhood risk factors associated with police contact. The individual-level variables include sex, age, race, involvement in the G.R.E.A.T. program, parent education, parental monitoring, impulsivity, risk-seeking, anger, unsupervised time with peers, commitment to positive peers, commitment to negative peers, perceived community disorder, perceived school disorder, positive influences, negative influences,

delinquent peers, exclusion from prosocial peers, exclusion from prosocial activities, lack of school commitment, grades, neutralizations, guilt, attitudes toward police, substance use, victimization, and delinquency. Neighborhood-level variables included in the propensity score model are percent Black, percent Hispanic, percent foreign-born, percent disengaged youth, economic disadvantage, and residential instability. Product terms were also included in the model to account for potential differences in risk factors associated with police contact across age, sex, race, and neighborhood. These interactions capture differences by age, sex, and race in the effects of delinquent peers, parental monitoring, unsupervised time with peers, substance use, delinquency, and victimization on contact. For a complete list of the covariates and interaction terms included in the propensity score model, consult Appendix D.

To compare two potential outcomes for single individuals, each individual in the contact group must be matched to one or more individuals with similar propensity scores who did not experience police contact. This technique creates groups that are, on average, similar across background characteristics and risk factors associated with police contact and allows for examination of the relationship between police contact and the proposed mediators, as well as delinquency, while accounting for observed selection bias. Youth in the contact group were matched to one or more youth who did not experience contact using the *psmatch2* module (Leuven and Sianesi, 2003) for Stata 13.0 (StataCorp, 2013). Because the proportion of untreated to treated individuals is just greater than two to one, the matched results presented in this dissertation rely on Epanechnikov kernel density matching with caliper specification of .02 and bandwidth parameter of .1. Kernel density matching is a nonparametric matching estimator that matches multiple untreated cases to

one treated case, then calculates the average treatment effects based on weighted averages of the matches, with greater weight given to closer matches (Guo and Fraser, 2010). By specifying a caliper value of .02, matches are made only when propensity scores within the range of .02 are found, thereby reducing the likelihood that poor matches are made. The bandwidth, which is a selected value between zero and one, specifies the smoothness of the fitted density curve, with higher values resulting in smoother curves but increased bias, and smaller values resulting in less bias with the tradeoff of increased variance between the estimated curve and actual values (Caliendo and Kopeinig, 2008; Guo and Fraser, 2010).

After matching, treatment effects were calculated for the mediators and delinquency. Because the treatment effects calculated with kernel density matching rely on weighted averages, the *psmatch2* package (Leuven and Sianesi, 2003) does not provide tests to determine whether the averages among treated and untreated cases are significantly different. As a result of the limitations of matching software packages, researchers commonly rely on random resampling of the data, or bootstrapping, to calculate standard errors based on the sampling distribution of the bootstrapped samples (Guo and Fraser, 2010). Thus, significant differences in the ATT were determined based on bootstrapped standard errors with 50 bootstrap replications.

When estimating treatment effects, it is important that the matched groups are, on average, similar across the covariates included in the propensity score model (i.e., balanced) to ensure that the estimated treatment effects are not driven by observed group differences. To determine whether the matching procedure eliminated bias associated with the covariates, standardized bias statistics were assessed. The standardized bias

statistic represents the mean difference between the two groups as a percentage of the square root of the average standard deviation (Rosenbaum and Rubin, 1985). Prior research suggests that balance statistics less than 20 indicate that acceptable balance has been achieved (Rosenbaum and Rubin, 1985). More recently, however, researchers have argued for stricter cutoffs (e.g., 10), or have recommended that researchers carefully assess the relationship between the covariate and treatment variable when bias statistics are near less strict cutoffs (Harder et al., 2011). The balance statistics for the matched sample indicate that the averages across the groups are within the acceptable range, with standardized bias percentages less than 20. See Appendix E for an assessment of the balance statistics before and after matching.

To examine the sensitivity of the propensity score matching results presented in this dissertation, results were compared across additional parameter specifications and matching estimators. Alternative parameter specifications with kernel density matching include smaller and larger bandwidth and caliper values. Additional matching estimators include local linear regression, nearest neighbor 1-to-1 (with replacement), and nearest neighbor 1-to-10 (with replacement) (for description of these methods, see Caliendo and Kopeinig, 2008). Comparison across alternative specifications and estimators reveals some differences in balance statistics (i.e., the balance statistics in the alternative matching analyses were somewhat worse), but no substantive differences in the results. Omitted variable bias was also assessed following nearest neighbor 1-to-1 matching (see Becker and Caliendo, 2007). The results indicate that with the exception of prosocial activity exclusion, the effects of police contact on the remaining mediators and delinquency are largely insensitive to the introduction of hidden bias. Specifically,

omitted variables would need to increase the odds of being stopped by the police or arrested by one and a half to two times to have an effect on the significant findings produced in this dissertation.

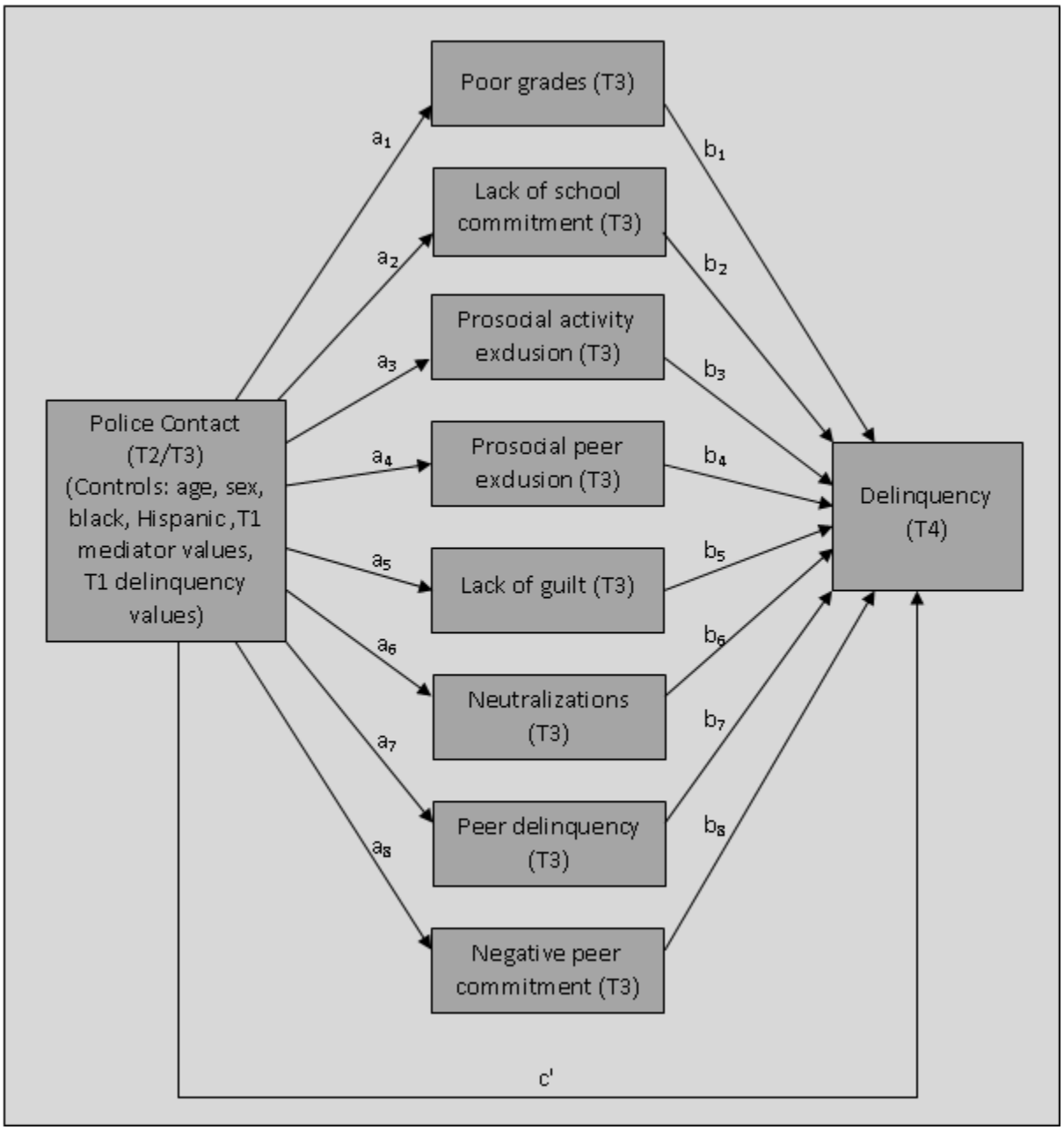
PATH ANALYSIS

After propensity score matching was used to assess the relationships between police contact and the proposed mediators and delinquency while adjusting for observed selection bias, path models were estimated using maximum likelihood regression in Stata 13 to examine the relationships between police contact, the mediators, and delinquency (StataCorp, 2013). The direct and total effects of police contact on delinquency, as well as the indirect effects of police contact through multiple mediators simultaneously, were estimated while allowing the error terms associated with each of the mediators to covary to account for shared sources of error (see Preacher and Hayes, 2008). The multiple mediation method is preferred to single mediation path models because each indirect effect is conditional on other indirect effects in the model (Preacher and Hayes, 2008). This allows for a more theoretically relevant analysis, as the indirect effect of police contact through delinquent peers, for instance, may be influenced by the inclusion of the indirect effect through prosocial peer exclusion. A baseline path model was predicted with no moderators and additional path models were estimated separately for each of the moderators of interest. Descriptions of these conceptual models are provided in the following section.

Conceptual Models

The baseline model is included as a comparison model to provide estimates of the indirect, direct, and total effects of police contact on delinquency while controlling for demographic characteristics (age, sex, Black, Hispanic), T1 values of the mediators and delinquency, propensity scores, involvement in G.R.E.A.T., and mover status. The conceptual baseline model, presented in Figure 5.1, identifies the following paths: 1) the direct effect of police contact on each of the mediators (a paths), 2) the direct effect of each of the mediators on delinquency (b paths), 3) the direct effect of police contact on delinquency (c'), 4) the specific indirect effects of police contact on delinquency through each mediator (e.g., a_1*b_1), 5) the total indirect effect of police contact on delinquency through all mediators simultaneously (i.e., sum of a*b paths), and 6) the total effect of police contact on delinquency (i.e., sum of c' and a*b paths). To reduce the number of paths presented in the model, error covariances between the mediators are omitted.

Figure 5.1: Conceptual Baseline Model



NOTES: Error covariances between mediators are omitted.

To determine whether the effects of police contact are moderated by demographic characteristics, attitudes toward the police, and neighborhood characteristics, two types of path analysis techniques were used. The first technique, subgroup analysis, is useful when proposed moderators are categorical in nature because it allows all or selected paths

to be estimated separately according to the parameters of each subgroup. Thus, this technique was used to analyze whether the labeling process varies by race, sex, and age. Rather than controlling for age, sex, and race, path models were fitted across the subgroups that correspond to the omitted control variable and parameters were free to vary across the subgroup models so that coefficients corresponding to a paths, b paths, and c' were fitted based on the subgroup of interest.[9] For example, to determine whether race moderates the effects of police contact, dichotomous indicators for Black and Hispanic were excluded as control variables from the path model, and parameters were fitted for White, Black, and Hispanic subgroups.

After fitting the models across subgroups, Wald tests were used to determine whether differences between two path coefficients were equal to zero using the nonlinear combination of estimators command (nlcom) in Stata 13 (StataCorp, 2013). The nlcom command allows for examinations of linear and nonlinear combinations of coefficients to test for differences between coefficients and standard errors calculated using the delta method, which relies on normal probability distribution assumptions (StataCorp, 2013). For instance, when testing whether paths were equal for White, Black, and Hispanic subgroups, differences in path coefficients for Whites and Blacks were tested, then for Whites and Hispanics, and again for Blacks and Hispanics.

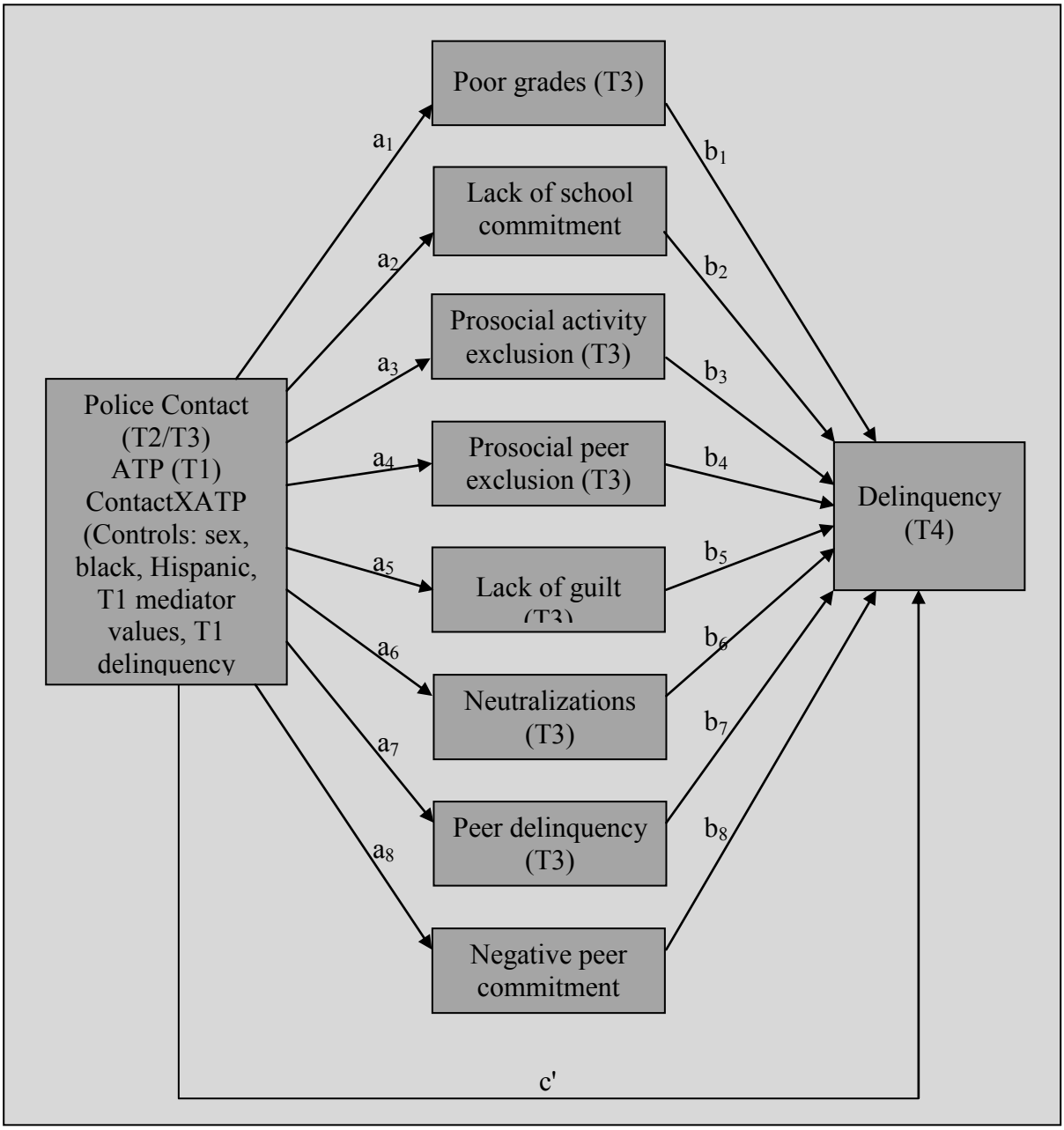
Although subgroups analysis works well for categorical variables, it is not suited for continuous moderators. To analyze variation in the effects of police contact on the labeling process across values of ATP and neighborhood-level variables, the analyses

[9] Free-parameter models were compared to constrained models (i.e., parameters were constrained to be equal across groups) to assess model fit. However, because this dissertation focuses on whether there are significant differences across subgroups, rather than model fit, the constrained models are not discussed here.

proceeded in two steps. First, interaction effects were assessed separately for each outcome (a paths and c'). If the interaction coefficients were significant, indicating that the effect of police contact on the outcome varies across levels of the moderator, full path model results were examined. Because the indirect effect is the product of a and b paths (e.g., a_1*b_1), any moderated direct effect may cause the indirect effect, and therefore the total effect, to be moderated. The second path analysis technique used in this dissertation relies on inclusion of interaction terms to capture variation in the effects of contact across continuous variables.

Models were fitted separately for ATP and each neighborhood-level variable. To aid in interpretations and provide a meaningful value of zero, ATP, percent Black, percent Hispanic, percent foreign-born, percent disengaged youth, economic disadvantage, and residential instability were centered at their grand means. The path model presented in Figure 5.2 provides an example of the path model with the inclusion of an interaction term. This model differs from the baseline model in that ATP and the product of ATP and police contact are included in the model and the mediators and delinquency are regressed on ATP, police contact, and their product term, in addition to the control variables included in the baseline model.

Figure 5.2: Path Model with Interaction Terms



NOTES: Error covariances between mediators are omitted.

The interaction analysis technique deviates from the subgroup analysis, which allows all paths (including b paths) to vary across groups. Because hypotheses regarding the contingent effects of police contact are concerned with the direct effects of police contact (i.e., a paths and c'), moderation of b paths was not tested. While it is possible

that the b paths are moderated by additional variables, or even ATP and neighborhood factors, explanations for those effects would rely on additional theories and are outside of the scope of this dissertation. Paths were estimated for the neighborhood-level variables in accordance with the model in Figure 5.2, although ATP and the product term were omitted and replaced with neighborhood-level variables and cross-level interaction terms. To account for the dependence of observations due to the clustering of youth within census tracts, estimates were calculated with robust standard errors in the neighborhood interaction models. Finally, to ensure that separate examination of the neighborhood variables and their product terms did not lead to suppression effects, a model with all of the neighborhood variables and their product terms was analyzed. Because these results were consistent with the separate neighborhood models, results are not presented in this dissertation.

CHAPTER SIX: BASELINE RESULTS

In this chapter, the relationships between police contact, the proposed mediators, and delinquency are examined using the full analysis sample (n = 1,534). Youth in the contact group are more likely to experience police contact based on existing traits and risk factors, including greater involvement in delinquency, and this could lead to finding a labeling effect when differences are due to selection bias. To determine whether there is a labeling effect after accounting for observed selection bias, the propensity score matching results are presented first. Next, results from the baseline path model are included to provide a general overview of the mechanisms that account for increased delinquency following police contact.

PROPENSITY SCORE MATCHING RESULTS

The results from the propensity score matching analysis are displayed in Table 6.1, with significant group differences reported at $p < .05$. The unmatched sample results display the outcome averages for the contact and no contact groups, as well as the average differences between those groups. The unmatched results indicate that youth who were stopped or arrested reported worse grades, less commitment to school, greater exclusion from prosocial peers, less anticipated guilt, greater agreement with neutralization statements, more delinquent peers, greater commitment to delinquent peers, and higher levels of delinquency than their peers who did not experience police contact. This finding is consistent with a labeling effect, but because selection bias is not accounted for in the unmatched sample, these differences could be due to other preexisting factors.

Comparing the outcome averages across the contact and no contact groups before and after matching helps to determine the extent to which selection bias drives the results. In the matched ATT sample, youth in the treatment group were matched to one or more youth with similar propensity scores in the control group, and the matched controls represent the counterfactual, or the expected outcome, had youth in the contact group not been stopped or arrested. As a result of this matching procedure, averages for the contact group remain unchanged before and after matching, while the control group averages are weighted to represent the frequencies at which youth in the no contact group were matched to youth in the contact group.

Table 6.1: Propensity Score Matching Results

	Unmatched Sample			Matched Sample		
	Contact (n = 492)	No contact (n = 1,042)	Difference	Contact (n = 492)	No contact (n = 1,042)	Difference
Poor grades	2.52	1.99	.53*	2.52	2.23	.28*
Lack of school commitment	2.63	2.18	.46*	2.63	2.35	.28*
Prosocial activity exclusion	1.88	1.55	.33*	1.88	1.68	.19
Prosocial peer exclusion	2.97	2.33	.64*	2.97	2.61	.36*
Lack of guilt	1.87	1.43	.45*	1.87	1.66	.22*
Neutralizations	3.23	2.55	.68*	3.23	2.91	.32*
Delinquent peers	1.95	1.30	.64*	1.95	1.48	.47*
Negative peer commitment	2.45	1.84	.61*	2.45	1.93	.53*
Delinquency (logged)	2.01	.90	1.11*	2.01	1.32	.68*
Delinquency frequency	16.13	4.15	11.98*	16.13	7.63	8.50*

NOTES: Significance levels calculated using t-tests for unmatched sample and bootstrapped standard errors for matched sample.
*$p < .05$

The matched results reveal the importance of accounting for selection bias: although police contact appears to be associated with exclusion from prosocial activities before matching, there is no effect on prosocial activities after matching. For example,

youth in the contact group reported a .68-unit increase in agreement with neutralization statements, on average, compared with their control group counterparts, but the matched results indicate that police contact is associated with a smaller increase in agreement with neutralizations (difference = .32). Still, after accounting for observed selection bias, being stopped or arrested is associated with worse grades, less commitment to school, more exclusion from prosocial peers, less anticipated guilt, greater use of neutralization techniques, more delinquent peers, and greater commitment to delinquent peers. Additionally, the unmatched results indicate that youth who experienced police contact participated in nearly 12 more delinquent acts, on average. Although the matched results show that stopped and arrested youth still participated in more delinquency, the difference between the contact and no contact groups drops to 8.5.

Overall, the propensity score matching results presented in Table 6.1 indicate that, even after controlling for observed selection bias, police contact is associated with attenuated conventional bonds and fewer prosocial peers, more deviant attitudes, and greater involvement in delinquent groups, which are the three mechanisms thought to lead to later delinquency.[10] These results also show that being stopped or arrested is associated with more delinquency. Although these findings provide support for labeling theory and establish relationships between police contact, the labeling mechanisms, and delinquency while accounting for potential selection bias, they are limited to the direct effects of police contact. In the next section, path modeling is used to examine whether the three labeling mechanisms explain increases in delinquency following police contact.

[10] In comparing these propensity score matching results to the street delinquency results, one minor difference emerges. The effect of contact on prosocial peer exclusion is significant in the street delinquency model (diff = .22, $p < .05$), but not in Table 6.1. It may be that while prosocial peers are indifferent to general delinquency, they are less accepting of more serious forms of delinquency. Comparing the results in Table 6.1 with the variety score results, findings are substantively similar.

PATH MODEL RESULTS

Before determining whether the effects of police contact are moderated by demographic characteristics, attitudes toward the police, or neighborhood characteristics, the baseline path model, presented in table 6.2, provides a general picture of the labeling process. As noted previously, the baseline model includes additional control variables such as demographic characteristics, T1 values of the mediators and outcome, and the propensity to experience police contact, but those variables are omitted from the results presented here. Because the path model results present the effects of police contact, which is a dichotomous variable, all coefficients are unstandardized (see Hayes, 2013: 188). Significance levels are reported at $p < .05$.

The effects of police contact on the labeling mechanisms are presented in Panel A. These results, which are supportive of a labeling effect, indicate that police contact is associated with worse grades ($b = .22$), decreased commitment to school ($b = .30$), exclusion from prosocial activities ($b = .18$) and peers ($b = .35$), less anticipated guilt ($b = .21$), increased agreement with neutralization techniques ($b = .31$), more delinquent peers ($b = .41$), and greater commitment to delinquent peers ($b = .38$). These findings are generally consistent with the ATT results reported in the previous section with one exception; police contact was not associated with prosocial activity exclusion in the matched sample, but the path analysis results indicate a significant effect. In both the propensity score results and path model, the significance level associated with the difference in prosocial activity exclusion is close to the cutoff value at $p < .05$.

Table 6.2: Baseline Path Model Results

Panel A: Direct Effects of Police Contact on Labeling Mechanisms (a paths)				
	b	SE	z	
Poor grades	.22*	.04	5.11	
Lack of school commitment	.30*	.04	7.95	
Prosocial activity exclusion	.18*	.07	2.56	
Prosocial peer exclusion	.35*	.05	6.93	
Lack of guilt	.21*	.03	6.15	
Neutralizations	.31*	.04	7.20	
Delinquent peers	.41*	.03	12.19	
Negative peer commitment	.38*	.06	6.51	
Panel B: Direct Effects of Labeling Mechanisms on Delinquency (b paths)				
	b	SE	z	exp(*b*)
Poor grades	.11*	.04	2.63	1.12
Lack of school commitment	.06	.05	1.09	1.06
Prosocial activity exclusion	.01	.02	.41	1.01
Prosocial peer exclusion	.08*	.04	2.07	1.08
Lack of guilt	.19*	.05	3.57	1.21
Neutralizations	.21*	.04	4.81	1.24
Delinquent peers	.40*	.06	7.05	1.49
Negative peer commitment	.09*	.03	2.93	1.10
Panel C: Indirect Effects of Police Contact on Delinquency (a*b paths)				
	b	SE	z	exp(*b*)
Poor grades	.02*	.01	2.34	1.02
Lack of school commitment	.02	.02	1.08	1.02
Prosocial activity exclusion	.00	.00	.40	1.00
Prosocial peer exclusion	.03*	.01	1.98	1.03
Lack of guilt	.04*	.01	3.09	1.04
Neutralizations	.07*	.02	4.00	1.07
Delinquent peers	.16*	.03	6.10	1.18
Negative peer commitment	.04*	.01	2.67	1.04
Total indirect (sum of a*b paths)	.37*	.04	10.22	1.45
Panel D: Effects of Police Contact on Delinquency				
	b	SE	z	exp(*b*)
Direct (c' path)	.28*	.07	4.08	1.33
Total (sum of c' and a*b paths)	.66*	.07	9.22	1.93

NOTES: coefficients are unstandardized, n = 1,534
ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient
*p < .05

The direct effects of the labeling mechanisms on delinquency presented in Panel B indicate that poor grades (*b* = .11), exclusion from prosocial peers (*b* = .08), lack of anticipated guilt (*b* = .19), agreement with neutralization techniques (*b* = .21), involvement with delinquent peers (*b* = .40), and commitment to negative peers (*b* = .09) are associated with increases in delinquency. Because the unstandardized coefficients reflect the log-transformed delinquency outcome, exponentiated coefficients are included in the tables and are interpreted as a percentage change in delinquency.[11] For example, a one-unit increase in poor grades is associated with a 12 percent increase in delinquency (b = .11), while a one-unit increase in delinquent peers leads to a 49 percent increase in delinquency (b = .40).

The results presented in Panel C allow for examination of the mechanisms that account for increases in delinquency following police contact. These findings reveal that poor grades (b = .02), prosocial peer exclusion (b = .03), lack of guilt (b = .04), agreement with neutralizations (b = .07), delinquent peers (b = .16), and negative peer commitment (b = .04) mediate the relationship between police contact and delinquency. For example, among youth who experienced police contact, delinquency frequency increased by four percent as a result of the effect of police contact on lack of guilt (b = .04). While the specific indirect effects are small in magnitude, with the mediators explaining anywhere between 2 and 18 percent increases in delinquency, delinquent peers stands out as the most salient mechanism through which police contact increases delinquency. Wald tests indicate that the 18 percent increase in delinquency via the effect of police contact on peer delinquency is significantly greater than any other indirect

[11] The exponentiated coefficients are interpreted as a percentage change based on the formula: (exp(b)-1)*100%.

effect. The total indirect effect represents the combined specific indirect effects. The corresponding exponentiated coefficient indicates that police contact leads to a 45 percent increase in delinquency through the effect of police contact on poor grades, less school commitment, prosocial peer exclusion, less anticipated guilt, greater agreement with neutralizations, more delinquent peers, and negative peer commitment simultaneously (b = .37). Thus although the specific indirect effects are small, together they account for a sizable increase in delinquency.

Panel D of table 6.2 provides the direct and total effects of police contact on delinquency. Controlling for the effect of police contact on delinquency through the mediators, police contact is associated with a 33 percent increase in delinquency (*b* = .29). In total, police contact accounts for a 93 percent increase in delinquency both directly and through the labeling mechanisms (*b* = .66).[12]

In sum, both the propensity score matching and path model results presented in this chapter are supportive of labeling theory. The matched results provide evidence that police contact is associated with nearly all of the proposed mediators, as well as delinquency, after controlling for selection on observed variables. Findings from the baseline path model indicate that poor grades, prosocial peer exclusion, lack of guilt, neutralizations, delinquent peers, and negative peer commitment account for some of the

[12] Comparison of the baseline results with alternative outcomes (street delinquency and variety score) reveals some minor differences. In the street delinquency model, a and b paths are substantively similar, but there is one difference in the indirect effects. In the baseline model (Table 6.2), prosocial peer exclusion mediates the relationship between contact and delinquency (b = .03, $p < .05$), but in the street delinquency model, prosocial peer exclusion is not a significant mediator. Because the magnitude of this effect in the baseline model is small and very close to the significance cutoff level, this is not surprising. Overall, the effects of police contact are slightly smaller in the street delinquency model (direct = .19, total = .49), but are nonetheless significant. The direct effects of the baseline model are compared with the variety score outcome, and one difference emerges in the effect of lack of school commitment on delinquency (b path).In the variety model this effect is significant (b = .12), but is not in the baseline model presented in Table 6.2.

effect of police contact on delinquency. That is, support is found for the notion that police contact increases delinquency through mechanisms associated with attenuated conventional bonds and social exclusion, more deviant attitudes, and involvement with delinquent peers, although a direct effect between police contact and delinquency indicates that additional mechanisms or measures may help explain increases in delinquency following police contact. In the next three chapters, the relationships between police contact, the labeling mechanisms, and delinquency are examined under various conditions to determine whether the labeling effect associated with police contact is contingent on demographic, attitudinal, or neighborhood factors.

CHAPTER 7: THE ROLE OF DEMOGRAPHIC CHARACTERISTICS IN THE LABELING PROCESS

The results presented in this chapter focus on the differential effects of police contact by race, sex, and age. In general, hypotheses regarding the effects of police contact on the labeling process are shaped by social status, stereotypes, and role expectations. According to conflict theory and the status characteristics hypothesis, less powerful and minority groups are the most likely targets of law enforcement and stereotyping. Tests and elaborations of labeling theory focus largely on race and SES, and two competing hypotheses regarding the effects of police contact emerge. First, minorities and low status individuals may be more susceptible to the negative effects of police contact because they face preexisting stereotypes and attenuated prosocial bonds, leaving them with fewer resources to overcome the official label (H_1). Alternatively, official labels are redundant with preexisting stereotypes that minorities face, and Whites are more vulnerable to the effects of police contact because they have more to lose in terms of status and prosocial opportunities (H_2).

Additional information regarding social norms and role expectations help shape differential expectations regarding the effects of police contact by sex. Females are less frequently involved in delinquency, tend to have stronger prosocial bonds, and are treated more leniently by the justice system and society more generally. Consistent with the idea that stereotyped and poorly bonded individuals are at greatest risk of the negative effects of police contact, then, males should experience greater negative consequences as a result of police contact (H_3). However, preexisting stereotypes may serve to protect males from the deleterious effects of police contact and because females are not expected to

participate in delinquency, they may be at greater risk of social exclusion and bond attenuation, adoption of deviant attitudes, and involvement with deviant groups (H_4).

With regard to expected differences in the labeling process by age, hypotheses are shaped by conflict theory and cumulative disadvantage hypotheses, but are also informed by the notion that delinquency is considered normal during adolescence and is often expected of teenagers. While pre-teens may be considered "innocent" and often have stronger bonds with parents, teenagers are more likely to be considered "troublemakers" and are more autonomous than their younger counterparts, leaving them with potentially strained prosocial bonds prior to police contact. If stereotyped individuals are at greatest risk of the negative effects of labels, police contact should have a more detrimental effect on teenagers or older youth (H_5). Pre-teens or younger youth, on the other hand, should be more negatively affected by police contact if delinquency is seen as problematic or outside of the boundaries of normal behavior (H_6). The results presented below, organized separately by race, sex, and age, help to determine which of these hypotheses ($H_1 - H_6$), if any, are confirmed by the data. All significance levels, including differences between groups that are denoted by alphabetic superscripts, are significant at $p < .05$.

RACE

The path model results for race subgroups are presented in Table 7.1. Panel A reveals that the effects of police contact are consistent with a labeling effect for Whites, Blacks, and Hispanics. Among all three groups, police contact is associated with worse grades, less commitment to school, exclusion from prosocial peers, more delinquent peers, and greater commitment to delinquent peers. There are some differences, however,

between Black and Hispanic youth. While police contact is associated with less commitment to school among Black and Hispanic youth, the effect is greater for Hispanic youth. Among Hispanic youth, police contact is associated with a .36-unit increase in lack of school commitment, but contact is associated with a .16-unit increase in lack of school commitment among Black youth. Police contact is also linked to less anticipated guilt among Hispanic youth (b = .31), but has no effect on guilt among Black youth. Together, these findings indicate that although the effects of police contact on social exclusion and bond attenuation and involvement with delinquent groups are consistent with labeling theory for the three groups, the deleterious effects of police contact are slightly stronger among Hispanics compared with Blacks. Specifically, compared with Black youth, police contact is more likely to attenuate prosocial bonds and lead to the development of more deviant attitudes among Hispanic youth.

In Panel B, the effects of the labeling mechanisms on delinquency are explored. Although differences in these relationships are not necessarily predicted by labeling theory, the differences across groups should not be ignored because they may drive differences in the indirect effects. These results reveal that delinquent peers have the greatest impact on delinquency among White youth. That is, a one-unit increase in delinquent peers is associated with a 98 percent increase in delinquency (b = .68) among Whites, which is greater than the 46 percent increase in delinquency for Hispanics (b = .38). For Black youth, increases in delinquent peers are not associated with increased delinquency.

Table 7.1: Path Model Results – Race Subgroups

Panel A: Direct Effects of Police Contact on Labeling Mechanisms (a paths)									
	White (n = 572)			Black (n = 291)			Hispanic (n = 671)		
	b	SE	z	*b*	SE	z	*b*	SE	z
Poor grades	.21*	.08	2.65	.19*	.09	2.20	.25*	.06	4.07
Lack of school commitment[c]	.36*	.07	5.04	.16*	.08	2.01	.36*	.05	6.71
Prosocial activity exclusion	.39*	.12	3.22	.09	.15	.58	.10	.10	.99
Prosocial peer exclusion	.45*	.09	5.20	.31*	.11	2.93	.32*	.08	4.28
Lack of guilt[c]	.19*	.06	3.53	.01	.09	.16	.31*	.05	6.43
Neutralizations	.37*	.07	4.90	.15	.10	1.52	.37*	.06	5.80
Delinquent peers	.42*	.05	8.83	.33*	.07	4.51	.44*	.05	7.96
Negative peer commitment	.34*	.10	3.27	.29*	.11	2.64	.47*	.09	5.18

Panel B: Direct Effects of Labeling Mechanisms on Delinquency (b paths)												
	White				Black				Hispanic			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Poor grades	.05	.06	.81	1.05	.13	.10	1.38	1.14	.16*	.07	2.45	1.17
Lack of school commitment	.10	.08	1.20	1.10	.06	.11	.56	1.07	.00	.09	.02	1.00
Prosocial activity exclusion	-.04	.04	-.98	.96	-.06	.06	-1.00	.94	.07	.04	1.82	1.07
Prosocial peer exclusion	.02	.06	.31	1.02	.14	.08	1.73	1.16	.06	.06	1.12	1.06
Lack of guilt	.16	.09	1.77	1.18	.06	.10	.63	1.06	.25*	.09	2.78	1.28
Neutralizations	.29*	.07	3.85	1.33	.31*	.09	3.30	1.36	.13	.07	1.90	1.14
Delinquent peers[a, b]	.68*	.11	6.22	1.98	.20	.13	1.52	1.22	.38*	.08	4.79	1.46
Negative peer commitment	.09	.05	1.78	1.09	.06	.08	.75	1.06	.14*	.05	2.90	1.15

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient

NOTES: coefficients are unstandardized. [a]Significant difference between Whites and Blacks, [b]Significant difference between Whites and Hispanics, [c]Significant difference between Blacks and Hispanics, *p < .05.

Table 7.1: Path Model Results – Race Subgroups, continued

Panel C: Indirect Effects of Police Contact on Delinquency (a*b paths)	White				Black				Hispanic			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Poor grades	.01	.01	.78	1.01	.03	.02	1.17	1.03	.04*	.02	2.10	1.04
Lack of school commitment	.03	.03	1.16	1.04	.01	.02	.54	1.01	.00	.03	.02	1.00
Prosocial activity exclusion	-.02	.02	-.94	.98	.00	.01	-.50	1.00	.01	.01	.87	1.01
Prosocial peer exclusion	.01	.03	.31	1.01	.04	.03	1.49	1.05	.02	.02	1.08	1.02
Lack of guilt[c]	.03	.02	1.58	1.03	.00	.01	.15	1.00	.08*	.03	2.55	1.08
Neutralizations	.11*	.03	3.03	1.11	.04	.03	1.38	1.05	.05	.03	1.80	1.05
Delinquent peers[a]	.29*	.06	5.08	1.34	.06	.04	1.44	1.07	.16*	.04	4.11	1.18
Negative peer commitment	.03	.02	1.56	1.03	.02	.02	.72	1.02	.07*	.03	2.53	1.07
Total indirect[a, c]	.50*	.07	6.80	1.64	.20*	.07	3.03	1.23	.43*	.06	7.22	1.53
Panel D: Effects of Police Contact on Delinquency												
	White				Black				Hispanic			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Direct (c' path)	.24*	.12	1.97	1.27	.42*	.15	2.86	1.52	.20	.11	1.94	1.23
Total (sum of c' and a*b paths)	.73*	.13	5.84	2.08	.62*	.15	4.21	1.86	.63*	.11	5.83	1.88

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient

NOTES: coefficients are unstandardized. [a]Significant difference between Whites and Blacks, [b]Significant difference between Whites and Hispanics, [c]Significant difference between Blacks and Hispanics, *p < .05

The results presented in Panel C reveal the mechanisms that account for increases in delinquency following police contact. The differences in indirect effects suggest that the mechanisms through which police contact leads to delinquency vary among the three groups. First, lack of guilt accounts for an eight percent increase in delinquency following police contact (b = .08) for Hispanic youth, but does not mediate the effect of police contact on delinquency for Black youth. This relationship, driven by the direct effect of contact on lack of guilt among Hispanic youth (as indicated by the significant difference between Blacks and Hispanics in Panel A), suggests that deviant attitudes are relevant to the labeling process for Hispanic, but not for Black, youth. In comparing Whites and Blacks, differences in the effects of delinquent peers emerge; delinquent peers accounts for a 34 percent increase in delinquency for White youth (b = .29), but police contact does not lead to increases in delinquency via delinquent peers for Black youth. Because police contact is associated with increases in delinquent peers for both White and Black youth, the indirect effect is driven by differences in the relationship between delinquent peers and delinquency (i.e., b path) rather than differential effects of police contact.

An examination of the differences in the total indirect effect of police contact reveals that the labeling mechanisms account for greater increases in delinquency among Whites and Hispanics, compared with Blacks. In total, the labeling mechanisms account for 64, 23, and 53 percent increases in delinquency for Whites, Blacks, and Hispanics, respectively. It is important to note, however, that none of the labeling mechanisms independently account for significant increases in delinquency among Black youth. Unfortunately, one of the drawbacks of multiple mediation analysis is that, in combining

several relatively weak specific indirect effects, the total indirect effect may be large enough to detect a significant mediation effect. In this case, it is recommended that researchers focus on specific rather than total indirect effects to identify patterns (Hayes, 2013). The overall results indicate that police contact leads to delinquency largely through the effect of contact on deviant attitudes and involvement with delinquent groups for White and Hispanic youth, but these mechanisms do not account for substantive increases in delinquency among Black youth. Moreover, the effect of police contact on delinquency through delinquent peers for Whites and Hispanics is consistent with the baseline model; compared with other specific indirect effects, delinquent peers is the main mechanism through which police contact leads to increased delinquency.

The final findings reported in Panel D indicate that a direct effect of police contact on delinquency is present, even after controlling for the effect of contact on delinquency through the mediators. Police contact is directly associated with 27, 52, and 23 percent increases in delinquency for White, Black, and Hispanic youth respectively. In total, increases in delinquency via the labeling mechanisms and the direct effect (c' path) reveal that police contact is consistent with a deviance amplification effect for all three groups. Additionally, these total effects are substantively similar across the three groups, as police contact is associated with a 108 percent increase in delinquency among Whites, an 86 percent increase in delinquency for Black youth, and an 88 percent increase in delinquency among Hispanics.

To summarize, the findings from the race subgroups analyses reveal that the overall effect of police contact is consistent with deviance amplification. Yet, for Black youth, the processes through which deviance amplification unfolds are not consistent

with the idea that three mechanisms – social exclusion and bond attenuation, deviant identity/attitudes, and involvement with delinquent groups – lead to increased delinquency. These results also indicate that the labeling process is more similar for White and Hispanic youth than for Black and Hispanic youth. Although this finding does not provide support for either of the hypotheses related to race (H_1 or H_2) by indicating that the overall effects of police contact are more detrimental for Whites or minorities, it suggests that there are important differences in the labeling process by race or ethnicity.

SEX

The results displayed in Table 7.2 allow for comparison of the direct and indirect effects of police contact for females and males. Findings presented in Panel A reveal that there are few differences in the effects of police contact on the labeling mechanisms. For both females and males, findings are consistent with a labeling effect, indicating that police contact is associated with worse grades, less school commitment, more exclusion from prosocial peers, less anticipated guilt, greater use of neutralizations, more delinquent peers, and greater commitment to delinquent peers. The only difference between males and females is the effect that police contact has on delinquent peers. While contact is associated with increases in delinquent peers for both groups, the effect is stronger for females (b = .49) than for males (b = .34). The results presented in Panel B indicate that the labeling mechanisms affect delinquency similarly for both males and females, with lack of guilt, neutralizations, and delinquent peers associated with increased delinquency for both groups.

Table 7.2: Path Model Results – Sex Subgroups

Panel A: Direct Effects of Police Contact on Labeling Mechanisms (a paths)						
	Female (n = 803)			Male (n = 731)		
	b	SE	z	*b*	SE	z
Poor grades	.18*	.06	3.10	.26*	.06	4.25
Lack of school commitment	.28*	.05	5.13	.33*	.05	6.24
Prosocial activity exclusion	.24*	.10	2.37	.12	.10	1.31
Prosocial peer exclusion	.34*	.07	4.80	.37*	.07	5.30
Lack of guilt	.22*	.04	4.94	.20*	.05	3.96
Neutralizations	.34*	.06	5.70	.30*	.06	4.79
Delinquent peers[a]	.49*	.05	10.56	.34*	.05	7.05
Negative peer commitment	.39*	.08	4.76	.36*	.08	4.43

Panel B: Direct Effects of Labeling Mechanisms on Delinquency (b paths)								
	Female				Male			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Poor grades	.12*	.06	2.11	1.12	.10	.06	1.58	1.10
Lack of school commitment	.05	.07	.80	1.05	.05	.08	.58	1.05
Prosocial activity exclusion	.00	.03	.06	1.00	.02	.04	.38	1.02
Prosocial peer exclusion	.05	.05	1.10	1.05	.09	.06	1.57	1.10
Lack of guilt	.16*	.07	2.19	1.18	.20*	.08	2.63	1.23
Neutralizations	.25*	.06	4.19	1.28	.18*	.07	2.60	1.19
Delinquent peers	.37*	.07	5.03	1.45	.42*	.09	4.89	1.52
Negative peer commitment	.12*	.04	2.78	1.12	.08	.05	1.62	1.08

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient

NOTES: coefficients are unstandardized. [a]Signficant difference between females and males, *p < .05

Table 7.2: Path Model Results – Sex Subgroups, continued

Panel C: Indirect Effects of Police Contact on Delinquency (a*b paths)								
	Female				Male			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Poor grades	.02	.01	1.74	1.02	.03	.02	1.48	1.03
Lack of school commitment	.01	.02	.79	1.02	.02	.03	.58	1.02
Prosocial activity exclusion	.00	.01	.06	1.00	.00	.01	.37	1.00
Prosocial peer exclusion	.02	.02	1.07	1.02	.03	.02	1.50	1.03
Lack of guilt	.04*	.02	2.00	1.04	.04*	.02	2.19	1.04
Neutralizations	.08*	.02	3.38	1.09	.05*	.02	2.28	1.05
Delinquent peers	.18*	.04	4.54	1.20	.14*	.04	4.02	1.15
Negative peer commitment	.05*	.02	2.40	1.05	.03	.02	1.53	1.03
Total indirect	.40*	.05	7.71	1.49	.34*	.05	6.59	1.41
Panel D: Effects of Police Contact on Delinquency								
	Female				Male			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Direct (c' path)	.32*	.09	3.48	1.38	.29*	.11	2.71	1.33
Total (sum of c' and a*b paths)	.72*	.09	7.65	2.06	.63*	.11	5.88	1.87

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient

NOTES: coefficients are unstandardized. [a]Signficant difference between females and males, *p < .05

The results presented in Panel C indicate that the mechanisms through which police contact increases delinquency are generally invariant between females and males. While the variables associated with bond attenuation and social exclusion do not mediate the effect of police contact on delinquency, measures of deviant attitudes and involvement with delinquent groups explain increases in delinquency following police contact. For both females and males, police contact affects delinquency through increased lack of guilt and greater use of neutralization techniques, but the variable that explains the greatest increase in delinquency is delinquent peers. That is, police contact is associated with increases in delinquent peers for females and males, which is linked to 20 and 15 percent increases in delinquency, respectively. In total, the indirect effects account for a 49 percent increase in delinquency among females and a 41 percent increase in delinquency for males.

Panel D reveals that police contact exerts a direct effect on delinquency, for both females and males, independent of the effects through the mediators. After combining the indirect and direct effects of police contact, the findings indicate that the total effect of police contact on delinquency is similar for females and males. Both directly and through the mediators included in the analyses, police contact is associated with a 106 percent increase in delinquency for females and an 87 percent increase in delinquency for males.

Taken together, the results from Table 7.2 indicate that the processes through which police contact increases delinquency are largely invariant for females and males. Although the effect that police contact has on delinquent peers is stronger for females than for males, this difference is not substantial enough to affect the role that delinquent peers play in the labeling process, or is likely balanced by the somewhat larger effect that

peers have on delinquency for males. For both females and males then, police contact is associated with increases in delinquent peers, and this increase is in turn associated with later delinquency.

AGE

Path analysis results for youth at ages 11, 12, and 13 are presented in Table 7.3. When examining differences in the labeling process across the three age groups in this study, it is important to consider the fact that the youth in this sample were 11, 12, and 13 at T1. Police contact occurred approximately six months later, while the mediators were measured one year later (T3), and delinquency was measured two years post-contact (T4). The mediator values are reported when youth were, on average, between the ages of 13 and 15, while delinquency at T4 corresponds to youth between the ages of 14 and 16.

The results in panel A suggest that the effects of police contact on the labeling mechanisms vary by age, with the most detrimental effects of police contact appearing for younger youth. Specifically, police contact has a greater impact on school commitment among 11-year-olds compared with 12-year-olds. Among the 11-year-olds, police contact is associated with a .41-unit increase in lack of school commitment, but only a .23-unit increase among 12-year-olds. The effect of contact is on agreement with neutralization statements is stronger for younger youth (b = .47) compared with 12-year-olds (b = .23). In comparing the youngest and oldest subgroups, similar patterns emerge regarding the stronger effect that police contact has on younger youth. Youth who are 11 experience more exclusion from prosocial peers (b = .45) and less anticipated guilt (b = .29) after being stopped or arrested, but there is no effect on these outcomes among 13-year-olds.

Table 7.3: Path Model Results – Age Subgroups

Panel A: Direct Effects of Police Contact on Labeling Mechanisms (a paths)

	Age 11 (n = 532)			Age 12 (n = 749)			Age 13 (n = 253)		
	b	SE	z	*b*	SE	z	*b*	SE	z
Poor grades	.26*	.07	3.53	.14*	.06	2.40	.33*	.11	3.11
Lack of school commitment[a]	.42*	.06	6.61	.23*	.06	4.09	.23*	.09	2.71
Prosocial activity exclusion	.18	.12	1.57	.20*	.10	2.06	.17	.17	1.04
Prosocial peer exclusion[b]	.45*	.09	5.20	.33*	.07	4.72	.15	.12	1.25
Lack of guilt[b]	.29*	.05	5.36	.21*	.05	4.44	.02	.09	.24
Neutralizations[a]	.47*	.07	6.55	.24*	.06	3.86	.23*	.10	2.25
Delinquent peers	.43*	.05	8.38	.41*	.05	8.89	.36*	.10	3.58
Negative peer commitment	.45*	.10	4.73	.31*	.09	3.60	.41*	.14	2.99

Panel B: Direct Effects of Labeling Mechanisms on Delinquency (b paths)

	Age 11				Age 12				Age 13			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Poor grades[a, b]	-.02	.06	-.38	.98	.15*	.06	2.45	1.16	.30*	.11	2.90	1.36
Lack of school commitment	.01	.09	.10	1.01	.02	.07	.26	1.02	.20	.14	1.39	1.22
Prosocial activity exclusion	-.02	.04	-.41	.98	.05	.04	1.44	1.05	-.03	.07	-.45	.97
Prosocial peer exclusion	.12*	.06	2.03	1.13	.05	.05	.85	1.05	-.02	.10	-.23	.98
Lack of guilt	.27*	.09	2.99	1.31	.17*	.08	2.21	1.19	.11	.12	.91	1.12
Neutralizations[a, c]	.11	.07	1.50	1.11	.35*	.06	5.41	1.42	.04*	.11	.38	1.04
Delinquent peers	.30*	.10	3.01	1.35	.43*	.08	5.08	1.54	.39*	.12	3.30	1.48
Negative peer commitment	.10*	.05	2.01	1.11	.11*	.05	2.54	1.12	.04*	.09	.41	1.04

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient

NOTES: Coefficients are unstandardized. [a]Significant difference between 11 and 12, [b]Significant difference between 11 and 13, [c]Significant difference between 12 and 13, *p < .05

Table 7.3: Path Model Results – Age Subgroups, continued

Panel C: Indirect Effects of Police Contact on Delinquency (a*b paths)	Age 11				Age 12				Age 13			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Poor grades[b]	-.01	.02	-.38	.99	.02	.01	1.72	1.02	.10*	.05	2.12	1.11
Lack of school commitment	.00	.04	.10	1.00	.00	.02	.26	1.00	.05	.04	1.23	1.05
Prosocial activity exclusion	.00	.01	-.39	1.00	.01	.01	1.18	1.01	-.01	.01	-.41	.99
Prosocial peer exclusion	.05	.03	1.89	1.05	.02	.02	.84	1.02	.00	.01	-.23	1.00
Lack of guilt[b]	.08*	.03	2.61	1.08	.04*	.02	1.98	1.04	.00	.01	.23	1.00
Neutralizations	.05	.04	1.46	1.05	.08*	.03	3.14	1.09	.01	.03	.37	1.01
Delinquent peers	.13*	.05	2.84	1.14	.17*	.04	4.41	1.19	.14*	.06	2.43	1.15
Negative peer commitment	.05	.03	1.85	1.05	.04*	.02	2.08	1.04	.01	.04	.41	1.01
Total indirect	.36*	.06	5.87	1.43	.38*	.06	6.62	1.46	.31*	.09	3.58	1.36
Panel D: Effects of Police Contact on Delinquency	Age 11				Age 12				Age 13			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Direct (c' path)[b, c]	.38*	.12	3.27	1.46	.37*	.10	3.70	1.44	-.04	.17	-.24	.96
Total[b, c]	.73*	.11	6.57	2.08	.75*	.11	7.13	2.12	.26	.18	1.50	1.30

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient

NOTES: Coefficients are unstandardized. [a]Significant difference between 11 and 12, [b]Significant difference between 11 and 13, [c]Significant difference between 12 and 13, *p < .05

The findings reported in Panel B indicate that few of the labeling mechanisms are associated with direct increases in delinquency. Of the mechanisms that are linked to increased delinquency, only the effects of poor grades and agreement with neutralization statements vary across subgroups. Specifically, a one-unit increase in poor grades is associated with a 35 percent increase in delinquency among 13-year-olds (b = .30), but poor grades does not appear to have an effect on delinquency in the 11-year-old sample. Agreement with neutralization statements, on the other hand, is associated with a 41 percent increase in delinquency for 12-year-old youth (b = .34), but does not affect delinquency among those in the older or younger subgroups. Together, these results do not indicate a clear pattern by age, but because differences in the b paths are not generally informed by labeling theory, additional theoretical input may be necessary to interpret these differences.

The indirect effects of police contact, reported in Panel C, reveal some group differences in the mechanisms that account for increased delinquency. First, police contact is associated with a 10 percent increase in delinquency through poor grades among 13-year-olds (b = .10), but poor grades do not mediate the relationship between police contact and delinquency among 11-year-olds. This difference appears to be driven by differences in the effect of poor grades on delinquency (Panel B), however, and is not due to differential effects of police contact on poor grades. Consistent with the idea that police contact is more detrimental for the youngest youth in the sample, police contact is associated with increased delinquency via the effect of police contact on lack of guilt among 11-year-olds (b = .08). Alternatively, lack of guilt does not mediate the police contact-delinquency relationship among the oldest youth in the sample. Although these

findings indicate that there are some differences with regard to the mechanisms through which police contact increases delinquency, comparison of the total indirect effects reveals that overall, the labeling mechanisms account for similar increases in delinquency. Moreover, the increase in delinquency via delinquent peers is greater than any other specific indirect effect across all three groups, suggesting that involvement with delinquent peers is the primary mechanism through which police contact increases delinquency among 11-, 12-, and 13-year-olds.

Comparison of the direct effects of police contact on delinquency reported in Panel D reveals that police contact exerts a positive and significant effect on delinquency, independent of the effects through the labeling mechanisms, for youth 12 and under. Because a direct effect of police contact is not expected once the labeling mechanisms are taken into account, this finding may indicate that the variables included in this model do not fully capture the mechanisms through which official labels lead to delinquency for youth younger than 13. The total effects of police contact in Panel D indicate that the combined direct and indirect effects of police contact result in greater increases in delinquency among 11- and 12-year-olds compared with those who are 13. Specifically, police contact is associated with 108 and 112 percent increases in delinquency for 11- and 12-year-olds, respectively. The negative coefficient that corresponds to the direct effect of police contact on delinquency among youth 13 and older is combined with the total indirect effect, resulting in a slightly suppressed and nonsignificant total effect of police contact for the oldest subgroup. Although one might interpret this as meaning that police contact is irrelevant for the youth in the oldest group, that conclusion would be contrary to the finding that the total indirect effect is positive and significant. Taken

together, the indirect, direct, and total effects indicate that while the effects of police contact are consistent with labeling theory for all groups, being stopped or arrested is more detrimental for 11- and 12-year old youth compared with 13-year-olds.

CHAPTER EIGHT: THE ROLE OF ATTITUDES TOWARD THE POLICE IN THE LABELING PROCESS

In this chapter, the role that ATP play in moderating the relationship between police contact and delinquency is explored. Prior research indicates that legal attitudes are shaped, in large part, by vicarious experiences and legal socialization, and is relatively stable over time (Brandl et al., 1994; Fagan and Tyler, 2005; Leiber et al., 1998; Rosenbaum et al., 2005). Moreover, some suggest that attitudes toward the law and its enforcers are part of a broader socialization process, and that unfavorable attitudes indicate resentment or hostility toward the law, less belief in conventional norms, and fewer prosocial bonds. Given that youths' attitudes may be apparent in interactions with the police, youth with negative ATP should experience more detrimental effects because their attitudes likely elicit negative responses from police officers, which could result in harsher treatment or increased resentment toward the conventional social order (H_7). Because youth with negative ATP are also more likely to have attenuated prosocial bonds, they have fewer resources to escape the negative consequences of an official label. Yet because youth with more favorable ATP should have stronger conventional bonds and value the beliefs and opinions of conventional society, the effects of police contact on the labeling process may be stronger for those with positive ATP (H_8).

To examine the effects of police contact on delinquency at varying levels of ATP, path models with product terms are included, rather than subgroup models, because ATP is a continuous variable. Before assessing the path model results, however, it is necessary to determine whether police contact and ATP interact to affect the labeling mechanisms or outcome. From a labeling perspective, ATP should moderate the effects of police

contact on the mediators due to the potential differential treatment by officers and differences in conventional bonding, but there is no a priori reason to believe that ATP will moderate the effects of the labeling mechanisms on delinquency (b paths). Any moderated indirect effects then, are the result of moderation occurring on the a paths due to the nature of the calculation of indirect effects (e.g., a_1*b_1). The variable ATP is grand-mean centered and, as a result, has a meaningful zero point that represents the average response for the sample. This average corresponds to generally positive attitudes regarding the police (i.e., a score of 3.75 on a scale ranging from 1 to 5).

The results presented in Table 8.1 provide the simple and interaction effects of police contact and ATP on the mediators and delinquency. The control variables from the baseline model are also included in these analyses. Because the interaction coefficients indicate differences in the effects of police contact on the outcomes with one-unit increases in ATP, those coefficients are of interest here. The results indicate that the effects of police contact on prosocial peer exclusion, neutralizations, and delinquent peers vary across levels of ATP. Although these coefficients are small, they indicate that the differences between the contact and no contact groups in prosocial peer exclusion and (b = .09) and neutralizations (b = .10) increase as attitudes become more positive. Alternatively, the effect of contact on delinquent peers is greatest when attitudes are less favorable. These findings suggest that the interaction between police contact and ATP operates differently across labeling mechanisms.

Table 8.1: Interaction Effects of Police Contact and ATP on Labeling Mechanisms and Delinquency

Mediator/Outcome		b	SE	z
Poor grades	Contact	.21*	.04	5.04
	ATP	.07*	.03	2.65
	Contact X ATP	-.05	.04	-1.38
Lack of school commitment	Contact	.30*	.04	8.00
	ATP	-.01	.02	-.59
	Contact X ATP	.03	.04	.77
Exclusion from prosocial activities	Contact	.18*	.07	2.55
	ATP	.00	.04	.06
	Contact X ATP	-.01	.06	-.23
Exclusion from prosocial peers	Contact	.35*	.05	7.05
	ATP	-.03	.03	-.85
	Contact X ATP	.09*	.05	1.97
Lack of guilt	Contact	.21*	.03	6.19
	ATP	-.05*	.02	-2.11
	Contact X ATP	.03	.03	.84
Neutralizations	Contact	.32*	.04	7.36
	ATP	-.01	.03	-.21
	Contact X ATP	.10*	.04	2.45
Delinquent peers	Contact	.40*	.03	12.06
	ATP	.02	.02	.90
	Contact X ATP	-.07*	.03	-2.13
Negative peer commitment	Contact	.38*	.06	6.53
	ATP	-.02	.04	-.45
	Contact X ATP	.02	.05	.28
Delinquency (logged)	Contact	.29*	.07	4.11
	ATP	-.06	.04	-1.48
	Contact X ATP	.06	.06	.92

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient
NOTES: Coefficients are unstandardized.
*p < .05

Although small in magnitude, Table 8.1 indicates that there are differences in the effects of police contact on prosocial peer exclusion, neutralizations, and delinquent peers. To determine whether these differences are significant at varying levels of ATP, and to identify whether they influence the indirect or total effects of police contact on

delinquency, the conditional effects are presented in Table 8.2. Conditional direct effects are calculated only for the effect of police contact on prosocial peer exclusion, neutralizations, and delinquent peers to avoid introducing nonsignificant differences across values of ATP; however, all other direct effects reported in Panel A were calculated controlling for ATP. As with previous models, all control variables are included in the path model. Conditional effects are calculated at three values of ATP: one standard deviation below the mean, at the mean, and one standard deviation above the mean. In this sample, the average value of ATP corresponds to positive neutral responses (a value of 3.75 on a 1 to 5 scale). At one standard deviation below the mean, youths' responses represent negative-to-neutral attitudes (value of 2.83) and one standard deviation above the mean represents very positive ATP (value of 4.67).

The findings presented in Panel A specify the direct effects of police contact on prosocial peer exclusion, neutralizations, and peer delinquency at low, average, and high values of ATP. These results indicate that although the interaction effect of police contact and ATP on prosocial peer exclusion is significant, differences in the effect at the selected values are not. These values were selected because they represent a larger portion of the youth in this sample, but it is likely that differences in the effects of police contact on prosocial peer exclusion are significant only at the extreme values of ATP. Unlike the effect of police contact on prosocial peer exclusion, youth who did and did not experience police contact vary significantly at low, average, and high ATP. Compared with the effect of police contact at low ATP, the effect of police contact on agreement with neutralization statements nearly doubles at high values of ATP. While the effect of

police contact on neutralizations increases as attitudes become more favorable, the effect of police contact on delinquent peers decreases moving from low to high ATP.

Table 8.2: Path Model Results – Conditional on ATP

Panel A: Direct Effects of Police Contact on Labeling Mechanisms (a paths)									
	Low ATP (-1 SD)			Average ATP			High ATP (+1 SD)		
	b	SE	z	*b*	SE	z	*b*	SE	z
Poor grades	.22*	.04	5.12	.22*	.04	5.12	.22*	.04	5.12
Lack of school commitment	.30*	.04	7.97	.30*	.04	7.97	.30*	.04	7.97
Prosocial activity exclusion	.18*	.07	2.57	.18*	.07	2.57	.18*	.07	2.57
Prosocial peer exclusion	.27*	.06	4.18	.35*	.05	7.04	.43*	.07	6.43
Lack of guilt	.21*	.03	6.15	.21*	.03	6.15	.21*	.03	6.15
Neutralizations[a, b, c]	.23*	.06	4.25	.32*	.04	7.34	.40*	.06	6.94
Delinquent peers[a, b, c]	.48*	.04	11.11	.40*	.03	12.05	.33*	.05	7.26
Negative peer commitment	.38*	.06	6.52	.38*	.06	6.52	.38*	.06	6.52

Panel B: Direct Effects of Labeling Mechanisms on Delinquency (b paths)												
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Poor grades	.11*	.04	2.70	1.12	.11*	.04	2.70	1.12	.11*	.04	2.70	1.12
Lack of school commitment	.06	.05	1.08	1.06	.06	.05	1.08	1.06	.06	.05	1.08	1.06
Prosocial activity exclusion	.01	.02	.42	1.01	.01	.02	.42	1.01	.01	.02	.42	1.01
Prosocial peer exclusion	.08*	.04	2.09	1.08	.08*	.04	2.09	1.08	.08*	.04	2.09	1.08
Lack of guilt	.19*	.05	3.51	1.21	.19*	.05	3.51	1.21	.19*	.05	3.51	1.21
Neutralizations	.22*	.04	4.87	1.24	.22*	.04	4.87	1.24	.22*	.04	4.87	1.24
Delinquent peers	.40*	.06	7.02	1.48	.40*	.06	7.02	1.48	.40*	.06	7.02	1.48
Negative peer commitment	.09*	.03	2.94	1.10	.09*	.03	2.94	1.10	.09*	.03	2.94	1.10

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient

NOTES: Coefficients are unstandardized. [a]Significant difference between low and average, [b]Significant difference between low and high, [c]Significant difference between average and high, *p < .05

Table 8.2: Path Model Results – Conditional on ATP, continued

Panel C: Indirect Effects of Police Contact on Delinquency (a*b paths)												
	Low ATP (-1 SD)				Average ATP				High ATP (+1 SD)			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Poor grades	.02*	.01	2.39	1.02	.02*	.01	2.39	1.02	.02*	.01	2.39	1.02
Lack of school commitment	.02	.02	1.07	1.02	.02	.02	1.07	1.02	.02	.02	1.07	1.02
Prosocial activity exclusion	.00	.00	.41	1.00	.00	.00	.41	1.00	.00	.00	.41	1.00
Prosocial peer exclusion	.02	.01	1.87	1.02	.03*	.01	2.01	1.03	.03*	.02	1.99	1.03
Lack of guilt	.04*	.01	3.05	1.04	.04*	.01	3.05	1.04	.04*	.01	3.05	1.04
Neutralizations[a, b, c]	.05*	.02	3.20	1.05	.07*	.02	4.06	1.07	.09*	.02	3.99	1.09
Delinquent peers[a, b, c]	.19*	.03	5.93	1.21	.16*	.03	6.06	1.17	.13*	.03	5.04	1.14
Negative peer commitment	.04*	.01	2.68	1.04	.04*	.01	2.68	1.04	.04*	.01	2.68	1.04
Total indirect	.38*	.04	9.19	1.46	.37*	.04	10.24	1.45	.37*	.04	9.23	1.45
Panel D: Effects of Police Contact on Delinquency												
	Low ATP (-1 SD)				Average ATP				High ATP (+1 SD)			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Direct	.28*	.07	4.08	1.33	.28*	.07	4.08	1.33	.28*	.07	4.08	1.33
Total	.66*	.07	9.04	1.94	.66*	.07	9.21	1.93	.65*	.07	8.84	1.92

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient

NOTES: Coefficients are unstandardized. [a]Significant difference between low and average, [b]Significant difference between low and high, [c]Significant difference between average and high, *p < .05

Because the effects of the labeling mechanisms on delinquency were not hypothesized to vary based on expectations related to labeling theory and its extensions, the results presented in Panel B are consistent with those in the baseline model and are not discussed here. In Panel C, the indirect effects of police contact on delinquency through each of the mediators are examined. Comparing the indirect effects of police contact through neutralizations and delinquent peers, small differences emerge. At each specified value of ATP, the percentage of the effect of police contact on delinquency explained by neutralizations increases by two percent. A slightly larger difference in the effect of police contact on delinquency through delinquent peers is found at the three values of ATP. Police contact is associated with a 21 percent increase in delinquency via delinquent peers when attitudes are unfavorable, but the explanatory power of delinquent peers decreases to 17 and 14 percent when attitudes are at the mean and one standard deviation above the mean, respectively. Still, the indirect effect that police contact has on delinquency through neutralizations and delinquent peers at various values of ATP does not influence the total indirect effect or, as seen in Panel D, the overall effect of police contact on delinquency.

To summarize, the effect that police contact has on the labeling mechanisms and later delinquency does not vary markedly at low, average, and high ATP. The results presented here indicate that the effects of police contact are consistent with a labeling effect, regardless of how youth feel about the police. Because the overall effects of police contact do not vary, and the magnitudes of the differences in the effects are rather small, neither of the hypotheses presented above are supported, but these findings may suggest that police contact interacts with ATP to differentially affect the labeling mechanisms.

CHAPTER NINE: THE ROLE OF NEIGHBORHOOD STRUCTURAL CHARACTERISTICS IN THE LABELING PROCESS

The review of labeling theory and expected contingencies associated with neighborhood characteristics, such as social disorganization theory, the availability of conventional opportunities, tolerance of deviance, and legal cynicism, indicate that structural characteristics play a role in shaping societal reactions to deviance and official labels. In highly disadvantaged and socially disorganized areas, residents are often be more tolerant of crime, but even if they are not, legal cynicism is often high in such areas and residents are often unlikely to report crimes to the police or place stock in official labels. Based on this argument, the effects of police contact on youth living in neighborhoods characterized by the ecological components of social disorganization neighborhoods should be minimal (H_9). The alternative hypothesis states that in communities characterized by disadvantage and disorganization, the barriers to conventional opportunities are greater. Therefore, youth living in impoverished and disorganized neighborhoods may experience exacerbated consequences related to police contact (H_{10}).

In determining whether the effects of police contact vary across neighborhood structural factors, interaction effects on the mediators and outcome were first examined separately for each neighborhood variable. As with previous models, individual-level demographic characteristics, T1 values of the mediators and outcome, propensity scores, involvement in the G.R.E.A.T. program, and youths' residential mobility during the study period were included as control variables in each model. In all cross-level interaction models, robust standard errors were included to account for the clustering of observations

within census tracts. For ease of reference, results are displayed in two tables, with Table 9.1 displaying the results for variables associated with racial and ethnic composition and Table 9.2 providing the results for the effects of economic disadvantage, residential instability, and percentage of disengaged youth. Each model specifies the simple effects of police contact (e.g., the effect of police contact on the outcome when the value of the moderator is equal to zero) and the selected neighborhood variable, as well as the product term, on the proposed mediators and delinquency outcome. For example, the results presented in Model 1 of Table 9.1 provide the effects of police contact, percent Black, and their product term on each of the mediators and outcome. As seen in Table 9.1, police contact does not interact with the percentage of Black residents, percentage of Hispanic residents, or percentage of foreign-born residents to affect the mediators or outcome.

Table 9.1: Interaction Effects of Police Contact and Racial and Ethnic Composition on Labeling Mechanisms and Delinquency

		Model 1: Percent Black			Model 2: Percent Hispanic			Model 3: Percent Foreign-born		
	Variable	*b*	SE	z	*b*	SE	z	*b*	SE	z
Poor grades	Police contact	.22*	.04	5.30	.21*	.04	5.36	.21*	.04	5.34
	Neighborhood var.	.18	.11	1.69	-.16	.12	-1.33	-.10	.23	-.45
	Interaction	.10	.12	.79	.11	.16	.71	.36	.36	1.00
Lack of school commitment	Police contact	.30*	.04	7.46	.30*	.04	7.34	.30*	.04	7.28
	Neighborhood var.	.17	.10	1.74	-.04	.11	-.34	.06	.17	.33
	Interaction	-.16	.12	-1.31	-.04	.12	-.30	.10	.24	.42
Prosocial activity exclusion	Police contact	.18*	.07	2.52	.18*	.07	2.61	.19*	.07	2.72
	Neighborhood var.	.16	.21	.75	-.01	.19	-.03	.39	.39	1.00
	Interaction	.28	.25	1.12	-.28	.24	-1.17	-1.07	.57	-1.87
Prosocial peer exclusion	Police contact	.35*	.06	6.09	.35*	.06	6.04	.35*	.06	6.12
	Neighborhood var.	.13	.16	.81	.07	.16	.43	.21	.26	.81
	Interaction	-.03	.20	-.16	-.18	.18	-.99	-.40	.42	-.94
Lack of guilt	Police contact	.21*	.04	5.54	.20*	.04	5.23	.21*	.04	5.32
	Neighborhood var.	.23*	.11	2.16	-.18*	.08	-2.14	-.08	.14	-.56
	Interaction	-.14	.17	-.80	.11	.12	.92	.04	.26	.13
Neutralizations	Police contact	.31*	.05	6.73	.32*	.05	6.78	.31*	.05	6.71
	Neighborhood var.	.05	.13	.43	.14	.12	1.19	.11	.18	.61
	Interaction	-.23	.16	-1.44	-.07	.16	-.44	.01	.36	.02
Delinquent peers	Police contact	.41*	.04	10.33	.41*	.04	10.26	.41*	.04	10.19
	Neighborhood var.	.08	.11	.76	-.06	.08	-.70	-.31*	.13	-2.33
	Interaction	-.16	.13	-1.19	.05	.12	.41	.06	.31	.20
Negative peer commitment	Police contact	.38*	.07	5.81	.37*	.06	5.80	.38*	.06	5.96
	Neighborhood var.	-.12	.13	-.88	-.30	.18	-1.66	-.23	.26	-.87
	Interaction	-.04	.19	-.20	.36	.22	1.66	-.17	.53	-.33
Delinquency (logged)	Police contact	.28*	.09	3.29	.29*	.09	3.42	.28*	.09	3.18
	Neighborhood var.	-.10	.21	-.46	.05	.17	.28	.29	.29	1.03
	Interaction	.09	.33	.26	-.39	.29	-1.34	.37	.47	.80

NOTES: Coefficients are unstandardized.
ABBREVIATIONS: var. = variable, SE = standard error.
*p < .05

Table 9.2: Interaction Effects of Police Contact and Neighborhood Structural Variables on Labeling Mechanisms and Delinquency

		Model 4: Economic Disadvantage			Model 5: Residential Instability			Model 6: Percent Disengaged Youth		
	Variable	*b*	SE	z	*b*	SE	z	*b*	SE	z
Poor grades	Police contact	.22*	.04	5.29	.22*	.04	5.31	.22*	.04	5.22
	Neighborhood var.	.05	.03	1.86	.03	.03	.98	.01	.21	.02
	Interaction	.01	.04	.36	-.04	.05	-.82	.17	.41	.41
Lack of school commitment	Police contact	.31*	.04	7.67	.30*	.04	7.41	.30*	.04	7.46
	Neighborhood var.	.04	.03	1.35	.02	.02	1.04	.36	.25	1.44
	Interaction	-.08*	.03	-2.19	.00	.03	-.14	-.30	.32	-.94
Prosocial activity exclusion	Police contact	.18*	.07	2.57	.18*	.07	2.54	.18*	.07	2.62
	Neighborhood var.	.09	.05	1.92	.03	.05	.66	.87	.48	1.82
	Interaction	-.04	.06	-.76	-.09	.07	-1.26	-.77	.54	-1.43
Prosocial peer exclusion	Police contact	.36*	.06	6.23	.35*	.06	6.07	.35*	.06	6.19
	Neighborhood var.	.09*	.03	2.49	.01	.03	.35	.46	.38	1.21
	Interaction	-.07	.05	-1.51	.00	.05	.07	-.87	.45	-1.94
Lack of guilt	Police contact	.21*	.04	5.41	.21*	.04	5.39	.21*	.04	5.40
	Neighborhood var.	.00	.02	.16	-.02	.02	-1.32	-.13	.17	-.78
	Interaction	.01	.04	.25	.04	.04	.98	.00	.29	.01
Neutralizations	Police contact	.32*	.05	6.88	.31*	.05	6.67	.32*	.05	6.88
	Neighborhood var.	.07*	.03	2.59	.00	.02	.16	.53*	.24	2.24
	Interaction	-.06	.04	-1.50	.05	.04	1.39	-.57	.37	-1.54
Delinquent peers	Police contact	.41*	.04	10.10	.41*	.04	10.27	.41*	.04	10.25
	Neighborhood var.	.02	.02	.91	.00	.02	-.25	-.28*	.14	-2.00
	Interaction	-.01	.03	-.29	.05	.04	1.35	-.04	.33	-.11
Negative peer commitment	Police contact	.37*	.07	5.67	.38*	.06	5.84	.38*	.06	5.82
	Neighborhood var.	-.04	.04	-1.04	.00	.03	.03	-.28	.31	-.89
	Interaction	.05	.05	1.05	.05	.07	.73	.21	.48	.43
Delinquency (logged)	Police contact	.30*	.09	3.49	.28*	.09	3.28	.29*	.09	3.37
	Neighborhood var.	.09	.05	1.81	-.02	.03	-.52	.62	.46	1.34
	Interaction	-.09	.08	-1.23	.00	.08	-.01	-.81	.70	-1.14

NOTES: Coefficients are unstandardized.
ABBREVIATIONS: var. = variable, SE = standard error.
*p < .05

Examination of the remaining neighborhood-level variables in Table 9.2 reveals only one significant interaction effect. That is, in Model 4, the effect of police contact on lack of school commitment varies across tracts with varying levels of economic disadvantage (b = .08). In neighborhoods characterized by less economic disadvantage, the effect of police contact on lack of school commitment is greatest. As disadvantage increases, the difference in lack of school commitment between the contact and no contact groups diminishes.

To determine whether the differences in the direct effect of police contact on lack of school commitment are significant at varying levels of economic disadvantage, and to identify whether the indirect and overall effects of police contact on delinquency are affected by these differences, Table 9.3 provides the path model results conditional on economic disadvantage. The direct effect of police contact on lack of school commitment is calculated at three levels of economic disadvantage: one standard deviation below the mean, the mean, and one standard deviation above the mean. All other nonsignificant interaction effects were omitted, but economic disadvantage is controlled for in each direct and indirect effect. As a result, all paths other than those incorporating the lack of school commitment are consistent with the baseline model, with some minor variations due to the inclusion of economic disadvantage as a control variable in the neighborhood model

Table 9.3: Path Model Results – Conditional on Economic Disadvantage

Panel A: Direct Effects of Police Contact on Labeling Mechanisms (a paths)										
	Low Economic Disadvantage (-1 SD)			Average Economic Disadvantage			High Economic Disadvantage (+1 SD)			
	b	SE	z	*b*	SE	z	*b*	SE	z	
Poor grades	.22*	.04	5.33	.22*	.04	5.33	.22*	.04	5.33	
Lack of school commitment[a, b, c]	.37*	.05	7.79	.31*	.04	7.65	.25*	.05	4.99	
Prosocial activity exclusion	.18*	.07	2.54	.18*	.07	2.54	.18*	.07	2.54	
Prosocial peer exclusion	.35*	.06	6.12	.35*	.06	6.12	.35*	.06	6.12	
Lack of guilt	.21*	.04	5.40	.21*	.04	5.40	.21*	.04	5.40	
Neutralizations	.31*	.05	6.74	.31*	.05	6.74	.31*	.05	6.74	
Delinquent peers	.41*	.04	10.27	.41*	.04	10.27	.41*	.04	10.27	
Negative peer commitment	.38*	.06	5.85	.38*	.06	5.85	.38*	.06	5.85	
Panel B: Direct Effects of Labeling Mechanisms on Delinquency (b paths)										
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Poor grades	.11*	.04	2.44	1.11	.11*	.04	2.44	1.11	.11*	.04	2.44	1.11
Lack of school commitment	.06	.06	1.05	1.06	.06	.06	1.05	1.06	.06	.06	1.05	1.06
Prosocial activity exclusion	.01	.03	.34	1.01	.01	.03	.34	1.01	.01	.03	.34	1.01
Prosocial peer exclusion	.07	.04	1.96	1.08	.07	.04	1.96	1.08	.07	.04	1.96	1.08
Lack of guilt	.19*	.06	3.17	1.21	.19*	.06	3.17	1.21	.19*	.06	3.17	1.21
Neutralizations	.21*	.05	3.88	1.23	.21*	.05	3.88	1.23	.21*	.05	3.88	1.23
Delinquent peers	.40*	.06	6.41	1.49	.40*	.06	6.41	1.49	.40*	.06	6.41	1.49
Negative peer commitment	.10*	.04	2.52	1.10	.10*	.04	2.52	1.10	.10*	.04	2.52	1.10

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient

NOTES: Coefficients are unstandardized. [a]Significant difference between low and average, [b]Significant difference between low and high, [c]Significant difference between average and high, *p < .05

Table 9.3: Path Model Results – Conditional on Economic Disadvantage, continued

Panel C: Indirect Effects of Police Contact on Delinquency (a*b paths)

	Low Economic Disadvantage (-1 SD)				Average Economic Disadvantage				High Economic Disadvantage (+1 SD)			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Poor grades	.02*	.01	2.20	1.02	.02*	.01	2.20	1.02	.02*	.01	2.20	1.02
Lack of school commitment	.02	.02	1.04	1.02	.02	.02	1.04	1.02	.02	.01	1.03	1.02
Prosocial activity exclusion	.00	.00	.33	1.00	.00	.00	.33	1.00	.00	.00	.33	1.00
Prosocial peer exclusion	.03	.01	1.91	1.03	.03	.01	1.91	1.03	.03	.01	1.91	1.03
Lack of guilt	.04*	.01	2.78	1.04	.04*	.01	2.78	1.04	.04*	.01	2.78	1.04
Neutralizations	.07*	.02	3.58	1.07	.07*	.02	3.58	1.07	.07*	.02	3.58	1.07
Delinquent peers	.16*	.03	5.43	1.18	.16*	.03	5.43	1.18	.16*	.03	5.43	1.18
Negative peer commitment	.04*	.01	2.45	1.04	.04*	.01	2.45	1.04	.04*	.01	2.45	1.04
Total indirect	.38*	.04	9.78	1.46	.37*	.04	9.87	1.45	.37*	.04	9.85	1.45

Panel D: Effects of Police Contact on Delinquency

	Low Economic Disadvantage (-1 SD)				Average Economic Disadvantage				High Economic Disadvantage (+1 SD)			
	b	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)	*b*	SE	z	exp(*b*)
Direct	.29*	.09	3.33	1.33	.29*	.09	3.33	1.33	.29*	.09	3.33	1.33
Total	.66*	.08	7.83	1.94	.66*	.08	7.79	1.93	.66*	.08	7.74	1.93

ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient

NOTES: Coefficients are unstandardized. [a]Significant difference between low and average, [b]Significant difference between low and high, [c]Significant difference between average and high, *p < .05

The results in the Panel A indicate that the difference in the effect of police contact on school commitment varies significantly at one standard deviation below the mean, at the mean, and at one standard deviation above the mean. For example, while police contact is associated with a .37-unit increase in less disadvantaged neighborhoods, the effect of police contact on lack of school commitment is smaller in magnitude in neighborhoods characterized by more economic disadvantage than average (b = .25). Still, at all three levels of neighborhood economic disadvantage, police contact is consistent with a labeling effect. Because the hypotheses regarding the contingent effects of neighborhood characteristics on the labeling process in this dissertation are limited to a and c' paths, the results presented in Panel B are consistent with the baseline model and are not discussed here, but are included in the table for calculation of indirect effects.

The results in Panel C indicate that although police contact differentially affects school commitment across neighborhoods with varying degrees of economic disadvantage, the effect that school commitment has on delinquency is not significant and therefore does not account for increases in delinquency following police contact at any level of economic disadvantage. Given that lack of school commitment did not mediate the effect of police contact on delinquency in the baseline model, and the differences in the effect of police contact on school commitment at varying levels of economic disadvantage were small in magnitude, this finding is not surprising. The effect of police contact on lack of school commitment at different levels of economic disadvantage would have to vary substantially to increase the likelihood that lack of school commitment mediates the relationship between police contact and delinquency. Because police contact does not account for increased delinquency through lack of school commitment, the total

indirect and total effects of police contact at varying levels of economic disadvantage are substantively similar.

To summarize, the hypothesis that ecological indicators of social disorganization and legal cynicism are associated with reduced susceptibility to the negative consequences of labels (H_9) is not supported. Although the effect that police contact has on lack of school commitment may reflect differences across neighborhoods, such that youth living in more economically advantaged areas have stronger conventional bonds that become attenuated after experiencing police contact, the results do not suggest that school attachment is a central mechanism through which attenuation of conventional bonds lead to later delinquency. The alternative prediction, that residents in socially disorganized neighborhoods experience more negative effects associated with police contact and the labeling process because they have fewer conventional ties and resources to counteract the label (H_{10}) does not bear out.

CHAPTER TEN: DISCUSSION AND CONCLUSIONS

The goal in this dissertation was to assess the effects of police contact on delinquency through three labeling mechanisms—social exclusion and the attenuation of conventional or prosocial bonds, development of deviant attitudes, and involvement with delinquent others—and to determine whether those effects vary across demographic characteristics, ATP, or neighborhood factors. First, the results of the demographic subgroups models are reviewed, followed by a discussion of the findings related to the differential effects of ATP on the labeling process. Next, the analyses regarding the neighborhood-level variables are discussed, with particular attention to the potential limitations of the current data structure and measures. Finally, patterns and differences across the overall findings, including the baseline model and propensity score matching results, are assessed.

DEMOGRAPHIC CHARACTERISTICS

Race

Predictions regarding race as a moderator of the labeling process originate from conflict theory and the status characteristics hypothesis, which indicate that minorities are often targeted by laws, law enforcement, and stereotypes in efforts to maintain power differentials. Because minorities tend to have fewer ties to conventional society and are more likely to be stereotyped as deviant, some have argued that they are more vulnerable to the negative effects of official labels (H_1) (Braithwaite, 1989; Sampson and Laub, 1997). Others have suggested that official labels should not trigger the labeling process for minorities because the label is redundant with the stereotypes that have already been applied (see Harris, 1976). Since Whites are less likely to be stereotyped and are often

held to more conventional norms and behavioral standards by society, the overall effects of police contact should be more negative compared with their minority counterparts (H_2). Overall, the path model results do not indicate clear support for either hypothesis, but are instead consistent with a labeling effect for Whites, Blacks, and Hispanics. Yet although the results indicate that the direct and total effects of police contact vary little across the three groups, there are differences in the mechanisms through which police contact affects later delinquency.

In terms of the direct effects of police contact, Hispanic youth experience a greater effect on school commitment and guilt, compared with Black youth. Although differences in school commitment do not account for increases in delinquency following police contact, deviant attitudes appear to be a more salient factor in the labeling process for Hispanics compared with Blacks. Hispanic youth report less guilt after experiencing police contact, which in turn accounts for an eight percent increase in delinquency; yet anticipated guilt does not decrease among Black youth and therefore does not mediate the relationship between police contact and delinquency. Although one of the hypotheses regarding the conditional effects of race suggests that minorities are less likely to be affected by official labels (H_2), the assumption was that this would apply to both Black and Hispanic youth. It may be that both Blacks and Hispanics are stereotyped as deviant, but the stereotype is more deeply ingrained for Blacks. An alternative explanation suggests that Blacks, compared with Hispanics, have more positive racial identities, and positive racial identities serve to protect Black youth from negative social stereotypes and identity transformations (see, for example, Gray-Little and Hafdahl, 2000).

In addition to the differences between Hispanic and Black youth, the results in this dissertation indicate that there are differences between Whites and Blacks in terms of the labeling mechanisms that account for delinquency. Both White and Black youth experience increases in delinquent peers following police contact, but the effect of police contact on delinquency via delinquent peers appears for White youth only. While this finding is driven by differences in the effect of delinquent peers on delinquency (e.g., b paths), it is important to consider additional theories to help explain why the effects of police contact are mediated by delinquent peers for Whites and not Blacks.

Together, the results of the race subgroups analysis indicate that the labeling process is substantively similar among White and Hispanic youth. For Black youth, however, the mechanisms believed to account for increased delinquency following police contact, including attenuated bonds and social exclusion, deviant attitudes, and involvement with delinquent groups, when examined separately, do not explain substantial increases in delinquency. This finding may indicate that the measures included in this study do not capture the social opportunities that are most salient in the lives of Black youth. Extant research has emphasized the importance of conventional opportunities and relationships, particularly employment prospects, in explaining the relationship between official bonds, minority status, and later crime and delinquency (e.g., Bernburg and Krohn, 2003; Sampson and Laub, 1993; 1997). Although this dissertation does not examine the effect of police contact on structured conventional opportunities, it may be the case that these are the primary mechanisms that account for increased delinquency among Black youth.

The finding that the labeling process is more similar for Whites and Hispanics, as compared with Blacks, is not consistent with prior research that has indicated the effects of police contact on delinquent orientations or attitudes are stronger for Whites than for Blacks and Hispanics (Ageton and Elliott, 1974) or studies that found the overall effects of police contact to be more deleterious for Blacks (Bernburg and Krohn, 2003). Still, few studies have examined racial and ethnic differences in the effects of police contact on the three labeling mechanisms simultaneously, and the findings in this dissertation may reflect the need to examine the mechanisms simultaneously to disentangle the differential racial and ethnic effects of police contact across the various labeling mechanisms.

It is also possible that because the labeling process appears more similar for Whites and Hispanics, hypotheses based on conflict theory, generalizations of the status characteristics hypothesis and stereotyping may not inform differences. To be sure, this is not to suggest that conflict theory and status characteristics have no value in explaining differences in the labeling process. It is possible that these results confound race and SES, and the findings are the result of socioeconomic, rather than racial or ethnic differences. Additional research should also assess neighborhood structure and differences across race. Just as the results likely confound race and SES, they might not account for differences in the opportunities available to youth of different races and ethnicities, particularly if minorities are concentrated in disadvantaged neighborhoods.

Sex

Concerning sex and the labeling process, the social role that females occupy should influence societal reaction and changes within the individual following police

contact. According to the chivalry hypothesis, police officers and society often treat females more leniently when they participate in delinquency (Anderson, 1976; Pollak, 1950). Lenient treatment, combined with the idea that females have stronger social bonds than males do (e.g., Heimer, 1996), should lead to fewer negative effects of police contact among females (H_3). However, if society considers deviant females 'different', they may experience more detrimental overall consequences of police contact (H_4).

The results from the sex subgroup path model results are somewhat surprising, given that the only difference in the effects of police contact is related to delinquent peers, and this does not carry over into the labeling process. While police contact is associated with more delinquent peers for both females and males, the effect is slightly stronger for females. These differences do not lead to differences in the indirect effects, possibly due to the slightly larger, but nonsignificant difference in the effect of peers on delinquency among males. Delinquent peers account for substantively similar increases in delinquency following police contact among females and males.

While it appears to be the case that labeling processes are largely invariant for females and males, future research should examine additional mechanisms or alternative measures through which police contact leads to delinquency. If there are differences in the labeling process by sex, particularly related to prosocial bonds, they may be captured with the inclusion of various types of bonds. For example, if females are expected to retain stronger prosocial bonds following justice system contact, additional research might assess labelees' relationships with both parents and friends to include a wider range of conventional interpersonal bonds.

Age

Theory and prior research suggest that differences in the labeling process potentially occur as the result of the treatment and expectations of youth. Because delinquency is considered a normal part of adolescence, particularly for older teens (e.g., see Moffitt, 1993; Feld, 1999), older youth may experience more detrimental overall consequences of police contact, while the effect should be weaker or nonexistent for the younger youth because their behavior is dismissed as immaturity or experimentation. Older youth, on the other hand, might be held more accountable for their actions and experience more severe societal reactions as a result (H_5). Alternatively, if younger youth who experience police contact are seen as deviating from normal pre-teen behavior, it is more likely that they will experience greater consequences associated with police contact (H_6). Because younger youth have not yet fully developed their identities, they should also be more susceptible to changes in identity if labels are applied (Lofland, 1969).

The results from this study are consistent with prior research and the idea that the effects of labels are more detrimental for younger youth. This study adds to the prior literature by examining the effects that official labels have on the multiple mechanisms that lead to later delinquency. For the youngest youth in this sample—those 11 and younger—police contact is associated with less commitment to school and greater use of neutralization techniques. While the effects of police contact on the labeling mechanisms are still consistent with a labeling effect at the age of 12, the magnitudes of the effects are slightly weaker. Among older youth, the magnitudes of the effects of police contact weaken or, in some cases, become nonsignificant. While 11-year-olds experience exclusion from prosocial peers and less anticipated guilt, police contact has no effect on

these outcomes for 13-year-olds. Still, it is important to note that although the effects of police contact on the labeling mechanisms appear to wane over time, the direction of the relationships between police contact and labeling mechanisms change in strength, but not direction.

Examination of the indirect effects reveals two main differences in the processes that account for increased delinquency. First, the effect that poor grades has on delinquency is strongest for the oldest youth in this sample, and drives the differences in the indirect effect through poor grades between 11- and 13-year-olds. That is, the difference between the two groups is driven by the effect of poor grades on delinquency, rather than increases in delinquency as a result of the effect of police contact on poor grades. This finding highlights the importance of considering additional theories when assessing the effects of police contact across groups. While labeling theory and its extensions indicate that police contact should attenuate prosocial bonds because of the effect that labeling has on societal rejection and exclusion (Link, 1982; Link et al., 1989; Sampson and Laub, 1993; 1997), this does not explain why the effects of academic achievement on delinquency vary by youth who are relatively close in age.

In addition to finding differences in the indirect effect through poor grades, this study reveals that police contact decreases anticipated guilt among 11-year-olds, which is in turn associated with increased delinquency. This finding does not hold among 13-year-olds, which suggests that the effect that police contact has on deviant attitudes varies by age. Although lack of guilt captures deviant attitudes, this finding is consistent with the notion that younger youth are less secure in their identities and therefore more likely to internalize the label. It may also be the case that changes in deviant attitudes are

indicative of differences in concerns with autonomy among younger and older youth. As Fagan and Tyler (2005) noted, teenagers are often preoccupied with autonomy and individuality, and are more likely to view police officers as illegitimate or infringing on their rights. If stopped or arrested, then, older youth may place less stock in official labels. Younger youth who are less concerned with their autonomy and more reliant on others are more likely to respect the decisions and opinions of police officers and are more susceptible to official labeling.

Differences in the specific indirect effects indicate that the mechanisms through which police contact affects delinquency varies among youth, with deviant attitudes accounting for increased delinquency among the youngest, but not oldest, youth in this study. Yet, the effect of police contact on delinquency through all of the mediators simultaneously indicates that the mediators account for similar increases in delinquency across the three age groups. This result must be interpreted with some caution because the total indirect effect takes into account all of the specific indirect effects, including those that are nonsignificant. For this reason, it is important to consider the differences and similarities across specific indirect effects, as well as the direct and total effects, to inform policy and theory.

Contrary to theoretical expectations, but not inconsistent with prior research (see, for example, Kaplan and Johnson, 1991; Wiley et al., 2013) police contact is found to exert a significant, positive effect on delinquency after accounting for increases through the labeling mechanisms for the 11- and 12-year-old subgroups. Alternatively, the smaller direct effect of police contact on delinquency among 13-year-olds is no longer significant after considering the labeling mechanisms. These findings suggest that the

model included in this study does not adequately account for the labeling mechanisms that are associated with increased delinquency for youth younger than 13. Since police contact has the strongest effect on deviant attitudes among the youngest youth in this sample, additional research may benefit from more direct measures of deviant identity.

Overall, the findings are supportive of the idea that police contact is more detrimental for younger youth (i.e., those 12 and under). Although adolescents account for a disproportionate amount of offending, involvement in delinquency does not peak until the mid- to late-teens (Feld, 1999; Moffitt, 1993). As such, younger adolescents are likely viewed as innocent and if they do experience police contact, society may believe they are acting outside of the range of behavior appropriate for their age group. If police contact among young adolescents is seen as a sign of problematic behavior, parents, friends, and teachers are more likely to draw attention to that behavior and identify the youth as delinquent or different. Meanwhile, if delinquency is considered normative for older youth, police contact should be dismissed or quickly forgotten. Because youth become more autonomous with age, parents of younger youth are generally more aware of their child's behavior and may be quick to label young youth who experience police contact. This idea is consistent with prior informal labeling research, which indicates that regardless of prior delinquency, parents are more likely to label younger youth as deviant (Heimer and Matsueda, 1994).

ATTITUDES TOWARD THE POLICE

The findings regarding the effects of police contact on later delinquency at varying levels of ATP reveal that while there are some small differences in the specific indirect effects of police contact, the overall pattern is consistent with labeling theory. Differences were expected because youth who view the police in an unfavorable light might carry those attitudes into interactions with the police, which may elicit negative reactions from officers as well as the youth and further exacerbate the effects of the label (H_7). The alternative explanation suggests that the effects of police contact should be greater among youth who have more favorable attitudes about the police because they are more likely to respect officers' opinions and beliefs and are often surrounded by family and friends who view official labels as stigmatizing (H_8).

While the findings are not wholly consistent with either of the hypotheses set forth in this dissertation regarding ATP, some interesting differences emerge. Agreement with neutralizations explained a greater increase in delinquency following police contact among youth with more favorable ATP compared with those who view the police negatively. This finding provides partial support for H_8: If youth with positive ATP place more stock in official labels, they may use neutralization techniques to lessen the impact of their wrongdoing (Sykes and Matza, 1957). By condemning the condemner and denying responsibility, these youth may be attempting to reduce the negative feelings associated with the label, but in their attempts to neutralize their behavior, their delinquent behavior increases.

The second difference across levels of ATP, in the indirect effect of police contact through delinquent peers, indicates an effect opposite to that found for neutralizations.

The effect of police contact on delinquent peers is strongest among youth who have negative attitudes about the police, and because of this difference, delinquent peers account for greater increases in delinquency following police contact. This finding may provide some support for H_7, particularly if the negative attitudes lead to harsher reactions by the officers during the encounter. For example, if hostility toward the police is associated with an increased likelihood of arrest (Piliavin and Briar, 1964), these youth are more likely to end up in detention centers where they meet other delinquent youth. Or, if youth recount the experience as unfavorable, they may share their experiences with other youth who have had similar negative experiences with the police.

Due to the mixed findings associated with the labeling mechanisms and ATP, additional research is necessary. Here, researchers might look at interaction effects between ATP measured after or concurrent with police contact to determine whether changes in ATP have differential effects on the relationship between the labeling mechanisms and delinquency. The body of literature regarding the perceived quality of the police-citizen interaction, which offers alternative explanations for the relationship between sanctions and later offending, should also help to guide future research (see Tyler, 1990; Sherman, 1993). It may be the case that ATP, along with the perceived quality of the police-citizen interaction moderates or mediates the effect of sanctions on later behavior.

NEIGHBORHOOD CHARACTERISTICS

Given prior research regarding the effects of neighborhood-level characteristics on differences in arrest rates, conventional social and economic opportunities, and beliefs about the law and legal authorities, the finding that the neighborhood characteristics did not moderate the effects of police contact is somewhat surprising. Although the findings here are consistent with the few empirical studies that have assessed the effects of official labels across neighborhood characteristics with census data (Chiricos et al., 2007), the results in this dissertation are not consistent with the qualitative research in this area (Hirschfield, 2008). Still, prior research is limited and there is no clear consensus as to whether neighborhood disadvantage should insulate against or exacerbate the effects of official labels. A number of limitations in this study may help explain these findings.

First, the results presented in this dissertation use cross-level interaction effects with robust standard errors to account for the clustering of youth within census tracts. Because of limitations related to the data structure used in this dissertation, including the small number of individuals per census tract (i.e. 4.3), relatively large percentage of singletons (i.e., 35 percent), and near-zero variance in delinquency explained by census tracts, multi-level modeling was not used in the path analyses. Researchers recommend that in order to detect cross-level interactions, the level one sample size relative to level two should be approximately 3:2 (Mathieu et al., 2012). For this dissertation, the ratio was just above 4:1, which likely affected the ability to detect cross-level interactions. Beyond the limitations associated with the number of level one and level two units, there are additional issues with relying on census measures as indicators. While these measures capture the ecological components of the social disorganization model, the notion of

social disorganization itself is not captured (see Bursik, 1988). Additional variables including direct measures of legal cynicism and tolerance of deviance would better account for differences in the effects of police contact across neighborhoods as well.

Another limitation in the study of differences in labeling processes across neighborhoods is that associated with superficial boundaries. This dissertation relied on census tract boundaries, but there is no guarantee that societal reactions associated with the dimensions of social disorganization, social control, legal cynicism, and tolerance of deviance operate within these boundaries. It may be that smaller boundaries are needed to examine whether the effects of labels vary across neighborhoods, particularly if it is assumed that residents are aware of and choose to reinforce or ignore the label.

Finally, neighborhood-level factors may affect the labeling process, but only under additional individual-level conditions. For example, by analyzing three-way interactions between neighborhood factors, race, and police contact, differences might emerge. The availability of conventional opportunities is not equal across neighborhoods, and opportunities are particularly scarce in neighborhoods characterized by social disorganization and disadvantage. Thus, the consequences of police contact for racial and ethnic minorities, particularly as they relate to prosocial bonds and opportunities, are likely situated in a broader context.

PATTERNS IN THE LABELING PROCESS

While the results of the propensity score matching, baseline model, and contingency models indicate several minor differences across groups, they generally reveal consistencies in the labeling processes and salient mechanisms through which police contact increases delinquency across groups. In this section, the patterns identified in the labeling process are discussed to inform the future of labeling theory as well as general policy implications.

The results of the propensity score matching analysis indicate that the effects of police contact are consistent with a labeling effect, even after adjusting for observed selection bias. Compared with youth who did not experience police contact, youth who were stopped or arrested report worse grades, less commitment to school, greater exclusion from prosocial peers, less guilt, greater agreement with neutralization techniques, more delinquent peers, and increased commitment to delinquent peers. Police contact is also associated with more delinquency, with youth in the contact group reporting approximately eight more delinquent acts on average. These findings are consistent with much of the prior research that assesses the effects of police contact using a propensity score matching approach (e.g., Morris and Piquero, 2011; Wiley and Esbensen, 2013; Wiley et al., 2013) and suggest that, overall, police contact is associated with deleterious consequences for youth. However, it is important to keep in mind that police contact, as it is defined in this dissertation, is police-initiated and is often viewed as unwelcome among the youth who experience it. Other types of contact, such as those pertaining to education or victimization, are likely to have different effects.

While propensity score matching is a useful tool for assessing the impact of a treatment or event in the absence of a randomized controlled trial, it is not without limitations. Propensity score matching balances groups only on the observed characteristics included in the analysis, and it is possible that additional individual- or community-level characteristics influence the likelihood that youth will be stopped or arrested and participate in delinquency in the future. Still, because many of the variables included in the propensity score matching analysis should be highly correlated with other risk factors associated with police contact, the level of hidden bias should be minimal, and sensitivity analyses indicate that this is the case. Use of the propensity score as a control variable for selection bias associated with police contact is also limited in that it assumes that the propensity score has been correctly estimated (i.e., all covariates associated with police contact are included in the model) (Hade and Lu, 2011).

The propensity score matching results reveal that police contact is directly associated with the intermediary and dependent variables, but to determine whether the labeling mechanisms account for the relationship between police contact and delinquency, path models were analyzed. The results from the baseline path model indicate that among all youth in the sample, police contact increases delinquency through its effects on grades, prosocial peer exclusion, guilt, neutralizations, delinquent peers, and negative peer commitment. Thus, the findings support the notion that official labels lead to increased delinquency as a result of social exclusion and attenuated bonds, changes in deviant attitudes, and involvement with delinquent others.

Although significant, many of the specific indirect effects reported in the models are small in magnitude, which suggests that some of the labeling mechanisms vary in the

levels of importance or influence. Tests indicate that, for nearly all groups, the increase in delinquency via delinquent peers is greater than any other indirect effect in the models. This suggests that the central mechanism through which official labels lead to increased delinquency is involvement with delinquent others. Elaborations of labeling theory have emphasized the importance of social exclusion and the attenuation of prosocial bonds (Link, 1982; Link et al., 1989; Sampson and Laub, 1993; 1997) or the development of deviant identity (Lemert, 1951; 1967; Matsueda, 1992), but the results from the current study underscore the central role that greater involvement with delinquent peers plays in the labeling process (but see Becker, 1991 [1963]; Goffman, 1963). It is unclear from the current study whether the relationship between police contact and delinquent peers is due to exclusion from prosocial others, selection into delinquent groups, or both processes simultaneously. Prior research has examined the reciprocal nature of official labels, delinquent peers, and delinquency, and found that involvement with delinquent peers increases only after youth have experienced justice system contact (Johnson, Simons, and Conger, 2004). Therefore, additional research should continue along this line of inquiry.

It is worthwhile to note that by asking youth to identify the delinquent activity of their peers (i.e., the delinquent peer variable), the effect that peers have on delinquency is likely overestimated, therefore biasing the indirect estimates (see Haynie and Osgood, 2005). Although youth in this study may project their own deviance onto their assessments of peers, overestimation of peer delinquency seems largely inconsequential within a labeling and symbolic interactionism framework. That is, peers account for increases in delinquency because they allow, accept, or initiate delinquent behavior (Heimer and Matsueda, 1994), but even if the labeled youth perceives his or her friends

as more delinquent than they actually are, it is the effect of those perceptions on the labelee's behavior that are most important from a labeling perspective.

While the indirect effect of police contact through delinquent peers is consistently strong, the remaining labeling mechanisms should not be dismissed, as the specific indirect effects are conditional on each indirect effect included in the model. Therefore, the indirect effect through delinquent peers may depend, for example, on the indirect effects through prosocial peer exclusion or deviant attitudes. Additional research should examine the reciprocal nature of these relationships, particularly because theorists suggest that the effect of social exclusion, for example, should have an effect on delinquent peers, which serves to encourage further social withdrawal and exclusion from others (Link, 1992; Link et al., 1989; Tannenbaum, 1938).

In terms of the frequency of delinquent acts, the percentage increases in delinquency through each specific indirect effect translate into relatively minor increases. However, when the indirect effects are combined, youth who have experienced police contact participate in higher levels of delinquency compared with their no contact counterparts. Moreover, the results consistently indicate that police contact has a negative impact on nearly all of the intermediate outcomes, but few of these mediators lead to direct increases in delinquency. It may be that police contact affects behaviors, relationships, and attitudes, but those negative consequences do not necessarily lead to increased delinquency.

To understand the relationships between intermediate outcomes, such as prosocial exclusion or delinquent peers, and later delinquency, additional theories and explanations for offending must inform labeling theory. Even if youth experience social exclusion and

bond attenuation, changes in deviant identity, and greater involvement with delinquent groups, these experiences may not lead to increased delinquency unless additional conditions are present. Yet, additional moderated effects of the labeling mechanisms on delinquency are not necessarily informed by labeling theory and require additional guidance for interpretation. Theorists have incorporated social control theory to help explain the labeling process as it relates to prosocial bonds and opportunities (Sampson and Laub, 1993; 1997; Tittle, 1975) and Matsueda's (1992) elaborations of symbolic interactionism have informed the role of identity in labeling theory. Additional guidance from social learning or subcultural theories should help explain the relationship between labeling mechanisms and later delinquency, particularly where involvement in delinquent peer groups is concerned, and potential theoretical integration should be considered (see, for example, Becker, 1991 [1963]; Braithwaite, 1989).

In addition to the increases in delinquency through the three labeling mechanisms, police contact has a direct effect on delinquency in nearly all of the models. These effects are rather large, accounting for anywhere between 23 and 52 percent increases in delinquency. According to labeling theory and its elaborations, increased delinquency should not occur as a direct result of the label application, but indirectly through the effect that the label has on societal reactions and the individual's response to those reactions. Still, prior research that includes multiple mediators often finds that they do not fully account for the relationship between police contact and delinquency (Kaplan and Johnson, 1991; Wiley et al, 2013). One possible explanation is that the mechanisms included in the current study do not fully capture the processes through which police contact leads to subsequent delinquency. The current study relies on conventional

bonding measures associated with school, but does not, for example, include indicators of employment or parental attachment. It may be that the inclusion of additional types of bonds is necessary to explain the relationship between police contact and delinquency. As mentioned previously, the current study also includes measures of deviant attitudes as proxies for deviant identity, and more direct measures of deviant identity would better capture the internalization of the deviant label.

By assessing the effects of police contact on social bonds, deviant attitudes and identity, and involvement with delinquent others, this study indicates that early experiences with the police may set youth up for even more consequences down the road, particularly if they internalize a deviant identity and find support in delinquent peer groups. Although the current study does not examine the longer term effects of police contact, prior research has indicated that early police contact and justice system involvement is associated with a number of detrimental outcomes during adolescence and adulthood, including decreased educational attainment, unemployment, substance use, and higher levels of offending (Lopes et al., 2012; Wiesner, Kim, and Capaldi, 2010). If police contact is detrimental among youth, care must be taken to ensure that police contact does not cause unnecessary harm in the short or long term. Parents, for instance, may counteract the negative outcomes associated with police contact by providing social support and promoting strong, positive identities among youth (Jackson and Hay, 2013). Furthermore, ensuring that it is the behavior that is punished or labeled, rather than the individual, should help reduce the likelihood that youth will adopt deviant attitudes and identities.

While early intervention is often seen as a way to put an end to behavioral problems (Farrington, 2012; Wright et al., 2012), justice system practitioners must take caution when intervening in the lives of young adolescents. This study does not address the quality or overall outcome of the intervention (e.g., whether parents were informed, the youth was taken into custody, or charged with an offense), but examination of these outcomes would be particularly helpful in determining how to best handle delinquent youth. In addition, this study indicates that stopping youth simply for questioning may do more harm than good, and officers should carefully assess the situation and the potential outcomes before deciding to intervene.

Given that this dissertation finds that police contact is associated with later delinquency, either directly or indirectly through the labeling mechanisms, scholars and practitioners should consider the consequences associated with stopping and questioning or arresting youth. Although such interactions may seem harmless, this study indicates that they likely lead to social exclusion and attenuated prosocial bonds, changes in deviant attitudes, greater involvement with delinquent peers, and later delinquency. Moreover, the fact that one or more of these outcomes was associated with police contact across all of the groups and conditions considered in this dissertation suggests that when possible, police officers should avoid stopping and questioning youth.

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APPENDIX A: ATTRITION AND MISSING ANALYSIS

	Active Consent Sample (n = 3,820)		Missing and Attrition Sample (n = 2,286)		Analysis Sample (n = 1,534)	
Variable	Mean	SD	Mean	SD	Mean	Std.
Sex: Male*	49.6%		50.9%		47.7%	
Race: White*	27.3%		20.6%		37.3%	
Black*	18.1%		17.5%		19.0%	
Hispanic*	39.9%		37.2%		43.7%	
Other*	14.7%		24.7%			
Age: 11 and younger	36.0%		36.9%		34.7%	
12	47.0%		30.9%		48.8%	
13 and older	17.0%		17.4%		16.5%	
Parental education:	8.9%		9.0%		8.9%	
Completed high school	22.4%		22.9%		21.9%	
Some college	17.1%		18.9%		15.2%	
Completed college*	28.8%		28.0%		29.6%	
More than college*	22.8%		21.2%		24.8%	
Moved	34.0%		33.3%		35.1%	
Involvement in G.R.E.A.T.	53.7%		53.9%		53.3%	
Time 1 Variables						
Poor grades*	2.19	.87	2.25	.89	2.11	.84
Lack of school commitment	2.21	.75	2.23	.76	2.19	.75
Prosocial activity exclusion*	1.71	1.20	1.80	1.20	1.59	1.18
Prosocial peer exclusion*	2.61	1.00	2.67	1.00	2.52	1.00
Positive peer commitment*	4.18	1.14	4.11	1.19	4.28	1.07
Positive influences	2.29	.50	2.27	.51	2.31	.49
Impulsivity*	2.79	.81	2.84	.80	2.72	.82
Risk seeking*	2.57	.99	2.61	.98	2.53	1.00
Anger*	3.08	.99	3.12	.98	3.02	.99
Lack of guilt*	1.39	.57	1.42	.60	1.35	.53
Neutralizations	2.59	.84	2.61	.83	2.56	.84
ATP*	3.69	.94	3.65	.95	3.75	.92
Parental monitoring*	4.11	.77	4.07	.77	4.17	.76
Unsupervised time with peers	1.01	.89	.99	.89	1.04	.90
Delinquent peers	1.34	.57	1.35	.59	1.32	.54
Negative peer commitment	1.75	.90	1.75	.91	1.75	.88
Negative influences	1.15	.29	1.15	.30	1.14	.28
Perceived community disorder*	1.75	.65	1.78	.66	1.71	.63
Perceived school disorder*	1.84	.54	1.88	.55	1.79	.52
Victimization frequency	10.92	15.35	11.08	15.80	10.70	14.74
Substance use frequency	.44	1.44	.44	1.52	.44	1.32
Delinquency frequency	5.83	14.59	6.21	15.77	5.34	12.84

Delinquency (logged)	.98	1.20	.99	1.22	.96	1.17
Neighborhood Variables (T1/T2)						
Percent Black*	.15	.24	.16	.25	.14	.22
Percent Hispanic	.25	.23	.25	.22	.25	.23
Percent foreign-born	.14	.11	.14	.11	.15	.11
Percent disengaged youth*	.13	.09	.13	.09	.12	.09
Economic disadvantage*	.00	.91	.07	.92	-.09	.88
Residential instability*	.00	.85	.03	.88	-.04	.82
Treatment (T2/T3)						
Contact with the police*	36.3%		40.4%		32.1%	
Mediators (T3)						
Poor grades*	2.25	.87	2.33	.89	2.16	.83
Lack of school commitment*	2.36	.73	2.39	.75	2.32	.70
Prosocial activity exclusion*	1.81	1.25	1.96	1.25	1.65	1.24
Prosocial peer exclusion*	2.60	.94	2.65	.96	2.54	.92
Lack of guilt*	1.59	.62	1.62	.64	1.57	.60
Neutralizations	2.79	.83	2.81	.83	2.77	.83
Delinquent peers	1.52	.69	1.54	.73	1.51	.65
Negative peer commitment	2.04	1.04	2.04	1.06	2.04	1.02
Outcome (T4)						
Delinquency frequency	8.11	17.27	8.26	17.93	7.99	16.71
Delinquency (logged)	1.25	1.29	1.24	1.30	1.25	1.29

NOTES: *denotes significant differences at $p < .05$ between the analysis sample and excluded youth. Results are based on t-tests for continuous variables and chi-square tests for categorical variables.

APPENDIX B: LIST OF SURVEY INSTRUMENT ITEMS

Highest Parental Education: What is the highest level of schooling your father/mother has completed?

1. Less than high school
2. Completed high school
3. Some college
4. Completed college
5. More than college

Prosocial Activities (Variety): During the past year, were you involved in the following activities?

1. School activities or athletics?
2. Community activities such as scouts or athletic leagues?
3. Religious activities?
4. Your own family activities?

Response Categories:
No Yes

Exclusion from Prosocial Peers (α = .84): During the last year, how many of your current friends have done the following?

1. Gotten along well with teachers and adults at school?
2. Have been thought of as good students?
3. Have been generally honest and told the truth?
4. Almost always obeyed school rules?

Response categories:
1. All of them 2. Most of them 3. Half of them 4. Few of them 5. None of them

School Commitment (α = .78): How much do you agree or disagree with these statements?

1. Homework is a waste of time.
2. I try hard in school.
3. Education is so important that it's worth it to put up with things about school that I don't like.
4. In general, I like school.
5. Grades are very important to me.
6. I usually finish my homework.
7. If you had to choose between studying to get a good grade on a test or going out with your friends, which would you do?

Response Categories:
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree

Grades (Frequency): Looking at all your grades at school, would you say you were closest to a…

1. F student
2. D student
3. C student
4. B student
5. Straight A student

Positive Peer Commitment (α=.79)

1. If your friends told you not to do something because it was wrong, how likely is it that you would listen to them?
2. If your friends told you not to do something because it was against the law, how likely is it that you would listen to them?

Response categories:
1. Not at all likely 2. A little likely 3. Somewhat likely 4. Likely 5. Very likely

Anti-crime Influences (α=.79): Have any of the following told you about the dangers of drugs, violence, or gangs?

a. Friends
b. Family members
c. School teachers
d. Other adults in your neighborhood
e. Police officers
f. The media (TV, movies, music)

Response categories:
1. Never 2. Sometimes 3. Often

Impulsivity (α = .60): How much do you agree or disagree with each statement?

1. I often act without stopping to think.
2. I don't devote much thought and effort to preparing for the future.
3. I often do whatever brings me pleasure here and now, even at the cost of some distant goal.
4. I'm more concerned with what happens to me in the short run than in the long run.

Response Categories:
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree

Risk Seeking (α = .77): How much do you agree or disagree with each statement?

1. I like to test myself every now and then by doing something a little risky.
2. Sometimes I will take a risk just for the fun of it.
3. I sometimes find it exciting to do things for which I might get in trouble.
4. Excitement and adventure are more important to me than security.

Response Categories:
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree

Anger (α = .74): How much do you agree or disagree with each statement?

1. I lose my temper pretty easily.
2. Often, when I'm angry at people I feel more like hurting them than talking to them about why I am angry.
3. When I'm really angry, other people better stay away from me.
4. When I have a serious disagreement with someone, it's usually hard for me to talk calmly about it.

Response Categories:
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree

Neutralizations (α = .84): How much do you agree or disagree with these statements?

1. It's okay to tell a small lie if it doesn't hurt anyone.
2. It's okay to lie if it will keep your friends from getting in trouble with parents, teachers, or police.
3. It's okay to lie to someone if it will keep you out of trouble with them.
4. It's okay to steal something from someone who is rich and can easily replace it.
5. It's okay to take little things from a store without paying for them since stores make so much money that it won't hurt them.
6. It's okay to steal something if that's the only way you could ever get it.
7. It's okay to beat someone up if they hit you first.
8. It's okay to beat someone up if you have to stand up for or protect your rights.
9. It's okay to beat someone up if they are threatening to hurt your friends or family.

Response Categories:
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree

Anticipated Guilt (α = .93): How guilty or badly would you feel if you…

1. Skipped school without an excuse?
2. Stole something worth less than $50?
3. Attacked someone with a weapon?
4. Sold marijuana or other illegal drugs?
5. Used tobacco or alcohol products?
6. Used marijuana or other illegal drugs?
7. Belonged to a gang?

Response categories:
1. Not very guilt/badly 2. Somewhat guilt/badly 3. Very guilty/badly

Attitudes toward the Police (α = .86): How much do you agree or disagree?

1. Police officers are honest.
2. Police officers are hardworking.
3. Most police officers are usually friendly.
4. Police officers are usually courteous.
5. Police officers are respectful toward people like me.
6. I feel safer when police officers are in my school.
7. Police officers make good teachers.
8. Police officers don't know much about gangs.

Response Categories:
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree

Satisfaction with Police Encounter: If you have been stopped or arrested by the police, how satisfied were you with the way you were treated by the officer(s) when you were stopped or arrested? (If more than 1 time, think about the most recent time.)

Response Categories:
1. Very dissatisfied 2. Dissatisfied 3. Neither dissatisfied nor satisfied 4. Satisfied 5. Very Satisfied

Parental Monitoring (α =.68): How much do you agree or disagree with each statement?

1. When I go someplace, I leave a note for my parents or call them to tell them where I am.
2. My parents know where I am when I am not at home or at school.
3. I know how to get in touch with my parents if they are not at home.
4. My parents know who I am with if I am not at home.

Response Categories:
1. Strongly Disagree 2. Disagree 3. Neither Agree nor Disagree 4. Agree 5. Strongly Agree

Unsupervised Time with Peers (Variety)

1. Do you even spend time hanging around with your current friends not doing anything in particular where no adults are present?
2. Do you ever spend time getting together with your current friends where drugs and alcohol are available?
3. Does this group spend a lot of time together in public places like the park, the street, shopping area, or the neighborhood?

Peer Delinquency (α = .86): During the last year, how many of your current friends have done the following?

1. Skipped school without an excuse?
2. Stolen something worth less than $50?
3. Attacked someone with a weapon?
4. Sold marijuana or other illegal drugs?
5. Used tobacco or alcohol products?
6. Used marijuana or other illegal drugs?
7. Belonged to a gang?

Response categories:
1. None of them 2. Few of them 3. Half of them 4. Most of them 5. All of them

Negative Peer Commitment (α = .81)

1. If your group of friends was getting you into trouble at home, how likely is it that you would still hang out with them?
2. If your group of friends was getting you into trouble at school, how likely is it that you would still hang out with them?
3. If your group of friends was getting you into trouble with the police, how likely is it that you would still hang out with them?

Response categories:
1. Not at all likely 2. A little likely 3. Somewhat likely 4. Likely 5. Very likely

Pro-crime Influences (α = .82): Have any of the following encouraged you to be involved in drugs, violence, or gangs?

a. Friends
b. Family members
c. School teachers
d. Other adults in your neighborhood
e. Police officers
f. The media (TV, movies, music)

Response categories:
1. Never 2. Sometimes 3. Often

Perceived Community Disorder (α = .88): Are these things not a problem, somewhat of a problem, or a big problem?

1. Run–down or poorly kept buildings in your neighborhood.
2. Groups of people hanging out in public places causing trouble in your neighborhood.
3. Graffiti on buildings and fences in your neighborhood.
4. Hearing gunshots in your neighborhood.
5. Cars traveling too fast throughout the streets of your neighborhood.
6. Gangs in your neighborhood.

Response categories:
1. Not a problem 2. Somewhat of a problem 3. A big problem

Perceived School Disorder (a = .83): Are these things not a problem, somewhat of a problem, or a big problem?

1. Kids bullying or teasing other children at your school.
2. Places in your school where some students are afraid to go.
3. Students beating up or threatening other students at your school.
4. Kids of different racial or cultural groups at your school not getting along with each other.
5. Students bringing guns to school.
6. Having things stolen at school.

Response categories:
1. Not a problem 2. Somewhat of a problem 3. A big problem

Victimization (Frequency): How many times in the last 6 months have you…

1. Been attacked or threatened on your way to or from school?
2. Had your things stolen from you at school?
3. Been attacked or threatened at school?
4. Had mean rumors or lies spread about you at school?
5. Had sexual jokes, comments, or gestures made to you at school?
6. Been made fun of at school because of your looks or the way you talk?
7. Been hit by someone trying to hurt you?
8. Had someone use a weapon or force to take something from you?
9. Been attacked by someone with a weapon or by someone trying to seriously hurt or kill you?
10. Had some of your things stolen from you?

11. Had any mean, threatening, or embarrassing things said about you or to you through text messages, phone calls, email, or websites?

Response Categories:
0 1 2 3 4 5 6 7 8 9 10 more than 10

Substance Use (Frequency): How often have you used each of these drugs in the past 6 months?

1. Tobacco products?
2. Alcohol?
3. Marijuana or other illegal drugs?
4. Paint, glue, or other things you inhale to get high?

Response Categories:
0 1-2 times About once a month About once a week Every day

Delinquency (Frequency): How many times in the last 6 months have you…

1. Skipped class without an excuse
2. Lied about your age to get into some place or to buy something?
3. Avoided paying for things such as movies, bus, or subway rides?
4. Purposely damaged or destroyed property that did not belong to you?
5. Carried a hidden weapon for protection?
6. Illegally spray painted a wall or building?
7. Stolen or tried to steal something worth less than $50?
8. Stolen or tried to steal something worth more than $50?
9. Gone into or tried to go into a building to steal something?
10. Hit someone with the idea of hurting him/her?
11. Attacked someone with a weapon?
12. Used a weapon or force to get money or things from people?
13. Been involved in gang fights?
14. Sold marijuana or other illegal drugs?

Response Categories:
0 1 2 3 4 5 6 7 8 9 10 more than 10

Street Delinquency (Frequency): How many times in the last 6 months have you…

1. Stolen or tried to steal something worth less than $50?
2. Stolen or tried to steal something worth more than $50?
3. Gone into or tried to go into a building to steal something?
4. Hit someone with the idea of hurting him/her?
5. Attacked someone with a weapon?
6. Used a weapon or force to get money or things from people?
7. Been involved in gang fights?
8. Sold marijuana or other illegal drugs?

Response Categories:
0 1 2 3 4 5 6 7 8 9 10 more than 10

APPENDIX C: SUPPLEMENTARY ANALYSES

Table C.1: Propensity Score Matching Results with Street Delinquency Outcome (logged)

	Unmatched Sample			Matched Sample		
	Contact (n = 492)	No contact (n = 1,042)	Difference	Contact (n = 492)	No contact (n = 1,042)	Difference
Poor grades	2.52	1.99	.53	2.52	2.22	.30*
Lack of school commitment	2.63	2.18	.45	2.63	2.34	.29*
Prosocial activity exclusion	1.87	1.55	.32	1.87	1.65	.22*
Prosocial peer exclusion	2.97	2.33	.64	2.97	2.62	.35*
Lack of guilt	1.87	1.43	.45	1.87	1.65	.22*
Neutralizations	3.22	2.55	.67	3.22	2.88	.34*
Delinquent peers	1.95	1.30	.64	1.95	1.47	.47*
Negative peer commitment	2.45	1.84	.61	2.45	1.92	.53*
Street delinquency (logged)	1.10	.38	.72	1.10	.57	.53*

NOTES: Significance levels calculated using t-tests for unmatched sample and bootstrapped standard errors for matched sample. *p < .05

Table C.2: Propensity Score Matching Results with Variety Score Outcome

	Unmatched Sample			Matched Sample		
	Contact (n = 492)	No contact (n = 1,042)	Difference	Contact (n = 492)	No contact (n = 1,042)	Difference
Poor grades	2.52	1.99	.53	2.52	2.24	.28*
Lack of school commitment	2.63	2.18	.46	2.63	2.34	.30*
Prosocial activity exclusion	1.88	1.55	.33	1.88	1.70	.18
Prosocial peer exclusion	2.97	2.33	.64	2.97	2.60	.38*
Lack of guilt	1.87	1.43	.45	1.87	1.65	.23*
Neutralizations	3.23	2.55	.68	3.23	2.88	.35*
Delinquent peers	1.95	1.30	.64	1.95	1.47	.48*
Negative peer commitment	2.45	1.84	.61	2.45	1.90	.55*
Delinquency (variety)	3.50	1.26	2.24	3.50	1.88	1.62*

NOTES: Significance levels calculated using t-tests for unmatched sample and bootstrapped standard errors for matched sample. *p < .05

Table C.3: Baseline Path Model Results with Street Delinquency Outcome (logged)

Panel A: Direct Effects of Police Contact on Labeling Mechanisms (a paths)				
	b	SE	z	
Poor grades	.22*	.04	5.06	
Lack of school commitment	.30*	.04	7.98	
Prosocial activity exclusion	.17*	.07	2.53	
Prosocial peer exclusion	.35*	.05	6.92	
Lack of guilt	.21*	.03	6.15	
Neutralizations	.31*	.04	7.24	
Delinquent peers	.41*	.03	12.24	
Negative peer commitment	.38*	.06	6.56	
Panel B: Direct Effects of Labeling Mechanisms on Delinquency (b paths)				
	b	SE	z	exp(*b*)
Poor grades	.15*	.03	4.66	1.17
Lack of school commitment	-.03	.04	-.66	.97
Prosocial activity exclusion	.00	.02	-.23	1.00
Prosocial peer exclusion	.04*	.03	1.36	1.04
Lack of guilt	.16*	.04	3.66	1.17
Neutralizations	.20*	.04	5.53	1.22
Delinquent peers	.33*	.04	7.32	1.39
Negative peer commitment	.09*	.03	3.58	1.10
Panel C: Indirect Effects of Police Contact on Delinquency (a*b paths)				
	b	SE	z	exp(*b*)
Poor grades	.03*	.01	3.43	1.03
Lack of school commitment	-.01	.01	-.66	.99
Prosocial activity exclusion	.00	.00	-.23	1.00
Prosocial peer exclusion	.01	.01	1.34	1.01
Lack of guilt	.03*	.01	3.14	1.03
Neutralizations	.06*	.01	4.40	1.06
Delinquent peers	.13*	.02	6.28	1.14
Negative peer commitment	.04*	.01	3.14	1.04
Total indirect	.30*	.03	10.13	1.35
Panel D: Effects of Police Contact on Delinquency				
	b	SE	z	exp(*b*)
Direct (c' path)	.19*	.06	3.38	1.21
Total (sum of c' and a*b paths)	.49*	.06	8.56	1.63

NOTES: coefficients are unstandardized, n = 1,534
ABBREVIATION: SE = standard error, exp(*b*) = exponentiated coefficient
*p < .05

Table C.4: Direct Effect Baseline Results with Variety Score Outcome

Panel A: Direct Effects of Police Contact on Labeling Mechanisms			
	b	SE	z
Poor grades	.63*	.13	4.87
Lack of school commitment	.31*	.04	8.09
Prosocial activity exclusion	.10*	.05	2.03
Prosocial peer exclusion	.35*	.05	6.89
Lack of guilt	.21*	.03	6.11
Neutralizations	.32*	.04	7.23
Delinquent peers	.41*	.03	12.17
Negative peer commitment	.38*	.06	6.52
Panel B: Direct Effects of Labeling Mechanisms on Delinquency			
	b	SE	z
Poor grades	.10*	.04	2.17
Lack of school commitment	.12*	.06	2.09
Prosocial activity exclusion	-.03	.03	-1.04
Prosocial peer exclusion	.13*	.04	3.05
Lack of guilt	.17*	.06	2.75
Neutralizations	.24*	.05	4.62
Delinquent peers	.23*	.06	3.89
Negative peer commitment	.10*	.03	2.93
Panel C: Direct Effect of Police Contact on Delinquency			
	b	SE	z
Direct	.31*	.07	4.19

NOTES: coefficients are unstandardized, n = 1,534
ABBREVIATION: SE = standard error
*p < .05

APPENDIX D: LIST OF COVARIATES INCLUDED IN PROPENSITY SCORE MODEL

Individual-level Variables	Product Terms	Product Terms
Age	SexXdelinquent peers	HispanicXpercent Black
Male	SexXparental monitoring	HispanicXpercent foreign-born
Black	SexXsubstance use	HispanicXsex
Hispanic	SexXdelinquency	HispanicXage
Other	SexXVictimization	
Highest parental education	SexXunsupervised time with peers	
Prosocial activities	AgeXdelinquent peers	
Exclusion from prosocial peers	AgeXparental monitoring	
School commitment	AgeXsubstance use	
Grades	AgeXdelinquency	
Positive peer commitment	AgeXvictimization	
Anti-crime influence	AgeXunsupervised time with peers	
Impulsivity	AgeXsex	
Risk seeking	BlackXdelinquent peers	
Anger	BlackXparental monitoring	
Neutralizations	BlackXdelinquency	
Guilt	BlackXsubstance use	
Attitudes toward police	BlackXvictimization	
Parental monitoring	BlackXunsupervised time with peers	
Unsupervised time with peers	BlackXATP	
Peer delinquency	BlackXeconomic disadvantage	
Negative peer commitment	BlackXpercent disengaged youth	
Pro-crime influence	BlackXpercent Hispanic	
Community disorder	BlackXpercent Black	
School disorder	BlackXpercent foreign-born	
Victimization frequency	BlackXsex	
Substance use frequency	BlackXage	
Delinquency frequency	HispanicXdelinquent peers	
Involvement in G.R.E.A.T. program	HispanicXparental monitoring	
Tract-level Variables	HispanicXdelinquency	
Percent Black	HispanicXsubstance use	
Percent Hispanic	HispanicXvictimization	
Percent foreign-born	HispanicXunsupervised time with peers	
Percent disengaged youth	HispanicXATP	
Economic disadvantage	HispanicXeconomic disadvantage	
Residential instability	HispanicXpercent disengaged youth	
	HispanicXpercent Hispanic	

APPENDIX E: BALANCE STATISTICS BEFORE AND AFTER MATCHING

Variable	Unmatched Sample			Matched Sample		
	Contact	No Contact	% Bias	Contact	No Contact	% Bias
Age	12.01	11.75	33.40	12.01	11.99	2.10
Sex: Male	.61	.42	38.70	.61	.59	4.10
Race: Black	.24	.17	17.70	.24	.27	-9.00
Hispanic	.51	.40	22.20	.51	.49	5.10
Parent education	3.25	3.45	-14.90	3.25	3.31	-4.30
Involvement in G.R.E.A.T.	.54	.53	3.40	.54	.53	2.00
Moved	.42	.32	22.70	.42	.43	-1.00
Parental monitoring	3.88	4.30	-56.50	3.88	3.92	-5.00
Impulsivity	2.98	2.60	48.30	2.98	3.03	-5.60
Risk seeking	2.97	2.32	67.20	2.97	2.95	2.00
Anger	3.40	2.84	58.90	3.40	3.41	-.60
Unsupervised time with peers	1.45	.85	68.70	1.45	1.40	5.50
Positive peer commitment	3.99	4.42	-39.40	3.99	3.97	1.60
Perceived community disorder	1.84	1.64	32.60	1.84	1.83	2.80
Perceived school disorder	1.87	1.75	23.00	1.87	1.85	3.70
Positive influences	2.28	2.32	-9.20	2.28	2.27	.40
Negative influences	1.22	1.11	38.00	1.22	1.18	12.50
Negative peer commitment	2.08	1.59	51.80	2.08	1.94	14.90
Delinquent peers	1.59	1.19	70.70	1.59	1.54	8.80
Prosocial peer exclusion	2.97	2.31	69.10	2.97	2.90	7.00
Prosocial activity exclusion	1.68	1.55	10.70	1.68	1.69	-1.20
Lack of school commitment	2.48	2.05	57.80	2.48	2.46	3.40
Grades	2.39	1.98	49.90	2.39	2.36	3.90
Neutralizations	3.01	2.35	83.70	3.01	3.02	-1.00
Lack of guilt	1.57	1.25	60.30	1.57	1.56	2.40
ATP	3.38	3.92	-59.40	3.38	3.31	8.20
Substance use (logged)	.39	.11	54.90	.39	.33	10.60
Victimization (logged)	2.14	1.57	46.10	2.14	2.08	4.80
Delinquency (logged)	1.66	.63	90.00	1.66	1.51	13.20
Percent Black	.01	-.03	16.30	.01	.04	-10.70
Percent Hispanic	.06	-.03	37.20	.06	.05	5.00
Percent foreign-born	.02	.00	17.10	.02	.01	8.10
Percent disengaged youth	.02	-.01	30.60	.02	.02	-.40
Economic disadvantage	.24	-.11	40.00	.24	.33	-10.20
Residential instability	.02	-.01	3.70	.02	.05	-3.20
SexXdelinquent peers	.98	.50	59.70	.98	.93	6.80
SexXparental monitoring	2.31	1.74	28.30	2.31	2.23	4.40
SexXsubstance use	.21	.04	46.10	.21	.16	12.60

Variable	Unmatched Sample			Matched Sample		
	Contact	No Contact	% Bias	Contact	No Contact	% Bias
SexXdelinquency	1.09	.28	74.30	1.09	.94	14.10
SexxVictimization	1.24	.64	47.00	1.24	1.14	8.10
SexXunsupervised time w/peers	.89	.35	63.60	.89	.82	8.60
AgeXdelinquent peers	19.31	14.04	70.60	19.31	18.62	9.30
AgeXparental monitoring	46.50	50.54	-43.50	46.50	46.94	-4.70
AgeXsubstance use	4.79	1.30	54.90	4.79	4.08	11.20
AgeXdelinquency	20.23	7.53	90.60	20.23	18.25	14.20
AgeXvictimization	25.65	18.43	48.70	25.65	24.88	5.20
AgeXunsupervised time w/peers	17.59	10.10	70.00	17.59	17.00	5.50
AgeXsex	7.31	4.88	41.40	7.31	7.04	4.70
BlackXdelinquent peers	.36	.20	25.50	.36	.43	-10.00
BlackXparental monitoring	.92	.69	13.70	.92	1.05	-7.70
BlackXdelinquency	.39	.17	27.90	.39	.44	-6.20
BlackXsubstance use	.04	.01	16.30	.04	.04	.50
BlackXvictimization	.52	.31	20.90	.52	.59	-7.10
BlackXunsupervised time w/peers	.33	.16	27.60	.33	.42	-14.90
BlackXATP	.78	.62	10.60	.78	.85	-5.10
BlackXeconomic disadvantage	.17	.05	21.70	.17	.26	-17.40
BlackXpercent disengaged youth	.00	.00	13.60	.00	.01	-4.00
BlackXpercent Hispanic	-.03	-.02	-5.10	-.03	-.03	5.50
BlackXpercent Black	.07	.04	16.90	.07	.10	-11.10
BlackXpercent foreign-born	-.01	-.01	-9.00	-.01	-.02	13.70
BlackXsex	.15	.07	26.20	.15	.18	-10.50
BlackXage	2.82	1.94	18.60	2.82	3.30	-10.20
HispanicXdelinquent peers	.86	.51	41.50	.86	.79	9.00
HispanicXparental monitoring	1.96	1.69	13.30	1.96	1.87	4.40
HispanicXdelinquency	.91	.28	59.50	.91	.77	13.20
HispanicXsubstance use	.25	.06	44.60	.25	.22	8.30
HispanicXvictimization	1.04	.63	33.30	1.04	.95	7.30
HispanicXunsupervised time w/peers	.76	.34	48.10	.76	.65	12.70
HispanicXATP	1.73	1.51	11.50	1.73	1.59	7.40
HispanicXeconomic disadvantage	.06	-.04	17.40	.06	.08	-3.30
HispanicXpercent disengaged youth	.02	.01	16.70	.02	.02	-1.50
HispanicXpercent Hispanic	.11	.06	29.40	.11	.10	4.00
HispanicXpercent Black	-.04	-.03	-11.60	-.04	-.04	-3.90
HispanicXpercent foreign-born	.02	.02	6.60	.02	.03	-1.60
HispanicXsex	.31	.15	38.10	.31	.29	6.70
HispanicXage	6.21	4.79	23.70	6.21	5.85	6.00

NOTES: Bias statistics less than 20 in absolute value represent acceptable bias