

**BLACK YOUTH AND THE BOYS IN BLUE:
ASSOCIATIONS BETWEEN POLICE TREATMENT, MENTAL HEALTH AND
ETHNIC IDENTITY IN AFRICAN AMERICAN JUVENILE OFFENDERS**

A Dissertation
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to the Temple University Graduate Board

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ABSTRACT

Black youth and the boys in blue: Associations between police treatment, mental health and ethnic identity in African American juvenile offenders

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The present study was conducted to further our understanding of the correlates of and variations in perceptions of police treatment among African American adolescent offenders. Ethnic identity development can play a role in youths' sensitivity to stigma, but whether this finding applies to black youth involved in the juvenile justice system has not been explored. Although there is evidence for a robust association between perceptions of discrimination and negative psychological outcomes, there is a dearth of research that investigates a) the directional nature of these associations, and b) how associations vary as a function of perceptions of personal and group discrimination. Participants were 501 African American youth ages 14-18 who were adjudicated of a felony or serious misdemeanor in Philadelphia. Data were taken from annual interviews conducted over the course of four years. Increased ethnic identity exploration was related to the perception that police use biased behavior against people from different racial/ethnic backgrounds. Furthermore, there was a relatively stronger association between psychological distress and perceptions of police behavior among youth who reported taking an active role in making meaning of their ethnicity,. Finally, the results of this study support drawing a distinction between personal and global perceptions of discrimination, in that their links to psychological distress differed with respect to the direction of effects. Specifically, whereas negative personal encounters with

the police lead to higher levels of distress, being distressed led to more negative global perceptions of the police. This study provides evidence that normative processes in adolescence, like ethnic identity development, operate much the same way among high risk youth (e.g., juvenile offenders) as in more normative samples. This is especially important given that the consideration of normative developmental processes in high-risk samples like juvenile offenders can have implications for rehabilitation efforts. Finally, the present research highlights the need for the education of law enforcement agencies regarding adolescent development and factors that might increase or decrease young people's willingness to comply with the law.

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CHAPTER 1

INTRODUCTION

In recent decades, scholars have begun to recognize the importance of considering race/ethnicity as a context for human development (García-Coll, Lamberty, Jenkins, McAdoo, Crnic & Wasik, et al., 1996; Eccles, Wong & Peck, 2006). García-Coll and colleagues (1996) proposed an integrative model of minority child development that incorporates social position variables (e.g. race/ethnicity, gender, social class) and mediating social mechanisms like racism and prejudice. Their framework moved beyond mainstream models of child development by acknowledging pervasive social factors that cannot be ignored when studying processes of development in ethnic minority children and youth. For many black youth, particularly those in low-income, urban settings, the contextual circumstances associated with being black often include contacts with the police in the form of neighborhood surveillance, racial profiling, harassment, and arrest processing. Aside from an abundance of statistics confirming the over-representation of African Americans in the juvenile and criminal justice systems, we have little understanding about how these experiences relate to youth development. Keeping in mind the call for research on youth of color that considers the correlations and consequences of experiences with discrimination on development, the present study focuses on the experiences of African American youth involved in the juvenile justice system. Specifically, black youths' perceptions of police treatment are examined in relation to normative developmental processes (e.g., ethnic identity development) and mental health.

Black youth and young adults are over-represented in both juvenile and adult justice systems compared to their numerical representation in the population (Snyder & Sickmund,

2006; US Department of Justice, 2006), and biased police behavior has been cited as one factor that plays a role in this disparity (Bishop, 2005; Blank, Dabady, & Citro, 2004; McCord, Widom & Crowell, 2001; Morenoff, 2005). Scholars acknowledge that disparities in delinquent behavior also exist, and that risk factors stemming from economic disadvantage undoubtedly contribute to pathways towards delinquency. However, the role of discriminatory behavior that occurs in different stages of processing within the justice system—though not always considered in research on discrimination (Blank, et al., 2004)—is recognized as a concern that requires empirical attention, particularly given the implications for future outcomes. In a recent review of research on relations between discrimination and mental health among African American adolescents, Cooper, McLoyd, Wood and Hardaway (2008) aptly note the following:

Undoubtedly, African American males' ...higher levels of involvement in the criminal justice system...derive partly from the fact that they are, on a daily basis, more subject to the cognitive (negative stereotypes), affective (prejudice), and behavioral (discrimination) components of racism...In a vicious cycle, negative stereotypes and racial prejudice can fuel unfair treatment at an early age, leading to educational and social disadvantages among African American males, which can in turn promote further unfair treatment (pp. 282).

The stigmatization of black youth, and black males in particular, as criminals has been observed by social and behavioral science researchers (Anderson, 1999; Brunson & Miller, 2006; Hinds, 2007; Phillips & Bowling, 2003); yet the potentially negative impact of this stigma within the context of youth-police relations has not been examined. Anecdotal evidence suggests that black youth not only recognize the stigmas associated with their

group, but have also come to expect negative police behavior (Brunson & Miller, 2006; Hinds, 2007). As one young man living in a low-income neighborhood in St. Louis put it:

[The police] have to do they job. But if they wasn't as hard as they was on us, it wouldn't really be a problem. I mean, we know how they gonna treat us when they come up. It's just how they treat people, you know. They treat you like, over there, like you not even human. I mean talk to you *bad bad* (Brunson & Miller, 2006, pp. 631).

The essence of this statement reflects the need for more understanding of how Black youth perceive police treatment, especially delinquent youth who are more likely to have police contact than their non-delinquent peers. In the present study, a model of stigma-induced identity threat is used as a framework for understanding youths' perceptions of the fairness of police treatment, referred to as *procedural justice*. It is argued that, based on collective representations of African Americans with regard to the justice system and situational cues often present in Black citizens' encounters with the police, perceptions of procedural justice can and should be considered as a reflection of race-related stigmatization/discrimination. In the present study these perceptions are examined in the form of personal, direct experiences as well as perceived treatment of one's group. Furthermore, how a youth feels about his or her racial/ethnic membership—both with regard to group connectedness and the salience of ethnic identity—is considered with regard to perceptions of police treatment. Finally, the mental health implications for negative police treatment are explored.

Procedural Justice

The lens that has often been used to frame discussions about how people are treated during their experiences with the police (or how they believe others are treated) is one that

connects “procedural justice” (e.g., fair treatment) with perceptions about the legitimacy of an authority figure as well as with behavioral compliance (Tyler, 2006; Tyler, 1997; Tyler, 1990). Specifically, the perception of fair treatment by the police fosters the belief that the police are a legitimate authority; legitimacy is in turn tied to increased compliance with that authority (Sunshine & Tyler, 2003; Tyler & Folger, 1980; Tyler & Wakslak, 2004). Because individuals who believe that the police treat people fairly are less likely to commit crimes, and because encounters with the police may affect future compliance with the law (Fagan & Tyler, 2005; Mulvey, Steinberg, Fagan, Cauffman, Piquero, & Chassin, et al. 2004; Tyler & Fagan, in press), it is important to understand the origins of these beliefs. In addition to law enforcement, procedural justice has also been studied in other contexts, including employment settings (Huo, Smith, Tyler, & Lind, 1996) and experimental research (van Prooijen, van den Bos, & Wilke, 2004), wherein similar connections between procedural justice and both perceptions of legitimacy and behavioral compliance have been reported.

Race and Perceptions of the Police

There is a substantial literature that addresses issues of race and law enforcement, and although the evidence is mixed, most researchers report that African Americans tend to have more negative experiences with and views of the police than people from other racial or ethnic groups (Brown & Benedict, 2002). Hurwitz and Peffley (2005) examined the National Race and Crime Survey data and observed that over half of white Americans believed that the justice system treats people fairly, while only about one-quarter of blacks shared this view. Weitzer and Tuch (1999) used nationally representative survey data to examine perceptions of racial discrimination by the police. They found race to be a significant predictor in all of their models, with black citizens perceiving higher levels of police

discrimination than white citizens. When the effects of well-publicized accounts of police brutality were examined, Tuch and Weitzer (1997) reported that police approval ratings generally dropped regardless of race, but the negative impact of the events lasted longer for black citizens in comparison to people from other racial/ethnic backgrounds. Using Police-Public Contact Survey (PPCS) data, Engel and Calnon (2004) demonstrated that nonwhite drivers were stopped, cited, searched and arrested more than white drivers. Young black and Hispanic males had the highest probabilities of being cited, searched, arrested, and being the targets of force by the police. To examine the argument often used to legitimize profiling practices that people of color are more likely to be carrying drugs and/or weapons, the researchers analyzed data on search success rates and found that significantly *fewer* nonwhite drivers were carrying contraband than white drivers.

In a study of police biases, Weitzer and Tuch (2005) surveyed a nationally representative sample of adults and found that a larger percentage of black citizens as compared to whites and Hispanics believed that racially biased policing occurred in their city and that black and Hispanic residents received worse treatment and fewer services from the police. Black respondents were also more likely to believe that police prejudice was a problem and reported more personal experiences of unfair treatment by the police. Finally, in a recent study based on responses to a *New York Times* poll, Reitzel and Piquero (2006) reported that nonwhite New Yorkers were more likely to believe that racial profiling was widespread, and were more likely to report that they had been racially profiled by the police.

Overall, there is evidence to support the contention that African Americans perceive and receive worse treatment by the police than members of other racial or ethnic groups, and that personal experiences with the police shape attitudes about police legitimacy. However,

much of this research has been conducted using adult samples, leaving a gap in the literature on youths' experiences with law enforcement (Piquero, Fagan, Mulvey, Steinberg, & Odgers, 2005). Fagan and Tyler (2005) proposed that the process of "legal socialization," or the development of beliefs about the law, begins in childhood and over time shapes youths' perceptions of and compliance with legal authorities. In a cross-sectional study of youth ages 10 to 16, they examined predictors of police legitimacy, legal cynicism, moral disengagement, and a composite measure of legal socialization encompassing all three of these outcomes. They found that in this sample, perceptions of police legitimacy were more negative and legal cynicism was higher in older youth. The perception of fair procedural justice was a significant predictor of increased police legitimacy, lower legal cynicism, and more positive legal socialization. In contrast, none of the variables related to deviance—as indexed by aggression, having deviant peers, low self-control, and high impulsivity--predicted perceptions of police legitimacy or levels of legal cynicism. Their findings lend support to the critical role of procedural justice in shaping the views of police legitimacy held by young people. Additional support for this proposition was reported by Rusinko, Johnson and Hornung (1978). Using self-report data from 1,200 ninth grade students, they found that positive contact with the police predicted positive attitudes towards the police; the reverse was also true. Even more relevant to the present review was their finding that the effects of positive contact with the police were strongest in a sub-sample of highly delinquent youth.

Stigma-Induced Identity Threat

Associations between social identity and attitudes, beliefs, and behaviors have been well-established in social science research (Brewer & Hewstone, 2004; Hogg & Abrams, 1988). The role of identity in attitude formation may be particularly significant when one

identifies as a member of a stigmatized group. Research on stigmatization reveals that several factors—including membership in a devalued group and individual differences in the importance of social group membership—can influence perceptions of potential threats to one’s identity, which may in turn affect attitudes and behaviors (Major & O’Brien, 2005).

Overview of Model

Major and O’Brien (2005) propose a stigma-induced identity threat (SIIT) model which incorporates findings from models of stigmatization/identity threat as well as transactional models of stress and coping. In their model, membership in a stigmatized group increases risk for exposure to situations that could potentially threaten one’s identity. These threats can arise from any of three sources: a) *collective representations*, or the awareness that members of a stigmatized group have about their devalued status and potential discrimination against their group; b) *situational cues*, or the contexts in which the stigma might be more or less activated; and c) *personal characteristics*, including sensitivity to stigmatization, the centrality of group membership to the individual’s identity, and personal goals or motives. Any of these factors may threaten an individual’s social identity, potentially putting a strain on coping resources. Identity-threat situations occur when coping resources are exceeded, leading to voluntary responses (e.g., verbal or behavioral actions) and/or involuntary responses (e.g., high blood pressure, anxiety). This framework provides a useful heuristic for understanding the relation between perceived discrimination and negative mental health outcomes. For the present study, it lays a theoretical foundation for why one might expect ethnic identification among black adolescents to be related to their perceptions of police treatment.

African Americans and the Police: Collective Representations and Situational Cues

In 2005, approximately half (49.8%) of all juveniles arrested for violent crime were black (U.S. Department of Justice, 2006). Although black adults and youth are presently over-represented in the criminal and juvenile justice systems, this was not always the case (Penn, 2006). Several contiguous historical events, including the abolition of slavery, the migration of blacks to cities, and the civil rights movement, contributed to the portrayal of African Americans (and black men in particular) as threats to the safety of white Americans (Feld, 2006; Penn, 2006). Against a backdrop of institutional and interpersonal racism against blacks, these historical factors have contributed to the mistreatment of blacks in the legal system.

Carr, Napolitano and Keating (2007) conducted interviews with a sample of Philadelphia youth and young adults from three different neighborhoods to assess youths' views of the police. The racial/ethnic makeup of each neighborhood was fairly homogenous; youth from one area were African American, youth in the second were Hispanic/Latino, and youth in the third neighborhood were predominantly white. This allowed the investigators to make comparisons both by neighborhood and by racial/ethnic group; otherwise, the neighborhoods were fairly similar in terms of socioeconomic status (low) and levels of crime (high). Carr and colleagues found that across neighborhoods and ethnic groups, youth had fairly negative views of the police; this was true regardless of whether the youth were delinquent or non-delinquent and regardless of race. Most of the negative perceptions of the Philadelphia police were based on personal experiences with unjust treatment. Importantly, the authors note that although most youth described negative interactions with the police,

many of the African American and Latino youth made specific references to police injustice that they attributed to race/ethnicity.

Interviews conducted by Brunson and Miller (2006) provide insight into the personal experiences of young black men with the police in the US. In their study, they reviewed research that attributed unfair police treatment to contextual factors like neighborhood disorder and crime rate, following which they astutely note that “whether because of their neighbourhood, their race, or some combination, the experience of ‘getting hassled’ remains a disproportionate burden [for young black men]” (p. 616). The youth interviewed for their study were 40 African American teens ages 13-19 from a poor urban area who were described as being “at risk” or “delinquent”; almost three-quarters of the sample reported involvement in serious delinquency, and over two-thirds were arrested at some point in their lifetime.

The one-on-one in-depth interviews revealed that many of the young adults believed that they were stopped by the police because of their race, and that they considered this a form of harassment. As one teen stated, “they can’t see a black male these days having a good job. They always want to pull you over or search you to find something” (pp. 624). Likewise, several youth described the unilateral suspicion towards young black men that prompted police to stop, search, and lock them up, even when they were doing something as innocuous as walking to school. References to derogatory slurs made during police encounters were described, and youth noted that although name-calling was common among all police officers, white officers were most likely to make explicitly racist remarks, including the use of terms like “black bastards” and “black monkey.” Moreover, the perception of discrimination was not exclusively attributed to white police officers; in fact,

many youth felt that unfair or abusive treatment by a black police officer was even more personally offensive.

One young man provided a particularly poignant description of how racial injustices played out in the legal system. He began by noting that as a black male, even if he offered money to a police officer to let him out of jail, the police officer would not oblige (regardless of the officer's race). However, if the interviewer (a white male) was in the same situation, he would get released:

Look how you (referring to interviewer) look, and look how I look, you know what I'm saying. I got braids, you got glasses, your hair cut low, I got long hair. Your ears ain't pierced, I got earrings, you know what I'm saying.

Who you think they gonna let out of jail first? They gonna let you out...

(Brunson & Miller, 2006, pp. 633)

Another young man compared his own experiences to those of his white friends, saying "I got white friends and stuff and [the police] don't really do nuttin' to them. They sell drugs and everything just like everybody else do. But you ain't hardly never hear about the police messin' with them. Only time they do mess with 'em is when they see 'em with a bunch of black people 'cause police'll think well, what is he doing with them?" (Brunson & Miller, 2006, pp. 634).

Given that most of the youth in Brunson and Miller's sample were involved in serious delinquent behavior at some point (though several of them had long desisted from crime by the time of their interview), one could argue that the profiling and harassment by the police was somewhat justified, in that the police were targeting them because of their higher probability of committing a crime. Unfortunately, police maltreatment is not limited to

young black men living in poor urban areas; as Feagin (1991) writes, “It seems that most black men -- including middle class black men -- see white police officers as a major source of danger and death” (pp. 113). He analyzed data from a subset of 37 interviews drawn from a larger study of middle-class black citizens living in twelve different U.S. cities. Those who reported negative treatment by the police gave accounts that were strikingly similar to the events described by the youth in Brunson and Miller’s study. Moreover, experiences with police discrimination were not limited to men. A black female college professor stated:

When the cops pull me over... I try not to make any sudden moves so I’m not accidentally shot. Then I give them my identification. And I show them my university I.D. so they won’t think that I’m someone that constitutes a threat, however they define it, so that I don’t get arrested (Feagin, 1991, p. 114)

These personal accounts make it clear that regardless of social status, African Americans are commonly mistreated by the police.

These anecdotal accounts and observations of African Americans’ experiences with the police indicate that for many, any form of negative police treatment gets attributed to race. Evidence from other studies reveals an association between race and police behavior. For example, results from one study showed that being African American was associated with higher odds of getting harassed by the police (Kessler, Mickelson & Williams, 1999). Similarly, Browning and colleagues interviewed African American and white adults to assess their experiences with being hassled (i.e., stopped or watched closely) by the police in situations where they were not doing anything wrong (Browning, Cullen, Cao, Kopache & Stevenson, 1994). They found that being black was significantly associated with both personal experiences with harassment, as well as vicarious harassment experiences (e.g.,

knowing someone who had been harassed by the police). Among their sample, men and younger people were more likely to perceive personal police harassment; being younger and African American were also significant predictors of vicarious harassment. Even though they used a self-report measure that did not distinguish between being actually stopped or just watched by the police, the fact that African Americans' *perceptions* of harassment were higher cannot be discounted and is an observation that requires further exploration.

The limited research that is available using more objective measures of police behavior reveals a similar pattern. In a study of systemic observations of patrol officers in two cities (McCord et al., 2001), researchers found that the majority of juvenile suspects were youth of color, primarily black youth. Most youth showed no signs of drug use or weapon possession; minority suspects were 43% more likely to be arrested than white youth. The largest effects for being a nonwhite youth were found in incidents that the police *initiated* (as opposed to cases in which they were responding to a call). When researchers accounted for the seriousness of the crime, nonwhite youth had odds of being arrested that were twice as high as the odds of arrest for white youth.

Police Treatment as Discrimination

Given the history of African Americans' involvement with the legal system in the United States, it is plausible that for some black youth, negative police treatment might be interpreted as a form of racial discrimination, especially if those youth believe that the police traditionally discriminate against people because of their race. Indeed, a panel of experts brought together to synthesize research on discrimination noted that within the criminal justice system, policing behaviors and police treatment can be considered as potent forms of discrimination (Blank, et al., 2004). Thus, it seems that for African Americans, 'procedural

justice' in the context of the legal system is a unique experience historically loaded with meaning that moves well beyond the simple dichotomy of 'fair' or 'not fair.' Instead, perceptions of injustice in experiences with the police can be seen as indicative of discrimination.

Browning and colleagues (1994) note that their findings lend credence to the argument that racial discrimination is a legitimate factor in explaining the higher levels of negative police treatment reported by people of color. This discrimination could potentially exist on an individual level, where individual police officers display their personal beliefs, or it could exist at an institutional level, in which police are socialized to respond to certain cues like race in making judgments about a civilian's actual or intended behavior. Regardless of whether the source of bias comes from individual or system-wide beliefs (or from both, as both are likely to be contributors), negative treatment by the police is a salient form of discrimination for African American youth and adults. What is not known is how those experiences affect the psychological and behavioral outcomes of black youth, especially those who have extensive contact with the legal system.

Personal Characteristics: Ethnic Identity

In addition to collective representations and situational cues, the identity threat model highlights the importance of personal characteristics in the perception of discrimination or stigmatization. This includes group identification, and as Major and O'Brien (2005) note, "individuals who regard their stigmatized social identity as a central part of their self-identity are more likely to see themselves as targets of personal and group discrimination" (p. 401).

Although juvenile offenders are often ignored in the literature on normative adolescent development, it would be incorrect to assume that being delinquent precludes

youth from experiencing processes that are typical during this developmental period. Identity exploration is often considered a hallmark of adolescence, and one aspect that is particularly important for ethnic minority youth is the integration of a sense of ethnicity or race into their larger personal identity, referred to as ethnic identity development (Phinney, 1989; Phinney, 1990; Phinney, Lochner and Murphy, 1990). During the unique developmental period of adolescence, youth from low-status groups often show a heightened sensitivity to messages communicating the social status or stigmatization of their group (Cross & Cross, 2008). To the extent that youth feel stigmatized during police interactions, identity-threat models predict that stronger racial/ethnic group affiliation will be associated with more negative perceptions of police treatment.

Ethnic identity development is a process of change over time that revolves around one's attachment to a particular social group, and relevant theories have incorporated constructs from both social and developmental psychology. Social categories (e.g., "African American", "teenager", "athlete") to which an individual belongs contribute to his or her self-image, and these group memberships can serve as a source of self-esteem (Tajfel & Turner, 2004). Furthermore, the meaning and salience of a given category can change over time. The developmental approach to the formation of an ethnic identity is based largely on Erikson's (1968) psychosocial theory of identity development, which asserts that identity is established after a period of exploration that occurs during adolescence (Phinney, 1989; Phinney, Cantu and Kurtz, 1997; Roberts, Phinney, Masse, Chen, Roberts and Romero, 1999; Umaña-Taylor, Yazedjian, and Bámaca-Gómez, 2004).

Although there are a variety of models of ethnic identity development, they generally describe a similar pattern. In the initial stage, ethnicity is not salient; this is followed by a

period of exploration when adolescents begin learning more about the ethnic group to which they belong. Ideally, a sense of ethnic identity is established that includes a secure sense of membership to one's ethnic group and an understanding of the value of having a positive ethnic or racial identity (Phinney, 1993; Roberts, et al., 1999).

Ethnic Identity is often assessed using the Multi-Group Ethnic Identity Measure (MEIM; Phinney, 1992), which captures two domains of identity development: individuals' sense of belonging to and pride in one's ethnic group, and individuals' level of exploration and acceptance of their ethnic identity. Researchers have argued that the "group belonging/pride" component may reflect the affective component of ethnic identity, whereas the "exploration/achievement" construct may be more related to the cognitive component of group membership (Greene, et al., 2006; Pahl & Way, 2006; Phinney & Kohatsu, 1997). This distinction is important, given evidence that the two subscales are differentially related to a variety of outcomes, including discriminatory treatment (Greene, et al. 2006; Romero & Roberts, 1998; Pahl & Way, 2006). For example, Greene et al. (2006) found that ethnic affirmation and belonging protected against the negative effects of discrimination, whereas ethnic identity exploration worsened the effects. These and other findings underscore the importance of examining dimensions of ethnic identity separately.

A developmental approach to the process of ethnic identity integration would predict that one's sense of ethnic identity should change over time. Roberts, et al. (1999) examined the construct of ethnic identity among an ethnically diverse sample of students in grades six through eight. They found that even among young adolescents, issues of affirmation, belonging, commitment and exploration with respect to ethnic identity were salient. Using cross-sectional data the authors found that mean scores of ethnic identity for older high

school students were higher compared to middle school students' scores. These results suggest that early adolescents are engaged in a process of ethnic identity development, and that this exploration continues and grows over time.

More recently, changes in ethnic identity over time have been demonstrated empirically using longitudinal data (French, Seidman, Allen & Aber, 2006; Pahl & Way, 2006). Pahl and Way (2006) used growth models to estimate patterns of ethnic identity development in Black and Latino high school students over a three year period. Their results showed that ethnic identity exploration changed in a non-linear fashion, with initial increases slowing down over time. When youth were compared by ethnic group, Black youth showed significantly less deceleration than Latino youth in the exploration component over time. The affirmation component did not show uniform linear growth over time; however, there was random variation in this growth across individuals.

Linking Ethnic Identity and Discrimination

Ethnic identity and racial identity are both related to experiences of discrimination; however, the nature of this relationship is not always straightforward. To begin, there is evidence to suggest that a stronger ethnic identification is related to a heightened sense of ethnic discrimination. In other words, youth whose ethnic or racial group membership is particularly salient may be more attuned to discriminatory acts which they perceive to be related to ethnicity or race. Romero and Roberts (1998) found that youth with higher scores on the exploration scale of the MEIM also reported higher levels of perceived discrimination. Furthermore, it was only on the exploration subscale that this relation was significant; in their sample, scores on the affirmation and belonging subscale did not predict levels of perceived discrimination. Using the Multidimensional Inventory of Black Identity (MIBI; Sellers,

Rowley, Chavous, Shelton, & Smith, 1997), Sellers and Shelton (2003) and Sellers, Caldwell, Schmeelk-Cone and Zimmerman (2003) investigated the relation between racial identity and discrimination in African American young adults. The results of their analyses also provide support for this relation: youth for whom race was highly significant (e.g. high racial centrality) also reported more perceived discrimination.

Do African American youth perceive greater levels of discrimination *because* they have a stronger sense of their ethnic identity, or do experiences with discrimination lead to a stronger ethnic identification? It is possible that individuals may cope with experiences of discrimination by identifying more strongly with their stigmatized group, which has been conceptualized as “rejection-identification” (Branscombe, Schmitt, & Harvey, 1999; Major & O’Brien, 2005; Schmitt, Spears, & Branscombe, 2003). It is also possible that when membership in a stigmatized group is central to one’s identity, a greater awareness and perception of discrimination against that group results. In Cross’ Nigrescence model, some individuals in the “immersion-emersion” stage of racial identity development adopt an “anti-white” identity characterized in part by a distrust and demonization of members of the dominant culture (Cross, 1991; Vandiver, Cross, Worrell, & Fhagen-Smith, 2002). Thus, a third possibility is that youth for whom race is a central component of their identity may act in ways to elicit more discriminatory treatment.

Operario and Fiske (2001) attempted to address this question when they examined the role of ethnic identity in perceptions of both personal discrimination as well as group discrimination. Using an ethnically diverse college student sample, subjects first completed measures of personal and group racial/ethnic discrimination as well as an ethnic identity measure. The operational definition of ethnic identity in this study was based largely on

Tajfel and Turner's social identity theory (Luhtanen & Crocker, 1992), thus results reflect students' connectedness to their ethnic group rather than the depth of exploration into their ethnic background. It was assessed with a four-item subscale taken from a larger measure of collective self-esteem, with items tapping into a construct similar to racial centrality (e.g. "In general, belonging to my ethnic group is an important reflection of who I am"). For students of color, scoring higher on the ethnic identity measure was related to higher levels of perceived *personal* discrimination; however, students perceived similar levels of discrimination against their *group* regardless of ethnic identity scores. The differences between perceptions of personal versus group discrimination are important to keep in mind, as it is possible that people's views about how their group is treated may not always be aligned with their own personal experiences with discrimination.

The researchers took their analyses one step further to investigate whether the relation between ethnic identity and discrimination was due to differences in *perceptions* of discrimination, or if it was due to differences in actual *experiences* with discrimination. A trained white confederate responded to non-white participants in a manner that reflected obvious or subtle prejudice. Students who scored low on the ethnic identity measure perceived more discrimination when the confederate's prejudiced behavior was obvious; however, those with high ethnic identity scores showed the highest perceptions of discrimination when the confederate's behavior was more subtle. The authors concluded that ethnic identity influences experiences with discrimination such that higher levels of ethnic centrality are related to increased sensitivity to more subtle forms of discrimination. Because the study was not longitudinal, Operario and Fiske could not address whether experiences with discrimination had an effect on an individual's level of ethnic centrality. It is possible

that for youth who belong to stigmatized groups (e.g., African American youth), if their stigmatized identity is very important to them, then they may be more likely to perceive that they are being discriminated against (Major & O'Brien, 2005).

In a recent study, Pahl and Way (2006) used longitudinal data to explore the potentially bidirectional association between ethnic identity development and discrimination. They used a sample of Black and Latino high school students who annually completed both the MEIM and a measure of perceived peer/adult ethnic discrimination over a three-year period. In their initial analyses, they examined separate growth curves for the “exploration” and “affirmation” subscales of the MEIM, and entered perceptions of perceived discrimination by peers and by adults as separate time-varying covariates. The researchers found that perceived discrimination by peers was positively associated with changes in ethnic identity exploration over time; youth whose exploration declined over time reported low levels of perceived discrimination, while youth whose exploration was higher and remained stable over time reported high levels of perceived discrimination. Although perceived discrimination by adults was significantly related to within-person changes in exploration, it did not predict changes in exploration over time. Finally, neither perceptions of peer nor adult discrimination were significantly related to initial levels of or changes over time in the affirmation subscale.

Pahl and Way (2006) conducted post-hoc analyses to explore the issue of directionality; in these analyses, they modeled growth curves of perceived peer and adult discrimination separately, and entered ethnic identity exploration as a time-varying covariate. The within-person (level-1) associations between discrimination and exploration remained the same (positive and significant) and exploration predicted higher levels of perceived

discrimination at time one; however, exploration did not significantly predict changes in perceived discrimination over time. Their results suggest that experiences with discrimination may be more influential on ethnic identity exploration than the reverse. Furthermore, not only does this study provide additional evidence that the two dimensions of ethnic identity should be examined separately, it also speaks to the fact that certain types of discrimination (e.g., peer, adult) may be differentially related to youths' psychosocial development.

In addition to the association between level of ethnic identification and perceptions of discrimination, researchers have also found that aspects of both racial and ethnic identity can moderate the negative effects of perceived discrimination on mental health (Chavous, et al., 2003; Greene, et al., 2006; Neblett, et al., 2004; Sellers, Copeland-Linder, Martin, & Lewis, 2006; Wong, et al., 2003). Wong, Eccles and Sameroff (2003) assessed African American adolescents' sense of being positively connected to their ethnic group and found that stronger ethnic group affirmation predicted positive mental health outcomes *and* lessened the negative effects of peer and teacher discrimination on psychological well-being. In a recent study, Greene et al. (2006) found that higher affirmation and belonging scores as measured by the MEIM buffered youth from the negative effects of peer discrimination on self-esteem, while higher scores on the exploration scale heightened these negative effects. Finally, in a study of racial identity and academic attainment, researchers identified a group of black youth who had positive group affiliation and for whom race was very important, but who also believed that society held negative views about African Americans (Chavous, et al., 2003). This group, labeled as "buffering/defensive", had the lowest high school dropout rate and was most likely to be enrolled in college two years after graduating from high school, while youth

who felt positive about being black but also believed that the public held African Americans in high regard (the “idealized” group) had higher rates of high school dropout and lower college enrollment. The authors speculated that although the buffering/defensive group was very aware of racial inequities, this knowledge, along with their positive beliefs about their group, may have empowered them to persist in achieving their goals.

Ironically then, an adolescent’s level of ethnic identification makes acts of discrimination more salient while at the same time serves as a protective factor against their negative psychological effects. This seemingly contradictory role is most likely attributable to the fact that ethnic identity is not a unilateral construct, though it is often referred to as such. Instead, ethnic identity should be considered a multidimensional construct, with each dimension making unique contributions to an individual’s overall sense of identity. Indeed, as described in several studies above, researchers who have examined the dimensions separately have found support for this view. Greene et al. (2006) assessed ethnic identity using the affirmation/belonging and exploration scales of the MEIM. They asserted that the first subscale represented more of the emotional or affective side of ethnic identity, while the second tapped into the cognitive dimension. In their analyses, they found support for the differential relationship between each dimension of ethnic identity and discrimination; ethnic affirmation and belonging protected against the negative effects of discrimination, while ethnic identity exploration worsened the effects.

The authors explain this finding by noting that during the exploration process leading to “identity achievement”, in-group/out-group distinctions, and subsequently discrimination, may be more salient, while attachment to one’s group may make it easier to disregard discrimination. The fact that it is the exploration/achievement subscale in particular that has

been consistently associated with awareness of discrimination is likely a reflection of the cognitive maturation that underlies identity development processes in adolescence. In earlier developmental stages, children's cognitive immaturity may actually protect them from perceiving negative stigmas associated with their racial or ethnic group. However, as youth are able to comprehend processes that are increasingly abstract and potentially more nuanced, they may become more susceptible to the harmful effects of these stigmas (Brown & Bigler, 2005; Dupree, Spencer & Bell, 1997; Spencer, 1985; Spencer, 1995; Spencer & Markstrom-Adams, 1990). Indeed, this "cultural cognition" about race is known to increase with age, and children as young as 10 have an awareness of the stereotypes against their ethnic group (Brown & Bigler, 2005; Cross & Cross, 2008; McKown & Weinstein, 2003). At the same time, feeling connected to and having a sense of pride in one's ethnic group might lessen the potential identity threat associated with stigma and instead allow youth to avoid making self-attributions related to the negative stigma.

Thus, the group affirmation and belonging dimension of ethnic identity becomes important in adolescence as it can potentially buffer the negative effects of discrimination to which youth are now, by virtue of their age, more susceptible. Indeed, the positive relation between ethnic identity and self-esteem, psychological health, social adaptation, and other markers of adjustment may shed light on the processes that underlie the buffering role of ethnic group belonging against the detrimental effects of discrimination. Although each dimension of ethnic identity may influence psychosocial functioning in different ways, most research has shown that in general, higher scores on ethnic identity overall are related to better outcomes (Seaton, Scottham & Sellers, 2006; Yasui, Dorham & Dishion, 2004).

Police Treatment as Stigma-Induced Identity Threat

When perceptions of police treatment among black youth are considered within the SIIT framework, it becomes apparent that encounters with the police might create conditions for identity threat. African American youths' "collective representations" of the treatment and status of black people more generally are likely to include awareness of negative stereotypes against their cultural group and the increased likelihood of being a target of discrimination. Given an increased likelihood of heightened sensitivity to race-related stigma during this period of development (Cross & Cross, 2008), black adolescents may be more likely to perceive police injustice as a form of racial or ethnic discrimination, especially if race or ethnicity is a central part of their identity (Branscombe, et al., 1999; Major & O'Brien, 2005; Sellers & Shelton, 2003). Thus, before addressing potential outcomes associated with perceptions of procedural injustice, it first must be established that procedural injustice is a stressor for black youth. The present study addresses this issue by examining links between perceptions of procedural justice (including perceptions directed toward individuals as well as toward groups) and dimensions of ethnic identity. Not only is a linkage between these two constructs supported by research on social justice, but also by the historical and contemporary associations between race and law enforcement in the United States.

Given the evidence demonstrating that higher levels of ethnic identity exploration and achievement are related to greater perceptions of discrimination, it is possible that for African American adolescent offenders, higher scores on a measure of perceived discrimination might be related to greater perceptions of police maltreatment. There is also a robust finding in the discrimination literature showing a distinction between personal and group

discrimination (Dion & Kawakami, 1996; Operario & Fiske, 2001; Taylor, Wright, Moghaddam, & Lalonde, 1990; Taylor, Wright, & Ruggiero, 1991; Taylor, Ruggiero, & Louis, 1996); individuals frequently report higher levels of perceived discrimination towards their group compared to reports of personal discrimination. Moreover, Operario and Fiske (2001) found that young adults who scored higher on a measure of ethnic identity perceived more personal discrimination compared to individuals with lower ethnic identity scores, though perceptions of group discrimination did not vary by ethnic identity levels. To date, researchers have not explored whether this personal/group discrepancy exists in perceptions of police treatment and how social identity variables might relate. To address this gap, questions about whether a youth's level of ethnic identification predicts his or her global perceptions of police treatment and if dimensions of ethnic identity play a role in perceptions of direct contact with the police are explored in the present study.

Outcomes Associated with Discrimination and Identity Threat

Researchers have established an association between experiences of discrimination and mental health (Kessler, et al., 1999; Paradies, 2006), an association that is especially salient for members of ethnic minority groups. Much of the research in this area has focused specifically on racial discrimination (Paradies, 2006), which reveals a consistent pattern demonstrating that increased experiences with and perceptions of racial discrimination are related to negative psychological outcomes and diminished well-being. Research on the impact of racial discrimination using adult samples has shown that higher levels of discrimination are negatively related to overall well-being (Branscombe, et al., 1999) and physical health (Gee, 2002; Karlsen & Nazroo, 2002), and positively related to psychological distress and depression (Brown, Williams, Jackson, Neighbors, Torres, & Sellers, et al.,

2000; Gee, 2002; Karlsen & Nazroo, 2002; Neblett, Shelton, & Sellers, 2004; Sellers, et al., 2006) as well as to externalizing problems (Brody, Chen, Murray, Ge, Simons, & Gibbons, et al., 2006; Caldwell, Kohn-Wood, Schmeelk-Cone, Chavous, & Zimmerman, 2004; Simons, Chen, Stewart & Brody, 2003). These findings have been replicated using ethnically diverse samples both in the United States as well as in other countries (Cassidy, O'Connor, Howe, & Warden, 2004; Greene, et al., 2006; Fisher, Wallace & Fenton, 2000; Karlsen & Nazroo, 2002; Kessler, et al., 1999).

When researchers have used adolescent and young adult samples to examine the effects of racial discrimination, the pattern of findings has been similar (Brody, et al., 2006; Eccles, Wong, & Peck, 2006; Fisher, et al., 2000; Greene, et al. 2006; Neblett, et al., 2004; Nyborg & Curry, 2003; Sellers, et al., 2006; Szalacha, Erkut, Garcia Coll, Fields, & Ceder, 2003; Wong, et al., 2003). For example, perceived ethnic discrimination was positively associated with symptoms of depression and anxiety in a multi-ethnic sample of older adolescents in Scotland (Cassidy, et al., 2004). Similarly, perceived racial discrimination by both adults and peers was related to higher levels of depressive symptoms and lower levels of self-esteem in a diverse sample of high school youth in the United States (Greene, et al., 2006). Nyborg and Curry (2003) also found that personal experiences with racism were related to higher scores on measures of internalizing and hopelessness, and lower scores on a measure of self-concept among African American youth.

In addition to its relation to psychological distress and internalizing, researchers have also examined the associations between racial discrimination and externalizing behavior (Brody, et al., 2006; Nyborg & Curry, 2003). Brody and colleagues assessed perceptions of discrimination as well as levels of depression and conduct problems in a sample of 10- and

12-year old African American youth over a three year period and found that increases in perceived racial discrimination over time predicted increases in both internalizing and externalizing (Brody, et al., 2006). These effects were moderated by school efficacy, nurturing parents, and prosocial peers; higher scores on all three of the moderators weakened the relation between perceived discrimination and conduct problems, and parents and peers (but not school efficacy) played a protective role in moderating the effects of discrimination on later depression. The results show that experience with discrimination is a risk factor for negative outcomes; however, the finding that some contextual factors may buffer the impact of discrimination is promising, and speaks to the important role of parents and peers in this equation.

Researchers have also demonstrated that perceptions of racial discrimination are related to academic experiences (Eccles, et al., 2006; Wong, et al., 2003). Eccles, Wong, and Peck (2006) assessed perceptions of both teacher and peer racial discrimination among African American middle school students and found that youth who perceived higher levels of discrimination by teachers rated their own academic competence as low and saw school as being less valuable; both lower academic self-competence and school value predicted lower grades in school. Higher perceptions of peer discrimination were related devaluing school, which in turn predicted a lower GPA; however, peer discrimination did not predict scores on youths' academic self-competence. Another notable finding in this study is that youth who anticipated future racial discrimination in school and work actually reported that they valued school more, and scored higher on the measure of academic self-competence. This result is important in that it demonstrates the complexity of the matter at hand; although experiences with discrimination can have a negative impact on youth, an awareness of the reality of racial

disparities and prejudices that exist may help buffer youth from these negative effects and may also motivate youth to work even harder to succeed.

Although much of the research in this area has focused specifically on people's experiences with racial and/or ethnic discrimination, there is evidence showing that other forms of discrimination are also related to negative psychosocial outcomes. In a study of African American and white adults in an urban area, researchers examined the association between experiences of unfair treatment (e.g., being treated with less courtesy than others, being unfairly stopped, questioned or threatened by the police) and mental health. Unfair treatment was positively related to psychological distress and negatively related to life satisfaction (Schulz, Williams, Israel, Becker, Parker, James, et al., 2000). Kessler, Mickelson and Williams (1999) assessed adults' experiences with discrimination that could be attributed to a number of factors, including "race, ethnicity, gender, age, religion, physical appearance, sexual orientation, or other characteristics" (pp. 211). Using this broad conceptualization of discrimination, they found that both lifetime and day-to-day experiences with discrimination predicted distress, depression, and generalized anxiety. Fewer studies using adolescent samples have addressed forms of discrimination other than direct experiences with racial discrimination. In a study conducted by Nyborg and Curry (2003), African American youth were asked about their personal experiences with racist events, but were also asked about their perceptions of institutional racism that affected African American communities (e.g., poorer schools, police response, and community conditions). They found that perceptions of institutional racism were positively associated with both parent and youth reports of externalizing behavior.

Although individuals' experiences with the police, conceptualized either specifically as differential treatment due to race, or more broadly as fair/unfair treatment during a police encounter (e.g., procedural justice), have been examined with regard to how they vary among ethnic groups or by other demographic factors (age, gender, socioeconomic status, etc.), to date, there is almost no research examining the association between police treatment and mental health. In one study using a sample of African American adults, researchers examined the association between feelings of mastery and distress and perceived discrimination in several domains—getting a job, at work, shopping, and from the police. The investigators found that discrimination by the police was one of only two subtypes that significantly predicted lower levels of mastery, and it was one of three subtypes that predicted higher levels of distress (Broman, Mavaddat, & Hsu, 2000). This study, like most studies on discrimination, used a normative sample of individuals, which underscores another major limitation. Adolescent offenders are clearly more likely than other youth to have frequent contact with the police, and are also at an increased risk of mental health problems (Cauffman, 2004; Grisso, Barnum, Fletcher, Cauffman, E., & Peuschold, 2001); however, we know little about how youths' actual experiences with the police are related to their psychological well-being.

Gaps in the Literature on Discrimination and Mental Health

Direction of Effects

Negative experiences with the police, like other forms of discrimination, are likely to be correlated with more negative reports of psychosocial well-being. A question that arises from this assertion is one of directionality: Does police misconduct lead to higher rates of psychological distress, or do youth who report higher levels of psychological distress simply

perceive or behave in ways that elicit greater levels of procedural injustice? A limitation in the current literature is that most studies have data from a single time-point to show a correlation between discrimination and mental health, which limits assertions about causal, or even temporal, relations between the variables. Research conducted by Phinney, Madden, and Santos (1998) provides evidence demonstrating that self-reports of depressive and anxious symptoms positively predict levels of perceived ethnic discrimination. This finding supported their hypothesis that psychological factors within an individual can influence perceptions of discrimination; however, they were also limited to data collected at a single time-point, and the direction of the effect could not be adequately examined.

More recently, another group of researchers collected longitudinal data from African American youth and found that increases in perceived racial discrimination (by community members, business employees or law enforcement officials) over time predicted increases in both internalizing and externalizing problems (Brody, et al., 2006). Although the pathway from problematic outcomes (including emotional distress and conduct problems) to perceived discrimination was also significant, the path from discrimination to the outcome variables was stronger. Thus, there is some evidence for bidirectionality between perceived discrimination and mental health outcomes; however, overall there still remains a gap in the literature in this area. First, researchers have neglected to consider how negative treatment by the police might impact psychological functioning in samples of youth who are likely to have direct contact with the police. Second, given that so few studies have examined these relations longitudinally, when considering the relation between police treatment and mental health among juvenile offenders the direction of causal effects is unclear. The present study

addresses these limitations by using longitudinal data to examine the potential bidirectional associations between police treatment and psychological distress.

Personal versus Group Discrimination

A third limitation in our understanding of these associations is whether or not differential relations to psychological functioning exist for perceived personal discrimination versus perceived discrimination against one's group (Cooper, et al., 2008; Rollins & Valdez, 2006). As discussed previously, evidence exists supporting a discrepancy between perceptions of group versus personal discrimination (Dion & Kawakami, 1996; Operario & Fiske, 2001; Taylor, et al., 1990; Taylor, et al., 1991; Taylor, et al., 1996). In much of the research on the mental health correlates of stigmatization and maltreatment, the emphasis is on outcomes related to personal discrimination (Cooper, et al, 2008; Paradies, 2006), so we know very little about the nature of the association between perceived group discrimination and psychological functioning. Phinney and colleagues (1998) used a measure of perceived ethnic discrimination that included both personal items (e.g. frequency of negative/unfair treatment by teachers/other adults directed at the participant) *and* group items (e.g. frequency of perception that participant's ethnic group receives negative/unfair treatment). And as described above, they found that participants with higher levels of depressive and anxious symptoms reported higher levels of perceived discrimination.

Summary

Tenets of the SIIT model can be adapted for the present study to understand the hypothesized associations between dimensions of ethnic identity, perceptions of police behavior, and levels of psychological distress among delinquent African American youth. Specifically, it is hypothesized that the salience of being black, as reflected by ethnic identity

exploration, will influence a youth's tendency to perceive unjust police behavior during direct contact experiences as a form of discrimination. This stressor will ultimately lead to negative psychological outcomes, or more specifically, higher levels of psychological distress.

The SIIT model was developed primarily from research on personal discrimination rather than on vicarious perceptions of discrimination against one's group. Therefore, the present study will also examine the relations between levels of psychological distress and views about how the police behave towards one's ethnic group. When unjust police behavior that is global or group-oriented rather than personal is considered, it is expected that both ethnic identity exploration and mental health status will influence these perceptions. Youth who spend more time thinking about race and who have higher levels of psychological distress will view the police more negatively. These associations are depicted in Figure 1.

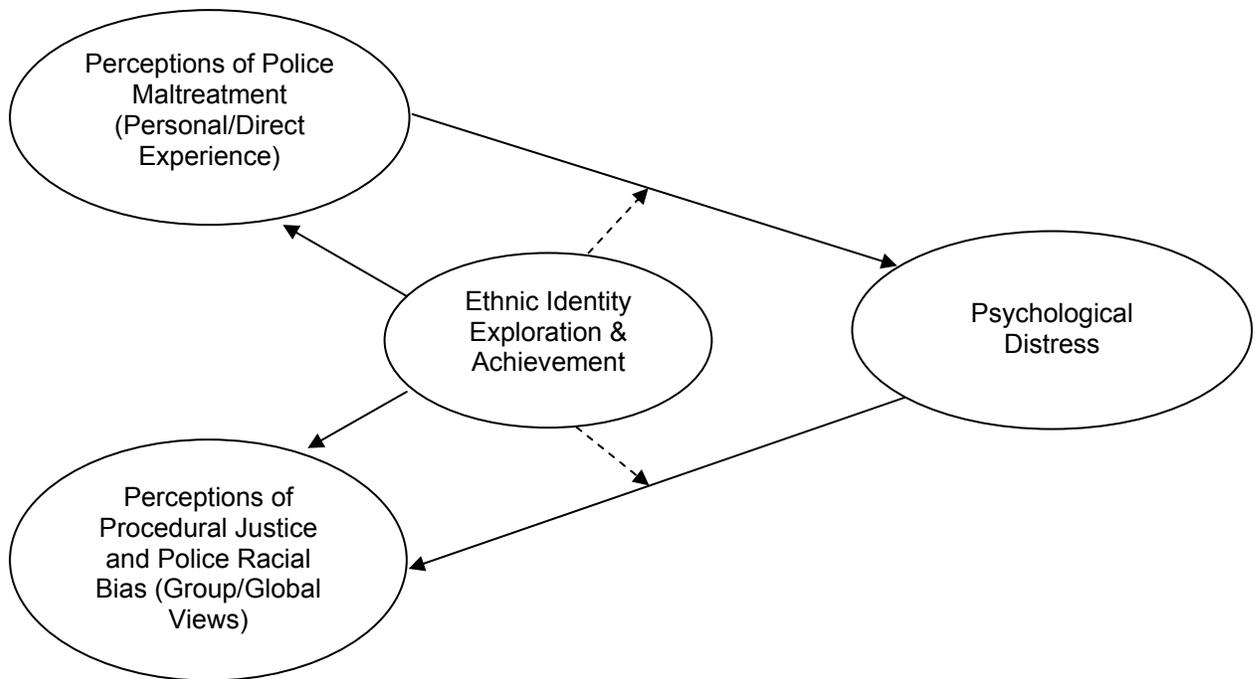


Figure 1. Conceptual Model of the Relations Between Perceptions of Police Behavior, Psychological Distress, and Ethnic Identity Exploration.

Note. Solid lines represent direct pathways; dotted lines represent moderation effects.

The Present Study

The present study was conducted to further our understanding of the correlates of and variations in perceptions of police treatment among African American adolescents who are serious juvenile offenders. Normative developmental processes, such as ethnic identity development, can play a role in youths' sensitivity to stigma, but whether this finding applies to black youth involved in the juvenile justice system has not been explored. Furthermore, although there is evidence for a robust association between perceptions of discrimination and negative psychological outcomes, there is a dearth of research that investigates a) the directional nature of these associations, and b) how associations vary based on perceptions of

personal versus group discrimination. These gaps in our current knowledge led to the development of the following questions about the nature of African American adolescent offenders' perceptions of the police:

1. Are dimensions of ethnic identity related to perceptions of global procedural justice, racially biased policing, and personal police maltreatment?
 - *Hypothesis 1:* Black youth who report higher levels of ethnic identity exploration/achievement will report lower levels of procedural justice and higher levels of racially biased policing in general. Similarly, perceptions of unjust police treatment during direct contact with the police will be higher among Black youth with higher levels of ethnic identity exploration.
 - *Hypothesis 2:* Levels of ethnic identity exploration/achievement will be a better predictor of perceptions of procedural justice and police behavior over time than the reverse.
 - *Hypothesis 3:* An increase in ethnic identity exploration over time will be associated with an increase in perceptions of racially biased policing and a decrease in perceptions of procedural justice. In direct contact experiences, youth whose ethnic identity exploration/achievement increases over time will report more negative perceptions of police treatment compared to their peers.
2. How do perceptions of police treatment relate to youths' levels of psychological distress over time?
 - *Hypothesis 4:* Higher levels of psychological distress will be associated with lower levels of procedural justice, higher levels of racially biased policing, and more negative direct contact experiences with the police.

- Hypothesis 5: For group/global perceptions of procedural justice and racially biased policing, levels of psychological distress will be a stronger predictor of these perceptions than the reverse relation; however, for direct contact experiences, negative police treatment will be a better predictor of psychological distress than the reverse.
 - Hypothesis 6: Increases in psychological distress over time will be associated with decreases in perceptions of procedural justice and increases in perceptions of racially biased policing. Likewise, increases in psychological distress will be related to more negative perceptions of police treatment based on direct contact.
3. Do dimensions of ethnic identity differentially moderate the association between perceptions of police treatment and levels of psychological distress?
- Hypothesis 7: Higher levels of ethnic identity affirmation/belonging will weaken the associations between psychological distress perceptions of the police in all three domains (procedural justice, racially biased policing, and direct contact experiences).
 - Hypothesis 8: Higher levels of ethnic identity exploration/achievement will strengthen the associations between psychological distress and perceptions of police treatment.

CHAPTER 2

METHODS

The data in these analyses are from the *Pathways to Desistance* project, an on-going longitudinal study of juvenile offenders in two major cities that was designed to examine persistence in and desistance from criminal activity over time (see Schubert, Mulvey, Steinberg, Cauffman, Losoya & Hecker, et al., 2004 for a full description of the study). A total of 1,354 adjudicated youth ages 14 to 18 were recruited from the juvenile and adult court systems in Philadelphia and Phoenix; the present analyses only use data from the African American youth in the sample from the Philadelphia site (N= 501). Enrollment began in 2000, and the study is still ongoing. For the first three years of the study, in-person interviews were conducted at six-month intervals (e.g. baseline, 6 months, 12 months, 18 months, etc.) and then annually thereafter (e.g., 48 months, 60 months, etc.). The present study uses data from the baseline interviews through the 48-month collection point. Due to the shift from semi-annual to annual data collection after 36-months, most analyses were conducted using data collected every twelve months, reflecting five time points (baseline, and 12, 24, 36, and 48-month interviews).

Sample Selection and Recruitment

Youth eligible for the study were those who had been adjudicated delinquent or found guilty of a serious offense, and eligible crimes for enrollment into the study were overwhelmingly felony offenses with a small proportion of misdemeanor weapons and sexual assault offenses. Due to the high number of male offenders with drug law violations, the proportion of male juveniles in the sample whose enrolling charge was a drug offense was limited to 15% to in order to maintain a heterogeneous sample of offenders; however, all

females meeting eligibility criteria were enrolled in the study regardless of their offense (many of the participants whose enrolling charge was a drug offense had prior adjudications for non-drug offenses, and vice-versa). The participation rate (the proportion of eligible youth who participated in the study) was 67%, whereas the refusal rate (the proportion of eligible youth who were located but who declined to participate) was 20%, both of which are comparable or better than participation and refusal rates reported in other studies of high-risk populations (the rates are different because the participation rate is based on the number of youth who were eligible, many of whom could not be located, whereas the refusal rate is based on the number of eligible youth who were contacted). To assess participation bias, the characteristics of those adjudicated of eligible charges who did versus did not enroll in the study were compared using data from official court records. Enrolled participants were somewhat younger at adjudication (15.9 years vs. 16.1 for non-participants), had more prior petitions (2.1 versus 1.5 for non-participants), were somewhat younger at first petition (13.9 years versus 14.2 for non-participants) and were somewhat more likely to be non-Hispanic Caucasian (25% versus 20% for non-participants).

Once the appropriate consents had been obtained from eligible youth and their parents or guardians, baseline interviews were conducted, either in facilities for confined juveniles, or in the juvenile's home or another community location agreed upon by the participant and the interviewer; all interviews were conducted by trained interviewers. The interview covered six domains: background characteristics, indicators of individual functioning, psychosocial development and attitudes, family context, personal relationships, and community context. The baseline interview was administered over two days in two, two-hour sessions. Interviewers and participants sat side-by-side facing a computer, and questions were read

aloud to avoid any problems caused by reading difficulties. Respondents could answer the questions out loud; for questions about sensitive topics, respondents had the option to enter their responses on a keypad out of the interviewer's range of vision. All attempts were made to maintain privacy during the interview. Participants were encouraged to reply honestly, and were reminded throughout the interview that their responses were confidential under legal restrictions imposed on the study investigators by the U.S. Department of Justice. All recruitment and assessment procedures were approved by the Institutional Review Boards of the participating universities, and adolescents were financially compensated for their participation (unless compensation was prohibited by facility rules).

Sample Characteristics

The average age of the 501 African American youth in the analytic sample was 16.10 years at baseline, and 88% of the sample was male. Information about the mother's level of education was available for the majority of youth (87%); most youth had mothers with at least some high school education (37.7%), or a high school diploma (37.1%). A smaller percentage of youth had mothers with a business or trade school degree (13.6%) or a college degree (3%). Less than one percent of youths' mothers had a post-collegiate degree, and 2% of youths' mothers only attended grade school.

Measures

Ethnic Identity

Items from the Multi-group Ethnic Identity Measure (MEIM) were used to measure participants' overall sense of ethnic identity (Phinney, 1992). The scale contains 12 items to which participants respond on a 4-point scale ranging from "Strongly Agree" to "Strongly Disagree," with higher scores indicating greater ethnic identification. Items from the measure

assess feelings of *Affirmation and Belonging* (e.g., “I am happy that I am a member of the group I belong to”), and *Identity Exploration and Achievement* (e.g., “I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs”). The two-factor model fit the data well (CFI = .943, RMSEA = .065). Based on earlier research demonstrating that the two subscales are differentially related to various outcomes, each subscale was analyzed separately.

Police Treatment

Procedural justice refers to the manner in which people are treated during their encounters with law enforcement. This measure was designed to assess several dimensions of fair treatment: correctability, ethicality, representativeness and consistency (Tyler and Huo, 2002) and was adapted from the approach taken by Tyler (1997). The subscales include direct experiences with procedural justice, others’ experiences with procedural justice (e.g. general discrimination), and police legitimacy, as well as other dimensions not addressed in the present study.

Perceptions of Procedural Justice

Youth responded to several items concerning their perception of fairness and equity connected with arrest and court processing. The mean of nineteen items was used to measure participants’ perceptions of police treatment, and overall reliability was good (Cronbach’s alpha = .74). Some of the items refer to encounters with the police that were experienced directly (e.g., “During my last encounter with the police...”), and/or vicariously (e.g. “Of the people you know who have had contact with the police...”) and subjects were asked to rate their level of agreement regarding expectations about treatment, how much they or other are allowed to tell their side of the story, and fairness of evidence. Five of the nineteen items

gauged participants' perceptions of how the police treat people in general based on different demographic factors (e.g., "Police treat people differently depending on their [gender, race or ethnicity, age, neighborhood]"); and two of the items assessed a youth's understanding of the finality of police decisions (e.g., "Even after the police make a decision about arresting me, there is nothing I can do to appeal it"). All items were measured on or converted to a five-point scale (strongly disagree to strongly agree), with higher scores indicating more positive perceptions of procedural justice.

Racially Impartial Policing

A single item from the procedural justice inventory was used to assess youths' perceptions of differential police treatment based on race or ethnicity. Youth were asked to indicate how much they agreed or disagreed with the statement, "Police treat people differently depending on their race or ethnic group" on a five-point scale ranging from "strongly agree" to "strongly disagree". Higher scores indicate a stronger perception that the police do not show differential treatment by race. Although this item does not allow youth to specify for which racial or ethnic group this treatment is positive or negative, previous studies using indicators of differential treatment by race have found a similar pattern of outcomes between differential treatment and mental health as studies using more explicit measures of racial/ethnic discrimination (Paradies, 2006). Moreover, given sociohistorical evidence to suggest an on-going tradition of perceived police harassment and discrimination among African Americans, there is reason to believe that the expected hypotheses will be supported despite the limitations of the measure.

Direct Contact with the Police

Participants responded to several items to assess their perception of fairness and equity connected with arrest and court processing. At the baseline interview, all participants were asked to rate their perceptions of police treatment during their most recent encounter with the police. However, at subsequent interviews, youth only screened into questions about direct contact with the police if they had an encounter during the period of time (six or twelve months) between interviews. The items in the direct contact scale address the youths' experiences with the police during the recall period, and one specific item, 'Think back to the last time the police accused you of doing something wrong. Did the police show concern for your rights?' was used to assess perceptions of police treatment during direct experiences. Response choices were rated on a 1-4 scale (Showed "a lot", "some", "a little", or "no" concern), and the item was reverse-coded so that higher scores indicated higher levels of police fairness regarding the subjects' rights.

Frequency of Police Contact

The number of times a youth screened into questions regarding direct contact with the police over the five interviews was summed to provide a total number of direct contact experiences (maximum of five). Thirty-four percent of youth only screened into these questions one time (at the baseline interview), 32% had two contacts, 21% had three police contacts, and 13% of youth screened into the direct contact questions four or five times.

Psychological Distress

The Brief Symptom Inventory (BSI; Derogatis & Melisara, 1983) is a 53-item self-report inventory in which participants rate the extent to which they have been bothered (0 = "not at all", 4 = "extremely") in the past week by various symptoms. There is evidence to

show that the BSI is an appropriate measure of general psychopathology and psychological distress (Boulet & Boss, 1991; Piersma, Boes, & Reaume, 1994; Hayes, 1997). Several subscale scores can be generated from the BSI, and the Global Severity Index (GSI), which is the mean of all subscale scores, has been shown to have high reliability ($\alpha = .95$; Derogatis & Melisara, 1983). Because there is mixed evidence regarding the validity of several BSI subscale scores when used independently, GSI scores were used in the proposed analyses¹. The data were positively skewed, so the mean score was log-transformed and the transformed variables were used in the analyses with higher scores indicative of greater psychological distress.

Covariates in Preliminary Analyses

Self-report of Offending

There is disagreement over whether criminal behavior is related to perceptions of the police. Leiber, Nalla and Farnworth (1998) found that delinquent subculture, as measured by self-reported delinquent behavior and endorsement of delinquent attitudes was a strong predictor of lack of respect for the police. In contrast, Fagan and Tyler (2005) reported that none of the variables related to deviance in their study—aggression, having deviant peers, low self-control or high impulsivity—predicted perceptions of police legitimacy. It is plausible that higher levels of offending are related to more contact with the police, which could lead to negative evaluations of police legitimacy. Given the target population in this study, individuals' reports of actual offending were included in the analyses to control for their possible effects on police perceptions.

The Self-Report of Offending (SRO; Huizinga, Esbensen, & Weiher, 1991) was adapted for this study to measure the adolescent's account of involvement in antisocial and

illegal activities. The SRO, as used here, was composed of 22 items which elicit subject involvement in different types of crime, including destroying property, stealing, selling drugs, carjacking, shooting, homicide, and physical assault. Subjects were asked to report on their participation in any of these behaviors and the frequency of occurrence during the six months prior to their interview and at every follow-up interview. Self-reported offending can be indicated by a variety score (number of different types of acts endorsed) or a frequency score (total number of unique acts committed); given that frequency and variety scores are highly correlated ($r > .90$) and that youth are unlikely to be 'specialized' criminals, the variety score was used as the covariate in the analyses and was averaged across all interview waves ($M = 0.11$, $SD = 0.09$).

Neighborhood Conditions

Several studies have shown that disorganized neighborhood conditions are related to a greater police presence, more frequent contact with the police, and negative attitudes towards the police (Sampson & Raudenbush, 1999). The Neighborhood Conditions Measure was adapted for this study to assess the environment surrounding the adolescent's home (Sampson & Raudenbush, 1999)². In the context of the interview, 'neighborhood' referred to the area around the address where the subject was living at the time, or had lived most recently in the case of confined juveniles. Items from the self-report measure tap perceived physical disorder of the neighborhood (e.g., "cigarettes on the street or in the gutters," "graffiti or tags"), as well as social disorder (e.g., "adults fighting or arguing loudly," "people drunk or passed out"). Twenty-one items were used, scored on a 4-point scale ranging from 'never' to 'often'; higher scores indicate a higher degree of community disorder. The mean

of the 21 items was used to generate the overall score, and overall scores were averaged across all interview waves ($M = 2.68$, $SD = 0.56$).

Proportion of Street Time

In order to account for opportunities that youth might have had for police contact, the proportion of time spent “on the street” (as opposed to in a secure facility) across interview waves was included as a covariate in the preliminary analyses ($M = 0.63$, $SD = 0.30$). In an additional supplemental analysis³, the proportion of time spent in a facility (e.g., 1 - proportion of street time) was used as a covariate.

CHAPTER 3

ANALYSES

Preliminary Analyses

Models that included the procedural justice and racially impartial policing variables were estimated using the full sample, as youth were asked these items during every interview. The GPOWER program (Faul & Erdfelder, 1992) was used to determine that with a sample of 501 participants, there was ample power (.95) to detect small-to-medium effect sizes ($d = .30$) at an alpha level of .05. However, perceptions of experiences based on *direct* contact with the police were only assessed if youth had police contact between interviews. Therefore, a sub-sample of youth with frequent police contact was identified, as follows. First, ordinal logistic regression was used to determine if variables related to police contact—frequency of offending behavior, neighborhood conditions, and proportion of time spent in the streets—predicted differences in the frequency of this contact from baseline through the 48-month interview. Age and gender were also entered into the regression model. Next, ANOVAs were conducted to compare youth on any significant variable by number of police contacts.

The results of the ordinal logistic regression showed that gender and self-reported offending behavior were the only significant predictors of police contact. A one-way ANOVA was then conducted to assess differences in offending behavior between youth who screened into the direct contact questions one, two, three, or four/five times. The ANOVA was significant ($F(3, 500) = 3.58, p < .05$), and post-hoc tests showed that youth who reported three or more contacts with the police had higher scores on the self-reported offending scale compared to youth with only one or two police contacts. Youth with one or

two contacts did not differ from each other. Thus, the 172 youth who screened into the police contact questions three or more times represented the sub-sample used in the estimation of models for police concern during direct contact. With the reduced sample, the power to detect smaller effects sizes ($d = .30$) was also reduced to .60; however, at an alpha level of .05, moderate effect sizes ($d = .50$) could be detected with an estimated power of .95 (Faul & Erdfelder, 1992). Generally, the literature on associations between ethnic identity, mental health and discrimination shows that effect sizes are relatively small. Thus, given that for both the full sample and the reduced sample there was limited power to detect small effect sizes ($d < .30$), a decision was made to report both statistically significant findings ($p < .05$) as well as trends towards significance ($p < .10$), with the understanding that models in the latter category should be interpreted with caution.

Primary Analyses

There were two major analytic issues underlying several of the hypotheses being proposed. One was the issue of direction; it is hypothesized that bidirectional relations between certain constructs exist, which requires an assessment of how measures of one construct predict the other construct, and vice-versa, over consecutive time points. The second issue regards change over time and requires an examination of how selected variables predict initial levels of and growth over time in other variables. Structural equation modeling (SEM) was used to address both issues in two different types of models; both types were estimated using Amos 6.0 software (Arbuckle, 2005). All SEM models were assessed for fit using criteria outlined by Curran and Hussong (2002) and others. This includes the root mean squared error of approximation (RMSEA), where values below .05 to .08 indicate better model fit, and the comparative fit index (CFI), where values of .90 to .95 are

acceptable, and values above .95 are good. The Chi-square statistic was also used, where smaller values and p-values greater than .05 indicate better fit; however, models with an adequate RMSEA and CFI were retained even if the Chi-square statistic had a p-value less than .05. Additionally, given the limits imposed by sample size, models that provided a marginal fit to the data (e.g., RMSEA .09 to .10 and CFI > .90 to .94) without meeting the ‘best fit’ criteria were considered meaningful.

Estimation of Autoregressive Cross-lagged Models

A common approach to assessing the relations between two constructs that are measured repeatedly over time is the use of an autoregressive cross-lagged panel model (ARCL; Bollen & Curran, 2004; Curran & Bollen, 1999, 2001; Curran & Hussong, 2002; Taris, 2000). When only one variable is being examined (e.g., a ‘univariate’ autoregressive model), the measure at each time point is regressed onto the same measure at the previous time point. When two variables are included simultaneously, (e.g., a ‘bivariate’ model), in addition to the autoregressive parameters within the same construct, cross-lags are introduced that ‘represent the longitudinal predictions of one construct from the other above and beyond the autoregressive prediction of that construct from itself’ (Curran & Bollen, 2001, pp. 113). The estimation of bivariate ARCL models proceeded in a series of incremental steps, each of which is described below, beginning with the test of equal means (Curran, 2000; Curran & Bollen, 1998; Curran & Bollen, 2001).

Equality of Means over Time

A preliminary examination of the means at each time point can provide insight into whether there is any average change over time, and Curran and Bollen (2001) recommend using an SEM approach to formally test the equality of means. Time-specific means were

calculated for each construct, and examination of the values of the means provided a rough sense of whether they were stable or changing. In order to determine if the means were significantly different from one another or if the means were equal at every time point, mean difference models were estimated using SEM. Using SEM instead of alternative methods to test for mean differences is advantageous in that the model serves as a precursor for estimation of the simplex and latent curve models, as discussed below (Curran & Bollen, 2001).

The first step involved estimating a model of the time-specific means in which the variances of each mean and the covariances between each mean were allowed to vary, as were the means themselves (Figure 2). This always resulted in a just-identified model with a chi-square of zero. Next, the means were constrained to be equal (Figure 3), and model fit measures (chi-square, CFI, and RMSEA) were examined. The null hypothesis for this second model is that the means at each time point are equal; poor-fitting models allow for the rejection of the null hypothesis, which means that the time-specific means are not equal.

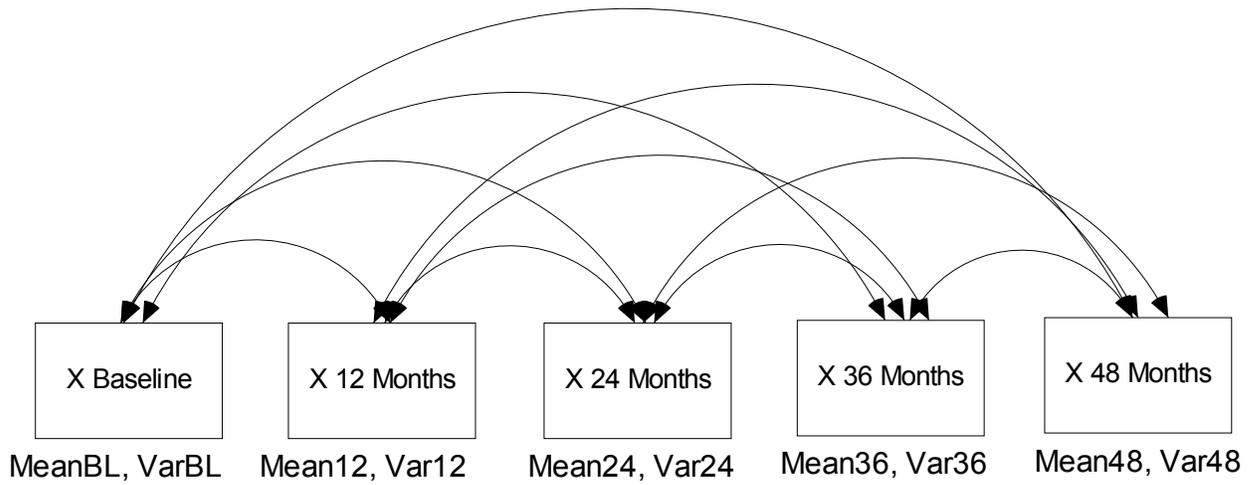


Figure 2. Equality of Means Test with Freely Estimated Means

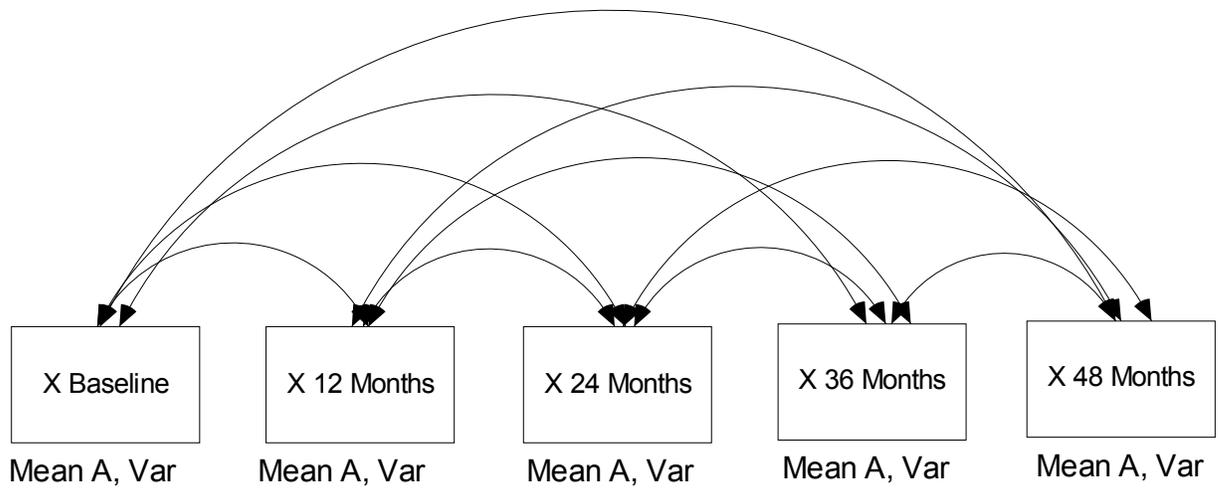


Figure 3. Equality of Means Test with All Means Constrained to be Equal

The Simplex Model with Means

The next step in the model-building process required the estimation of univariate simplex models for the repeated measures of each construct. This model provides information about the observed means and covariances of each construct when one time-specific variable is regressed on the time-specific variable from one year earlier (e.g., an observation at 12 months regressed onto the observation at baseline). Specifically, change is estimated as a series of time-specific comparisons in which individuals are compared to the group mean; thus change in how an individual compares to a group mean at one time point is modeled as a function of where the individual stood relative to the mean at an earlier time point (Curran & Bollen, 1999; Curran, 2000). At each step, model fit statistics were examined to determine the best-fitting model for the data.

A sample univariate simplex model is shown in figure 4; these models were always estimated in a series of steps. First, the models were estimated with no constraints; next, equality constraints were imposed beginning with the autoregressive weights, then the error variances, and finally the intercepts.

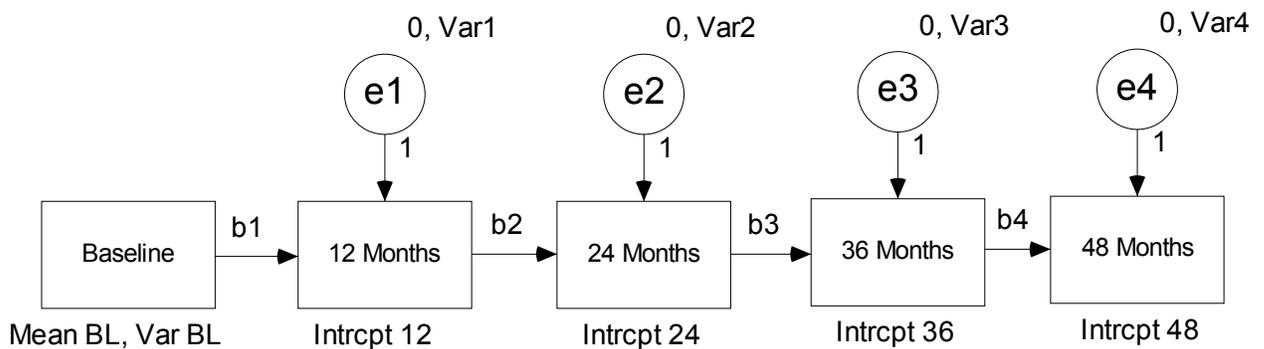


Figure 4. Univariate Simplex Model

Bivariate ARCL Models

The steps of model estimation described above allowed an examination of patterns of stability and change over time for each construct; however, given that most of the hypotheses for this study ask about relations *between* constructs and changes in relations over time, the univariate models were not adequate. Thus, the next series of analyses required the estimation of *bivariate* models that included two constructs. This process involved combining the simplex models for two variables with the addition of parameters that predicted across constructs and time points; these are the ‘cross-lag’ parameters.

As with the simplex models, bivariate ARCL models were estimated in a series of steps. First, the models were estimated with no constraints; next, equality constraints were imposed beginning with the autoregressive weights, followed by the error covariances, and then the intercepts. Finally, the cross-lags between variables A and B at adjacent time-points were constrained to be equal to one another, as were the cross-lags between variables B and A. The questions underlying this type of analyses ask whether variable A is a stronger predictor of variable B, or vice-versa. As the results will show, in most cases the direction of prediction was clear because only one set of lags was significant. However, in the few cases in which both sets of lags were significant, alternative causal models for each variable were estimated by allowing one set of cross-lags (either ‘a’ or ‘b’) to be estimated while the other set of cross-lags was fixed at zero (Schlueter, Davidov & Schmidt, 2007). Model fit statistics were compared to determine whether eliminating one set of lags (i.e., by fixing it at zero) made a significant difference.

Latent Growth Curve Models

ARCL models only examine the relations across constructs at the level of repeated measures over time. Estimating the simplex and bivariate autoregressive models provides some information about time-specific changes relative to the group; however, they do not allow examination of how individuals change over time (Curran, 2000). Thus, the next step in the analyses was to build latent curve models for each construct, using repeated measures to estimate underlying growth trajectories for each individual. In latent growth curves (LGC), the mean and variance for both the initial status (intercept) and trajectory of change (slope) are estimated, and these parameters are considered to be latent factors that underlie the actual measured construct. The final multivariate growth model allows for the relations between changes in each construct over time to be modeled at the level of growth trajectories instead of repeated measures over time as in the ARCL model. There were several steps involved in the estimation of the final model, beginning with an examination of the univariate latent curves for each construct.

Univariate Growth Curves

The estimation of univariate latent growth models proceeded in series of steps (Curran & Bollen, 1999; 2001), beginning with a one-factor (intercept-only) model (Figure 5), followed by a two-factor model (intercept and slope; Figure 6). A decision was made to include quadratic terms in the model estimation after examining the mean structure for each construct; in many cases, the means appeared to increase or decrease up to a certain time point, and then change direction, indicating deceleration in the change over time. So in the third step, a three-factor model (intercept, slope, and quadratic term; see Figure 7) was estimated to determine if the rate of linear change slowed down or sped up over time. At

every step, the significance of the latent factors, variance in latent factors, and model fit statistics were used to determine the best-fitting models for the data.

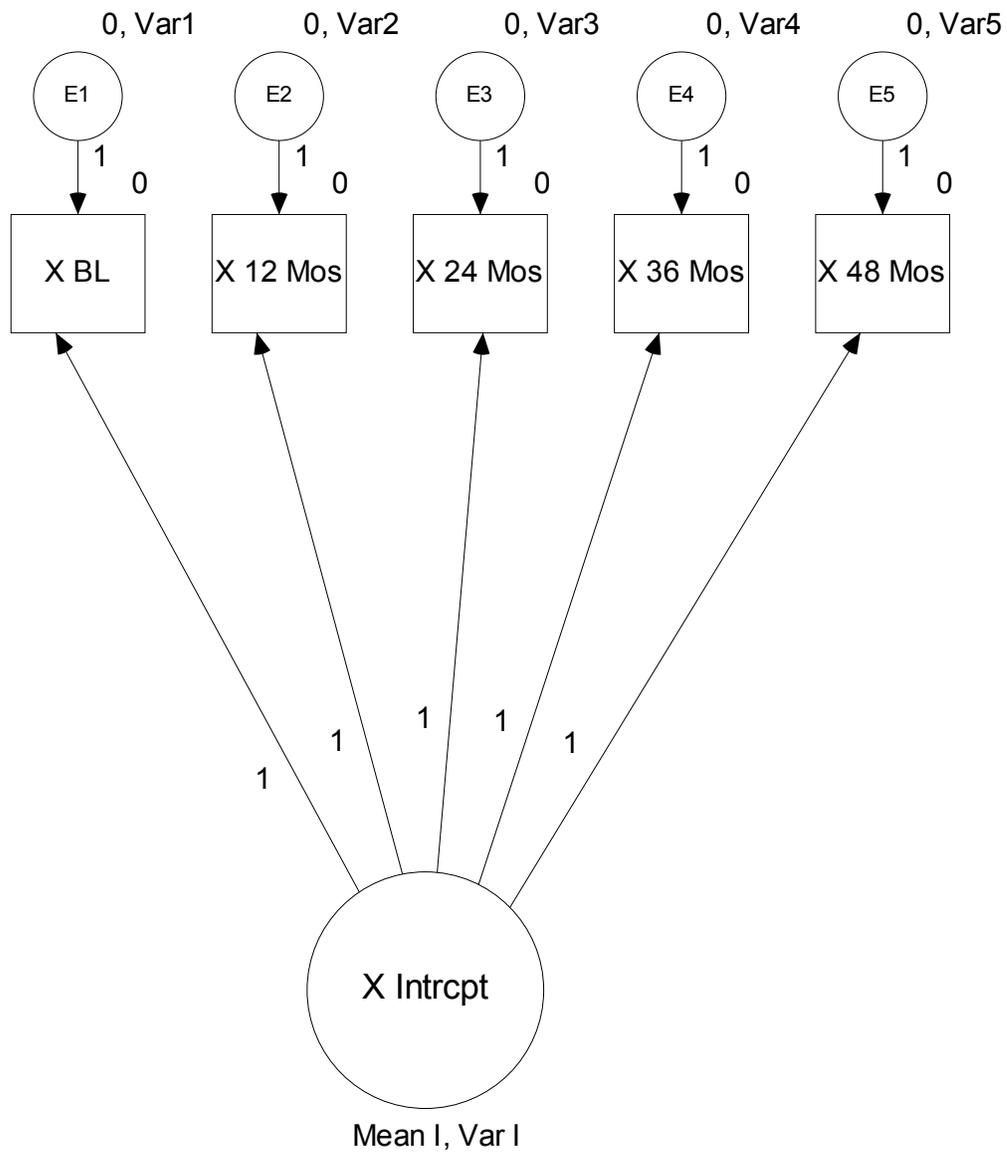


Figure 5. Univariate Growth Curve: Intercept Only

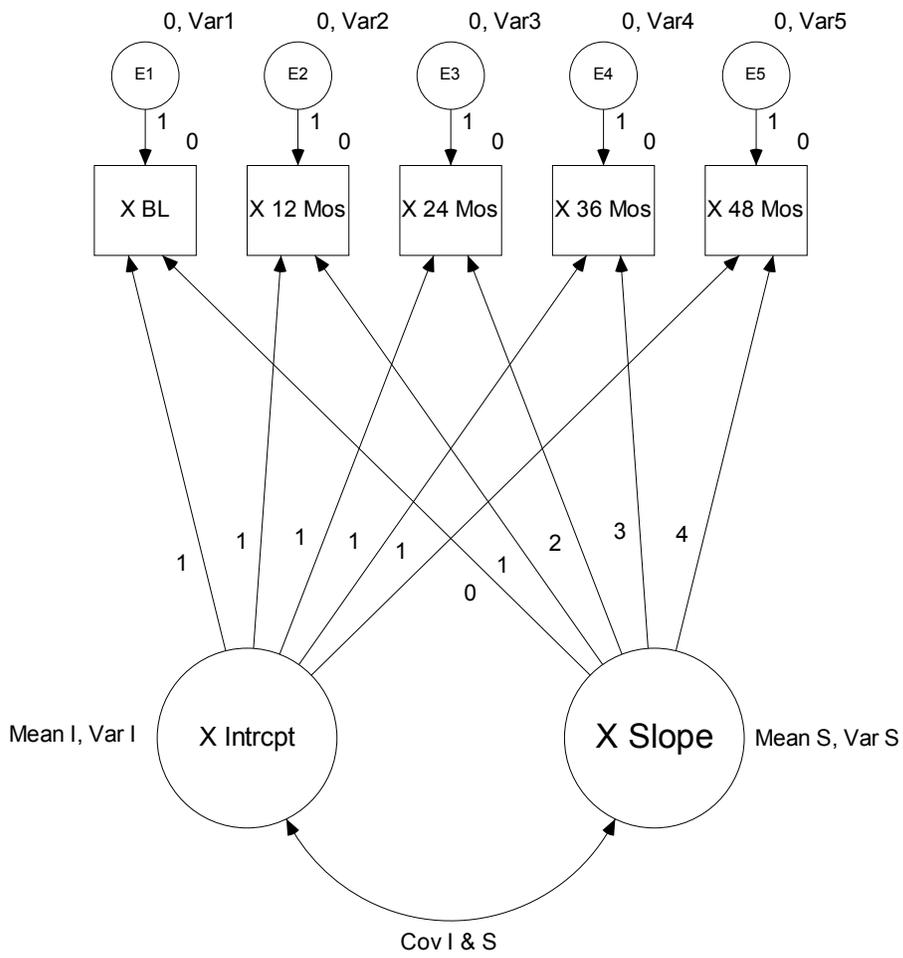


Figure 6. Univariate Growth Curve: Intercept and Slope

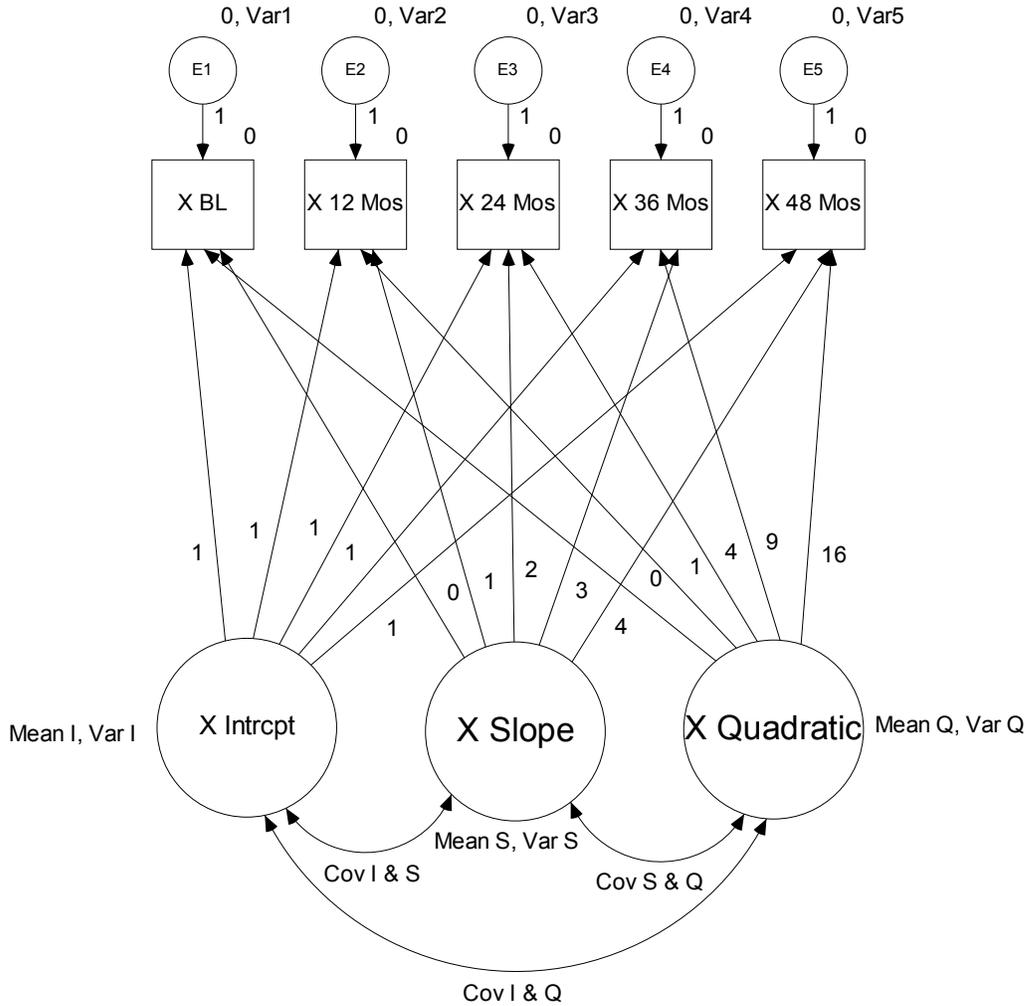


Figure 7. Univariate Growth Curve: Quadratic

Bivariate Growth Curves

After examining trajectories of change in individual (univariate) models, bivariate growth curve models were estimated to determine whether the underlying trajectory of change over time within each construct influenced the growth trajectory of the other construct. In the first step, for each of the two variables the best fitting univariate curve from

the earlier analyses were combined. The covariances between each latent growth parameter—both within a construct and between constructs—were added to the model, and error terms were allowed to covary across constructs within the same time point. Of primary interest in these analyses was the covariance between latent growth parameters (e.g., intercept and slope coefficients) across constructs, and in cases where the covariance between error terms was not significantly different from zero, the error covariance terms were removed. Although covariance terms were estimated for quadratic terms, interpretation of these covariances across constructs was not especially meaningful and thus they are not discussed below. Model fit was determined using the same set of criteria as earlier analyses (e.g. RMSEA, CFI, and chi square statistics).

Combined Autoregressive Latent Trajectory Models

Although the multivariate latent trajectory model with time-specific correlations allowed conclusions to be drawn about how the underlying growth curves of each construct affect the other, this model also has its limitations. The most important limitation identified by Curran and Bollen (1999, 2001) that is relevant to the current study is that “no inferences can be made about earlier time-specific levels of one construct predicting later time-specific levels of the other construct” (Curran & Bollen, 1999, p. 6). To address this limitation, the ARCL and LGC models were combined, which provided valuable information about how constructs were related in a way that capitalized on the benefits of each approach (Bollen & Curran, 2004; Curran & Bollen, 1999, 2001).

The combined autoregressive latent trajectory models were different from the full multivariate model because they included the cross-lags that regress the outcome of one variable (z) on the previous time point of the other variable (y). Curran and Bollen (2001)

describe this model as such: “a given measure of y is an additive combination of the continuous growth process underlying y , the weighted influence of the preceding measure of y , the weighted influence of the preceding measure of z , and a time-specific random disturbance” (pp. 119-120). Thus, after examining patterns of covariance between the latent parameters of each variable in the bivariate growth curve models, cross lags were introduced to provide an idea about how individuals change relative to the group mean at adjacent time points while accounting for the underlying individual trajectories of change described by the latent growth factors (and vice versa). Following the steps in constructing bivariate ARCL models, the models were first estimated with lags that were allowed to vary freely, and then with the lags constrained to be equal, and model fit was compared.

Researchers have found that among young people, older youth tend to have more negative perceptions of the police (Brown & Benedict, 2002). Additionally, given that ethnic identity is a developmental construct that is thought to change over time, age related differences in the sample were expected. There is mixed evidence regarding gender differences in experiences with the police, with some researchers finding that girls report more positive perceptions of the police than boys, but others reporting no gender differences (Brown & Benedict, 2002). It is well-established that girls score higher on measures of depressive symptomatology and anxiety than boys, particularly in adolescence (Graber, 2004). Given the relevant research, as a final step in the analyses, conditional models were estimated using age and gender as predictors of the latent intercept and slope parameters. The number of police contacts were also entered as a covariate in the conditional analyses.

Moderating Effects of Ethnic Identity

To test the hypothesis that dimensions of ethnic identity would moderate the associations between psychological distress and policing variables in the ARCL and conditional bivariate growth models, the sample was split into “low” and “high” groups for both ethnic identity affirmation/belonging and ethnic identity exploration using a mean-split for each dimension. Multiple-group structural equation models were first estimated with no constraints (e.g., with parameters estimated separately for each group; Singer & Willett, 2003); next, the coefficients were constrained to be equal across the low and high ethnic identity subgroups. Chi square tests for each model were compared, with a significant difference in chi square between the unconstrained and constrained models indicating a moderation effect.

Follow-Up Analyses

Follow-up analyses were conducted to assess whether longitudinal models using time rather than age were appropriate. These analyses are reported in Appendix A.

CHAPTER 4

RESULTS

Global Views of Policing Among the Full Sample of African American Youth

Autoregressive Crosslagged Models

Univariate Simplex Models

Equality of means. The means for each variable from the baseline interview through 48-months are summarized in Table 1. For all but one variable, the means were not found to be equal at each time point; the one exception was racially impartial policing, where the model with equal means fit the data well ($\chi^2_{(4, 501)} = 4.06$, $p = .398$; CFI = 1.00, RMSEA = .01, CI = .00, .07). Thus, it was concluded that mean perceptions of differential police treatment by race/ethnicity were stable over time.

Table 1. Descriptive Statistics for Key Variables

Variable	<i>M</i>	<i>SD</i>	<i>Range</i>	Variable	<i>M</i>	<i>SD</i>	<i>Range</i>
Psychological Distress (DIS)				Procedural Justice (PJ)			
DIS at Baseline	-0.54	0.02	-1.54-0.43	PJ at Baseline	2.71	0.02	1.39-4.15
DIS at 12 mos	-0.88	0.03	-2.00-0.49	PJ at 12 mos	2.84	0.03	1.04-5.00
DIS at 24 mos	-1.09	0.03	-2.00-0.29	PJ at 24 mos	2.87	0.03	1.39-4.67
DIS at 36 mos	-1.11	0.03	-2.00-0.48	PJ at 36 mos	2.84	0.03	1.00-5.00
DIS at 48 mos	-1.04	0.03	-2.00-0.42	PJ at 48 mos	2.85	0.03	1.46-4.64
Ethnic Identity Exploration/Achievement (EIEA)				Racially Impartial Policing (RIP)			
EIEA at Baseline	2.52	0.02	1.00-4.00	RIP at Baseline	2.77	0.05	1.00-5.00
EIEA at 12 mos	2.48	0.03	1.00-4.00	RIP at 12 mos	2.88	0.05	1.00-5.00
EIEA at 24 mos	2.46	0.03	1.00-4.00	RIP at 24 mos	2.84	0.05	1.00-5.00
EIEA at 36 mos	2.41	0.02	1.00-4.00	RIP at 36 mos	2.84	0.05	1.00-5.00
EIEA at 48 mos	2.35	0.02	1.00-4.00	RIP at 48 mos	2.82	0.05	1.00-5.00

Note. DIS = Psychological distress; EIEA = Ethnic identity exploration/achievement; PJ = Procedural justice; RIP = Racially impartial policing

p* < .05; *p* < .01; ****p* < .001

The simplex model with means. Univariate simplex models were estimated for each variable by using the steps described above. In every case, the simplex autoregressive model did not provide a good fit for the data, even for the racially impartial policing variable, which was found to have equal means over time in the previous analysis. Poor-fitting simplex models indicate that this type of model does not adequately reflect changes in mean and covariance structure over time for individual variables, which implies that additional variables are needed to predict time-adjacent changes within each construct.

Bivariate ARCL Models

Psychological Distress and Policing Variables. The best fitting ARCL model predicting over-time relations between procedural justice and psychological distress (as reflected in changes in individual standing compared to the group) provided only a marginal fit ($\chi^2_{(36, 501)} = 165.32, p < .001; CFI = .85; RMSEA = .085, CI = .072-.098$). In this model, the cross-lags were allowed to vary, and no other constraints were imposed (Figure 8). Two of the cross-lags were significant: psychological distress at baseline predicted procedural justice at 12 months such that lower levels of psychological distress were associated with more positive perceptions of procedural justice. Additionally, more positive perceptions of justice at 12 months predicted lower levels of distress one year later. One final lag showed a trend toward significance with this same pattern (PJ 36 → DIS 48, $b = -.06, SE = .03, p = .086$).

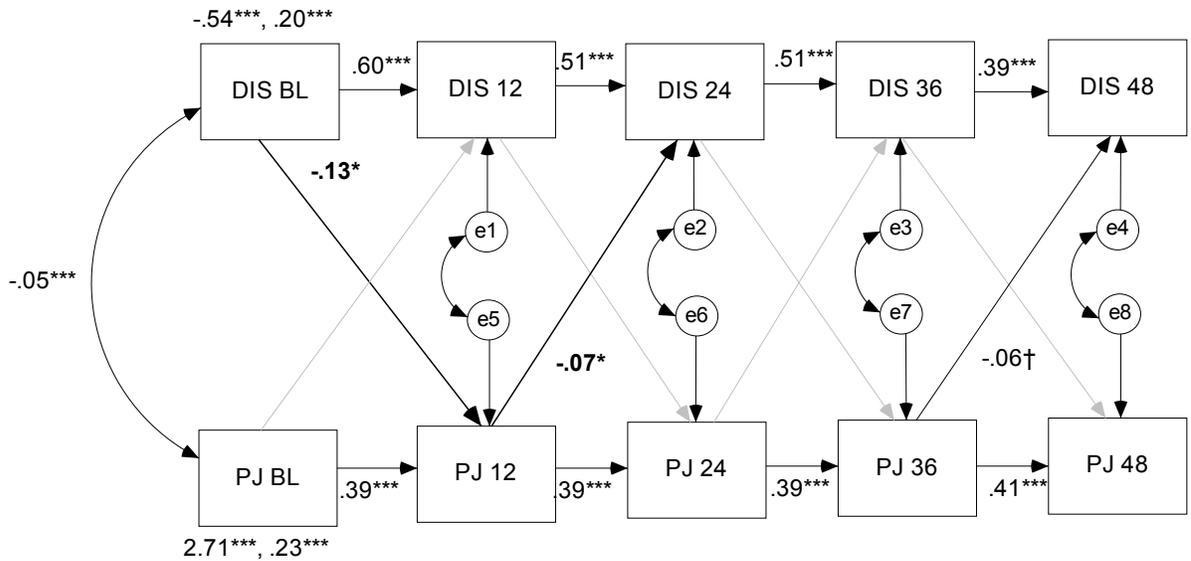


Figure 8. ARCL Model for Psychological Distress and Procedural Justice

Note. DIS = Psychological distress; PJ = Procedural justice; significant pathways are shown in black

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

When psychological distress and perceptions of racially impartial police behavior were entered into ARCL model, the best fitting model was one in which the lags from distress to racial bias were constrained to be equal, and the lags from racial bias to distress were constrained to be equal (Figure 9). Additionally, there was no significant covariance in the error terms across constructs within the same time-point, so these covariance terms were not included. Examination of the cross-lags showed that psychological distress predicted perceptions of racially impartial policing at the next time point, but the cross-lags from the policing variable to distress were not significant. As in the preceding model, lower levels of distress were related to more positive perceptions of police behavior; in other words, youth who scored lower on the BSI perceived the police as treating people from different

racial/ethnic backgrounds more equally than did youth who reported higher levels of distress. However, model fit statistics were marginal ($\chi^2_{(34, 501)} = 178.83, p < .001$; CFI = .83; RMSEA = .092, CI = .079, .106), indicating that the autoregressive model did not adequately describe the relation between these two constructs over time.

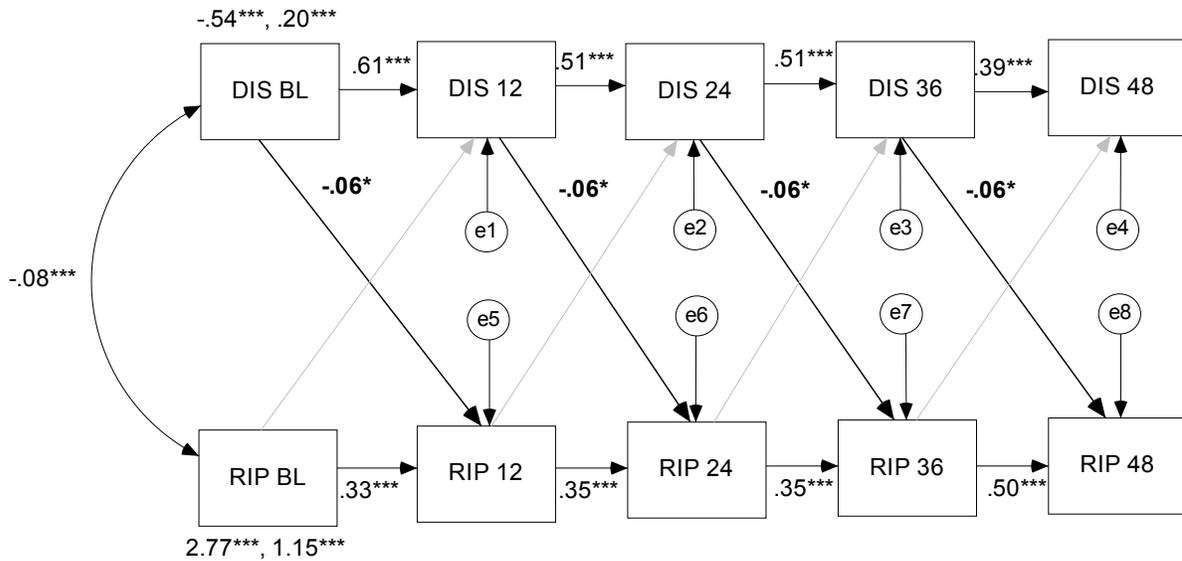


Figure 9. ARCL Model for Psychological Distress and Racially Impartial Policing

Note. DIS = Psychological distress; RIP = Racially impartial policing

* $p < .05$; ** $p < .01$; *** $p < .001$

Moderating effects of ethnic identity. The sample was next divided into youth who had low and high levels of ethnic identity exploration based on the mean and the ARCL models for psychological distress and both policing variables were re-estimated. The change in chi-square values for the model in which parameters were estimated freely and the model in which parameters were constrained to be equal across the two groups was not significant, indicating that ethnic identity exploration did not moderate the association between

psychological distress and either policing variable. Similarly, when the sample was divided among youth with low and high scores on the ethnic identity affirmation/belonging variable, no moderating effects were indicated.

Ethnic identity and policing variables. Construction of the ARCL models between ethnic identity exploration and each indicator of police treatment (procedural justice and racially impartial policing) proceeded as described above. In both cases, the final models included lags that were allowed to vary; however, none of the cross-lags were significant. Additionally neither the ARCL model for procedural justice ($\chi^2_{(28, 501)} = 158.68, p < .001$; CFI = .78; RMSEA = .097, CI = .082, .112) nor the model for racially impartial policing ($\chi^2_{(28, 501)} = 188.18, p < .001$; CFI = .75; RMSEA = .107, CI = .093, .122) fit the data very well. This implied that on its own, the ARCL model did not appropriately assess the relations between ethnic identity exploration and perceptions of police behavior.

Univariate Latent Growth Curves

Psychological Distress

The best-fitting univariate latent growth models for each construct are described in Table 2. For psychological distress, a quadratic model fit the data best. The intercept indicated that the average levels of distress among youth were significantly different from zero at baseline, and variation between individuals in baseline levels of distress was also significant. The slope factor indicated that levels of distress decreased over time, and individual variation in this rate of change over time was also significant. Finally, there was a slight acceleration in the decline in symptoms over time, as evidenced by the significant quadratic parameter, which also varied across individuals. There was significant covariance between the slope and quadratic terms, meaning that youth with a larger increase in

symptoms over time (as indexed by the slope term) evinced a slower rate of deceleration in these symptoms (as indexed by the quadratic term) compared to their peers.

Procedural Justice

Perceptions of procedural justice were hypothesized to be stable over time, and the best fitting latent curve was expected to include only an intercept term. However, similar to the psychological distress growth curve, a quadratic model was found to best fit the procedural justice data. The intercept and variance between individuals at baseline were both significant, indicating that average perceptions were significantly different from zero at the initial interview and differed among youth. Unlike the pattern of change in psychological distress, perceptions of procedural justice actually *increased* over time, as indicated by a significant positive slope factor. This means that youth view the police more favorably over time. Furthermore, the significant and negative quadratic term indicated that the rate of increase in these perceptions of procedural justice decelerated over time, but this deceleration did not vary across individuals. Finally, there was no significant covariance between any of the latent parameters.

Racially Impartial Policing

Although the mean structure analyses indicated that levels of racially impartial policing were stable over time at the group level, the latent growth model provided a slightly different picture of individual change. In the best-fitting model, average perceptions of racially impartial policing at the beginning of the study (e.g. intercept) were significantly different from zero, and these perceptions varied across individuals. The slope factor was not significant, meaning that on average, perceptions of this dimension of police behavior did not change over time; however, there was significant variance in the slope, indicating that

between individual youth, there were some differences in the pattern of change in perceptions over time.

Ethnic Identity

With regard to ethnic identity exploration and achievement, baseline levels were significantly different from zero on average, and varied across individuals. In terms of slope, there was an average *decrease* in levels of ethnic identity exploration over time, which also varied significantly between individual youth. This two-factor growth curve model with intercept and slope was found to have the best fit for the estimation of change in ethnic identity exploration over time. The addition of a quadratic term did not improve model fit by much; moreover, when a quadratic term was included, neither this term nor the slope term (or the variance for either parameter) was significant.

Table 2. Univariate Growth Curves: Parameters and Model Fit Indices

	Intercept (SE)	Variance of Intercept	Slope (SE)	Variance of Slope	Quadratic term (SE)	Variance of quadratic term	Model fit index
Psychological distress	-0.54*** (.03)	0.10***	-0.41*** (.03)	0.18***	0.07*** (.01)	0.01***	$\chi^2 = 7.67, df = 6, p = .263$ CFI = 0.996 RMSEA = .024 (CI = .000, .066)
Procedural justice	2.72*** (.02)	0.10***	0.11*** (.02)	0.03	-0.02*** (.005)	0.00	$\chi^2 = 14.26, df = 6, p = .027$ CFI = 0.977 RMSEA = .052 (CI = .017, .088)
Racially impartial policing	2.82*** (.04)	0.42***	0.00 (.01)	0.03***			$\chi^2 = 10.95, df = 10, p = .362$ CFI = .998 RMSEA = .014 (CI = .000; .052)
Ethnic identity exploration/ achievement	2.54*** (.02)	0.08***	-0.04*** (.01)	0.01***			$\chi^2 = 5.87, df = 10, p = .826$ CFI = 1.00 RMSEA = .000 (CI = .000, .029)

Note. CFI = comparative fit index; RMSEA = root mean square error of approximation; CI = 90% confidence interval

*p < .05; **p < .01; ***p < .001

Bivariate Growth Curves

Psychological Distress and Procedural Justice

The bivariate growth curve for psychological distress and procedural justice included intercept, slope, and quadratic terms for both variables, which resulted in a total of 15 covariance terms for latent growth factors. The magnitude and significance of the growth parameters and the covariance of these parameters within each construct remained the same in the bivariate model as they were in the univariate model for that construct. More importantly, several growth terms across constructs were significantly related to one another (Table 3). Youth with higher average levels of distress had lower average scores on the procedural justice scale (e.g., views of justice were more negative), and youth with higher average procedural justice ratings had changes in distress over time that were steeper compared to youth who rated the police less favorably at baseline. There was a trend toward significance in the covariance term between the slope parameters for psychological distress and procedural justice, indicating that youth with a slower decline in distress had a larger incline in negative perceptions of justice. The final model fit the data quite well ($\chi^2_{(27, 501)} = 32.19, p = .225$; CFI = .994; RMSEA = .020, CI = .000, .042).

Table 3. Parameter Estimates, Standard Errors, and Critical Ratios for Psychological Distress and Procedural Justice Bivariate Growth Model

	Estimate	Std. error	Critical Ratio
Factor Means			
DIS Intercept	-0.54***	0.02	-26.42
DIS Slope	-0.41***	0.03	-14.48
DIS Quadratic	0.07***	0.01	10.02
PJ Intercept	2.72***	0.02	128.69
PJ Slope	0.11***	0.02	5.16
PJ Quadratic	-0.02***	0.01	-3.97
Factor Variances			
DIS Intercept	0.14***	0.03	4.63
DIS Slope	0.18***	0.03	5.14
DIS Quadratic	0.01***	0.00	4.47
PJ Intercept	0.10***	0.03	3.64
PJ Slope	0.03	0.02	1.32
PJ Quadratic	0.00	0.00	1.20
Factor Covariances			
DIS Intercept ↔ PJ Slope	0.00	0.01	0.11
PJ Intercept ↔ DIS Slope	0.03*	0.01	1.97
DIS Intercept ↔ PJ Intercept	-0.04***	0.01	-3.58
DIS Slope ↔ PJ Slope	-0.03 [†]	0.01	1.64

Note. DIS = psychological distress; PJ = procedural justice

[†]p < .10; *p < .05; **p < .01; ***p < .001

Psychological Distress and Racially Impartial Policing

As with the procedural justice variable, there was significant, negative covariance between the intercept parameters for psychological distress and perceptions of police racial bias; in other words, youth with higher levels of distress had more negative views of police treatment across racial/ethnic groups. The intercept coefficient for perceptions of racially impartial policing did not covary significantly with the slope parameter for psychological distress, indicating that individual differences in average levels of perceptions about police bias against racial/ethnic groups were not significantly related to changes in distress over time. Overall model fit was good ($\chi^2_{(35, 501)} = 35.70, p = .435$; CFI = .999; RMSEA = .006, CI = .000, .033).

Table 4. Parameter Estimates, Standard Errors, and Critical Ratios for Psychological Distress and Racially Impartial Policing Bivariate Growth Model

	Estimate	Std. error	Critical Ratio
Factor Means			
DIS Intercept	-0.54***	0.02	-26.39
DIS Slope	-0.41***	0.03	-14.52
DIS Quadratic	0.07***	0.01	10.03
RIP Intercept	2.82***	0.04	67.73
RIP Slope	0.00	0.01	.81
Factor Variances			
DIS Intercept	0.15***	0.03	4.67
DIS Slope	0.18***	0.03	5.13
DIS Quadratic	0.01***	0.00	4.43
RIP Intercept	0.42***	0.06	6.82
RIP Slope	0.03*	0.01	4.34
Factor Covariances			
DIS Intercept ↔ RIP Slope	0.01	0.01	1.76
RIP Intercept ↔ DIS Slope	0.04	0.02	1.48
DIS Intercept ↔ RIP Intercept	-0.08***	0.02	-4.17
DIS Slope ↔ RIP Slope	-0.01	0.01	-1.21

Note. DIS = psychological distress; RIP = racially impartial policing

*p < .05; **p < .01; ***p < .001

Ethnic Identity Exploration/Achievement

There was no significant covariance between the latent parameters for ethnic identity exploration and those for procedural justice, indicating that for individual youth, average levels of and changes in these parameters over time were not related. The parameters for each construct from the univariate model remained significant in the bivariate model, and the model provided a good fit to the data ($\chi^2_{(30, 501)} = 33.65, p = .295$; CFI = .994; RMSEA = .016, CI = .000, .038).

In the bivariate growth model of ethnic identity exploration and perceptions of racially impartial policing, covariance between the intercepts for each construct approached significant (COV = -.03, SE = .02, $p = .059$). Youth who reported higher average levels of ethnic identity exploration compared to their peers had perceptions of police bias that were relatively more negative. Additionally, the intercept for ethnic identity exploration covaried significantly with the slope of the racially impartial policing variable. Higher levels of exploration were related to larger positive changes in perceptions of police bias over time. Finally, examination of the covariance between the slope factors showed that increases in ethnic identity exploration over time were related to decreases in perceptions of racially impartial policing. Overall, the model provided a good fit to the data ($\chi^2_{(41, 501)} = 41.05, p = .468$; CFI = 1.00; RMSEA = .002, CI = .000, .031).

Table 5. Parameter Estimates, Standard Errors, and Critical Ratios for Ethnic Identity Exploration and Racially Impartial Policing Bivariate Growth Model

	Estimate	Std. error	Critical Ratio
Factor Means			
EIEA Intercept	2.52***	0.02	136.98
EIEA Slope	-0.04***	0.01	-6.33
RIP Intercept	2.82***	0.04	67.79
RIP Slope	0.00	0.01	.22
Factor Variances			
EIEA Intercept	0.08***	0.01	5.62
EIEA Slope	0.01***	0.00	3.89
RIP Intercept	0.42***	0.06	6.83
RIP Slope	0.03***	0.01	4.39
Factor Covariances			
EIEA Intercept ↔ RIP Slope	0.01*	0.01	2.41
RIP Intercept ↔ EIEA Slope	0.01	0.01	1.05
EIEA Intercept ↔ RIP Intercept	-0.03 [†]	0.02	-1.89
EIEA Slope ↔ RIP Slope	-0.01**	0.00	-2.95

Note. EIEA = ethnic identity exploration/achievement; RIP = racially impartial policing

[†]p < .10; *p < .05; **p < .01; ***p < .001

Combined Autoregressive Latent Trajectory Models

Psychological Distress and Procedural Justice.

In the penultimate step of the analyses, cross-lags were added to the bivariate growth curves, resulting in models that simultaneously accounted for the bidirectional effects of underlying growth processes as well as time-specific influences across variables. The addition of cross-lags to the bivariate growth curve model for psychological distress and procedural justice resulted a slight improvement to the model fit ($\chi^2_{(20, 501)} = 18.53, p = .553$; CFI = 1.00, RMSEA = .000, CI = .000, .035), which approached significance ($\Delta\chi^2 = 13.66, \Delta df = 7, p = .058$). As determined in the earlier ARCL analysis, the lags were estimated freely, and the lag from distress at 24 months predicting procedural justice at 36 months was significant ($b = .10, SE = .03, p < .01$). After partialling out the effects of time-adjacent group changes, the pattern of significant covariance between the intercept and slope parameters remained the same.

In the final step, covariates were introduced into the model to take into account the effects of age, gender, and number of contacts with the police. There were significant gender differences in the intercept and slope of distress, with girls having significantly larger values than boys for both parameters. Older youth and youth with more police contact reported higher average levels of distress and more negative views of procedural justice than those who were younger or had fewer direct contacts with the police over time. In this model, the cross-lag from baseline levels of distress predicting perceptions of procedural justice at 12 months was significant ($b = -.11, SE = .04, p < .01$), and there was a trend toward significance in the lags from procedural justice at 12 and 24 months predicting distress at 24 and 36 months respectively ($b_{PJ12 \rightarrow DIS24} = -.07, SE = .04, p = .099$; $b_{PJ24 \rightarrow DIS36} = -.06, SE = .04,$

$p = .084$). The overall fit for this model was marginal ($\chi^2_{(57, 501)} = 140.13, p = .000$; CFI = .91, RMSEA = .054, CI = .043, .065).

A second model was estimated in which the intercept and slope factors for procedural justice were regressed onto the intercept and slope factors for distress in order to determine if trajectories of distress predicted those of procedural justice in the conditional model (Figure 10 and Table 6). When these regression weights were added, the cross-lags were no longer significant; however, average levels of distress did predict the intercept for procedural justice. Specifically, youth who reported higher levels of distress had more negative views of the police than their peers ($b = -.35, SE = .08, p < .001$). In comparison to the previous model, this one provided a better fit to the data ($\Delta\chi^2 = 23.09, \Delta df = 3, p < .001$), and the fit statistics revealed a moderately good fit to the data ($\chi^2_{(54, 501)} = 117.04, p = .000$; CFI = .93, RMSEA = .048, CI = .036, .060).

Table 6. Parameter Estimates, Standard Errors, and Critical Ratios for Conditional Bivariate Growth Model of Psychological Distress and Procedural Justice

	Estimate	SE	Critical ratio
Regression effects on intercept			
Age → DIS	0.03 [†]	0.02	1.82
Gender → DIS	0.15*	0.06	2.45
Police Contact → DIS	0.05*	0.02	2.44
Age → PJ	-0.04*	0.02	-2.47
Police Contact → PJ	-0.01	0.02	-0.68
Regression effects on slope			
Age → DIS	-0.01 [†]	0.01	-1.69
Gender → DIS	0.08**	0.03	3.25
Police Contact → DIS	0.00	0.01	-0.17
Age → PJ	0.01	0.01	1.20
Police Contact → PJ	-0.02*	0.01	-2.03
Regressions between DIS & PJ factors			
DIS intercept → PJ intercept	-0.35***	0.08	-4.64
DIS intercept → PJ slope	0.05	0.03	1.55
DIS slope → PJ slope	-0.14	0.12	-1.09

Note. DIS = Psychological distress; PJ = Procedural justice

[†]p < .10; *p < .05; **p < .01; ***p < .001

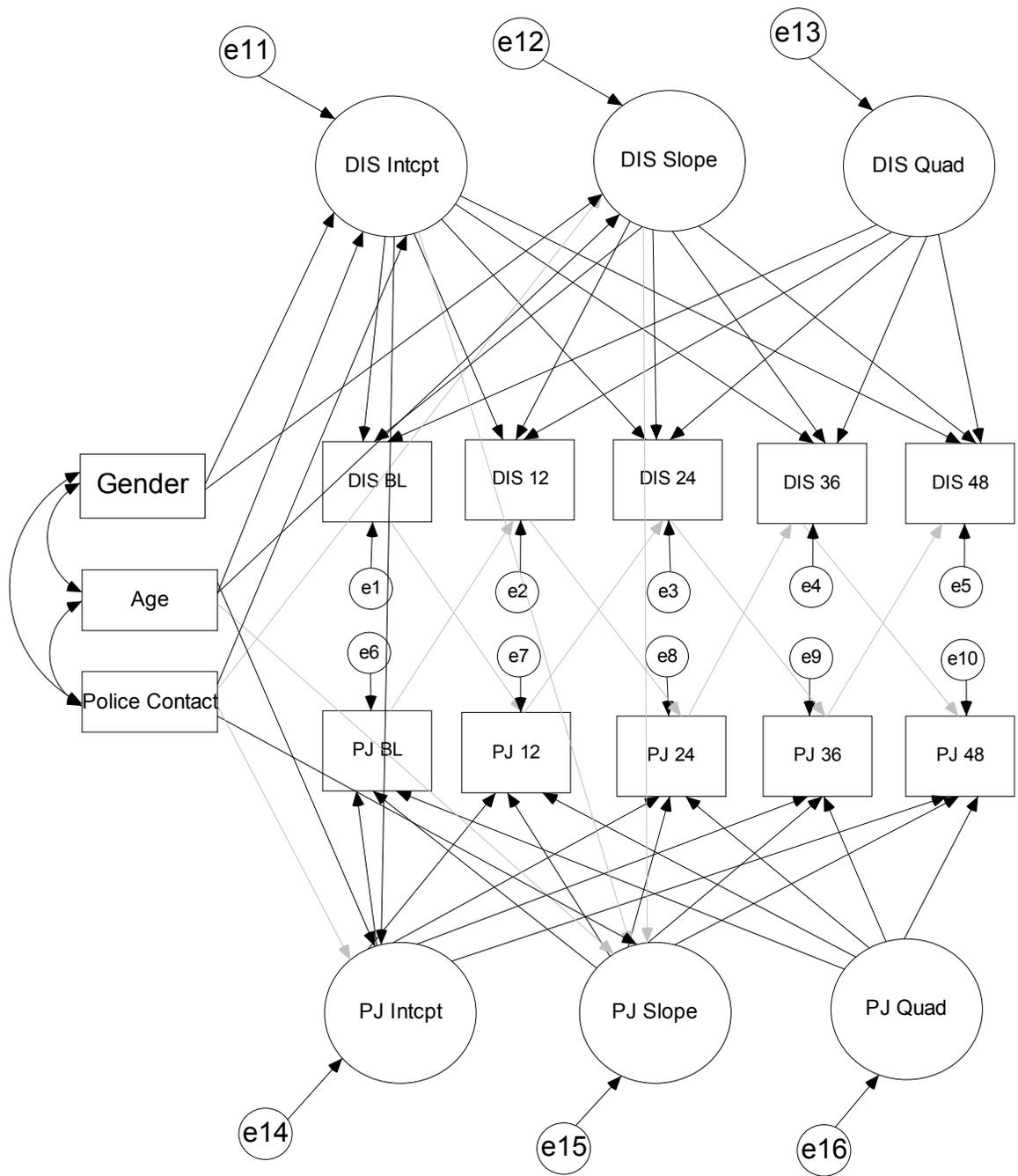


Figure 10. Conditional Growth Model of Psychological Distress and Procedural Justice

Note. DIS = Psychological distress; PJ = Procedural justice

Significant pathways are shown in black and reported in Table 6.

Moderating effects of each dimension of ethnic identity were tested using the final model. Among youth with low scores on the ethnic identity exploration subscale, higher average levels of psychological distress were related to more negative perceptions of procedural justice ($b = -.35$, $SE = .11$, $p < .01$), and the same was true among youth with high scores on the identity exploration subscale ($b = -.41$, $SE = .10$, $p < .001$). However, in this second group, higher average levels of distress predicted a positive change in perceptions of procedural justice ($b = .10$, $SE = .04$, $p < .05$), while increases in distress over time predicted decreases in perceptions of procedural justice over time ($b = -.40$, $SE = .17$, $p < .05$). Thus, although ethnic identity exploration did not moderate the time-adjacent associations between distress and procedural justice, there was evidence for a different longitudinal association between the two variables based on one's level of exploration. In contrast, levels of ethnic identity affirmation/belonging did not affect the associations between psychological distress and procedural justice.

Psychological Distress and Racially Impartial Policing

Introducing fixed, time-adjacent cross-lags into the bivariate growth model of distress and racial impartiality did not produce any significant changes to the model ($\Delta\chi^2 = 0.33$, $\Delta df = 2$, ns); the cross-lags were not significant, and the magnitude and significance of covariance between parameters remained the same. When the covariates were introduced, the cross-lags from distress to racially impartial policing approached significance ($b = -.06$, $SE = .04$, $p = .10$); this value was similar to the lag in the ARCL model and indicated that higher levels of distress predicted more negative views of police bias. Girls, older youth, and those with more police contact had higher average levels of distress than their peers; likewise, girls had a larger slope of distress than boys. On average, older youth had more

negative views about police impartiality compared to younger ones, but they also had a larger positive increase in these views over time. Model fit statistics indicated a moderate fit to the data ($\chi^2_{(66, 501)} = 131.91, p = .00; CFI = .926, RMSEA = .045, CI = .033, .056$), and regression coefficients are reported in Table 7.

Table 7. Parameter Estimates, Standard Errors, and Critical Ratios for Conditional Bivariate Growth Model of Psychological Distress and Racially Impartial Policing

	Estimate	SE	Critical ratio
Regression effects on intercept			
Age → DIS	0.03 [†]	0.02	1.76
Gender → DIS	0.17**	0.06	2.69
Police Contact → DIS	0.05*	0.02	2.53
Age → RIP	-0.11***	0.03	-3.53
Regression effects on slope			
Age → DIS	-0.01	0.01	-1.62
Gender → DIS	0.08**	0.03	3.1
Police Contact → DIS	0.00	0.01	-0.18
Age → RIP	0.02*	0.01	2.11
Regression effects on cross-lags			
DIS BL → RIP 12	-0.06 [†]	0.03	-1.65
DIS 12 → RIP 24	-0.06 [†]	0.03	-1.65
DIS 24 → RIP 36	-0.06 [†]	0.03	-1.65
DIS 36 → RIP 48	-0.06 [†]	0.03	-1.65
RIP BL → DIS 12	0.00	0.01	-0.27
RIP 12 → DIS 24	0.00	0.01	-0.27
RIP 24 → DIS 36	0.00	0.01	-0.27
RIP 36 → DIS 48	0.00	0.01	-0.27

In a final conditional model, pathways from the intercept and slope of distress predicting the intercept and slope of racially impartial policing were estimated. Generally, youth with higher average levels of distress reported more negative views about racially impartial policing ($b = -.59$, $SE = .14$, $p < .001$), but also had a greater positive increase in these views over time compared to peers with lower average levels of distress ($b = .13$, $SE = .05$, $p < .01$). There were no substantial changes in the relation between age, gender and police contact with the latent parameters. However, the crosslags from distress to racially impartial policing were no longer significant, indicating that the effects of the trajectory of distress on the intercept of racial bias accounted for the variance in time-point changes across these constructs. Ultimately, this model did not provide a very good fit to the data ($\chi^2_{(63, 501)} = 156.83$, $p = .00$; $CFI = .897$, $RMSEA = .055$, $CI = .044, .065$).

The moderating effects of each dimension of ethnic identity were also tested. Ethnic identity affirmation/belonging was not found to be a significant moderator of the relations between psychological distress and perceptions of racially impartial policing. For ethnic identity exploration, comparison of the models in which parameters were free across groups and constrained across groups revealed a trend toward significance in the chi-square difference test ($\Delta\chi^2 = 13.88$, $\Delta df = 7$, $p = .053$). A closer examination revealed that youth who scored high on the identity exploration subscale reflected the same pattern of associations between distress and police bias as described above with the full model. Specifically, higher average levels of distress predicted more negative perceptions of racially impartial policing ($b = -.84$, $SE = .20$, $p < .001$), but showed a positive change in these perceptions over time ($b = .17$, $SE = .07$, $p < .05$). On the other hand, for youth who had low ethnic identity exploration scores, there was only a trend toward significance in the relation

between the intercepts for psychological distress and racially impartial policing ($b = -.40$, $SE = .22$, $p = .072$). The intercept of distress did not significantly predict changes in perceptions of police bias over time for these youth.

Ethnic Identity Exploration/Achievement and Procedural Justice

When cross-lags were added to the bivariate growth model of these two constructs, model fit did not improve ($\Delta\chi^2 = 7.98$, $\Delta df = 8$, ns); additionally, the cross-lags were not significant in either direction. Covariates were added next, and the pattern of significance indicated that neither youths' average levels of, nor changes in, ethnic identity exploration varied by age, gender, or number of police contacts, and there were no gender differences in perceptions of procedural justice; thus, these paths were removed from the model. As found in other models, older youth and those with more police contacts had more negative perceptions of procedural justice. The cross-lags in this model were not significant, and the overall fit was good ($\chi^2_{(49, 501)} = 58.11$, $p = .175$; $CFI = .985$, $RMSEA = .019$, $CI = .023$, $.040$).

In a third model, regression paths from the latent parameters of ethnic identity exploration were added to predict the intercept and slope of procedural justice. There was no significant relation between these parameters, the cross-lags were not significantly different from zero, and model fit was not improved ($\Delta\chi^2 = 1.96$, $\Delta df = 3$, ns).

Ethnic Identity Exploration/Achievement and Racially Impartial Policing

Similarly, the addition of cross-lags to the bivariate growth model of ethnic identity exploration and perceptions of racially impartial policing did not improve the overall model fit ($\Delta\chi^2 = 18.30$, $\Delta df = 13$, ns); however, several cross-lags were significant. Higher levels of ethnic identity exploration at every time point predicted more positive perceptions of racially

impartially policing one year later. Conversely, more positive perceptions of police impartiality at 12 months predicted higher levels of identity exploration at 24 months, and a significant trend for the same pattern was found for the lag from 24 to 36 months. Although fit was not improved from the model without cross-lags, the overall fit was still quite good ($\chi^2_{(28, 501)} = 22.75, p = .745$; CFI = 1.00, RMSEA = .000, CI = .000, .025).

Age was the only significant covariate entered into the model next, as gender and police contact did not predict levels of ethnic identity or perceptions of police racial bias; additionally, there were no age differences in trajectories of identity exploration. The results showed that older youth perceived the police to be less impartial than younger ones. The cross-lags in this model were not significant, but the overall fit was good ($\chi^2_{(42, 501)} = 53.28, p = .114$; CFI = .982, RMSEA = .023, CI = .000, .040). In the next model, the intercept and slope factors for racially impartial policing were regressed on the latent parameters for ethnic identity exploration, which revealed an interesting pattern. Although the cross-lags indicated that higher levels of ethnic identity exploration predicted more positive perceptions of police bias one year later, the relation between the latent parameters was slightly different. First, higher average levels of ethnic identity exploration predicted more negative average perceptions of racially impartial policing. Similarly, individuals whose levels of ethnic identity exploration increased over time had declining perceptions of police impartiality over time. The model fit was improved ($\Delta\chi^2 = 11.76, \Delta df = 3, p < .01$), and the results are shown in Figure 11 and Table 8.

Table 8. Parameter Estimates, Standard Errors, and Critical Ratios for Conditional Bivariate Growth Model of Ethnic Identity Exploration and Racially Impartial Policing

	Estimate	SE	Critical ratio
Regression effects on intercept			
Age → RIP	-0.11***	0.03	-3.41
Regression effects on slope			
Age → RIP	0.03*	0.01	2.43
Regressions between EIEA & RIP factors			
EIEA intercept → RIP intercept	-0.83**	0.28	-2.97
EIEA intercept → RIP slope	0.26*	0.11	2.41
EIEA slope → RIP slope	-2.00**	0.69	-2.88
Regression effects on cross-lags			
EIEA BL → RIP 12	0.09**	0.03	2.94
EIEA12 → RIP 24	0.12*	0.05	2.52
EIEA 24 → RIP 36	0.16*	0.07	2.35
EIEA 36 → RIP 48	0.20*	0.09	2.13
RIP BL → EIEA 12	0.01	0.01	1.18
RIP 12 → EIEA 24	0.03*	0.01	2.21
RIP 24 → EIEA 36	0.04 [†]	0.02	1.9.
RIP 36 → EIEA 48	0.05 [†]	0.03	1.73

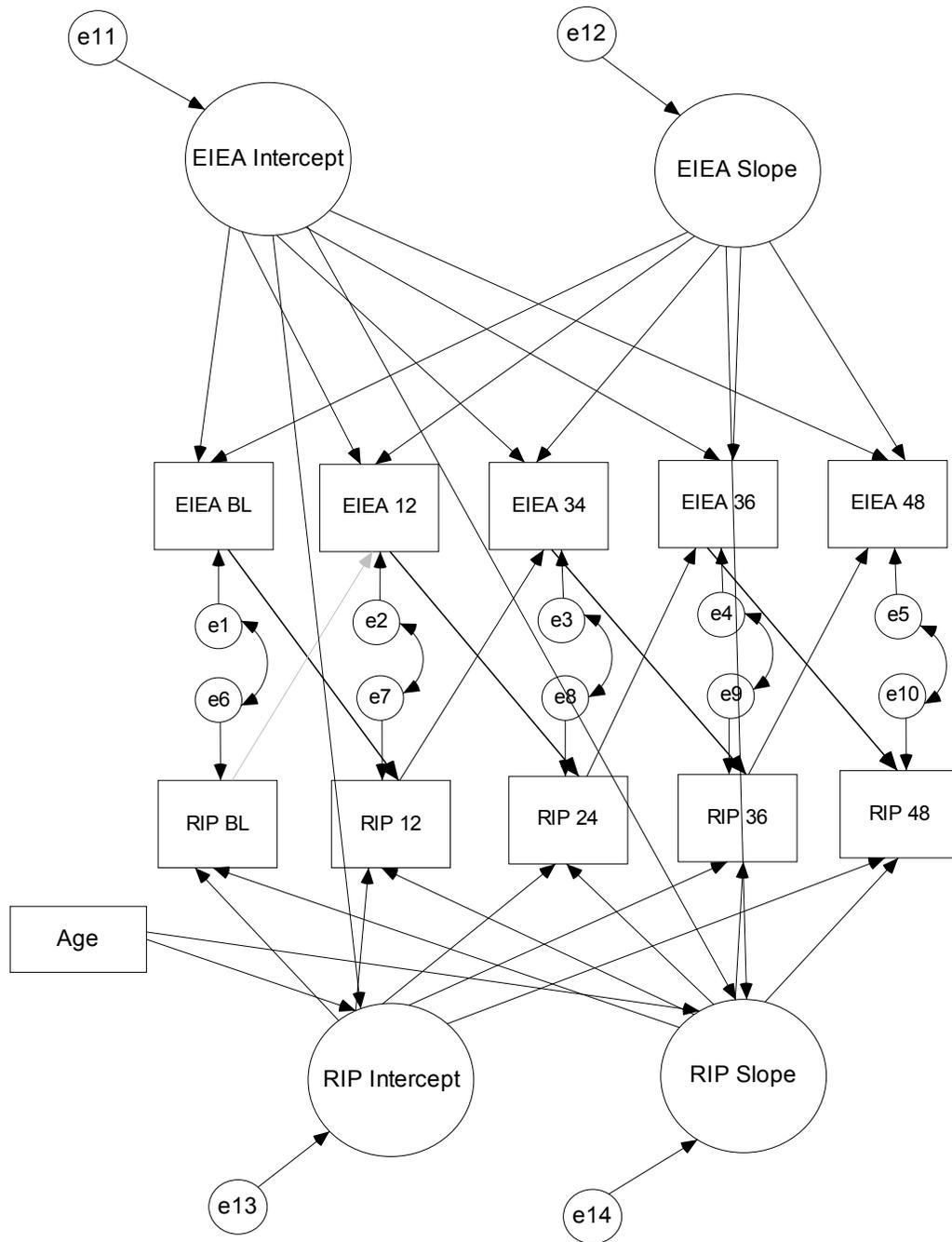


Figure 11. Conditional Growth Model of Ethnic Identity Exploration and Racially Impartial Policing.

Note. EIEA = Ethnic identity exploration; RIP = Racially impartial policing; Significant pathways are shown in black and reported in Table 8.

Views of Direct Police Contact

The next set of analyses was limited to a sub-sample of 172 youth who reported direct contact with the police at least three times over all five interview waves. The variables of interest were psychological distress, perceptions of police concern for one's rights, and ethnic identity exploration, and the steps in the analyses proceeded as described above.

Autoregressive Cross-lagged Models

Univariate Simplex Models

The test of equal means revealed that the neither the five means for psychological distress nor those for ethnic identity exploration were equal over time; however, the equal means model did fit the data for police concern very well ($\chi^2_{(4, 172)} = 1.9, p = .76; CFI = 1.00, RMSEA = .000, CI = .00, .079$). Univariate simplex models did not provide a good fit for any of the variables, indicating that additional factors were needed to effectively predict changes in individual variables between adjacent time points. Means for each variable are summarized in Table 9.

Table 9. Descriptive Statistics for Key Variables Among the Sub-Sample

Variable	<i>M</i>	<i>SD</i>	<i>Range</i>
Psychological Distress			
(DIS)			
DIS at Baseline	-0.52	0.03	
DIS at 12 mos	-0.82	0.05	
DIS at 24 mos	-1.08	0.06	
DIS at 36 mos	-1.05	0.06	
DIS at 48 mos	-1.02	0.06	
Ethnic Identity			
Exploration/Achievement			
(EIEA)			
EIEA at Baseline	2.49	0.04	
EIEA at 12 mos	2.41	0.04	
EIEA at 24 mos	2.43	0.04	
EIEA at 36 mos	2.42	0.04	
EIEA at 48 mos	2.32	0.04	
Police Concern for			
Rights (PCR)			
PCR at Baseline	1.67	0.08	
PCR at 12 mos	1.74	0.11	
PCR at 24 mos	1.70	0.08	
PCR at 36 mos	1.60	0.08	
PCR at 48 mos	1.65	0.10	

Bivariate ARCL Models

Psychological Distress. The best-fitting ARCL model of psychological distress and police concern was one in which the cross-lags were constrained to be equal across each pair of variables. The lags from psychological distress to police concern at adjacent time points were not significantly different from zero, and thus were constrained to be zero (Figure 12). In the other direction, perceptions of more negative police treatment predicted higher levels of distress at the next time point ($b = -.08$, $SE = .03$, $p < .01$). The fit statistics indicated that overall fit was not very good, however ($\chi^2_{(34, 172)} = 85.54$, $p = .000$; $CFI = .734$, $RMSEA = .094$, $CI = .069, .119$).

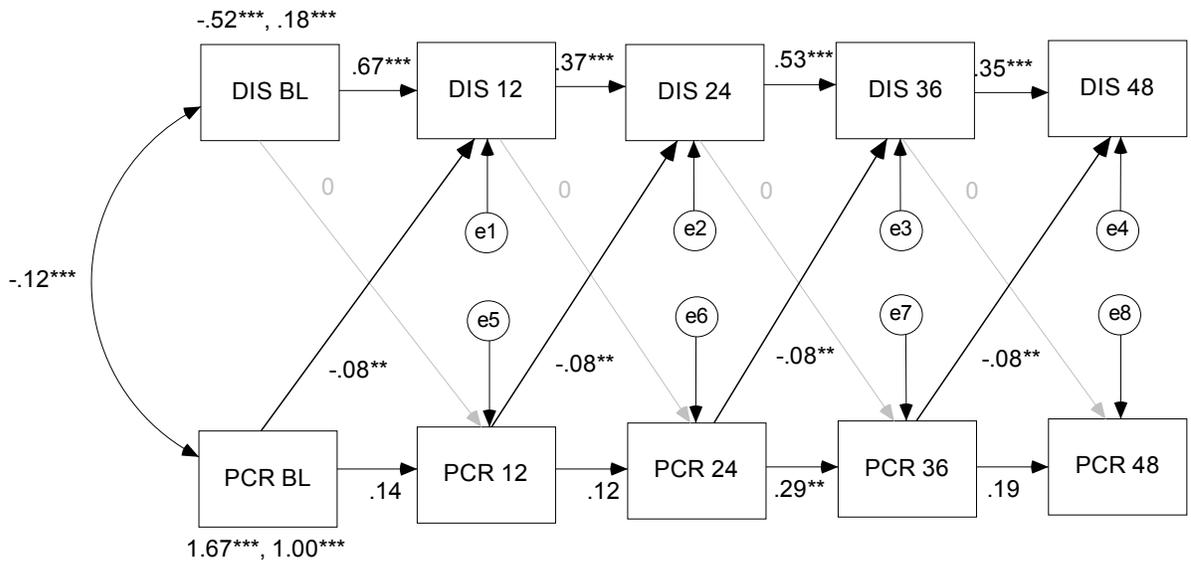


Figure 12. Bivariate ARCL Model of Psychological Distress and Police Concern

Note. DIS = psychological distress; PCR = police concern for rights

* $p < .05$; ** $p < .01$; *** $p < .001$

Ethnic Identity. The estimation of relations between ethnic identity exploration and police concern at adjacent time points results in an ARCL model in which the crosslags were freely estimated across variables. None of the cross lags were significant, and this model did not fit the data very well ($\chi^2_{(25, 172)} = 57.36, p = .000$; CFI = .701, RMSEA = .087, CI = .057, .117).

Univariate Latent Growth Curves

Table 10 shows the final results of the best-fitting growth curve models for each variable. For psychological distress, the final model was quite similar to the model estimated using the full sample. Average levels of distress were significant, and levels of distress decreased, with a slight acceleration in the decline, over time. Additionally, covariance estimates indicated that larger intercepts were related to smaller slopes but larger quadratic terms. This model fit the data well.

The underlying growth trajectory of perceptions of police concern was best described with an intercept-only model. The intercept indicated that ratings of police concern were significant at baseline, but these ratings varied across individuals. Finally, for ethnic identity exploration, the latent growth curve mirrored the one estimated using the full sample in that it included both intercept and slope. The average level of exploration at baseline was significant and varied across individuals. There was a decrease in this dimension of ethnic identity over time, which also varied significantly between participants.

Table 10. Univariate Growth Curves: Parameters and Model Fit Indices

	Intercept (SE)	Variance of Intercept	Slope (SE)	Variance of Slope	Quadratic term (SE)	Variance of quadratic term	Model fit index
Psychological distress	-0.52*** (.03)	0.18***	-0.39*** (.05)	0.17***	0.07*** (.01)	0.01*	$\chi^2 = 5.46, df = 7, p = .604$ CFI = 1.00 RMSEA = .000 (CI = .000, .080)
Police concern for rights	1.67*** (.05)	0.16***					$\chi^2 = 12.05, df = 13, p = .523$ CFI = 1.00 RMSEA = .000 (CI = .000, .071)
Ethnic identity exploration/ achievement	2.49*** (.03)	0.08***	-0.04*** (.01)	0.005*			$\chi^2 = 11.57, df = 10, p = .315$ CFI = .982 RMSEA = .030 (CI = .000, .091)

Note. CFI = comparative fit index; RMSEA = root mean square error of approximation; CI = 90% confidence interval

*p < .05; **p < .01; ***p < .001

Bivariate Growth Curves and Combined Models

Psychological Distress and Police Concern

Modeling simultaneous individual growth in perceptions of police concern and levels of psychological distress did not prove to be very informative. The model fit was marginal ($\chi^2_{(42, 172)} = 62.97, p = .020$; CFI = .892, RMSEA = .054, CI = .022, .080), and all four parameters (intercepts for both variables, and slope and quadratic term for distress) were significant. However, there was no significant covariance between the intercept for police concern and the latent growth factors for distress, indicating that average levels of perceived police concern for one's rights did not relate to average levels of or changes in psychological distress over time.

Adding cross-lags to the model did not result in significant changes in model fit. The lags from police concern to distress, which were significant in the ARCL model, were not significant in the combined model ($b = -.05, SE = .03, p = .134$), nor was there significant covariance between the latent parameters. Next, three covariates (age, gender and police contact) were introduced into the model. None of these variables predicted perceptions of police concern, but females and youth with more frequent police contact had higher levels of distress. With these predictors taken into account, the lags from police concern to levels of psychological distress were significant ($b = -.07, SE = .03, p < .05$). Although these lags suggest that negative encounters with the police lead to higher levels of distress, the overall model fit was poor ($\chi^2_{(69, 172)} = 139.87, p = .00$; CFI = .653, RMSEA = .077, CI = .059, .096).

In a follow-up model, regression paths from the intercept of police concern were added, predicting the intercept and slope of distress. When relations between these latent parameters were accounted for, the cross lags were no longer significant. This model

revealed that more positive perceptions in police concern were related to slower changes in distress over time.

Ethnic Identity Exploration and Police Concern

The results were similar when bivariate growth curves were estimated for identity exploration and police concern. The bivariate model fit the data well ($\chi^2_{(41, 172)} = 43.08, p = .382$; CFI = .981, RMSEA = .017, CI = .000, .056); however, there was no significant covariance between the latent parameters. Cross-lags were added next, and the model fit was retained. There was a trend toward significance in the lag from ethnic identity at baseline to police concern at 12 months ($b = .09, SE = .05, p = .08$), and from police concern at 36 months to ethnic identity exploration one year later ($b = -.08, SE = .04, p = .059$). After the cross-lags were introduced, there was also a trend toward significance in the covariance between average levels of perceived police concern and the slope of ethnic identity exploration, indicating that higher perceptions of police concern were related to increases in identity exploration over time (COV = .012, SE = .005, $p = .100$).

Controlling for gender (the only significant covariate), did not lead to meaningful changes in the model. Two follow-up models were also estimated. In the first, regression paths were added from the latent parameters of ethnic identity exploration (intercept and slope) to the intercept of police concern. The results showed that the ethnic identity parameters did not predict average levels of police concern. In the final model, the paths were reversed so that the intercept of police concern was used to predict the parameters for ethnic identity exploration (Figure 12). The pathway from the intercept of police concern to the slope of ethnic identity exploration approached significance, indicating that more positive perceptions of police concern were related to increases in ethnic identity exploration over

time, and the patterns of significance for the cross-lags (Table 11) remained similar to the results found in the model described above. This model fit the data well ($\chi^2_{(41, 172)} = 44.90$, $p = .518$; CFI = 1.00, RMSEA = .000, CI = .000, .049)

Table 11. Parameter Estimates, Standard Errors, and Critical Ratios for Conditional Bivariate Growth Model of Ethnic Identity Exploration and Police Concern

	Estimate	SE	Critical ratio
Regression effects on intercept			
Gender → EIEA	0.13**	0.05	2.92
Regression effects on slope			
Gender → EIEA	-0.28*	0.13	-2.1
Regressions between PCR & EIEA factors			
PCR intercept → EIEA intercept	-0.08	0.12	-0.63
PCR intercept → EIEA slope	0.08 [†]	0.04	1.74
Regression effects on cross-lags			
EIEA BL → PCR 12	0.09 [†]	0.05	1.7
EIEA 12 → PCR 24	0.01	0.04	0.34
EIEA 24 → PCR 36	-0.02	0.02	-0.38
EIEA 36 → PCR 48	0.00	0.05	0.08
PCR BL → EIEA 12	-0.03	0.02	-1.30
PCR 12 → EIEA 24	-0.03	0.02	-1.08
PCR 24 → EIEA 36	-0.03	0.03	-0.94
PCR 36 → EIEA 48	-.09*	0.04	-2.05

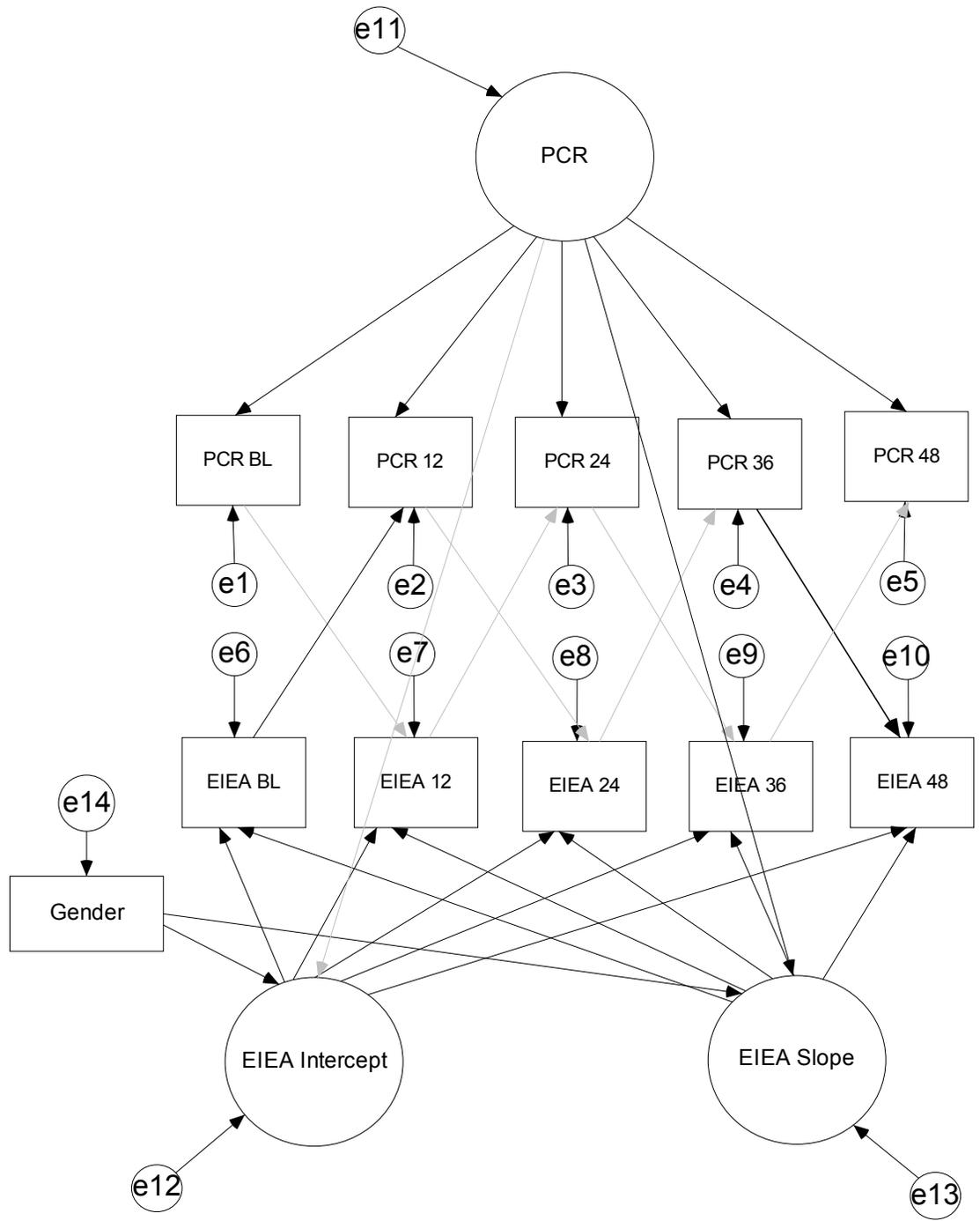


Figure 13. Conditional Growth Model of Ethnic Identity Exploration and Police Concern
Note. EIEA = Ethnic identity exploration; PCR = police concern for rights Significant pathways are shown in black and reported in Table 11.

Summary

The present analyses addressed three primary questions regarding the time-specific and longitudinal relations between police treatment, psychological distress, and ethnic identity. The results indicate support for many of the hypotheses as described below.

Relations Between Ethnic Identity and Perceptions of Police

It was expected that, given the historically negative relations between African Americans and law enforcement, black youth who spent more time considering the meaning of their ethnic group membership (e.g., ethnic identity exploration) would have more negative views about the police. This hypothesis was partially supported, in that youth whose level of ethnic identity exploration increased over time had increasingly negative views about racially impartial police behavior over time. In other words, these youth showed increasing support for the perception that the police use differential treatment based on a citizen's racial/ethnic background. However, the results also showed that when considering time-adjacent relations between these constructs, higher levels of ethnic identity exploration actually predicted more positive views of impartial police behavior, which contradicted the expected relations between these two constructs.

There was no evidence to support the hypothesis that ethnic identity exploration among black youth was predictive of their views about procedural justice in general. Indeed, neither the time-specific relations in the ARCL model nor the longitudinal relations in the bivariate growth model were significant. Similarly, there was limited support for the hypothesis that perceptions of unjust police behavior in direct contact experiences were higher among youth with higher levels of ethnic identity exploration. Instead, youth whose

views about direct police treatment became more positive over time also had slight increases in ethnic identity exploration over time.

Relations Between Psychological Distress and Perceptions of Police

It was originally surmised that high levels of psychological distress would be predictive of negative global views of the police, but that perceptions of maltreatment during direct contact experiences would lead to increased distress. These hypothesized associations were partially supported by the results. First, high average levels of distress predicted more negative average perceptions of procedural justice; however, time-specific associations between these two constructs were limited, and there was only a tendency for increases in distress over time to predict declines in procedural justice perceptions over time.

Models estimating the relations between psychological distress and views of racially impartial policing did support many of the hypotheses. Examination of time-adjacent cross-lags revealed that youth who had higher scores on the distress inventory had more negative views about racially impartial policing one year later. Moreover, higher average levels of distress predicted more negative average views of police bias. However, there was no support for the hypothesis that increases in distress over time were predictive of decreases in perceptions of racially impartial policing over time. Finally, the expected association between *direct* contact experiences and levels of distress was supported in two ways. First, the time-adjacent cross-lags showed that youth who believed the police showed little concern for their rights reported higher levels of distress one year later. Additionally, youth whose average perceptions of direct police treatment were more positive had decreases in psychological distress over time.

Moderating Effects of Ethnic Identity

In keeping with the literature showing that ethnic group connectedness and pride can buffer the negative effects of discrimination, it was initially hypothesized that among youth who reported higher levels of ethnic identity affirmation/belonging, relations between psychological distress and police treatment would be weaker than among peers with low levels of affirmation/belonging. The results of the present study did not support this hypothesis; youths' levels of ethnic identity affirmation/belonging did not moderate the associations between psychological distress and police treatment.

In contrast, some support was found for the moderating effects of ethnic identity exploration on the relations between perceptions of the police and psychological distress. Specifically, among youth who had higher levels of exploration compared to their peers, higher levels of distress predicted more negative views regarding racially impartial police behavior. Moreover, a different pattern of associations between psychological distress and procedural justice was found based on youths' level of ethnic identity exploration. Among youth who had scores who were higher or lower than the mean, greater average levels of distress were associated with more negative views of justice. However, among youth with higher scores on the exploration subscale, increases in psychological distress over time predicted decreases in perceptions of procedural justice over time; this relation was not significant among youth with lower scores on the exploration subscale.

CHAPTER 5

DISCUSSION

Research on juvenile offenders commonly focuses on behaviors that facilitate the maintenance of or decline in criminal behavior. While the importance of studying offending behavior is readily acknowledged, the present study departs from traditions in the literature on juvenile offenders by examining their views of the police. Gaining insight into this perspective is essential when one considers that for delinquent youth, police contact may have long-lasting implications for future experiences. Moreover, the emphasis placed on offending behavior often takes precedence over any consideration of how normative developmental processes are manifested among delinquent youth. Thus, this study examined the process of ethnic identity development, which is considered a typical part of adolescent development for youth of color, with regard to its role in shaping perceptions of the police and moderating relations between police treatment and psychological well-being. The relevance of race in African American youths' views of and encounters with the police is supported by the finding that increased ethnic identity exploration is related to the perception that police use biased behavior against people from different racial/ethnic backgrounds. Furthermore, among black youth who report taking an active role in making meaning of their ethnicity, there was a stronger association between psychological distress and perceptions of police behavior. Finally, the results of this study support research showing a distinction between personal and global perceptions of discrimination. Importantly, when perceptions of discrimination are delineated along these lines, the relation to psychological distress is reversed; while negative personal encounters with the police lead to higher levels of distress, global views of police behavior appear to be shaped by existing levels of distress.

Views of the Police Among Serious Adolescent Offenders

This study makes several unique contributions to the literature on attitudes toward the police. First, although cross-sectional studies suggest that older individuals have more positive views of the police than younger ones, there is a dearth of research that examines longitudinal changes in these attitudes over time among young people. Furthermore, an arguably larger gap in our knowledge exists regarding attitudes toward the police among delinquent youth. Problem-behavior theory would predict that delinquency is related to unconventional, amoral attitudes (Donovan and Jessor, 1985), but even among serious juvenile offenders, a population that is likely to have significant interactions with the police, views about the police among youth at the beginning of the study were more neutral than negative; indeed for both perceptions of procedural justice and racially impartial policing, average scores fell close to the middle of the five-point scale. Moreover, although perceptions of racially impartial policing changed little over each interview wave, on average youths' views of procedural justice actually became more positive over time.

Main effects of race are often reported in studies of procedural justice and police perceptions, with African Americans holding more negative views of the police than people from other ethnic groups. This study departs from norms in the literature on ethnic group comparisons and instead focuses on the variety of attitudes among African American youth. Notably, significant heterogeneity was found in both average levels of and changes in views of procedural justice and differential treatment by race over time, which indicates that considerable variability exists among black youths' perceptions of the police. No gender differences in perceptions were found among youth in the sample, but older youth tended to have more negative views of the police than younger youth. Among the sub-sample of youth

who had multiple direct contact experiences with the police, attitudes about how much concern they felt the police showed for their rights were slightly negative (less than two on a four-point scale) and remained stable over time. These perceptions did not vary as a function of age or gender, but there was still significant variation in views about police concern among youth. Thus, while on average, most youth believed that police showed only a little to some concern for their rights, some youth felt the police showed a lot of concern (or no concern at all).

The finding that delinquent youths' views about the police were not always straightforward is in keeping with research conducted by Carr and colleagues (2007) who interviewed low-income black, white and Latino youth (both delinquent and non-delinquent) about their perceptions of the Philadelphia police. Notably, even among youth who viewed the police in a negative light, most of them reported that in order to reduce crime, the best solution would be to increase police presence in their neighborhood. Although this "pro-criminal justice" perspective seems to contradict negative dispositions toward the police, the authors argue that it provides support for a "cultural attenuation" model of social control, in which youth may be cynical about the police, but at the same time they would like to see crime reduced in their neighborhoods and feel the police are necessary for this to occur. What is most important about their study in light of the present findings is that it demonstrates the complexity involved in youths' views about law enforcement; even among delinquent youth, there may be contradictions in how they view the police and how their views might relate to other outcomes.

Links Between Ethnic Identity and Procedural Justice

The present study shows that for African American youth involved with the juvenile and criminal justice systems, perceptions of and contacts with the police are connected to views about race. Specifically, ethnic identity exploration was found to be related to perceptions of racially biased policing; however, there was an interesting discrepancy between the cross-lag and growth models. The cross-lag model revealed that spending more time exploring one's ethnic identity was predictive of more positive beliefs about police impartiality. On the other hand, as levels of ethnic identity exploration increased across all five time points, views about impartial police treatment became more negative (e.g., youth were more likely to feel that the police were biased against people from different backgrounds).

It is not clear whether this contradictory finding reflects differences that resulted from the two methodological approaches or whether it simply mirrors some discrepancies in the extant literature. The cross lags in the ARCL model represent how variation in one variable at an earlier time point predicts aggregate change in the other variable at the next time point (Curran & Bollen, 2001; Schluetler, et al., 2007). On their own, these models primarily represent change at a group level and do not account for individual-level change. The early literature on ethnic identity described it largely as a protective factor against discrimination. Yet these studies were primarily cross-sectional and much like the ARCL model, only reflected group-level relations between constructs without considering individual differences in change over time. More recent studies that have used longitudinal data to study ethnic identity as a developmental process show that increases in ethnic identity exploration and achievement are related to greater perceptions of discrimination and injustice (Greene, et al.,

2006; Pahl & Way, 2006). In the present study, examination of the underlying trajectories of change in ethnic identity exploration and perceptions of police bias mirror this latter set of findings.

The finding that increases in ethnic identity exploration over time were related to the development of increasingly more negative views of racial bias by the police was not surprising. Indeed, the bulk of the literature shows that adolescents have an awareness of racially discriminatory behavior, and that youth who spend more time thinking about their racial group membership may be more sensitive to these occurrences (Cross & Cross, 2008; Greene, et al., 2006;). Although it has been suggested that ethnic identity exploration represents the “cognitive” dimension of ethnic identity, this is best understood in terms of “cultural cognition” rather than a reflection of general underlying cognitive or intellectual abilities. Research on developmental trends in understanding racial categories shows that this ability is present by age 6; similarly children of this age also are knowledgeable about racial stereotypes (Brown & Bigler, 2005). Brown and Bigler (2005) argue that cultural cognition requires youths’ understanding of others’ cognitions, which may differ from their own and may be contradictory to actual behavior. These abilities are also established in middle childhood. In adolescence, what becomes different is the ability to understand more subtle and nuanced forms of discrimination, including social messages conveying the inferior status of some groups compared to others, institutional discrimination, or even, as Brown and Bigler (2005) note, ‘racial profiling by security personnel and police departments’ (pp. 541). Thus, the finding that youth who spent more time thinking about their racial/ethnic group membership held increasingly negative views about racially differential treatment by law enforcement agents is consistent with what we know about adolescent development.

The present study also found evidence in support of the differentiation between personal and group discrimination with regard to ethnic identity. Perceptions of racially biased policing reflected youths' beliefs about police treatment on a group level, but for a sub-sample of youth, information was available on their reports of police behavior during repeated, direct contacts with the police. When police treatment was considered at this personal level, the relation to ethnic identity processes revealed a different pattern from the one discussed above. Rather than perceptions of police treatment being influenced by one's level of ethnic identity exploration, the reverse relation was true: direct contact with the police had an impact on youths' ethnic identity exploration. Youth who reported more positive experiences with the police than their peers showed a trend towards increases in ethnic identity exploration over time. One possible explanation for this finding could be that positive treatment by the police ran counter to youths' expectations for unfair treatment. Experiencing just and fair police behavior might challenge some youths' views about the traditionally negative treatment that African American's receive, which could propel them to take a more active role in making meaning of their race/ethnicity.

The Dual-Role of Psychological Functioning

Most research on the associations between perceived discrimination and psychological well-being has been cross-sectional, and significant relations between discrimination and mental health outcomes are typically interpreted as evidence for a causal link from perceived discrimination to the negative outcome. However, the results of this study show that one's level of mental health may influence perceptions of discrimination: youth who reported higher levels of psychological distress believed the police to be less fair in general and more biased against people from different racial/ethnic groups. This finding

has important implications when one considers that youth involved in the juvenile justice system often have a higher prevalence of mental health problems compared to their peers (Grisso, et al., 2001). If youth are experiencing psychological distress, then as a result their perceptions of police behavior might be negatively skewed. Since we know that negative views about the police are related to less compliant behavior, researchers and law enforcement agents need to carefully consider how youths' psychological well-being can shape initial interactions with the police and potentially lead to a snow-balling effect of negative behavioral outcomes. This finding is also noteworthy in its implications for procedural justice models. Tyler (1990, 1997, 2006) and others have identified a link between fair police treatment, perceptions of police legitimacy, and future behavioral compliance; however, these models fail to consider how an individual's current level of functioning at the time of a police encounter might influence his perceptions of fair treatment. This is likely to be an important factor, especially given what we know about the influence of mood, emotions, and psychological functioning on the perception, encoding, and memory of daily experiences.

Of course, this explanation makes an assumption that psychological factors influence perceptions of others' intentions and behaviors. This "attributional" perspective was used by Phinney and colleagues (1998) to explain the positive relation they found between levels of depressive/anxious symptoms and perceptions of discrimination. But other explanations are also possible, especially when one considers that increased levels of psychological distress predict more negative views about the police in general as opposed to views about personal experiences with the police. Perhaps people who report higher levels of distress are simply more likely to report negative views about the world in general, and their opinions about the

police may reflect this negativity. Ultimately though, what is most important is that a link exists between mental health and views about the police; if negative views about the police are related to a decreased likelihood of supporting the police, this has implications for the ability of law enforcement agents to be effective regardless of whether those views were “caused” by levels of distress or merely a reflection of a negative world view.

These results also underscore the importance of distinguishing between personal and group discrimination, which mirrors a common finding in the literature. While direct contact predicted more distress, higher levels of distress predicted more negative global perceptions of the police. Specifically, perceiving a lack of concern for one’s rights was related to elevated levels of psychological distress at a future time. Although this finding should be interpreted with caution given the marginal fit of these models to the data, it does provide some insight into the direction of the associations between police treatment and mental health in the case of direct contact experiences. Furthermore, it mirrors findings from the limited set of studies that have used longitudinal data to assess the direction of the relations between perceived discrimination and psychological well-being over time. For example, Brody and colleagues (2006) found that discrimination experiences predicted higher levels of problematic outcomes, including emotional distress and conduct problems.

Another possible explanation for this finding that was not fully accounted for in the present study has to do with the consequences that might have followed after police contact. Given that youth in the sample had a record of offending behavior, for many of them, police encounters likely resulted in time spent in a secure facility. Thus, the possibility that increases in distress were due to the circumstances following a police encounter as opposed to the police encounter itself cannot be discounted. Although the finding still held even after

accounting for the proportion of time that youth spent in secure facilities, additional research is needed to determine how a cumulative set of circumstances—beginning with police contact and potentially ending with incarceration—might contribute to youths’ psychological well-being.

Support for the Identity Threat Approach

According to the stigma-induced identity threat model, potential identity threat stressors are moderated by personal characteristics like group identity and sensitivity to stigma. The finding that dimensions of ethnic identity moderated the association between psychological distress and perceptions of police behavior provides some support for this framework. Youth who reported higher levels of ethnic identity exploration had stronger associations between growth trajectories of psychological distress and policing than their peers. However, as described above, the direction of the relation between distress and perceptions of the police indicates the global views about police behavior and racial bias are predicted by one’s level of distress rather than the reverse.

In the case of direct contact experiences, the moderating effects of ethnic identity exploration were in keeping with the SIIT framework. Again, there was a stronger association between police contact and distress among youth with higher levels of ethnic identity exploration. Moreover, as predicted by the model, perceptions of maltreatment during these personal experiences led to elevated levels of distress. As suggested by other research on ethnic identity, youth who spend more time thinking about issues of race/ethnicity may be more attuned to potential discrimination, which could put a strain on coping resources and result in higher levels of distress. This does not mean that youth with lower scores on the exploration/achievement dimension of ethnic identity are unaware of

negative stigmas associated with being black; however, it does suggest that for these youth, making fewer race-related attributions with regard to police behaviors could be somewhat protective. Of course, these conclusions are only tentative given that the insufficient sample size prohibited thorough tests of model fit of the moderation effects.

In contrast to other studies of ethnic identity and discrimination, no support was found for the role of ethnic group affirmation/belonging as a protective factor. As many others have suggested, awareness of race-related stigma against one's group does not necessarily mean that youth will have negative feelings about their group (Phinney, et al., 1997). Studies using normative samples of youth in middle and late adolescence have shown that average levels of group affirmation and belonging tend to be high, and a similar result was found in the present study. Youth in this sample feel good about their ethnic background in general, but these feelings are not enough to protect them from the negative impact of police maltreatment or other forms of discrimination. It is also quite possible that the items in the affirmation/belonging scale do not necessarily tap into the specific aspects of ethnic identity that would be most important in helping to buffer against racial insults; indeed, Cooper and colleagues (2008) suggest that there is not yet enough evidence to determine if the buffering effects found in some studies can be generalized across different contexts. They recommend that researchers invest in conducting more studies to test whether or not buffering effects hold across varying contexts, developmental periods and other variables. Additionally, more research is needed to determine whether or not factors besides racial identity, including family interactions, neighborhood conditions, and social capital, can play a protective role. Among a specialized population like juvenile offenders, other contextual

factors like experiences within the legal system should also be considered for their potential ability to moderate the negative effects associated with discrimination.

Methodological Limitations and Strengths

An important strength of the current study is the departure from more traditional literature on adolescent offenders that focuses primarily on offending behavior or psychopathology. Instead, the use of a specialized sample of seriously delinquent youth provided a unique insight into their views of the police, which were quite heterogeneous. They also provided the opportunity to examine whether or not developmental processes typical during adolescence would manifest similarly; as it turns out, black youth who are delinquent show patterns of ethnic identity development that are comparable to those found among samples of youth drawn from school and community settings.

The Multigroup Ethnic Identity Measure (MEIM) was selected for the larger study as a tool to assess ethnic identity because it can be used across ethnic groups, and the full sample of participants includes youth from other racial/ethnic backgrounds in addition to the sample of African American youth used in these analyses. However, unlike measures such as the Multidimensional Inventory of Black Identity (MIBI; Sellers, et al., 1997), the MEIM does not provide insight into the personal meaning and significance that individuals place on race, which has also been shown to be related to perceptions of discrimination (Sellers & Shelton, 2003). Additionally, although the procedural justice scales assess global police discrimination and personal experiences with law enforcement processing, neither scale asked participants directly if they felt the police personally discriminated against *them* because of their race.

It is important to keep in mind that as within any study using self-reported data, an individual's current state of mind can influence his recall of events. Thus, when youth were asked to report on their beliefs about and experiences with the police, these reports might have been biased by their psychological state at the time of the interview. Furthermore, associations were examined bidirectionally, but across long periods of time (e.g., the link between distress at one time point and perceptions of justice 12 months later and vice-versa); clearly this may not coincide with a youth's level of distress at the time of an actual direct or indirect police encounter. More sophisticated time-sampling methods that capture emotions and perceptions at multiple time points within a shorter period of time (e.g., days or weeks) might prove useful in illuminating the more immediate effects of police encounters on an individual's level of distress. That being said, the present study did make an important contribution to the literature by demonstrating that psychological functioning can influence an individual's perceptions of procedural justice.

In terms of statistical procedures, the use of cross-lagged models to estimate causal analysis in panel data has been widely debated, with some researchers criticizing the approach because it does not accurately portray change in psychological phenomena (Greenberg, 2008; Hertzog & Nesselroade, 1987; Rogosa & Willett, 1985; Schlueter, et al., 2007). However, in the present study, the use of this approach was strengthened by combining ARCL models and latent growth curve models. Thus, time-specific changes across constructs could be examined while controlling for underlying individual trajectories of change, and vice-versa (Curran & Bollen, 2001). Despite the strengths of the combined approach, it should be noted that in several cases, model fit statistics indicated that the ARCL models alone did not provide a good fit to the data, so the meaning of significant cross-lags

in those models should be interpreted with caution. However, in combined ARCL-growth curve models where the cross-lags remained significant and model fit was good, the interpretations of the lags can be made more confidently.

Perhaps a bigger challenge in the present study was the issue of selection effects with regard to those youth who had multiple contacts with the police. Selecting a sub-sample of youth from the larger sample to investigate the relation between perceptions of direct police contact with the other variables inherently leads to bias in the outcomes because selection into the group was not independent of the outcome variable (Bushway, Johnson & Slocum, 2007; Winship & Mare, 1992). Youth could only be included in those analyses if they had a minimum number of police contacts over the course of the study, but these same youth with more frequent police contacts were different from youth with fewer police contacts in terms of reported offending behavior. Issues of selection bias are common in criminological research (Bushway, et al., 2007). Steps were taken to ensure that youth in the sub-sample did not differ from one another on key variables; however, these youth did report higher levels of offending behavior compared to youth who had fewer police contacts, regardless of how much time was spent in facilities or on the streets. Essentially, analyses in this study were conducted using a two-part model; selection into the subset was informed by logistic regression analyses, and then estimations of models using the police concern variable were only made using this subset of youth (Bushway, et al., 2007). Since analyses examining the relations between police concern, psychological distress and ethnic identity exploration were limited to this sub-sample of youth, they cannot be generalized to the whole sample.

The selection bias was also related to another issue - that of missing data on the police concern variable. Some researchers argue that missing data can be adjusted for by using

multiple imputation strategies; however, this approach is best when the data are considered to be missing at random (Little & Rubin, 1987; Schafer & Graham, 2002). Youths' direct contacts with the police were not random, so imputing missing values would likely have led to incorrect model estimates. Missing data was likely a bigger problem in the ARCL models using the police concern variable than in the growth curve models because of the possibility that the sample of youth with data on this variable at adjacent time points was not always the same. In the growth curve analyses, the best-fitting model of police concern only included an intercept, and since all youth had data from the baseline interview, the model could be estimated with the entire sub-sample. As a precaution, growth curve models with the sub-sample were re-run using hierarchical linear modeling (HLM), which is better able to handle missing data (Raudenbush & Bryk, 2002), and the patterns of growth were no different from those estimated using SEM. Finally, Schafer and Graham (2002) note that "when the true cause [of missing data] is not the response [variable] but an unmeasured variable that is only moderately correlated with the response, failure to account for the cause seems capable of introducing only minor bias" (pp. 173), which they also assert is typically the rule rather than the exception in many studies. In the current study, offending behavior was the only significant correlate of police contact experiences, and the correlation was fairly small (less than 0.14); thus, although selection effects are acknowledged, they do not discount the significant relations found between perceptions of police concern, ethnic identity exploration, and psychological distress among the selected sample of youth.

Implications for Research on Adolescent Development

This is one of the first studies to consider how ethnic identity development, a process that is normative for adolescents of color, is manifested in a non-normative sample of

seriously delinquent youth. Not only do the results suggest that changes in ethnic identity exploration mirror findings from studies of normative samples of African American youth (French, et al., 2006; Greene, et al., 2006), they also provide support for considering dimensions of ethnic identity separately. On average, most youth in this study showed decreases in ethnic identity exploration over time, although there was significant variance between individuals in this pattern of change. For affirmation and belonging, overall scores on the measure were high and more or less stable over time. As discussed previously, moderating effects were found only with the former, but not with the latter dimensions of ethnic identity.

Consideration of normative developmental processes in high-risk samples like juvenile offenders can have implications for rehabilitation efforts. In an examination of program services offered to juvenile offenders re-entering the community, Spencer and Jones-Walker (2004) note that most research in this area does not consider the role of racial/ethnic identity formation in program development. They assert that given the salience of issues of race, gender and social class for adolescents, the dearth of research that examines both individual processes of development and contextual variables like poverty, class and culture will ultimately undermine attempts to provide effective services. Spencer and Jones-Walker stress the need for culturally sensitive thinking in both juvenile offender research and program design, especially for adolescents of color.

Importantly, this study is aligned with the proposal made by García-Coll and colleagues (1996) for research on youth of color because it incorporates the social position variable of race and the social mechanism of police treatment, which is especially relevant for seriously delinquent black adolescents. Examining processes of ethnic identity

development as they relate to perceptions of police treatment and levels of distress within an African American sample provides valuable insight into how these processes operate. Similar studies of youth from other ethnic backgrounds might not lead to comparable findings if one considers that sociohistorical experiences of ethnic minority groups in this country are not identical and play a role in shaping the differential experiences of ethnic minority youth (Go and Le, 2005; Fischer and Moradi, 2003; Sherrod, Busch-Rossnahl & Fisher, 2004). Indeed, when race is thought of as a context for development, variations in developmental processes between children and youth from different racial/ethnic backgrounds are not unexpected given the unique ecological circumstances across groups. This is especially relevant when considering low-income, urban black youths' experiences with the police, an area where the intersection of social class, race and culture cannot be overlooked (Sampson & Wilson, 1995). Thus, although these results might not be applicable to a non-delinquent sample of African American adolescents, they nonetheless provide insight into "normative" processes for a select sub-sample of black youth.

Implications for the Juvenile Justice System

The "community policing" model advocates for a partnership between community members and the police force. When this model grew in popularity in the 1980s, it represented a paradigm shift from "warrior policing" and drew upon the idea that most citizens do in fact abide by laws and have respect for the police (Forman, 2004). Unfortunately, youth have not been a central part of the model of community policing; age is a factor that consistently predicts police treatment, with young people reporting more police disrespect than older people. Forman (2004) writes, "not only are young people absent from

community policing's agenda-setting forums, they are still generally policed as they had been under the warrior model - as threats to public order" (pp. 20).

This type of policing has clear implications for the ways in which young people view the police. Interviews of youth of color in urban settings clearly reflect these themes. They do not feel secure in the presence of the police, "More police makes it less safe; anything can happen with the police around" and some feel the police actually contribute to criminal behavior, "More police may mean lower rates of murder but more police brutality" (Fine et al., 2003, p. 2). Moreover, youths' suspicions about the police and expectations for maltreatment influence their reactions to police presence: "I mean, we know how they gonna treat us when they come up. So usually when we see 'em we run" (Brunson & Miller, 2006, pp. 631). Fine and colleagues (2003) suggest that such experiences may make youth feel alienated from adult society; thus, additional research is needed on the long-term effects of negative police encounters to determine the breadth of these effects across multiple domains of youth development.

Sampson and Laub (1997) proposed that delinquent behavior can start a chain of events leading to "cumulative disadvantage" over one's lifetime; in other words, the consequences of early delinquency, like secure detention, can disrupt current opportunities (e.g., school attendance) and limit future opportunities. A panel of National Research Council scholars selected to investigate the topic of racial discrimination note that Sampson and Laub's life-course model of cumulative disadvantage "does not directly address the effects of discrimination, although it is apparent that discrimination in the processes that lead a young person to be labeled "deviant" (in the schools or in the juvenile justice system) can

contribute to these negative effects” (pp. 234). The way in which police behavior is subjectively experienced by youth is clearly an important link in this chain of events.

Processes of legal socialization that take place during childhood and adolescence may shape future encounters with the police. If encounters with the police shape views of police legitimacy, and if more positive views of legitimacy may lead to an increased likelihood of compliance with the law, than is quite plausible that the police themselves can play a role in deterring youth from crime (Hinds, 2007). The present research highlights the need for the education of law enforcement agencies regarding adolescent development and factors that might increase or decrease young people’s willingness to comply with the law. This is critically important for officers who deal with a large number of African American young men, who currently make up almost half of the incarcerated males under the age of 24, a problem that cannot be explained by differential involvement in crime alone.

ENDNOTES

¹In the scoring manual for the BSI, Derogatis (1993) suggests that if the same response is provided for all 53 items, the test should be considered invalid. This holds true even if the individual reports that he or she was not bothered by any of the 53 items in the past 7 days (e.g., all scores would be 0, or ‘not at all’). At most time points in the present study, a number of youth did not endorse any of the symptoms in the inventory. Rather than excluding them completely, their scores of zero were retained and were interpreted as ‘no symptoms endorsed’ rather than as an indication of no psychological distress. This is in keeping with other studies (e.g., Gilbar & Ben-Zur, 2002) that have included individuals who did not endorse any of the BSI items. In order to calculate the log of the global severity index (GSI), a small value (.01) was added to all GSI scores.

²The Neighborhood Conditions Measure was used as a subjective assessment of youths’ perceptions of neighborhood disorder; however, given the possibility that policing may have varied more systematically across different areas in Philadelphia, a separate analyses was conducted using police districts as a unit of measure. Nested hierarchical linear models of youth within 20 police districts (Mean = 19 youth per district) were conducted using perceptions of police behavior as an outcome, and no significant differences were found across districts.

³A factor that could potentially account for the significant association between low levels of police concern and higher levels of distress one year later is the potential incarceration experience that might follow a police encounter. Although this was not addressed in the hypotheses, an additional set of conditional models estimating the longitudinal and time-adjacent changes in police concern and psychological distress was estimated, controlling for time spent in facilities. More time spent in facilities was related to higher levels of distress; however, even after controlling for this factor, the pattern of relations between the constructs of interest remained unchanged

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APPENDIX A

ESTIMATING TRAJECTORIES USING AGE

For any construct believed to change over time, it is possible that trajectories of change might vary based on the age span being modeled. In the present analyses, the age of participants at baseline ranged from 14 to 18; therefore, it was important to consider the possibility that growth curves estimated for the entire sample over 4 years might not reflect patterns of growth for each age cohort (e.g., the trajectory for the change from age 14 to 18 might not be the same as the trajectory of change from age 18 to 22). One approach to addressing this issue involves estimating trajectories by age, rather than by time. In other words, indicators of a variable for estimating intercept and slope parameters are not taken from times 0, 1, 2, 3 and 4; instead, the indicators reflect the measures for subjects when they were age 14, 15, 16... all the way up to age 22. Given the panel nature of this data set, analyzing growth by age rather than by time would mean that at some ages, the number of observations would not represent the full set of observations (because participants were enrolled into the study at different ages). For example, only those youth who were 14 at baseline would have data at age 14; likewise, only those youth who were 18 at baseline would have data at age 22. Thus, for many ages, there will be a certain amount of missing data if trajectories were analyzed separately for each age group.

Programs such as AMOS attempt to address this type of missing data problem by allowing the outcome at each age to be included as separate variables, with the assumption that data will be missing if an individual did not fall into that particular age group during the study (Mehta & West, 2000). In the present study, growth curves were estimated by time rather than by age; however, in order to address the potential problem of the existence of

different trajectories as a function of age at baseline, nested model comparisons were conducted. In each set of nested models, the sample was divided into one of five age groups: (1) age 14, $n = 66$; (2) age 15, $n = 83$; (3) age 16, $n = 147$; (4) age 17, $n = 145$; and (5) age 18, $n = 60$. In the first nested model, the best-fitting univariate growth curves (as described earlier using the full sample) were estimated with all parameters allowed to vary freely across groups. In the second nested model, equality constraints were imposed on the slope parameters across all groups (e.g., only one value for the slope was estimated regardless of the age group). The models were compared using the chi-square difference test, and in all cases, there was no significant difference between the models. This result suggests that although the adolescents in this study represented a wide age span, growth trajectories for each construct did not vary significantly depending on the age in which a participant began the study. As a follow-up, the chi-square for nested models estimated by age group with free parameters were compared to the chi-square statistics from the models estimated with the entire sample, and again no differences were found. Thus, the models estimated by time rather than by age were considered to be suitable representations of the data. However, the main effects of both age and gender in predicting the intercept and slope parameters in the univariate growth curves for each construct.