

# University of Cincinnati

Date: 7/13/2016

**I, Carlos E Rojas-Gaona, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in Criminal Justice.**

It is entitled:

**Adoption of Street Code Attitudes among Latinos and its Effects on Criminal Offending**

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22212

# **Adoption of Street Code Attitudes among Latinos and its Effects on Criminal Offending**

A Dissertation Submitted to the:  
Graduate School of the University of Cincinnati

In Partial Fulfillment of the  
Requirements for the Degree of

Doctorate of Philosophy (Ph. D.)

In the School of Criminal Justice  
of the College of Education, Criminal Justice and Human Services

2016

by

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## **ABSTRACT**

This individual-level study draws from Elijah Anderson's (1999) Code of the Street theory to examine racial/ethnic differences in levels of code-related attitudes and criminal offending with special attention to Latinos. The code of the street is a normative system of values that emphasizes the use of violence to achieve respect among peers and avoid moral self-sanctions. Using a racially/ethnically diverse sample of serious adolescent offenders from two large U.S. cities and controlling for socio-demographic and risk factors, this study tests whether code-related attitudes are a mediating mechanism linking race/ethnicity and criminal offending.

Net of a series of socio-demographic and risk factors, results obtained from path mediation models showed negative direct and total effects of Black non-Latino status on aggressive offending, and negative direct and total effects of Latino status on aggressive and income offending, relative to non-Latino Whites. More importantly, there is evidence of at least one mediation effect of race/ethnicity on criminal offending. Specifically, path mediation models revealed a positive indirect effect of Latino status on aggressive offending. That is, net of statistical controls, differences on aggressive offending among Latinos compared to non-Latino Whites operated indirectly through the adoption of code-related attitudes. Whereas the hypothesized mediation effect of code-related attitudes on aggressive offending was confirmed for Latinos, there is no support for the mediation effect of Black non-Latino status on aggressive and income offending through the adoption of code-related attitudes, nor for the effect of Latino status on income offending through the adoption of code-related attitudes. These results confirm and extend Anderson's theory to describe adherence to street codes among serious adolescent offenders, and among other racial/ethnic minorities such as Latinos. Based on these findings, theoretical and policy implications of this study are discussed.



## **ACKNOWLEDGEMENTS**

This dissertation marks the culmination of an important chapter in my life and the beginning of a new one. The University of Cincinnati offered me a great opportunity to continue my studies at the graduate level. I am indebted to the University of Cincinnati for opening its doors and offering me so many opportunities and resources to succeed. I would like to express my gratitude to the School of Criminal Justice at UC, especially its entire administrative staff and faculty. Mrs. Jean Gary and Mrs. Janice Miller are always at the frontline of various important tasks that are crucial to make students' live at UC a satisfactory experience. Their hard work, professionalism and affability has greatly contributed to make the CJ School at UC one of the best in the nation.

I also would like to acknowledge the professionalism, work ethics and collegiality of the entire faculty at the CJ School. I am very proud to say that I have learned from the best. The skills and knowledge you pass on to students are incredibly valuable. Many thanks to Dr. Bonnie Fisher and Dr. Larry Travis for offering me the opportunity to work with you as an assistant editor of important criminal justice research journals. Also, I appreciate the words of encouragement and support of Dr. Edward Latessa, Dr. Francis T. Cullen, Dr. James Frank, Dr. John P. Wright, and Dr. Michael Benson whenever I faced challenges during my career.

I would like to express my deepest gratitude to my dissertation committee. My gratitude to Dr. Christopher Sullivan for being such an amazing mentor during this process. I could not have asked for a better advisor. You taught me about the importance of integrating theory and research, paying attention to details and being meticulously when conducting criminological research. Your vast knowledge of statistical methods and ability to juxtapose research findings with criminological theory has made me realize the importance of good quality research, and how our

studies might be translated into good practices. Many thanks to Dr. Pamela Wilcox for introducing me to the literature on communities and crime and cultural theories to understand offending and victimization. Your insightfulness have taught me the importance of good quality research and teaching, and how to transmit knowledge to students effectively. Many thanks to Dr. Ben Feldmeyer for inspiring me to conduct research on such important issues such as immigration, crime and victimization, and for inviting me to work on research projects with you. Also, many thanks to Dr. Anthony Peguero for inviting me to work on my first published article and for being such a good role model to our community when working in the Latin@ Criminology Group. I am proud to say that Dr. Christopher Sullivan, Dr. Pamela Wilcox, Dr. Ben Feldmeyer and Dr. Anthony Peguero are my role models and have inspired me to be a better person and a better scholar. Today I consider you my colleagues and good friends. Also, many thanks to all my American and international friends, especially Bobbie, Mike, Jose Miguel, Ruth, Karen, Cecilia and Martin for your friendship, support and kindness.

I would also like to thank my family. This dissertation is especially dedicated to the memory of my mother and my father. I am who I am because of you. Also, I want to dedicate this dissertation to my aunt Ines and my brothers Rafael, Ricardo and Orlando. I am who I am because of you. Last but not least, I want to dedicate this dissertation to my beautiful and incredibly talented wife Arelys. You are my best friend, my soul mate, and the love of my life. Thank you for your support and for sharing so many special moments together in the past, now and in the years to come. I am who I am because of you. I also dedicate this work to my seven-month-old daughter Sofia Isabel. You are the fire that lights mommy's and daddy's path together. Your giggles and cries make me a better person and a better dad. I am who I am because of you.

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# CHAPTER I

## STATEMENT OF THE PROBLEM

### Background

This study draws from Elijah Anderson's (1999) Code of the Street theory to examine racial/ethnic differences in the adoption of code-related attitudes and criminal offending with special attention to Latinos. According to Elijah Anderson (1999), the code of the street is a normative system that emphasizes the achievement of respect and status among Black inner-city residents through the use of toughness, retribution and violence. Studies that examine the race/ethnicity-crime link have offered mixed results regarding the extent of criminal offending among racial/ethnic minorities relative to their White counterparts. At the individual-level, empirical studies suggest the relevance of street-code beliefs to explain these differences across racial/ethnic groups, yet these studies are scant and tend to examine differences between Whites and Blacks only, in the adoption of code-related attitudes and their purported effects on criminal offending outcomes.

Given the rapid growth in the Latino population in the U.S. and conflicting findings about their involvement in criminal offending, further research on the possible effects of code-related beliefs on criminal offending among Latinos is warranted. As suggested by scholars, it is also necessary to examine the processes that might explain the effects of code-related beliefs and socio-demographic characteristics on criminal offending among this group, and the possibility that code-street related beliefs work as a mediator of the socio-demographic-criminal offending link (Martinez, 2002; Piquero & Brame, 2008; Piquero et al., 2012). Specifically, it is crucial to understand the linkage between race/ethnicity and crime, and whether Latinos have a distinctive set of values that account for offending/compliance relative to other groups. In other words, does

offending among Latinos reflect the adoption of code-related attitudes as a form of situational adaptation to contextual constraints as has been demonstrated in studies of African-Americans?

The purpose of this study is to explore the role of Latino culture in explaining criminal offending at the individual-level. Specifically, I draw from Elijah Anderson's (1999) code of the street thesis to examine whether there are significant differences among Latinos (i.e. relative to other racial/ethnic groups) in the adoption of code-related attitudes. Similarly, this study explores how the purported adoption of code-related attitudes among Latinos might affect their criminal offending levels compared to other racial/ethnic groups, while accounting for contextual and compositional variables (e.g. neighborhood conditions, exposure to violence, gang involvement, or peer delinquency).

Using this as background, this study attempts to answer the following research questions: (1) Are there any race/ethnicity differences in self-reported criminal offending? (2) Do Latinos adopt code-related attitudes as described by Anderson (1999)? (3) Are there significant differences in the adoption of code-related attitudes among Latinos relative to other race/ethnicity groups? (4) Does the adoption (or lack thereof) of code-related attitudes explain greater or lower likelihood of self-reported criminal offending across race/ethnicity groups? (5) Are the effects of race/ethnicity (i.e. Latino) on self-reported offending being mediated by code-related attitudes?

### **The Relevance of Cultural Codes in the Race/Ethnicity-Crime Link**

Studies reviewed in the next chapter about the race/ethnicity-crime link and the possible effects of cultural codes on this relationship point to the following generalizations: first, there is a perceived disparity in offending; several sources of official crime and victimization data show evidence of these disparities by race/ethnicity, where Blacks appear to have a higher risk of

offending when compared to Whites. Similarly, researchers have relied on measures derived from major criminological theories to assess these differences and found support for the White-Black disparity in offending. In general, disparities in offending have been attributed to certain structural conditions (e.g. concentrated disadvantage) endured by particular racial/ethnic groups that might foster criminal behavior. While these studies provide a foundation, the connection between race/ethnicity and crime is still not well understood, since critics have argued that lack of inclusion of socio-psychological and cultural variables limits explanatory power in current research (Kaufman, 2005). Also the dichotomization of the variable “race” in previous studies restricts the ability of researchers to understand the race/ethnicity-crime link across several groups, including Latinos.

Second, the recent influx of Latino immigrants (i.e. particularly illegal immigrants) into the U.S. has ignited a rhetoric in which this group is usually depicted as criminogenic (Sampson, 2008). Despite this fact, research on immigration and crime indicates that most Latino immigrants – including those who maintain an illegal immigration status – tend to be less violent than other racial/ethnic groups (Martinez, 2002, 2010; Sampson, 2008; Sampson, Morenoff, & Raudenbush, 2005). In addition, other researchers have found within-group differences in offending when comparing Latinos from different nationalities, or when comparing U.S. born versus foreign born Latinos (Estrada-Martínez, Padilla, Caldwell, & Schulz, 2011; K. A. Wright & Rodriguez, 2012). These research findings suggest the relevance of studying the race/ethnicity-criminal offending link beyond the Black-White dichotomy. This study includes Latinos as a separate category in the “race/ethnicity” variable to examine differences in offending across groups.

Third, research findings point to the possibility that aside from concentration effects, there might be cultural explanations worthy of consideration that; at the micro-level, could aid researchers in understanding the purported race/ethnicity-crime link among Latinos. For example, why – according to some researchers – would Latinos seem to possess individual attributes that serve as protective factors against criminal offending? Certainly, there is a gap in the literature with respect to direct tests of these individual-level processes with the Latino population, and how they compare to other racial/ethnic groups. Therefore, this study uses an individual-level approach that considers the role of code-related attitudes along with other socio-psychological variables to disentangle the race/ethnicity-crime link among Latinos, given that this group usually displays similar trends in neighborhood, family structure and socio-economic conditions as that of Blacks.

I use data from the Pathways study to answer the questions outlined above. Pathways is a large longitudinal study of serious juvenile offenders ( $n=1,354$ ) adjudicated from the juvenile and adult court systems in Maricopa County, AZ ( $n=654$ ) and Philadelphia County, PA ( $n=700$ ). Nearly all respondents in the study were males with ages ranging between 14 and 18 years old. Participants in the Pathways study were enrolled, and answered questions on a baseline interview at the beginning of year 2000. The baseline interview was followed by interviews conducted on 10 different occasions over the next 84 months. The data were obtained through computer assisted personal interviews (CAPI). The Pathways study includes information on several domains such as background characteristics, community context, family context, personal relationships, indicators of individual functioning, and psychosocial development and attitudes (Mulvey, 2013), all of which are relevant to assess the research questions.

In the next chapter, I will discuss the theoretical framework that guides my study with special attention to the code of the street theory as outlined by Elijah Anderson (1999). The code of the street theory highlights the role of culture and cultural attitudes among African-Americans living in areas of concentrated disadvantage as a plausible explanation for the race/ethnicity-crime link. Given that, as suggested earlier, Latinos often face similar conditions to those of African-Americans in terms of socio-demographic and economic indicators, I will argue that code-related attitudes also are likely to emerge among Latinos, and the adoption of these attitudes could in turn lead to criminal offending (Allen & Lo, 2012; Bourgois, 2003; Matsuda, Melde, Taylor, Freng, & Esbensen, 2013; Rose & Ellison, 2013; Slocum, 2014; Tapia, 2014; Taylor, Esbensen, Brick, & Freng, 2010; Venkatesh, 2008). With some exceptions, this notion contradicts findings about the “Latino Paradox” (Burchfield & Silver, 2013; Estrada-Martínez, et al., 2011; Martinez, 2002, 2010; Sampson, 2008; Sampson, et al., 2005; K. A. Wright & Rodriguez, 2012), as well as individual-level research that indicates that Latinos perform better in a series of criminal outcomes when compared to other racial/ethnic groups (Alvarez-Rivera, Nobles, & Lersch, 2014; Bersani, 2014; Bersani, Loughran, & Piquero, 2014; Eggers & Jennings, 2014).

Despite these better outcomes among Latinos, other studies considering community and individual-level predictors have found that Latinos are in fact more likely to offend than non-Latino Blacks and non-Latino Whites (Estrada-Martínez, Caldwell, Schulz, Diez-Roux, & Pedraza, 2013; Estrada-Martínez, et al., 2011; Kaufman, 2005). Could these differences be explained by virtue of the presence/absence of code-related beliefs among Latinos? To fill this gap in the literature, an individual-level examination of the race/ethnicity-crime link with special

attention to code-related attitudes among Latinos is therefore warranted, and constitutes the focus of this dissertation.

### **Study Objectives and Contribution**

For this dissertation I use cultural explanations of crime and delinquency as a theoretical framework. Specifically, I draw from the ideas laid out by Elijah Anderson in his notable book *Code of the Street: Decency, Violence and the Moral Life of the Inner City* (Anderson, 1999). First I discuss theory and research on the race/ethnicity-crime link, the “Latino Paradox” and the immigrant revitalization perspective (Ramey, 2013; Sampson, 2008) to illustrate how macro-level research on the race/ethnicity-crime link has revealed differences in criminal offending. In particular, these studies predict lower criminal offending rates among Latinos when compared to other racial/ethnic groups, and suggest that culture might play an important role in the aforementioned relationship. However, I argue that it is necessary to take a closer look at the impact of individual-level variables on criminal offending (Kaufman, 2005; Stewart, Schreck, & Simons, 2006; Stewart, Simons, & Conger, 2002) in order to better understand: (1) the possible role of code-related attitudes on criminal offending among Latinos, (2) how the adoption of these codes compare across racial/ethnic groups, and (3) the possible mediating effects of code-related attitudes on the race/ethnicity-criminal offending link, all of which are objectives of this dissertation. That is, despite the contribution of community-level research to the understanding of the race/ethnicity-crime link, there seems to be a series of individual-level processes (e.g. code-related attitudes) which have been largely ignored in the past and that deserve more attention.

Second, I describe how inquiries about the race/ethnicity-crime linkage led to the revival of cultural explanations of crime in recent years (Anderson, 1999; Hannerz, 2004; Sampson &



Bartusch, 1998; Sampson, et al., 2005; Sampson & Wilson, 1995; Wilson, 1987, 1996) with particular attention to Anderson's work, the characteristics and scope of the code of the street, and the community-level causal model laid out in his theory. The code of the street theory is examined under the scope of the attenuated culture approach, which differs from the subculture of violence approach (Wolfgang & Ferracuti, 1969). I also argue that although Anderson's (1999) theory has been mostly examined under the scope of macro-level research, the ascription to code-related attitudes that might result in criminal offending entails individual-level processes, and as such, these individual-level processes deserve more attention (Brezina, Agnew, Cullen, & Wright, 2004; Stewart & Simons, 2010).

Third, I discuss the work of Philippe Bourgois *In Search of Respect: Selling Crack in El Barrio* (Bourgois, 2003) to highlight the possible emergence of code-related attitudes among Latinos in a process similar to the one described by Anderson. Although Anderson (1999) did not discuss the role of gang membership in his work, I argue that the enactment of code-related attitudes among Latinos might be closely related to socialization processes within the gang. Bourgois' research (2003), along with other qualitative studies referring particularly to Latino gangs and their socialization processes (Brotherton & Barrios, 2004; Durán, 2013; Flores, 2014), might prove useful in elucidating the emergence or not of individual-level code-related attitudes among Latinos. Also, I discuss community-level and individual-level research findings on the race/ethnicity-crime linkage, as well as the possible mediating and/or moderating effects of code-related attitudes on the race/ethnicity-crime link with special attention to Latinos.

Finally, the research questions in this dissertation are answered through a series of bivariate and multivariate regression models. Specifically, path models are analyzed and reveal whether levels of code-related attitudes mediate the race/ethnicity-criminal offending link among

non-Latino Blacks and Latinos compared to non-Latino Whites, while holding constant a number of socio-demographic variables and criminogenic risk-factors. Study findings, limitations, future research and implications are discussed in the final chapters of this dissertation.

## CHAPTER II

### THEORETICAL FRAMEWORK

#### **Race/Ethnicity and Crime**

The relationship between race/ethnicity and crime has been an object of theoretical and empirical inquiry over a long period of time, yet the link between these two variables is still not well understood (Anderson, 1990, 1999; Bruce, Roscigno, & McCall, 1998; Elliott & Ageton, 1980; Farrington, Loeber, & Stouthamer-Loeber, 2003; Hawkins, 2003; Horowitz, 1982; Kaufman, 2005; Kubrin & Weitzer, 2003; Matsueda, Drakulich, & Kubrin, 2006; McNulty & Bellair, 2003; Piquero & Brame, 2008; Sampson, et al., 2005; Sampson & Wilson, 1995; Stewart, et al., 2002; M. L. Sullivan, 1989; Venkatesh & Levitt, 2000; Wikström & Loeber, 2000). Several sources of crime and victimization data (e.g. Uniform Crime Reports, National Incident-Based Reporting System, National Crime and Victimization Survey) have been used by criminologists to document racial/ethnic differences in violent and property offenses, arrest and incarceration rates. Although official reports indicate that the gap in arrest rates among African-Americans and Whites has closed recently, arrest rates for the most serious violent offenses have been historically higher for Blacks when compared to Whites (U.S. Department of Justice, 2014). Similarly, self-report data at the national level shows that African-American adolescents tend to offend at higher rates, and are somewhat more likely to engage in serious violent offending when compared to Whites, but these differences tend to disappear when considering less serious offenses or when factors such as neighborhood conditions, family structure or peer relations are included in the studies (Elliott & Ageton, 1980; McNulty & Bellair, 2003).

Data show that Latino adolescents are more likely to commit serious offenses than Whites (Estrada-Martínez, et al., 2013; Estrada-Martínez, et al., 2011; Kaufman, 2005). For

example, Estrada-Martínez and colleagues (2013) analyzed Add Health data and found that Latino adolescents were more likely to engage in criminal offending than White adolescents. Furthermore, the authors found within-group differences among Latinos indicating that certain individual-level variables might serve as protective factors for violence. Understandably, these facts have ignited debates among criminologists about what could explain the race/ethnicity-crime link.

Research on the race/ethnicity-crime link has drawn upon several criminological theories to assess whether there are in fact any specific racial/ethnic groups that are more likely to engage in offending behaviors, and whether the correlation between race/ethnicity and crime might be explained net of individual and/or community-level factors (Anderson, 1999; Bruce, et al., 1998; Elliott & Ageton, 1980; Farrington, et al., 2003; Horowitz, 1982; Kaufman, 2005; Kubrin & Weitzer, 2003; McNulty & Bellair, 2003; Peeples & Loeber, 1994; Piquero & Brame, 2008; Stewart, et al., 2002; M. L. Sullivan, 1989; Venkatesh, 2008; Venkatesh & Levitt, 2000; Wikström & Loeber, 2000). Relevant theories that have been used to assess the race/ethnicity-crime link at the neighborhood and individual levels of analyses are anomie/strain (Agnew, 1992; Cernkovich, Giordano, & Rudolph, 2000; Jang & Johnson, 2003; McCluskey, 2002; Merton, 1938; Simons, Chen, & Stewart, 2003), social control (Hirschi, 1969), self-control (Gottfredson & Hirschi, 1990), social learning (Akers, 1998), social disorganization (Burchfield & Silver, 2013; Krivo & Peterson, 1996; Kubrin & Weitzer, 2003; Sampson & Bartusch, 1998; Sampson, et al., 2005; Sampson, Raudenbush, & Earls, 1997; Sampson & Wilson, 1995; Shaw & McKay, 1942/1969; Warner, 2003; Warner & Pierce, 1993; Warner & Rountree, 1997; Wilcox Rountree, 2000), and (sub)cultural theories (Allen & Lo, 2012; Anderson, 1990, 1999; Bourgois, 2003; Brezina, et al., 2004; Carr, Napolitano, & Keating, 2007; Hannerz, 2004;

Horowitz, 1982; Kubrin, 2005; Kubrin & Weitzer, 2003; Lopez, Roosa, Yun-Tein, & Dinh, 2004; Matsuda, et al., 2013; Matsueda, et al., 2006; Piquero, et al., 2012; Rose & Ellison, 2013; Sampson & Bartusch, 1998; Slocum, 2014; Stewart, et al., 2006; Stewart & Simons, 2006, 2010; Tapia, 2014; Taylor, et al., 2010; Thrasher, 1936; Venkatesh, 2008; Warner, 2003; Wilcox Roundtree, 2000; Wolfgang & Ferracuti, 1969).

Researchers have found evidence of racial/ethnic differences in offending behavior explained as the consequence of concentration effects; a finding supported by social disorganization theory. According to this line of research, certain racial/ethnic groups like African-Americans are more likely to engage in violent crimes when compared to Whites due to the particular macro-social patterns of disadvantage and deprivation to which these minorities have been exposed to over the years. Proponents of social disorganization theory argue that compared to Whites, Blacks tend to live in neighborhoods with significant concentrations of disadvantageous conditions such as poverty, single-headed families and residential inequality. These conditions produce social isolation from mainstream society and the absence of “social buffers” in the community that might act as role models to promote law abiding behaviors. Social disorganization theory explains racial/ethnic differences in crime by adding a cultural component, since in socially isolated communities individuals tend to develop their own set of beliefs and modes of interaction that justify deviant behavior as a coping mechanisms to structural constraints (Krive & Peterson, 1996; Kubrin, 2005; Sampson, 2008; Sampson, et al., 1997; Sampson & Wilson, 1995; Wilson, 1987, 1996, 1999). Although revitalized in recent years, the cultural component of social disorganization theory has been understudied, perhaps as a consequence of Ruth Kornhauser’s groundbreaking criticism and interpretation of social disorganization theory within a control-theoretic approach (Kornhauser, 1978).

Anomie/strain is a criminological theory that assesses racial/ethnic differences in offending behavior (Agnew, 1992; Merton, 1938). Recently, Cernkovich, Giordano, and Rudolph (2000) studied whether there were significant differences in criminal behavior among African-Americans compared to Whites as a result of the disjunction between aspirations/expectations in regard to achieving upward mobility (i.e. or the “American Dream”). The authors argued that although Blacks reported having higher unemployment rates and lower incomes than Whites, they displayed higher levels of commitment to economic success, and that the major sources of strain were significant correlates of crime among Whites but not Blacks. In another study, Jang and Johnson (2003) tested Agnew’s (1992) general strain theory with a sample of African-Americans and found that compared to Whites, Blacks tended to be more committed to religiosity (i.e. a cultural aspect of life) which made them less likely than Whites to engage in offending behavior. Other researchers found some support for general strain theory in that experiencing increased exposure to stressors or discrimination was a significant predictor of delinquency, particularly among Blacks (Jang & Johnson, 2003; Simons, et al., 2003).

Most research on the race/ethnicity-crime link within the lines of social disorganization (Shaw & McKay, 1942/1969), general strain (Agnew, 1992), social control (Hirschi, 1969), self-control (Gottfredson & Hirschi, 1990) and social learning (Akers, 1998) has been conducted by examining differences among Whites and Blacks only. This limits the ability of researchers to understand how these processes occur given the emergence of other groups such as Latinos in the U.S. population (U.S. Census Bureau, 2011a, 2012). Moreover, aside from not including other racial/ethnic groups in current research, some critics have argued the lack of integration of cultural and socio-psychological processes in the study of the race/ethnicity-crime link as a reason for the misunderstanding of this relationship (Farrington, et al., 2003; Kaufman, 2005;

Peeples & Loeber, 1994; Wikström & Loeber, 2000), or the inadequacy of some of these theories to explain Latino delinquency in particular (McCluskey, 2002).

Despite these limitations, there is a group of theories that consider the role of culture and individual-level processes among different racial/ethnic groups as a possible explanation for criminal offending (e.g. Shaw & McKay's 1942/1969 thesis of cultural transmission; Wolfgang and Ferracuti's 1969 subculture of violence theory; Anderson's 1999 code of the street theory). Elijah Anderson's (1999) code of the street theory offers a compelling account of what might explain racial/ethnic differences in offending, but has nonetheless been exposed to very limited empirical inquiry (Baumer, Horney, Felson, & Lauritsen, 2003; Brezina, et al., 2004; Matsueda, et al., 2006; Piquero, et al., 2012; Sharkey, 2006; Stewart, et al., 2006; Stewart & Simons, 2006, 2010; Stewart, et al., 2002). In addition, Anderson's theory has not been assessed to compare criminal offending among different racial/ethnic groups other than Whites and African-Americans.

The code of the street represents a form of social capital shared by some individuals who reside in economically-deprived neighborhoods, where – compared to middle class neighborhoods – prestige and self-worth are not measured by standards of economic success, but rather by the capacity of individuals to face everyday challenges with violence and demonstrate their ability to engage in it. Arguably, the code of the street emerges as a situational adaptation to contextual constraints (e.g. low SES) where mainstream values are no longer relevant or become useless. As described by Anderson (1999), the code of the street emerges in predominantly Black neighborhoods characterized by adverse conditions such as welfare dependence, joblessness, poverty and single-headed family households. Given these particular structural conditions, a series of individual-level processes are thought to operate to affect individual-level outcomes

such as offending (Anderson, 1990, 1999; Horowitz, 1982; Kubrin, 2005; Kubrin & Weitzer, 2003; Stewart & Simons, 2010; Stewart, et al., 2002; M. L. Sullivan, 1989; Tapia, 2014). It has been suggested that Latinos often face similar adverse conditions, which might pave the way for the emergence of code-related attitudes among this group (Bourgeois, 2003).

Previous studies examining the race/ethnicity-crime link (McNulty & Bellair, 2003; Piquero & Brame, 2008; Sampson, 2008; Sampson, et al., 2005; K. A. Wright & Rodriguez, 2012) and the role of code-related attitudes on victimization and criminal offending have shown mixed results (Baumer, et al., 2003; Brezina, et al., 2004; Matsueda, et al., 2006; Piquero, et al., 2012; Sharkey, 2006; Stewart, et al., 2006; Stewart & Simons, 2006, 2010; Stewart, et al., 2002). For example, there is evidence indicating: (1) significant effects of race/ethnicity on the adoption of street code attitudes (Matsueda, et al., 2006; Piquero, et al., 2012), (2) significant effects of the adoption of street code attitudes on criminal offending and victimization (Markowitz & Felson, 1998; Sharkey, 2006; Stewart & Simons, 2006, 2010) and, (3) neither direct nor indirect effects of race/ethnicity on the adoption of street code attitudes and future criminal offending (Baumer, et al., 2003; Brezina, et al., 2004; Piquero & Brame, 2008).

As suggested earlier, these studies tend to primarily examine differences between Whites and African-Americans in the adoption of code-related attitudes, as well as the purported effects of code-related attitudes on offending outcomes. Yet they ignore the role that those attitudes might play in other groups such as Latinos. A possible reason for this shortcoming in previous research is the underrepresentation of Latinos in available datasets (e.g. UCR data), or the inclusion of Latinos within a non-White category that impedes reliable estimations of criminal offending rates. Despite this fact, Latinos are a fast growing population in the U.S. with a recent estimate indicating a population growth of about 43 percent in the period covering years 2000-



2010 (U.S. Census Bureau, 2011a). Moreover, a recent projection shows a similar trend indicating that in the next 50 years, the Latino population in the U.S. will increase at a rate of three percent annually (i.e. from 53.3 million Latinos in 2012 to 128.8 million in 2060). This rapid expansion means that by the end of year 2060, about one in every three people in the U.S. will be Latino/a (U.S. Census Bureau, 2012). Certainly, due to its growing representation in the U.S population, the inclusion of Latinos within a non-White category is warranted in studies that examine the effects of race/ethnicity on crime. This will allow researchers to disaggregate the effects of each race/ethnicity on crime, and understand the processes of crime causation that might be particular to each group.

On the other hand, alongside rapid population growth in the U.S., Latinos have been generally perceived as being more likely than or as likely to offend as other minority groups. This perception contradicts recent studies indicating otherwise; that is, the likelihood of perpetrating violence is lower for Latinos when compared to Whites and Blacks. For example, a comprehensive descriptive study about homicide rates in five major American cities (i.e. El Paso, Miami, San Diego, Chicago and Houston) conducted by Ramiro Martinez in 2002 showed that contrary to common perceptions: (1) Latino homicides are for the most part not gang or drug-related, but rather incidents that escalate from a minor grievance to the use of lethal violence; (2) homicide rates among Latinos are much lower when compared to homicide rates among Blacks and; (3) Latino immigrants display lower rates of offending in general when compared to native-born Americans. These observations made by Martinez (2002) are relevant to better understand the race/ethnicity-crime link given that Latino communities often experience levels of socio-economic disadvantage that are not only high, but also comparable to those of disadvantaged Black communities. Arguments contradicting the perception of higher delinquency among

Latinos relative to Whites and Blacks are delineated within the “Latino Paradox,” which is discussed in the next section.

### **The “Latino Paradox”**

Official sources indicate racial/ethnic disparities in offending and an overrepresentation of African-Americans and Latinos in official arrest and incarceration statistics (U.S. Department of Justice, Bureau of Justice Statistics, 2012; U.S. Department of Justice, Uniform Crime Reports, 2012). However, recent studies note that despite experiencing conditions of socioeconomic disadvantage, Latinos are less likely to perpetrate acts of violence compared to other racial/ethnic groups, including non-Latino Whites (Burchfield & Silver, 2013; Martinez, 2002, 2010; Rojas-Gaona, Hong, & Peguero, 2016; Sampson, 2008; Sampson, et al., 2005; K. A. Wright & Rodriguez, 2012); a phenomenon referred to as the “Latino Paradox” that later prompted the development of the “Latino immigrant revitalization perspective” (Feldmeyer, Steffensmeier, & Ulmer, 2013; Harris & Feldmeyer, 2013; Martinez, 2002, 2010).

Similar to the “Latino paradox,” the “Latino immigrant revitalization perspective” proposes that despite their higher levels of concentrated disadvantage and residential instability, enclaves with high proportions of Latino residents are characterized by strong labor-market ties (i.e. via unskilled low-wage labor and consumption), which in turn bolsters the economy, community ties and informal social controls (Ramey, 2013). Recent studies argue that these conditions are often associated with lower violent and property crime rates in communities with high concentrations of Latino residents (Harris & Feldmeyer, 2013; Harris, Gruenewald, & Painter-Davis, 2015; Lyons, Vélez, & Santoro, 2013; Ousey & Kubrin, 2009, 2014; Ramey, 2013; Reid, Weiss, Adelman, & Jaret, 2005; Stansfield, 2014). As I will explain later, this assertion suggests that, if the adoption of code-related attitudes plays a role in the race/ethnicity-

crime link, then non-Latino Whites would be as likely – or even more likely – to offend than Latinos (Rose & Ellison, 2013).

To provide a specific example of this line of research, Sampson, Morenoff and Raudenbush (2005), assessed the “Latino Paradox” in a multilevel-longitudinal study with data collected from 1995 to 2002 in Chicago neighborhoods ( $n=180$  census tracts). The sample in their study included three different racial/ethnic groups with the inclusion of both first and second-generation Latinos. The statistical models in this study indicated that, accounting for neighborhood and individual-level predictors, the odds of perpetrating violence were significantly lower for Latinos compared to Whites and African-Americans. Similarly, consistent with the “Latino Paradox” the authors found that, among Latinos, being immigrant and residing in neighborhoods of high immigrant concentration predicted lower probabilities of engaging in violence.

Sampson (2008) provided more evidence sustaining the “Latino Paradox” in a report written for the American Sociological Association’s magazine: *Contexts*. The author contributed to the debate about the race/ethnicity and immigration crime-link by drawing on his previous research that demonstrates that even with a surge in the foreign-born and second generation Latino population in the United States during the 1990’s and 2000’s, Latinos are less likely to commit violent offenses than Blacks and Whites. In other words, net of individual, neighborhood and family characteristics, Latinos are less likely to commit violent crimes than Blacks and Whites, and this pattern holds true even for foreign-born Latinos when compared to second-generation and third-generation Latinos.

Similar to Sampson (2008) and Sampson and colleagues (2005), Martinez (2002) conducted a comprehensive cross-city analysis of homicide rates in five American cities (i.e.

Chicago, IL; San Diego, CA; Miami, FL; El Paso and Houston, TX) that assessed the seemingly contradictory argument that – despite a high influx of Latino immigration into the United States in recent years, negative media portrayals about the role of immigrants in American society, and their high levels of poverty – Latino homicide rates are considerably lower when compared to those of Blacks. According to Martinez (2002), there might be several reasons to explain why homicide rates are lower among Latinos than Blacks. These reasons are often particular to the Latino culture or the Latino immigration experience. For example, it has been argued that when compared to other racial/ethnic groups, Latinos tend to display higher levels of social integration, familism, and labor force attachment even when facing low-wage jobs (Estrada-Martínez, et al., 2011; Martinez, 2002), all of which might serve as protective factors against criminal offending.

The argument above was supported by Sampson and colleagues (2005), who conducted a study using longitudinal data from the city of Chicago, and found that the odds of perpetrating violence by Latinos were 10% lower when compared to those for Blacks and Whites (Burchfield & Silver, 2013; Martinez, 2002, 2010; Sampson, 2008; Sampson, et al., 2005; K. A. Wright & Rodriguez, 2012). In contrast to this finding, Estrada-Martínez and colleagues (2011) conducted a study comparing Whites, Blacks and Latino youths (i.e. Cuban, Puerto Rican, and Mexican) and found that Whites displayed the lowest risk of serious violence, while Latinos (i.e. Puerto Ricans) displayed the highest risk of serious violence. Moreover, some of the protective or risk-inducing factors for serious violence, such as familism, parental engagement, autonomy and single-parent household varied depending on race and ethnicity, which suggests that individual-level processes such as cultural attitudes (e.g. familism) might manifest themselves differently to either increase or decrease the likelihood criminal offending (Estrada-Martínez, et al., 2011). Inquiring about whether these cultural attitudes exist among Latinos and to what extent they

might increase or decrease their likelihood of criminal offending compared to other racial/ethnic groups is at the core of this dissertation.

Among the main arguments raised by Martinez to explain the “Latino Paradox” is the observation that, unlike their Black counterparts, Latinos are more integrated into the social fabric due to their participation in the labor market through low-paying jobs. Consistent with descriptions of the “underground” economy such as untaxed or informal low-paying jobs (Anderson, 1990, 1999; Bourgois, 2003), Martinez suggested that even experiencing the same structural constraints faced by Blacks, Latinos are willing to participate in the informal economy which creates a buffering effect that protects them from violence and crime.<sup>1</sup>

On the other hand, a subtler interpretation of Martinez’ work pinpoints a cultural explanation for Latino homicide, in which recent Latino immigrants would be insulated from violence and crime as they have not experienced the processes of acculturation into the American society; a society characterized by high violence (Sampson, 2008). According to this line of reasoning, recent Latino immigrants would display lower homicide rates than second and third generation Latinos, whom have been more exposed to acculturation processes. Plausibly, this finding begs the question of whether Latinos are more likely to adopt street-code attitudes that result in offending outcomes due to assimilation over-time to a “high-violence society” (Sampson, 2008; p. 33), or whether certain features of the Latino culture that they bring to the society protects them from adopting street-code attitudes and/or engaging in crime. The previous assertions by Martinez (2002) were later substantiated in a study in which the author explained

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<sup>1</sup> Measures of familism, employment, parental engagement, autonomy or family structure are not integrated into this study. Familism might be described as a cultural process at the individual-level that serves as a protective factor against violence. Similar to familism, other cultural processes like the adoption of code-related attitudes are thought to rather represent a risk-inducing factor for violence. This dissertation integrates code-related attitudes (i.e. a cultural process) in a mediation model that links race/ethnicity and self-reported offending (Anderson, 1999; Estrada-Martínez, et al., 2011; Jacobson, England, & Barrus, 2008).

that regardless of economic disadvantage, an examination of neighborhood-level homicides for three decades in San Diego, CA, yielded a lower probability of lethal violence over time because of an increase on the first-generation Latino population.

An extension to the line of research on the “Latino Paradox” was presented by Wright and Rodriguez (2012), who conducted a study examining the effects of immigration on recidivism among Latino youths in Arizona. The authors used a cross-sectional sample of youth referrals to the Maricopa County’s juvenile court system ( $n=12,660$ ), and nested individual-level data within census tracts to determine whether Latino immigrant concentration was a significant predictor of recidivism. Consistent with the “Latino Paradox,” race/ethnicity and gender-specific models indicated that the likelihood of recidivism is reduced in areas characterized by high immigrant concentration, but the result holds only for Latina girls. Interestingly, despite a non-significant effect of immigrant concentration on recidivism among boys, the models indicated a similar declining pattern for Latino boys (i.e. when compared to Latina girls), and a positive effect for White boys. Consequently, Wright and Rodriguez’s (2012) results suggest the need for further analyses on the race/ethnicity-crime link. For example, it is important to conduct studies that investigate whether Latinos bring any particular characteristics to their communities that make them less likely to recidivate.

Finally, Burchfield and Silver (2013) conducted a study using neighborhood-level data from Los Angeles, CA, to assess the effects of Latino neighborhoods versus non-Latino neighborhoods on victimization outcomes, and whether the effects of disadvantage on victimization were mediated by a measure of collective efficacy. Two relevant results of this study were that: (1) the relationship between neighborhood disadvantage and robbery victimization was mediated by collective efficacy for both Latino and non-Latino neighborhoods,

and (2) although disadvantage was positively associated with the likelihood of robbery victimization, the effect was only significant in non-Latino neighborhoods.

In sum, recent empirical studies examining the “Latino Paradox” seem to indicate the existence of a “protective” factor among Latinos that might reduce their likelihood of offending, recidivism and victimization.

Contrary to the line of research above, other studies considering neighborhood and/or individual-level variables have found that compared to Whites and Blacks, Latinos are more likely to offend (Estrada-Martínez, et al., 2013; Estrada-Martínez, et al., 2011; Kaufman, 2005). For example, in a multi-level study Kaufman (2005) found that certain socio-psychological processes such as being exposed to violence mediate the race/ethnicity-violence link, net of neighborhood disadvantage. Furthermore, longitudinal analyses demonstrated that Latinos are more likely to offend than Blacks. This study revealed the importance of individual-level processes in the race/ethnicity-crime link. In particular, the author explained that exposure to violence emerged as an important mediator of the impact of neighborhood context on individual violence. Since exposure to violence might increase individuals’ associations with violent others, it is plausible to argue that associations with violent others might provide a breeding ground for the emergence of code-related attitudes among Latinos as those explained by Anderson (1999).

Finally, recent studies conducted by Estrada-Martínez and colleagues (2011; 2013), provided further evidence contrary to the “Latino Paradox.” First, using data from Add Health, Estrada-Martínez and colleagues found that Latino youths were more likely to engage in violence than Whites, and that there are within-group differences in terms of the “risk protecting” quality of individual-level variables on violence. For example, adolescent autonomy was positively associated with violence among Puerto Ricans and Cubans, but not Mexicans, and

parental engagement was associated with higher risks of violence among Whites and Blacks but not Latinos. Furthermore, immigrant generation was differentially associated with the risks of violence among Latino subgroups (i.e. Mexican, Cuban, and Puerto Rican). Consistent with Wright and Rodriguez (2012), Estrada- Martínez and colleagues' study suggest that there might be particular characteristics among Latino subgroups that might make them more or less likely to offend. These findings were supported by Estrada-Martínez and colleagues in a subsequent study in which the researchers underscored the importance of individual-level processes (i.e. family-cohesion, parental engagement, adolescent autonomy) in explaining the race/ethnicity-crime link among Latino subgroups.

As I have explained in this section, research on the “Latino Paradox” indicates that all things being equal (e.g. poverty, concentrated disadvantage), Latinos tend to offend less than African-Americans. This finding is in contrast to what is expected according to Anderson’s (1999) thesis. Hence, questions remain as to what could explain the “Latino Paradox.” Are there any elements (e.g. community involvement) that Latinos bring to the neighborhood that protect them from engaging in offending behavior? Or instead, do Latinos who experience disadvantageous neighborhood conditions uphold code-related attitudes that make them likely to engage in criminal offending? Moreover, are Latinos just as likely as African-Americans to adopt code-related attitudes?

Contrary to research on the “Latino Paradox,” other studies indicate that net of neighborhood-level predictors, Latinos are just as likely – or more likely – to offend than other racial/ethnic groups.<sup>2</sup> In general, these studies have highlighted the importance of socio-

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<sup>2</sup> It is important to note that discrepancies in findings among different studies also might be attributed to several factors such as differences in study designs, methods, sample sizes or attrition rates. For example, Estrada-Martínez and colleagues (2011) used Add Health data and found a higher likelihood of violent offending among Latinos compared to other groups. However, their sample presented high attrition rates across waves which limited their



psychological processes in explaining the race/ethnicity crime link among different racial/ethnic groups and even within Latino subgroups. In general, these studies suggest that other socio-psychological variables – such as those indicating the adoption of code-related attitudes – should be included in future analyses. However, most studies that consider cultural codes on the race/ethnicity crime-link offer mixed results and tend to examine differences between Whites and Blacks only. Certainly, the inclusion of Latinos might allow to better understand the processes in the race/ethnicity-crime link. As implied earlier, code-related attitudes might be one of the possible mechanisms underlying this link.

While macro-level studies on the “Latino paradox” and the “immigrant revitalization perspective” are relevant to the understanding of the race/ethnicity-crime link, other multi-level and individual-level studies pinpoint to a series of individual factors (e.g. exposure to violent peers, involvement in community activities, weakened prosocial and/or antisocial values and beliefs) that deserve more attention. This dissertation will examine the extent to which the effect of race/ethnicity and other individual-level factors on self-reported criminal offending is mediated by the adoption of code-related attitudes. As I will explain in the following section, the role of cultural codes might help elucidate the purported race/ethnicity-crime link.

### **Race/Ethnicity-Crime Link and the Role of Culture**

In recent years, interest in the role of race/ethnicity on crime as well as the possible mediating effect of cultural codes on this relationship has grown among criminologists (Anderson, 1999; Hannerz, 2004; Sampson & Bartusch, 1998; Sampson, et al., 2005; Sampson & Wilson, 1995; Wilson, 1987, 1996). An important contribution to this line of research was

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study to cross-sectional analyses, and impeded their ability to draw causal arguments. Pathways data helps to overcome these limitations by including enough variation with respect to race/ethnicity, and a high retention rates across waves (i.e. 84% of the original sample participated in the final wave of the study).

made by Sampson and Wilson, who proposed a neighborhood-level theory explaining the race and crime relationship as a result of the contextual environments in which people live. In their proposed theory, the authors incorporated both structural and cultural dynamics to explain the race/ethnicity-crime link, and suggested that Blacks and Whites tend to reside in very different ecological contexts. That is, given the same socioeconomic status, Blacks and Whites face vast differences in the environments in which they live, work and raise their children (Sampson & Wilson, 1995). The authors suggest that the worst urban environments in which Whites reside are considerably better than those in which Blacks live. Therefore, the authors contend that the purported race-crime link is nothing more than an artifact of the fact that Blacks are more likely to reside in disadvantage contexts where poverty, single-headed family households, joblessness and welfare dependence are the norm.

Sampson and Wilson's arguments can be traced back to Wilson's (1987) work in *The Truly Disadvantaged: The Inner City, the Underclass and Public Policy*. In this work, Wilson explained that the vast differences in the ecological contexts in which Blacks and Whites reside originated as a result of three structural factors. First, during the 1970's the U.S. experienced a sharp process of deindustrialization of central cities, a shift to low wage service-oriented jobs, and the relocation of industries away from the inner-cities which led to chronic joblessness in Black communities. Second, a process of out-migration occurred, in which Black families with better socio-economic status moved away from the inner-city looking for better job opportunities and living conditions. According to Wilson (1987), out-migration processes removed an important social buffer in the inner-city that could have deflected the impact of joblessness and industrial changes. Third, deliberate policy decisions facilitated the segregation of minorities in poor public housing in the inner-city.

Wilson (1987) explained that the three major structural factors described above (i.e. deindustrialization, out-migration and segregation) created “concentration effects” in the inner-city. As a consequence, concentrated poverty and disadvantage led to the formation of an “underclass” characterized by Black single-parent families with children that were poor, unemployed and lacked sufficient resources and skills for upward mobility. Wilson argued that the degree of concentrated disadvantage was a relevant cause of high levels of violent crime in the inner-city. In extending Wilson’s (1987) work, Sampson and Wilson (1995) specified the variables that might mediate the relationship between concentrated disadvantage and crime. The authors argued that concentrated disadvantage in conjunction with social isolation from mainstream society and institutions led to: (1) structural social disorganization in the community and (2) weakened culture. The authors contend that these two factors are the most immediate causes of high levels of crime. The concept of weakened culture – which is discussed next – is of special interest for this dissertation, since it provides a framework to study the race/ethnicity-crime link at the individual-level.

### **Weakened Cultural Values and Criminal Offending**

A fundamental point of Sampson and Wilson’s (1995) theory is that weakened cultural values ensue among racial/ethnic minorities who experience disadvantage (e.g. social, economic). In turn, weakened cultural values are considered as the most immediate causes of criminal offending. Despite the relevance of structural social disorganization in the aforementioned theory, the concept of weakened culture is of special interest in assessing the role of cultural codes on criminal offending at the individual-level. Weakened culture refers to cultural adaptations that individuals experience by virtue of their lack of interaction with mainstream society, including its values, individuals and institutions. In this case, the urban

“underclass” is deprived of conventional role models that might foster the cultural learning of mainstream values required to facilitate upward social and economic mobility (Sampson & Wilson, 1995). In contrast to subcultural perspectives of crime such as the “subculture of violence” described by Wolfgang and Ferracuti (1967), the weakened culture or “cultural adaptation” perspective does not require the internalization of deviant values by individuals living in deprived communities. Instead, Sampson and Wilson’s (1995) approach is consistent with Ulf Hannerz’s (2004) work on the Black ghetto life, where he argued that culture is situationally adaptive.<sup>3</sup>

That is, ghetto-related behaviors such as idleness, violence, public drinking and displays of machismo result under conditions of deprivation, not because individuals consider these behaviors legitimate, but because they make sense in the contexts where they reside.<sup>4</sup> In other words, crime and deviance become part of the “cognitive landscape” of individuals in the Black ghetto (Sampson & Wilson, 1995) and the attenuation of mainstream cultural values and attitudes ensues (i.e. attenuated culture). For example, it is plausible to argue that some individuals who tend to experience higher levels of socio-economic constraints, lack of job and educational opportunities, or differential/discriminatory treatment by the criminal justice system (Blalock, 1967; Feldmeyer & Ulmer, 2011), might develop non-compliant attitudes and

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<sup>3</sup> As I will explain later, a similar concept is that of “code-switching” explained by Anderson (1999), in which “decent” families might enact “street” or code-related behaviors due to their adaptation to situational constraints.

<sup>4</sup> In his book *When work disappears: The world of the new urban poor*, Wilson (1996) refers to ghetto-related behaviors as those that are likely to be found among residents of deprived neighborhoods. According to Wilson, by virtue of experiencing socio-economic constraints, social isolation and lack of opportunities, Black poor residents in these deprived areas often enact behaviors that reinforce their “economic marginality” (p.52). For example, as per Wilson’s interviews of inner-city residents living in these deprived neighborhoods, some behaviors such as public intoxication, street-corner drug sales, and public displays of violence, machismo, fancy cars and flashy money are all examples of ghetto-related behaviors. Interestingly, the author seems to indicate that ghetto-related behaviors are a cultural product of living in highly impoverished and jobless neighborhoods. Therefore, a similarity might be drawn between Wilson’s (1996) concept of ghetto-related behaviors and Anderson’s (1999) concept of code-related behaviors.

responses when facing these constraints. These non-compliant attitudes are said to be an adaptation to everyday experiences, and might entail the enactment of ghetto-related behaviors.

A related approach that treats the purported race/ethnicity-crime link and the role of culture as an adaptation to the structural conditions in which individuals are embedded was offered by Wilson (1996) in his book *When Work Disappears: the World of the New Urban Poor*. Drawing from data collected in Chicago during the last half of the 1980's, Wilson analyzed the cultural implications of joblessness for African-American, Latino and White residents in poor inner-city neighborhoods. The author argued that ghetto-related behaviors ensue in poor and high unemployment neighborhoods due to the social constraints on the choices individuals can make in their daily lives. On the other hand, the restricted opportunities that individuals have to participate in mainstream society might also lead to ghetto-related behaviors.

Wilson (1996) explained that the enactment of ghetto-related behaviors among African-Americans could be construed as an adaptation to the broader structural opportunities and constraints that evolved over time in inner-city neighborhoods. Consistent with this line of reasoning, the author indicated that the decision to enact ghetto-related behaviors does not necessarily reflect internalized oppositional values to mainstream society, but nonetheless they might be said to be cultural. For example, the more that certain behaviors like idleness, public drinking or exacerbated masculinity are manifested and tolerated in the community, the more these behaviors will be perceived as morally appropriate. Therefore, to the extent that ghetto-related behaviors are tolerated in certain contexts, they are more likely to be culturally transmitted over time. Wilson referred to this as a process of cultural transmission "by precept," in that the individual's exposure to deviant cultural codes (e.g. attitudes, beliefs) is so frequent that they become part of their own outlook.

These theoretical contributions on the role of cultural adaptations provides a springboard to examine the race/ethnicity-crime linkage at the individual-level (Hannerz, 2004; Sampson & Wilson, 1995; Wilson, 1987, 1996). These studies suggest that: (1) historical socio-political processes that occurred in the U.S. beginning in the second half of the 20<sup>th</sup> century allowed for the isolation of certain racial/ethnic groups (i.e. especially African-Americans) in areas of concentrated disadvantage at inner-cities; (2) one of the consequences of concentrated disadvantage in inner-cities; and the inability of its residents to foster interactions with mainstream society, individuals and institutions, is the weakening of mainstream cultural values (i.e. attenuated culture) and; (3) the adoption of ghetto-related behaviors (or code-related behaviors) enacted by individuals appear to be a response to the situations in which they are embedded, rather than internalized (i.e. oppositional) subcultural criminal values. As I will explain in the following section, Elijah Anderson (1999) made a prominent contribution to understand the race/ethnicity-culture-crime relationship. Similar to the concept of weakened culture as the most immediate cause of violence, Anderson's (1999) thesis suggests a micro-level approach to study the role of culture and how – at the individual-level – the adoption of code-related attitudes might explain differences in levels of criminal offending among racial/ethnic groups.

### **The Code of the Street**

In the 1990's, sociologist Elijah Anderson initiated an ethnographic study in Philadelphia, PA that was later published in his seminal book *Code of the Street: Decency, Violence and the Moral Life of the Inner City* (Anderson, 1990, 1999). By highlighting both the structural and cultural origins of violence in inner-city Black neighborhoods, Anderson's research attempted to unveil the causes of interpersonal violence among youths and why this

problem appeared to be more acute in the inner-cities. In general, the code of the street was defined by Anderson as a normative system that upholds the use of violence as a way to attain respect and status among peers. Being that this normative system emphasizes violence, the code of the street might be construed by some scholars as an “oppositional culture” that defies conventional mainstream middle-class values. However, a more nuanced interpretation of the theory might indicate that rather than representing an “oppositional subculture,” the code of the street highlights an example of “attenuated culture” whereby mainstream-normative cultural values cannot be realized or are selectively used (Kornhauser, 1978; Warner, 2003; Wilcox Roundtree, 2000).

More specifically, the code of the streets is a set of informal rules that regulate “interpersonal public behaviors” (Anderson, 1999; p.33). Although Anderson was particularly interested in explaining violence among inner-city youth, the code of the street extends to other outcomes as well. For example, the author contends that the code of the street allows youngsters to be initiated into the underground economy (e.g. drug sales), while acquiring street knowledge, maintaining a respectable/hierarchical status among peers and handling their image in public. As such, the code of the street prescribes violent and income offending behaviors and proscribes behaviors that might be regarded as “lame” or “decent.” A young man who ascribes to the code must be able to show his masculinity, sexual prowess or how to react to a stickup, whether he is the victim or the perpetrator.

In general, the adoption of code-related attitudes provides a rationale for criminal offending in areas characterized by welfare dependence, joblessness, single-headed family households and poverty. According to Anderson, one of the most important elements of the code of the street is the issue of respect. Achieving respect or “props” in the street represents a form of

social capital that allows individuals to maintain high self-esteem in poor neighborhoods. In this case, being respected or being “treated right” by peers is a highly regarded value among inner-city youths who often experience the risk of violence in the streets. For example, although self-worth and prestige in middle class neighborhoods are measured by certain standards such as academic or economic achievement, the same does not occur in poor neighborhoods, where respect is attained to the extent that individuals are capable – or at least demonstrate capacity – to face challenges with violence. Moreover, acting out to be respected gives a sense of security and safety to inner-city youths who thrive in areas characterized by adverse structural conditions such as family disruption, drug use and easy access to guns. Relatedly, individuals who experience adverse structural conditions tend to alienate and be isolated from mainstream society which prompts them to lose confidence in formal institutions (e.g. police, courts) as effective mechanisms to solve disputes. To some extent, “being tough” is a necessary mode of cultural adaptation in response to the adverse structural conditions of the environment and therefore the use of violence emerges.

Similar to Wilson (1987, 1996) and Sampson and Wilson (1995), Anderson (1999) argued that the emergence of the code of the street in Black inner-city ghettos and therefore the inclination to the use of violence in these deprived areas was the consequence of historical and economical processes that took place in the U.S. at the beginning of the 1960’s. As such, the code of the street might be traced back to macro social processes, such as changes in the economy and housing discrimination, in combination with community-level factors such as high residential turnover and family disruption that hampered social organization of inner-city communities (Sampson & Wilson, 1995). For example, the process of deindustrialization that occurred in American cities after the 1960’s and became more evident during the 1980’s, left



residents of the inner-cities – especially African-Americans – deprived of the possibilities of finding good opportunities. In contrast, residents with enough resources moved outward of the inner-cities looking for jobs, leaving behind the poorest members of the community. Having no opportunities for a good education or sufficient skills to succeed, those individuals who were poor and lacked access to employment (i.e. low SES) became isolated from mainstream society. As explained earlier, the consequence of this process was the concentration of adverse structural conditions in these communities that led to higher crime rates.

However, according to Anderson (1999), an important caveat of his theory was that although the code of the street was observed in most Black inner-city ghettos, it was not an omnipresent phenomenon in these neighborhoods. That is, the elements of the code were not subscribed to by all residents of the ghetto at all times. This seems to suggest that aside from contextual (i.e. neighborhood) effects, compositional (i.e. individual) effects might take an important role in the emergence of code-related behaviors. To clarify this argument, I will describe the characteristics and scope of the code of the street, explain the code of the street as an example of cultural attenuation, and outline a general causal model according to Anderson's (1999) theory.

### **Characteristics and Scope of the Code of the Street**

The ethnographic observations made by Anderson in Philadelphia neighborhoods allowed him to codify a sociological typology of inner-city families: at one end of the spectrum are “decent” families while at the other are “street” families. Anderson proposed that the main difference between “decent” and “street” families is based on their level of estrangement from mainstream values. Given this, it is plausible to infer that different levels of estrangement from mainstream values represent different levels on the adoption of the code of the street. Those

individuals who are morally disengaged (i.e. estranged) from mainstream values would be more likely to adopt the code and act in accordance to it, which might result — among other things — in criminal offending. The question is, what characteristics make an individual more disengaged from mainstream values when compared to others? Based on his ethnographic observations, part of the answer to this question was offered by Anderson (1999) when he distinguished between “decent” and “street” families.

First, “decent” families are characterized by a general subscription to mainstream values that are emphasized and transmitted to their children through strict child-rearing practices. It is important to note that consistent with the cultural attenuation approach, “decent” families do not reject mainstream societal values, but based on situational constraints, these values might fall into disuse and therefore threaten the ability of “decent” families to justify and provide social control over their youths. For example, decent families tend to value hard work as a legitimate mean to achieve social and economic upward mobility. For decent families, hard work provides a sense of self-worth and self-sufficiency. They teach their children to respect the value of a nuclear family, the moral authority of their father, and the importance of education and religiosity as guiding paradigms of their lives. Also, decent families stress the importance of being polite and treat others with consideration and respect, while avoiding the invocation of racial discrimination as an excuse for failures in life. Although decent families face the same contextual constraints than other families in areas of concentrated disadvantage, they tend to have a more favorable economic status that requires both parents to work exceptionally hard.

On the other hand, the “street” family represents a very different picture, where lack of consideration for other people and aggression as coping mechanisms to daily challenges, are taught by example. Anderson argues that “street” families have highly disorganized daily

routines such as a lack of work schedules and responsibilities. Similarly, their values, attitudes and beliefs are not close to conventional society. For example, “street” families at the extreme end of the spectrum are inclined to hold oppositional values.

Code-related attitudes and beliefs include lack of consideration for others, disregard towards “decent” families that are perceived as “white,” having a negative outlook about the future and opportunities in life, and cynicism towards social control institutions and the rule of law. Moreover, “street” families teach their children not to “turn the other cheek” when they are attacked, but to return the attack with the same or even more severity. “Street” parents do not take responsibility for their children and leave them free to socialize themselves in the streets at an early age without direct control or supervision. This is part of the socialization process into the code of the street. Being disrespected or “dissed” by other people is considered by some inner-city Black youths as a very serious offense that must be solved by a vengeful act. Because of the pervasiveness of disadvantage in their environments, “streets” families tend to be highly disorganized. In some cases drug addiction is a problem among “street” families, and the inability to obtain a well-paid job in conjunction with a demoralized background, lead some members of “street” families to consider drug-sales as a quick method to get “good money.” Youths from “street” families gain the desired respect from their peers by displaying their position of power/status through the use of expensive cars, clothes and jewelry and by displaying sexual prowess, verbal and physical aggression and lack of fear in life threatening situations.

Compared to “decent” families in which respect is taught by example and sustained by non-material means (e.g. the ability to help others by offering good advice), the concept of “respect” in “street” families is generally sustained through material means. For example, individuals with a “street” orientation might gain respect from their peers by displaying high

sums of cash or their ability to buy expensive jewelry. However, just as material means might be easily lost, so is the concept of “respect” among “street” families. Under these circumstances, “street” youths might resort to violent or income offending behaviors to prove to their peers that they are able to take care of themselves, and therefore regain “respect.” Relatedly, the display of flashy money obtained through dealings in the underground economy, the ostentation of “pimped-out” cars, or certain clothing styles confirms a macho image that allows individuals to regain self-esteem and status among peers.

Finally, although there appears to be a very clear distinction between “decent” and “street” families, these two opposing sides coexist in the same environment (i.e. Black inner-city ghettos). That is, “decent” families might switch and adopt “street” values under circumstances where decent values are not enough to cope with adverse conditions. For example, a “decent father” whose son has died as the consequence of gang violence, might take revenge and resort to violence against the aggressors, especially if the response from the judicial system to the issue was ineffective or unsatisfactory. This illustrates the question of the code of the street as being an example of a “deviant subculture” or/and an “attenuated culture”; an issue that will be discussed in the following section.

### **The Code of the Street: Cultural Attenuation or Oppositional Culture?**

Anderson emphasized the role that the code of the street played in Black inner-city ghettos in Philadelphia as conducive to offending. His propositions are consistent with an individual-level model in which the adoption of code-related attitudes mediates the race/ethnicity-crime link. The code of the street was defined by the author as an oppositional culture to conventional mainstream middle-class values, which regulates and provides a rationale for the use of violence in areas of concentrated disadvantage (Anderson, 1999). Moreover, the

author described “decent” and “street” families and suggested that the prevalence of code-related attitudes was characteristic among “street” families. The adoption of code-related attitudes occurs provided that individuals with a “street” orientation tend to be more morally disengaged from mainstream values when compared to “decent” oriented individuals. However, in his discussion Anderson made clear that “decent” families may also demonstrate elements of the code (i.e. code-switching), which leads to the question of whether the code of the street is an example of a “deviant subculture” or an “attenuated culture” in Black inner-city ghettos. Is the code of the street a behavior that is internalized or rather situationally adaptive?

As I implied earlier, although Anderson did not address the question of whether the code of the street is an example of cultural attenuation or deviant subculture, other authors have tried to provide an explanation (Warner, 2003; Wilcox Roundtree, 2000). The idea that the code of the street represents an example of cultural attenuation seems to be plausible. For instance, Sampson and Wilson (1995) explained that a misinterpretation of the correlation between race/ethnicity and crime has led some people to believe that high violent crime rates are an African-American phenomenon. This misconception has been driven by the fact that African-Americans are just more likely than Whites to reside in areas of concentrated disadvantage where crime rates are higher. Consequently, the authors contend that some people might believe that Blacks have internalized a deviant subculture or an “indigenous culture of violence” (Sampson & Wilson, 1995, p. 38) that leads to violence and crime (Wolfgang & Ferracuti, 1969).

However, by acknowledging the fact that violent crime and incarceration rates among Blacks are high, the authors provided arguments showing that the causes of crime among this group are not unique. For example, the authors explained that the same adverse structural conditions that show a positive effect on violent crime for Blacks are also present among Whites,

but the main difference between the first and the latter is the concentration effects of these adverse structural conditions. As such, the effects of concentrated disadvantage and social isolation on crime rates for Blacks – and for other minority racial/ethnic groups – are independent of race and cannot be attributed to unique subcultural factors (i.e. deviant subculture among Blacks). Consequently, the authors suggested that the relevance of culture should not be dismissed but that the “deviant subculture” explanation is flawed.

As explained earlier, Sampson and Wilson (1995) stipulated two elements that might explain the relationship between race/ethnicity and crime, and to some extent the understanding of the code of the street as an example of an attenuated culture: (1) structural social disorganization and; (2) cultural social isolation. These two coalescent elements derived from the “concentration effects” to which Blacks were particularly exposed in large inner-cities (Wilson, 1987). More importantly, the social isolation of Black inner-city ghetto residents provided a ground for the adoption of attitudes and cultural value systems that, although not completely opposed to mainstream values, seemed to tolerate crime and deviance as a coping mechanism to structural constraints (i.e. attenuated culture).

Finally, Wilson (1996) provided arguments that might be interpreted as supporting the thesis of the code of the street as an example of “attenuated culture,” by suggesting that the adverse structural conditions (e.g. joblessness) suffered by Black communities and their consequent social isolation from mainstream society, generated the manifestation of “ghetto-related behaviors” in these neighborhoods. As Wilson implied, “culture” is generally defined as the reproduction of common modes of behavior and outlook within a certain community that is transmitted from generation to generation, and that varies depending on the degree of cultural social isolation experienced by that community. As such, the broader norms, values, beliefs and

expectations – all of which encompass the definition of “culture” and are present in mainstream society – might be shared by the members of a community to the extent that they are not completely socially isolated. In turn, greater levels of social cultural isolation facilitate conditions in which mainstream values; although predominantly agreed upon, are not completely exercised by virtue of adaptations to difficult circumstances of everyday life. Then “ghetto-related behaviors” appear as situationally adaptive mechanisms, where violent crime is at the end of the spectrum. The code of the streets appears to be adaptive and therefore, represents an “attenuation” of societal mainstream cultural values in some individuals that tolerate deviance (Kornhauser, 1978). This “adaptive” quality of the code of the street, might explain why, according to Anderson (1999), decent families might switch between decent and street orientations depending on the demands of each specific experience or situation they encounter.<sup>5</sup> As implied earlier, Blacks and Latinos seem to share the same structural and situational constraints such as neighborhood disadvantage, low SES, unemployment, delinquent peers, exposure to violence or involvement in gangs. Therefore, it is argued that offending levels among Latinos might also be due to an adaptive response to these constraints, where the adoption of code-related attitudes serves an instrumental purpose like avoiding victimization.

### **Models of the Code of the Street**

In this section I present two alternative causal models of the race/ethnicity-culture-crime relationship proposed by Anderson (1999): (1) a general macro-level causal model of the code of the street, and (2) a micro-level causal model of the code of the street. The latter model

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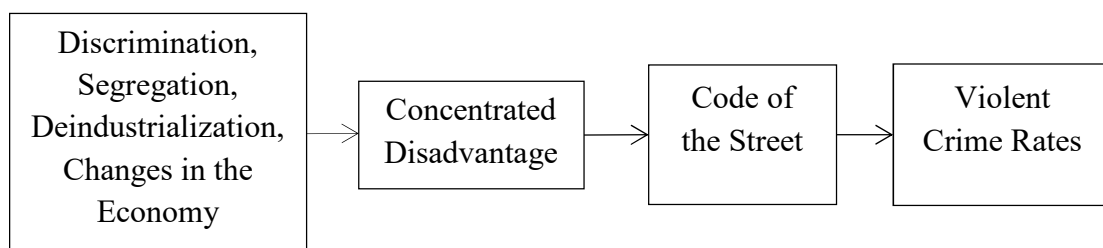
<sup>5</sup> In his book, Anderson (1999) offers many examples of code-switching as a form of adaptation to the situations individuals encounter. For instance, the author contends that children from “decent” families learn to code-switch when exposed to their first experiences at school. Having to reconcile the reality of an institutional environment that reproduces mainstream traditions but that is racially segregated, impoverished, and located in areas where violence and drug sales are common, “decent” kids need to learn the code to show “street” kids that they can handle themselves in potentially dangerous situations.

represents the crux of this dissertation, since as it was indicated earlier, the “weakening” or “disengagement” from mainstream cultural values at the individual-level has been hypothesized as the most immediate cause of criminal offending, but deserves more attention in current research.

### **Macro-Level Model**

The discussion provided above about the characteristics, nature and scope of the code of the street describes a macro-level causal model that might be summarized in two paths (Figure 1). In a first causal path, remote structural antecedents of the code of the street, such as historical processes of discrimination/segregation and changes in the economy, affects racial/ethnic minorities (i.e. African-Americans) to the extent that these variables exacerbate the level of concentrated disadvantage in Black inner-city neighborhoods. In turn, concentrated disadvantage is positively related to the likelihood that individuals in these neighborhoods will adopt and enact code-related behaviors. As suggested earlier, the code of the street provides an avenue for individuals to organize their behaviors in the community, and for coping with adverse conditions such as lack of opportunities to achieve conventional status. In a second causal path, individuals’ adoption of code-related behaviors is directly and positively related to violent crime rates.

**Figure 1. General Macro-Level Causal Model of the Code of the Street**

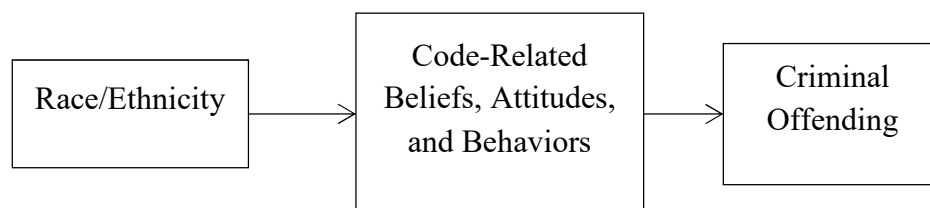




## Micro-Level Model

A micro-level causal path derived from Anderson's (1999) theory is depicted in Figure 2. This model constitutes the core of this dissertation, since it has not been explored as extensively as the macro-level model described above. At the individual-level, Anderson (1999) explained that the adoption of code-related behaviors among Black inner-city youths living in deprived communities develops out of a sense of hopelessness about the future, and cynicism towards formal institutions. This model suggests that racial/ethnic minorities would be more likely to subscribe to code-related beliefs resulting in offending (Figure 2). As such, the code of the street emerges as a way to organize behaviors in public interactions, where the use of violence is underscored. Although Anderson's theory was conceived by focusing on the emergence of code-related behaviors among African-Americans, Philippe Bourgois examined a similar process occurring among Latinos (Bourgois, 2003). This process suggests that code-related attitudes might not be particular to African-Americans, and that in fact, they might emerge among other racial/ethnic groups such as Latinos.

**Figure 2. General Micro-Level Causal Model of the Code of the Street**



It is plausible to expect that code-related attitudes among Latinos might result in a similar or higher likelihood of offending when compared to Blacks. Although not including directly in their analyses measures of code-related attitudes, evidence linking the effects of race/ethnicity on offending with attention to Latinos has shown mixed results. For example, with some exceptions

(Estrada-Martínez, et al., 2013; Estrada-Martínez, et al., 2011), studies have found that Latinos tend to have a lower likelihood of criminal offending than non-Latino Blacks net of a series of neighborhood and individual characteristics (Sampson, 2008). In other words, differences in offending among Latinos when compared to other racial/ethnic groups might occur either by virtue of a cultural adaptation to the present situation in which they are embedded, or by a set of internalized values that they bring to their environment.

The inclusion of code-related measures in the analysis of the race/ethnicity-crime link at the individual-level might reveal socio-psychological processes that are particular to Latinos, when compared to other racial/ethnic groups. The arguments outlined above propose that the code of the street represents cultural attenuation of conventional values among Black youths in inner-city neighborhoods characterized by certain conditions such as poverty, single-headed families, low educational attainment, welfare-dependence, and/or unemployment. By extension, one could argue that, given similar characteristics, other racial/ethnic groups such as Latinos might subscribe to and enact code-related behaviors as an adaptation to situational constraints, and that the adoption of such attitudes/beliefs might explain criminal offending among this group (Bourgois, 2003). This is important since in the next section I will describe how recent ethnographic research provides a background to study the possible emergence of code-related attitudes among Latinos. This will be followed by a discussion of empirical studies that have recently considered the effects of code-related attitudes on the race/ethnicity-crime link.

### **Latinos and the Code of the Street**

During the spring of 1985, Philippe Bourgois initiated an ethnographic study in New York City focusing on the life experiences of Latino youths (i.e. mostly first and second generation Puerto Ricans) residing in East Harlem. Bourgois (2003) was interested in unraveling

the pervasiveness of minor scale drug sales, crack-cocaine use, and violence among this ethnic minority. By relying on the history of massive immigration waves of Puerto Ricans' to East Harlem – also known as “El Barrio” neighborhood – especially during the 1930's through 1960's, the author explained a process similar to what occurred in post-industrial inner-cities and described earlier by Chicago School sociologists (Shaw & McKay, 1942/1969; Thrasher, 1936).

According to Bourgois (2003), most Puerto Ricans who immigrated to East Harlem did so to substitute their low-wage farming oriented employment at sugar plantations, find better job opportunities, and achieve upward economic mobility. However, preceding the immigration waves of Puerto Ricans, New York's inner-city had already harbored post-World War I and II immigrants from European countries (e.g. Germany, Ireland, and Italy) that occupied most factory jobs in an increasingly industrialized society. Alongside European immigrants and African-Americans, the influx of Latinos to New York's inner-city created a cultural melting pot where the competition for housing and factory-oriented jobs was fierce in an already racially diverse environment, and where ethnic segregation created tensions and hostility among different ethnic groups.

Following a period of economic restructuring during the 1940's, most industries and production plants that offered jobs to immigrants closed and moved out of the city to be relocated overseas in an attempt to increase their competitiveness in the global economy. This deindustrialization process was followed by a shift to a low-wage service-oriented economy along with outward mobility of residents with better resources, and left behind high unemployment rates among immigrant factory workers. These events occurred in a relatively short period of time and prompted an overwhelming change in the life experiences of inner-city Latino immigrants.

Like Wilson's (1987; 1996) arguments about the "underclass," Bourgois' (2003) main tenet is that these historical processes in conjunction with public policy decisions facilitated the concentration of poverty in East Harlem, and the segregation of culturally diverse ethnic groups – especially African-Americans and Latinos – into housing projects in the inner-city. As Bourgois (2003) asserts, these changes were imposed so swiftly upon Puerto Rican inner-city immigrants that they inevitably led not only to high unemployment rates, but also to ethnically segregated poverty, welfare dependency, broken families, and substance abuse, the emergence of an underground economy that included retail drug sales, and a self-destructive "street culture" characterized by violence and crime.

According to Bourgois (2003) the emergence of the "underground economy" based on crack-cocaine sales in "El Barrio" reflects the cultural struggle of Latino immigrants to adapt to a hostile and disadvantaged environment while pursuing their desire for upward mobility. Similar to Anderson's (1999) arguments about "decent" and "street" families in Philadelphia's inner-city neighborhoods, Bourgois (2003) suggested that most Latinos residing in "El Barrio" do not hold oppositional values to mainstream society *per se*. For example, the author's accounts indicate that some Latinos residing in "El Barrio" during the period of his study ascribed to the values of conventional society, such as having an appreciation for education, the importance of a nuclear family, staying out of trouble, and their willingness to be productive and find mainstream jobs. However, structural conditions of the neighborhood along with social isolation, segregation and discrimination did not allow residents to maintain stable and well-paid legal jobs. In addition, poverty and unemployment led to family disruption, where most households were headed by young mothers who had to rely on welfare benefits to sustain their children.

As Bourgois (2003) posits, the confluence of the conditions described above did not allow Latino immigrants in East Harlem to achieve a mainstream status, including socioeconomic upward mobility. Consequently, some individuals (i.e. particularly males) resorted to illegal income-generating strategies such as crack-cocaine sales in the “underground” economy.<sup>6</sup> These illegal activities represent self-help responses to constrained choices, which are seen as the only feasible way to attain upward mobility. Arguably, illegal income-generating strategies provide one of the breeding grounds for the adoption of street-codes and behaviors. For example, the author explained that unemployment and illegal drug sales represent a “badge of pride” among crack-cocaine dealers in “El Barrio,” who have adapted to daily constraints and organized their behaviors as a celebration of street marginality, where street cultural codes are translated into violence. Notably, there seems to be a parallel between Bourgois’ (2003), Wilson’s (1995) and Anderson’s (1999) theories. For example, the process described by Bourgois (2003) is very similar to that of “ghetto-related behaviors” (Wilson, 1995), or to the “code of the street” (Anderson, 1999), in which individuals adapt to daily constraints by enacting behaviors that reinforce their economic marginality. As such, the end product of adopting ghetto or code-related attitudes would be criminal offending.

More specifically, Bourgois suggests that code-related beliefs were paramount for residents of “El Barrio” when organizing their behaviors and daily interactions in the street. Consider for example the case of crack-cocaine dealers who, according to the author, had a “cultural capital” that allowed them to manage their illegal activities effectively, by mobilizing coercion, friendships and the use of violence to gain respect in a hostile and dangerous

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<sup>6</sup> Other income-generating strategies described by Bourgois (2003) and adopted by residents of “El Barrio” – that although not illegal *per se* are untaxed and still part of the underground economy – include working as seamstresses, babysitters, housekeepers, curbside car mechanics and unlicensed construction workers for subcontractors.

environment. Similarly, young males in the streets of “El Barrio” embrace code-related behaviors to avoid victimization and the risk of getting “dissed” in the presence of their peers.

Finally, Bourgois’ (2003) theory is guided by the assumption that just as most residents of “El Barrio” are law-abiding citizens who have lost control over public spaces, the adoption of street code behaviors is not exclusive to drug users and dealers. That is, borrowing Anderson’s terminology, it is plausible to conceive of street codes as an instrumental part of daily interactions among “decent” and “street” Latino families in “El Barrio.” For instance, the author explained the adaptation of Latino children to the cultural and generational gap experienced at school. As a specific example, compared to their African-American counterparts, first and second generation Latino immigrants had to face the language gap and the uncertainties attached to social interactions at school. Therefore, the risk of displaying physical or emotional vulnerabilities at school was substituted with instrumental displays of sexual prowess at early ages, money, the use of “fly clothes,” and ultimately public displays of violence. Under these circumstances, the adoption of code-related beliefs and the use of violence – as a concrete representation of the code of the street – becomes a necessary coping mechanism among Latino youths.<sup>7</sup>

Although literature explaining the possible adoption of code-related attitudes among Latinos is limited, there are other ethnographic studies that offer similar accounts to those of Anderson (1999) and Bourgois (2003), especially when describing affiliation and socialization processes within street gangs (Brotherton & Barrios, 2004; Durán, 2013; Flores, 2014; Venkatesh, 2008). For example, a seminal account of gang socialization processes that might suggest the adoption of code-related attitudes among Blacks – but not Latinos – was offered by

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<sup>7</sup> Again, similar to Anderson’s (1999) accounts, “decent” Latino youths might resort to “code-switching” as an instrumental mechanism to deal with daily situations at school that might be regarded as dangerous or threatening.

Venkatesh (2008). By conducting observations of gang life in Chicago, the author suggests the presence of street codes that regulate public interactions, and modes of behavior when dealing in the underground economy. For example, the issue of respect is at the core of gangs that, despite being involved in illegal activities (e.g. drug sales, prostitution rings), see themselves as a “community organization” that “responds to people’s needs” (Venkatesh, 2008; p. 249). As such, gang leaders might offer protection to those who are in accordance to their precepts but might react with violence when those in the lower ranks (e.g. hustlers) try to deceive them by providing false information about their dealings in the underground economy (e.g. drug sales’ earnings).

Similar to Bourgois’ study (2003), another study focused specifically on Latinos to describe how external processes like discrimination, isolation, criminalization or concentrated disadvantage was followed by the emergence of Latino gangs in New York’s “El Barrio” (Brotherton & Barrios, 2004). Again, the code of the street appears in “El Barrio” as a normative system that dictates social interactions and regulates the use of violence among youths, or their activities related to the underground economy. In adopting street-code attitudes, gang members need to learn how to “fight back,” “stick up for themselves,” “not back down,” and develop a “tough reputation” among peers. At the extreme end of the adoption of street code attitudes among gang members, values such as “honesty,” “respect” and “obedience to gang leaders” must be practiced, and those who break the code might be subject to retaliatory beatings.

Finally, two recent ethnographic studies on Latino gangs indicate how Latino youths who live in areas of concentrated disadvantage adopt code-related attitudes that lead to criminal offending (Durán, 2013; Flores, 2014). Interestingly, in both cases researchers indicate that – similar to Bourgois’ (2003) accounts about Latinos’ attenuated culture – Latino families are particularly characterized by holding pro-social values that encourage principles such as

religiosity, hard work, taking care of family, respect, courage, and honor. These values serve as foundational belief systems among Latino families that discourage not only gang membership, but also any behavior that is in opposition to conventional mainstream values. Again, by virtue of contextual constraints, socialization processes, and in spite of their generally-held beliefs, Latinos are not able to achieve their aspirations (e.g. upward mobility) and in some cases adopt and enact code-related attitudes as a response. Presumably – as suggested in the Latino immigration and crime literature – a generational split occurs where, compared to first generation Latinos, second and third generation Latinos are no longer able to uphold pro-social values due to their exposure to acculturation processes.

Durán (2013) conducted an ethnographic study of Latino gangs in Odgen, UT and Denver, CO and described some of the ways in which Latino gang members enact code-related attitudes. For example, Latinos who adopt code-related attitudes tend to be involved in gangs and perceive them as an extension of the nuclear family. As such, joining a gang provides a rationale for dealing with everyday challenges, and a secure niche in which personal safety and protection might be found. Also, adherence to the code includes gender socialization processes in which women are expected to provide maternal support, while males are expected to be overtly masculine, protective and use violence when challenged, all of which makes them more attractive to women. As explained earlier, code-related attitudes are also manifested at schools by youths who engage in fights, acts of intimidation, bullying or several violations such as alcohol or drug use, use of weapons or robberies. Finally, Durán (2013) suggests that some attitudes like loyalty (e.g. “I got your back”) represent core values related to the code of the street shared by Latino gang members, which are enacted in order to face not only everyday



challenges, but also their lack of trust in mainstream institutions or negative treatment by social control institutions.

Second, Flores (2014) conducted an ethnographic study in Los Angeles, CA which reiterates some of the arguments made by Durán (2013). For example, the author explains that gang membership is an avenue by which individuals might exacerbate their masculinity and therefore, compensate for their inability to reproduce mainstream values such as upward mobility, school achievement or legal stable employment. In order to be able to survive in a harsh environment characterized by concentrated disadvantage, lack of employment opportunities or discrimination, some Latinos join gangs in a campaign to uphold respect and status within their communities. Part of being a member of a gang includes the adoption of code-related attitudes and the embodiment of a tough image (e.g. through drug use, oversized clothing, gang tattoos or aggressive body language) that both invites confrontation and warns would be attackers. As a consequence, those who uphold code-related attitudes are usually involved in offending behaviors.<sup>8</sup>

Based on ethnographic studies described above, the discussion so far indicates that: (1) violence among youths might have cultural origins; (2) at the individual-level, culture might play a role on the race/ethnicity-crime link; (3) as posited by Anderson (1999), the adoption of code-related attitudes might explain violence and offending behavior among African-American youths; (4) Anderson's theory might be extended to other ethnic groups such as Latinos (Bourgois, 2003; Brotherton & Barrios, 2004; Durán, 2013; Flores, 2014) and; (5) the discussion

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<sup>8</sup> Code-related attitudes have also been observed among Black and Latino boys who interact with social control institutions in their communities (i.e. police). A qualitative study conducted in Oakland, CA found that in those communities where there are pervasive policing practices and surveillance (e.g. zero tolerance), police officers are not able to distinguish between criminal and non-criminal boys. This creates a cycle of criminalization, whereby adscription to gangs and code-related attitudes among boys seems to be a viable option to avoid victimization and to build self-respect in already violent communities (Rios, 2011).

above suggests some disagreement as to whether Latino youths have more protective than risk factors for criminal offending. Therefore, a micro-level cultural approach to understanding the race/ethnicity-culture-crime link among Latinos should prove useful. With this as background, I will next discuss research findings on the race/ethnicity-crime link, and the possible mediating effects of code-related attitudes among Latinos.

### **Empirical Tests of the Race/Ethnicity-Crime Link**

In recent years, a group of relevant macro-level, micro-level and multi-level empirical tests have been conducted on the race/ethnicity-crime link (McNulty & Bellair, 2003; Piquero & Brame, 2008; Sampson, 2008; Sampson, et al., 2005; K. A. Wright & Rodriguez, 2012), and the role of culture on criminal offending (Baumer, et al., 2003; Brezina, et al., 2004; Matsueda, et al., 2006; Piquero, et al., 2012; Sharkey, 2006; Stewart, et al., 2006; Stewart & Simons, 2006, 2010; Stewart, et al., 2002). With some exceptions, most of these studies have used cross-sectional designs and have included Latinos as a separate racial/ethnic group in their analyses.

For example, McNulty and Bellair (2003) conducted a cross-sectional study ( $n=13,460$ ) using data from the National Longitudinal Study of Adolescent Health (Add Health), to assess the effects of community (e.g. concentrated disadvantage, residential stability) and individual-level variables (e.g. race/ethnicity, exposure to gangs) on serious violent offending (e.g. injuries, threats, physical fights). The authors reported that among youths, African-Americans, Latinos and Native-Americans showed significantly higher involvement in serious violent offending than Whites. On the contrary, involvement in serious violent offending among Asians was significantly lower when compared to Whites. Interestingly, the comparisons across minority racial/ethnic groups revealed that involvement in violent offending was explained either by the community context in which youths resided or by a series of individual and situational variables.

For example, when compared to Whites, violent offending among African-Americans was explained by measures of concentrated disadvantage, while violent offending among Latinos was explained by measures of exposure to violence and gangs. These results seem to indicate the relevance of cultural processes at the individual-level – especially among Latinos – to understand the race/ethnicity- crime link.

In contrast to McNulty and Bellair (2003), a study conducted by Sampson and colleagues (2005) using longitudinal data from the Project on Human Development in Chicago Neighborhoods (PHDCN) revealed not only that, net of community and individual characteristics, African-Americans and Latinos are less likely to engage in violent offending than Whites, but also that there might be a protective factor among first-generation Latino immigrants that makes them less likely to engage in violent offending than Latinos from successive generations (see also Sampson, 2008; Wright & Rodriguez, 2012). Despite their divergent findings, both McNulty and Bellair's (2003) and Sampson and colleagues' (2005) studies suggest that cultural processes might explain compliance or criminal offending, especially among Latinos.

A recent study assessing the race/ethnicity-crime link was conducted by Piquero and Brame (2008) using longitudinal data from the Pathways Study. The sample included adjudicated adolescent offenders ( $n=1,280$ ) in Phoenix and Philadelphia as they transitioned to adulthood. In this case, the authors assessed whether there were significant differences across racial/ethnic groups in self-reported offending. Preliminary analyses comparing racial and ethnic groups in both sites produced some evidence of these differences. Analyses in Phoenix showed that African-American adolescent males reported higher offending variety scores (i.e. number of different types of violent offenses reported) than Latinos and Whites. Conversely, analyses in

Philadelphia showed evidence of higher offending variety scores for White adolescent males when compared to African-Americans and Latinos. These findings prompted the authors to recommend the inclusion of several theories; including Anderson's (1999) code of the street, in a multilevel framework to better assess the race/ethnicity-crime link with special attention to Latinos.

### **The Inclusion of Cultural Theories in Empirical Tests**

Recent studies on the race/ethnicity-crime link tend to offer divergent results and call for the inclusion of cultural explanations such as the code of the street theory with special attention to Latinos. Although limited in number, some studies have addressed the role of culture within the race/ethnicity crime link. Perhaps, the first empirical study within this line of research was done by Sampson and Bartusch (1998). Owing to the fact that certain communities might display tolerance for deviant behavior based on their cognitive landscapes (Sampson & Wilson, 2005), the authors were interested in determining the variation of communities in their levels of attenuated culture. Sampson and Bartusch (1998) used three measures from the PHDCN data to test their assumptions: (1) tolerance of deviance; (2) legal cynicism and; (3) perceptions about the police, all of which tapped into (sub) cultural orientations of the community. The sample of this study consisted of 343 neighborhood clusters (NC) for the year 1995 in Chicago, IL. The neighborhood clusters were used in conjunction with census data to construct ecological units that were homogeneous in regard to race, housing density, family organization and socio-economic status. Similarly, the authors collected data on neighborhood characteristics from the 1990 Census, and item responses to an interview that was applied to a representative sample of Chicago residents ( $n=8,782$ ).

Sampson and Bartusch (1998) aggregated individual-level data within neighborhoods in order to determine the contextual versus compositional effects of the community on the variables of interest. A noteworthy result of this study was that Latinos and African-Americans showed lower levels of tolerance of deviance as compared to Whites. Furthermore, a HLM model controlling for compositional and contextual characteristics showed that Latinos and African-Americans (i.e. ages 13 and 19) were more intolerant of deviance than Whites, and that neighborhoods with higher levels of Latino immigrants showed less tolerance for deviance, which suggested a cultural dimension among Latinos that might promote the condemnation of violence and criminal offending (Sampson & Bartusch, 1998). As such, the results did not support the value conflict thesis and were consistent with Wilson's (1996) argument that minorities do not necessarily reject mainstream values.

Similarly, Kubrin and Weitzer (2003) conducted a macro-level study focused on the role of culture in neighborhoods of concentrated disadvantage. Based on previous literature, the authors developed three main propositions: (1) that retaliatory homicides might be justified as a legitimate response in communities where violence is tolerated; (2) that cynical attitudes and less satisfaction toward the police are more likely among residents of areas of concentrated disadvantage and; (3) that retaliatory homicides are more prevalent among poor neighborhoods by virtue of structural and cultural contexts. In this case, the authors used a sample of 111 census tracts and collected data on homicides derived from official reports provided by the St Louis Metropolitan Police Department.

In general, Kubrin and Weitzer (2003) found support for the hypothesis that retaliatory homicides are more likely to occur in areas of concentrated disadvantage and that cultural elements present in the community (e.g. code-related attitudes) play an important role in crime

causation. For example, multivariate analyses showed a larger positive effect of concentrated disadvantage on retaliatory homicides as compared to situational homicides and, qualitative analyses suggested that retaliatory homicides that occurred in areas of concentrated disadvantage were the result of matters of honor, reputation and respect as compared to more affluent areas, where these matters were less used as a justification for retaliatory homicides. Although not examined in full detail by the authors, qualitative analyses of this study indicated that elements of the code of the street – as described by Anderson (1999) – might be present in neighborhoods of concentrated disadvantage (Kubrin & Weitzer, 2003).

### **The Relevance of Micro-Level Assessments**

A consistent finding in the literature is that the code of the street tends to emerge in disadvantaged neighborhoods, but the micro-level processes associated with the adoption of code-related attitudes and offending are still not well understood. The two studies described above (Kubrin & Weitzer, 2003; Sampson & Bartusch, 1998) were instrumental in setting the stage for future research on race/ethnicity, cultural codes and offending. These studies underscored the importance of neighborhood contexts and their interplay with cultural elements (e.g. tolerance of deviance, cynicism towards police) to explain the race/ethnicity-crime link, but did not assess the role of code-related attitudes as described by Anderson (1999). As a consequence, subsequent studies have described the need to assess the effects of race/ethnicity on criminal offending by focusing on individual-level variables and examining the role of street code attitudes on this relationship.

For example, Stewart, Simons and Conger (2002) conducted a study in Iowa and Georgia with a sample of 867 African-American juveniles from the Family and Community Health Study (FACHS) and found that: among neighborhood-level variables, only neighborhood affluence had

a significant relationship with childhood violence. In contrast, the authors argued that a number of individual-level measures (e.g. parenting practices, association with peers), were significantly related to childhood violence. Interestingly, the authors found that net of neighborhood effects, a measure of social psychological influences defined as the adoption of street code attitudes, helped to explain much of the variation on childhood violent behavior. As such, the adoption of code-related attitudes emerged as a plausible individual-level predictor of violence among African-Americans. However, a limitation of this study was that the authors did not examine the effects of the variables of interest on childhood violence across different racial/ethnic groups.<sup>9</sup>

In contrast to Stewart and colleagues (2002), Baumer and colleagues (2003) carried out a study with data from the 1990 census and the 1995-1997 National Crime and Victimization Survey, and underscored the preeminence of code-related attitudes in areas of concentrated disadvantage regardless of demographic characteristics. That is, net of individual characteristics (i.e. race and gender), crime victims residing in disadvantaged neighborhoods subscribed to street codes to defend their honor and reputation, and they did so by resisting forcefully to incidents of robbery (Anderson, 1999). According to the authors, their findings suggest that neighborhood contexts are more important than individual characteristics in explaining the adoption of code-related attitudes (i.e. victims' resistance), but a limitation of this study was that the authors failed to provide a more accurate operational definition of code-related attitudes as described by Anderson (1999). For example, a victim's resistance to a robbery attack might reflect a natural reaction (i.e. a physiological response) to a perceived threat, but not necessarily the adoption of a code-related attitude indicative of honor, respect or reputation.

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<sup>9</sup> On a side note, an extension of this study showed that net of neighborhood context, adopting street code attitudes increases the risk of victimization (Stewart, et al., 2006).

Following Baumer and colleagues' study (2003), Brezina and colleagues (2004) made an important contribution to the empirical research on the race/ethnicity-crime link, and the role of code-related attitudes on offending as described by Anderson (1999). In this study, the authors used longitudinal data from the National Youth Survey (NYS) and a sample of 918 boys with ages between 11 and 17 years old, to assess demographic and social correlates of code-related beliefs, as well as the impact of those beliefs on violent behavior. The most relevant findings indicated that: (1) neighborhood context (e.g. urban residence, SES, residence in high crime rate neighborhoods) aids in the development of violent behavior among young males and has both direct and indirect effects on violence; (2) at the individual-level, parenting practices predict youth violence directly and indirectly through associations with violent peers and the adoption of code-related beliefs; (3) being exposed to aggressive peers aids in the adoption of code-related attitudes and subsequent violent behavior and; (4) race/ethnicity (i.e. African-American), does not have either direct or indirect effects on the adoption of code-related beliefs and subsequent violent behavior. As such, this study offered some support for Anderson's (1999) theory but left more questions regarding the role of race/ethnicity in the development of code-related attitudes, and subsequent violent behavior, since it failed to examine differences across racial/ethnic groups (i.e. African-Americans, Latinos).

Similar to Brezina and colleagues (2004), Stewart and Simons (2006) conducted a partial test of the code of the streets thesis using the first two waves of the FACHS data. Their main focus was to understand the extent to which structural characteristics of the community lead to the adoption of the code through adaptive processes. Their models tested whether: (1) residents of areas with adverse structural conditions are more likely to adopt the code of the streets and therefore, use violence as a form of conflict resolution; (2) the adoption of the code of the streets



in these neighborhoods is more likely to occur among youths and; (3) the adoption of the code is linked to high levels of racial discrimination, generating more violent offending among youths.

To investigate these questions in their study, Stewart and Simons (2006) included measures of racial discrimination, family characteristics and neighborhood disadvantage as independent variables, while violent delinquency (i.e. minor and serious offenses) and adoption of the code of the street were used as dependent variables. Interestingly, the results of this study suggested that the effects of neighborhood characteristics, neighborhood violence and discrimination on violent delinquency were mediated by the adoption of code-related attitudes. A subsequent study by Stewart and Simons (2010) using the FACHS data showed that although neighborhood disadvantage predicted violent behavior, the adoption of street code attitudes in the neighborhood remained significantly and strongly associated with individual-level personal violence. As a caveat, due to data constraints the authors could not examine differences in the adoption of code-related attitudes across racial/ethnic groups, which is an important limitation that needs to be addressed in individual-level studies.

Sharkey (2006) conducted an empirical study that attempted to fill the “across racial groups’ comparisons” gap in previous research on the role of culture in the race/ethnicity-crime link. Using PHDCN data, the author assessed neighborhood and individual-level effects on measures of violent behavior and street efficacy. In this context, street efficacy refers to the ability of individuals to understand, interpret and manage social interactions in their environment in order to avoid violent confrontations. Although not directly assessing the code of the street, Sharkey’s analyses about street efficacy tapped into a cultural dimension of social interactions previously defined by Anderson (1990) as “street wisdom.”

In general, Sharkey's (2006) results showed that regardless of immigration status, Latino children displayed low levels of street efficacy, and this pattern was explained by a set of individual-level predictors such as violent experiences, peer delinquency and prior violent behavior. Although the effect of individual-level predictors on street efficacy was non-significant among African-American children, a model including violent behavior as dependent variable showed that Latino children were less likely to engage in violence than their African-American counterparts. Sharkey's study offered initial evidence of the role of culture across racial/ethnic groups to explain violent behavior. For example, given that, net of immigration status, individual-level predictors among Latino children were correlated with their inability to avoid violent confrontations, it might be plausible to argue that this relationship is explained by certain socio-psychological processes that are particular to Latino children.

Matsueda and colleagues (2006) contributed to the examination of the race/ethnicity-crime link and the role of culture by including direct measures of neighborhood and individual codes of violence (e.g. retaliation and fighting back to gain respect, project a tough image). In this case, the authors used data collected from 2002 to 2003 from the Seattle Neighborhoods and Crime Survey (SNCS) to examine: (1) the extent to which street codes are distributed across communities; (2) the extent to which street codes are present in other non-Black, impoverished communities; (3) whether street codes are a property of neighborhoods or individuals and (4) whether code-related attitudes are predictive of neighborhood violence. Findings from this study demonstrated that street codes as described by Anderson (1999) were disproportionately present in disadvantaged neighborhoods and in those neighborhoods with higher proportions of African-American and Latino populations. In addition, the authors found evidence that street codes are prevalent in neighborhoods with high rates of violence. Despite its contribution, Matsueda and

colleagues' (2006) research did not evaluate whether the strong correlation between street codes and violence was maintained after controlling for other influences on neighborhood violence.

Finally, Piquero et al. (2012) conducted a study that used direct measures of code-related attitudes. In this case, the authors used data from a nationwide survey that was applied to adult participants (i.e. 18 years or older) in 420 households to assess the correlates of street codes, whether street codes are generalizable to other individuals and contexts (i.e. not only African-American males residing in the inner-city), and whether the effects of demographic and individual-level variables on criminal offending (i.e. driving under the influence of drugs, lying in tax returns, hitting someone and stolen something worth less than \$50) are mediated by the adoption of code-related attitudes. After conducting their analyses, the authors found some support for Anderson's (1999) theory. For instance, certain demographic variables such as African-American status, being male, not being married, having low educational status, and having low respect for the police increases the likelihood of adopting code-related attitudes. However, when controlling for all demographic variables in the study, the effect of race/ethnicity (i.e. African-American) on the adoption of code-related attitudes became non-significant. Furthermore, a model examining the effects of demographic variables and street code attitudes on criminal offending revealed a non-mediating effect of street code attitudes.

In general, Piquero and colleagues' (2012) suggested that the adoption of street-code attitudes does not predict criminal offending and that Anderson's (1999) theory might be limited to predicting offending among African-Americans in particular. Yet, their study had some limitations. For example, the authors failed to examine differences across racial/ethnic groups on the adoption of street code attitudes by dichotomizing the race variable as Black/Non-Black.

Certainly the inclusion of Latinos in either of these categories limited the researchers' ability to assess their question of whether Anderson's theory might be generalizable to other subjects.

### **Current Study**

To this point, I have suggested the importance of cultural explanations to understand the race/ethnicity-crime link at the micro-level. First, I discussed the "Latino Paradox" as a line of research on the race/ethnicity-crime link that, contrary to general expectations, suggests better offending outcomes for Latinos when compared to other groups. I argued that an individual-level assessment of the role of culture among Latinos (i.e. as per Anderson's theory) might aid in explaining the "Latino Paradox." Second, I described Anderson's code of the street theory, its characteristics and scope, as a guiding paradigm for this dissertation. Third, I drew from Bourgois' (2003) work to argue that the adoption of code-related attitudes; as per Anderson's (1999) theory, might be generalizable to other racial/ethnic groups, in particular Latinos.

Finally, I discussed research findings on the race/ethnicity-crime link, the inclusion of cultural theories on current research, and the relevance of micro-level assessments for the study of the race/ethnicity-crime link with special attention on Latinos and the code of the street. As evidenced in my discussion in this chapter and in Chapter I, these studies are scant, tend to offer mixed results, and most of them examine White/Non-White differences in the adoption of code-related attitudes and their purported effects on offending (Estrada-Martínez, et al., 2013; Estrada-Martínez, et al., 2011; Kaufman, 2005; Sampson, 2008; Sampson, et al., 2005). Disaggregation by race/ethnicity might provide a clearer picture about the individual-level processes involved in the adoption of code-related attitudes and its effects on criminal offending.

In general, some of the limitations of previous studies assessing the race/ethnicity-crime link and the possible role of the adoption of code-related attitudes in this relationship are: (1)

most studies fail to examine differences in violent behavior across different racial/ethnic groups; (2) most studies fail to include appropriate measures of code-related attitudes as described by Anderson (1999) in their analyses; (3) some studies have found that controlling for neighborhood-level predictors, socio-psychological measures (i.e. code-related attitudes) help to explain variations in childhood violent behavior, but these studies again fail to examine differences across racial/ethnic groups including Latinos; (4) most studies highlight the need of micro-level assessments to better understand the processes that might contribute to the adoption of code-related attitudes across race/ethnicity and; (5) most studies examine violence as the dependent variable, but fail to examine other outcomes such as income offending. Examining income offending as a dependent variable in this study is important since, as explained earlier, Anderson (1999) suggested that as a consequence of adopting street codes, many African-American inner-city youths resort to illegal income-generating strategies characteristic of the underground economy such as open-air drug sales.<sup>10</sup>

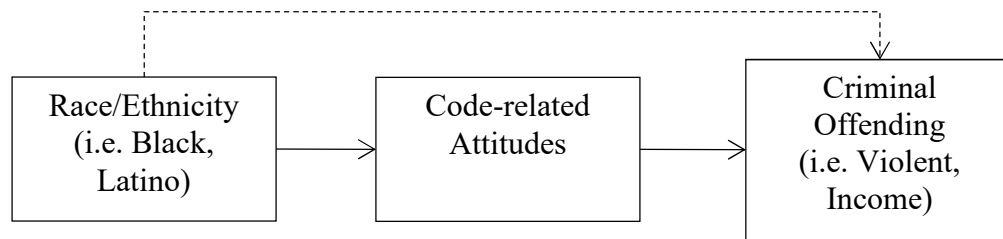
The limitations listed above will be overcome in this dissertation by including an appropriate measure of code-related attitudes (i.e. moral disengagement), as well as the inclusion of Latinos as a separate category in the race/ethnicity variable. Relying on Anderson's ideas, Figure 3 introduces an individual-level mediation model showing the possible link between race/ethnicity and criminal offending. This theoretical model advances previous research in that: (1) considers differences across race/ethnicity (i.e. including Latinos) on criminal offending and, (2) includes the adoption of code-related attitudes as a possible mediating mechanism in the race/ethnicity-crime link. In other words, Figure 3 implies an *indirect* mechanism that links

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<sup>10</sup> Income-related offenses (e.g., shoplifting, selling drugs, or car-jacking) are instrumental to youths who adopt street-codes, since they serve to achieve and maintain respect and status among peers. Along with violence, income-related offenses allow street-oriented youths to display their position of power and to affirm a "macho" image within their group.

race/ethnicity with criminal offending. Therefore, it is suggested that the relationship between race/ethnicity and criminal offending might be attributed to differences in the adoption of code-related attitudes.

**Figure 3. Proposed Individual-Level Mediation Model of the Code of the Street**



The inclusion of Latinos as a separate category in the race/ethnicity measure will provide the opportunity to more accurately describe differences in offending. In addition, the inclusion of Latinos in a model that examines Anderson’s code the street theory might reveal: (1) whether this group upholds code-related attitudes and how they compare to African-Americans in regard to offending outcomes or; (2) whether Latinos have lower levels of code-related attitudes compared to other racial/ethnic groups and, consequently, might be protected from delinquency; and (3) whether the effects of race/ethnicity on criminal offending among subgroups are mediated by the adoption of code-related attitudes. In the following chapter, I will explain the data, measures and analytic strategy used to assess these questions.

## CHAPTER III

### METHODOLOGY

#### **Introduction**

The discussion presented in the previous chapter implied three alternative models of “the code of the street” theory (Anderson, 1999) that might be operationalized to understand the race/ethnicity-crime link. The first is a longstanding macro-level model that has received most of the attention from scholars since the publication of Anderson’s work. The macro-level explanation has been well documented and underscores the importance of processes like changes in the economy, discrimination, and residential segregation for the emergence of the code of the street in African-American enclaves that are characterized by concentrated disadvantage (Figure 1). According to this macro-level model, the most direct cause of violent crime rates is the presence of the code of the street in such neighborhoods. Based on growing interest about the culture-crime relationship, scholars have also proposed an alternative multi-level model that aggregates individual-level data within neighborhoods in order to determine the contextual versus compositional effects on the adoption of code-related attitudes and offending. In general, a review of the literature showed that in multi-level models both neighborhood context and individual-level variables aid in predicting adscription to the code of the street and offending, yet questions remain about the differences across racial/ethnic groups (i.e. Latinos, African-Americans) in the development of code-related attitudes.

A third alternative model of the race/ethnicity-code of the street-crime relationship is a micro-level model (Figure 2) that overcomes some limitations of previous studies and attempts to examine individual-level effects on the adoption of code-related attitudes and criminal offending across racial/ethnic groups (e.g. African-Americans and Latinos). My study focusses

on a micro-level conceptualization of the race/ethnicity-street codes-offending link. I will now describe the methodology used for this study, including study design, measures, analytic sample, research questions and analytic strategy.

## **Study Design**

### **Research Design**

This study is based on existing longitudinal data (Mulvey, 2013) available through the Inter-university Consortium for Political and Social Research (ICPSR). The research design for this study is longitudinal since measures of the key independent variables (i.e. race/ethnicity and code-related attitudes) as well as the dependent variables (i.e. self-reported aggressive and income offending variety scores) occurred at the baseline and follow-up interviews. That is, the offending data is available at successive time-points following the measurement of the independent variables. To conduct my analyses, I use data from the first two consecutive waves of the Pathways study that followed the baseline interview. Wave 0 contains information collected at the baseline interview. Wave 1 contains information collected 6-months after the baseline interview, while Wave 2 contains information collected 12-months after the baseline interview. The adoption of code-related attitudes is examined at Wave 1 to assess possible mediating effects of code-related attitudes on the race/ethnicity-criminal offending link. Based on the nature and characteristics of Pathways data, this study shows estimation models and analyses at the individual-level. A limitation of this study is that it departs from the aggregate, community-level orientation of several studies conducted in the past and therefore, any of its findings are not generalizable to units of analyses other than individuals. For example, a multilevel analysis that includes neighborhood-level measures would be more desirable to examine contextual vs. compositional effects on criminal offending. However, this study



includes a measure of neighborhood conditions that, at the individual level, indicates adolescents' perceptions of physical and social disorder in their communities. In the following sections, I will describe the data, sample, and measures that will be used in this dissertation.

### **Data and Sample**

The data used for this study come from the Pathways to Desistance study (Mulvey, 2013).<sup>11</sup> Pathways is a large longitudinal study that was conducted in the largest cities in Arizona (i.e. Phoenix, Maricopa County), and Pennsylvania (Philadelphia, Philadelphia County). The study includes a sample of serious juvenile offenders who were found guilty of a serious offense and adjudicated into the adult court system as they transitioned from adolescence into young adulthood. The main purpose of Pathways is to understand the effects of certain sanctions by the juvenile justice system in the offending trajectories (i.e. desistance or escalation) of individuals as they mature, and how these interventions might affect offenders' outcomes such as psychological development or mental health.

The enrollment period for participation in Pathways occurred between November of 2000 and January of 2003, while the total time period for the study covers years 2000 through 2010. Recruitment of participants was based on a review of court records in both sites, and there were several eligibility requirements for participation in the study. For example, participants had to be located either in Philadelphia County, PA or Maricopa County, AZ. In addition, subjects had to be: (1) between fourteen (14) and eighteen (18) years old at the time in which they committed their offense, (2) found guilty of a serious offense such as a felony, and (3) able to provide informed consent individually (i.e. if the participant was 18 years old at the time of enrollment) or through parents (i.e. if the participant was below 18 years old at the time of enrollment).

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<sup>11</sup> In the following pages of this dissertation, I will refer to the "Pathways to Desistance study" as "Pathways."

Pathways data comprise a representative sample of 1,354 serious offenders (i.e. 86.4% males and 13.6% females at baseline), between 14 and 18 years old. Only one participant reported being 19 years old, and this information was confirmed by the research team. Of the total sample ( $n=1,354$ ), 654 participants were located in Maricopa County (Arizona), while 700 participants were located in Philadelphia County (Pennsylvania). In order to avoid an overrepresentation of drug offenders in the sample, the proportion of male participants who were charged and found guilty of drug-related offenses (e.g. possession) was capped at fifteen percent. On the other hand, of all the participants that were approached for participation in the study, only twenty percent declined participation (Schubert et al., 2004).

Data collected for Pathways were obtained primarily through offenders' self-reports. In this case, participants completed: (1) a baseline interview conducted at the beginning of the study, (2) follow-up interviews conducted every six months for the first three years of the study, and annually up to 84 months past the baseline interview and; (3) release interviews conducted within 30 days of offenders' release from residential facilities. Data for the baseline interview were collected 75 days after the juvenile offenders' adjudication into the adult system, or 90 days after the arraignment hearing (i.e. for offenders in Arizona's adult system) or decertification hearing (i.e. for offenders in Pennsylvania's adult system). The information contained in self-reports was validated and supplemented with collateral reports and official records, such as those reflected in the Federal Bureau of Investigation or the juvenile and adult court records from each respective jurisdiction. This study uses self-reports only, but not collateral reports nor official records.

Data for the baseline and follow-up interviews contain information relevant to this study. For example, each wave of data covers several domains such as background characteristics,

indicators of individual functioning, family context, personal relationships, community context and, psychological development and attitudes (i.e. code-related attitudes). The Pathways data were collected by trained staff through computer assisted personal interviews (CAPI) at participants' homes, libraries, detention facilities or in any other site where participants were located at the time of the interview. The average response rate across all waves for the study was 89.5 percent.

The Pathways data are appropriate for this study for two main reasons. First, the original Pathways sample contains variation with respect to race/ethnicity. As discussed in the previous chapters, most studies in the past examining the race/ethnicity-crime link and code-related attitudes have compared Blacks and Whites only. These studies lack an appropriate representation of Latinos as a separate racial/ethnic group. One of the advantages of the Pathways data is that it includes Latinos as a separate non-Black/non-White category in the race/ethnicity measure that might be used to examine between-group differences on the adoption of code-related attitudes and criminal offending.

Specifically, the sample distribution ( $n = 1,354$ ) for race/ethnicity across Waves 0, 1, and 2 in the Pathways data is as follows: White = 20.2%, non-Latino Black = 41.4%, Latino = 33.5%, and Other = 4.8%. Given that the Pathways data contain a large number of racial/ethnic minority respondents (i.e. Blacks, Latinos) relative to Whites, any analyses that require disaggregation by race/ethnicity are expected to produce reliable statistics. This is possible since the power of statistical tests, defined as  $1 - (\text{probability of a type II error})$ , increase with  $n$  (Blalock, 1979). Therefore, due to the large group subsamples that represent minorities in the Pathways data, it is possible to obtain more reliable estimates of the effects of race/ethnicity on the adoption of code-related attitudes and criminal offending.

Second, the data set contains a measure of code-related attitudes (i.e. moral disengagement) which represents an indicator of Anderson's (1999) code of the street concept. Due to the nature of the data being used for this study, the findings must not be generalized to non-offender youths. That is, it will not be possible to assess differences in the adoption of code-related attitudes among the general population of adolescents or those who have committed less serious offenses. However, because of the overrepresentation of minorities in the offender population (i.e. particularly Blacks and Latinos), Pathways data offers a unique opportunity to examine racial/ethnic differences in offending using Anderson's street code thesis. The use of a juvenile justice-involved sample also offers the opportunity to fill a gap in the literature by studying longitudinal differences between Non-Latino Black and Latinos (relative to Whites) in both serious offending and victimization (Piquero, 2015).

## **Measures**

### **Dependent Variables**

The dependent variables in this study are two composite scales of self-reported criminal offending (SRO) measured at the 12-month follow-up period past the baseline interview period: (1) *aggressive offending variety proportion* and, (2) *income offending variety proportion*. A 12-month time lag occurs between self-reported offending measured at Wave 2 and the independent variables measured at Wave 0. This allows proper temporal ordering of SRO measures with the independent variables. The SRO measures used in this study reflect a variety score, rather than a frequency score.<sup>12</sup> These SRO measures were adapted from the Denver Youth Survey (Huizinga, Esbensen, & Weiher, 1991) to measure participants' involvement in a series of illegal and

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<sup>12</sup> In this case, "variety" scores refer to the number of different types of antisocial/criminal acts (e.g., "beating up," "hitting," "shooting with a gun," "killing") within a particular offending category (e.g., "aggressive offending") in which an individual engages. This is different from "frequency" scores that reflect the total number of particular or unique criminal acts committed (e.g., "hitting") by the respondent, regardless of its offending category type.

antisocial activities. The SRO measures are based on a total of twenty two (22) items that tap into respondents' endorsement of illegal/antisocial activities such as "destroying/damaging property," "breaking in to steal," "selling drugs," "forcing someone to have sex," "shooting someone with a gun," "beating up someone leading to a serious injury," "carrying a gun," or "killing someone."

With these 22 items, SRO variety scores are calculated dividing the total number of items endorsed by respondents within each category of criminal offending (i.e. aggressive or income) by the total number of questions answered within each category of criminal offending (i.e. aggressive or income). The items within each category of criminal offending for which the respondent replied "don't know" were removed from the denominator and thus, from the calculation of SRO scores. The result of this operation is a proportion, where values closer to one (1) reflect a greater variety of offenses within each criminal offending category (i.e. aggressive or income) that the respondent committed in the reference period.

In recent years, researchers have used variety scores as a more appropriate measure of self-reported offending relative to other types of offending measures (Bendixen, Endresen, & Olweus, 2003; Piquero, et al., 2012; Shulman, Cauffman, Piquero, & Fagan, 2011; Sweeten, 2012; Sweeten, Piquero, & Steinberg, 2013; Sweeten, Pyrooz, & Piquero, 2013). The utility of variety scores versus other types of offending measures resides in the fact that variety scores reflect a distinction regarding seriousness of the offense. For example, the spectrum of variety scores permit distinguishing between less and more serious offenders. This is not possible to achieve with a dichotomous scale of self-reported offending where differences among offenders are minimized to all but one in the range of offending (Sweeten, 2012). Similarly, when self-reported offending is measured as a frequency scale, the variation in the scale tends to be overly

driven by high frequency non-serious crime types, which is not the case for variety scales (Sweeten, 2012). On the other hand, when compared to dichotomous or frequency scales, variety scales tend to be a more appropriate method to measure self-reported offending due to their higher correlation with official reports, and also a higher internal consistency (Bendixen, et al., 2003).

*Aggressive offending variety:* the aggressive offending variety measure is a proportion that reflects the total number of different types of aggressive acts endorsed by respondents divided by the total number of aggressive offense items in the reference period (i.e. past 12 months) for which the subject provided a response (i.e. not system missing). This measure includes a total of eleven (11) “aggressive offending” items. Respondents were asked whether they had: “destroyed/damaged property,” “set fire,” “forced someone to have sex,” “killed someone,” “shot at someone and the bullet hit,” “shot at someone and the bullet did not hit,” “been involved in a fight as part of a gang,” “beaten up someone causing serious injuries,” “been involved in a fight,” “took something by force with a weapon,” and “took something by force without a weapon.”

*Income offending variety:* income offending variety scores also indicate a proportion that, in this case, reflects the total number of different types of income-related offending acts endorsed by respondents, divided by the total number of income-related offending acts in the reference period (i.e. past 12 months). Similar to aggressive offending variety scores, the income offending variety scores are computed based on items for which subjects provided a response (i.e. not system missing). The income offending variety proportion measure was calculated based on a total of ten (10) “income offending” items that were presented to respondents. Respondents were asked whether they had: “shoplifted,” “bought/received/sold stolen property,” “used

checks/credit cards illegally,” “stolen car or motorcycle,” “sold marijuana or other drugs,” “carjacked,” “driven drunk or high,” “carried a gun,” “took something by force with a weapon,” and “took something by force without a weapon.”

It is important to note that some items in particular were included in both income and aggressive offenses due to their overlapping with both types of criminal offending (i.e. “took something by force with a weapon,” and “took something by force without a weapon”). Aggressive and income offending variables were included in this study to account for differences in offending among youths of different races/ethnicities. As suggested by Anderson (1999), adolescents who adopt the code of the street tend to engage in violent offenses rather than income offenses. However, the code of the street does not preclude the commission of income-related offenses. As Anderson explained, the code of the street arises when individuals campaign for self-respect. Respect and status might be obtained through the use of violence by showing “nerve” in the street, and manifestations of “nerve” might be evident when “sticking up” people or stealing someone else’s possessions (Anderson, 1999; p. 92). Moreover, qualitative studies that extend Anderson’s ideas among Latinos (e.g. Bourgois, 2003) suggest that the adoption of code-related attitudes might increase the likelihood of income-related offenses as well. For this reason, both aggressive and income offending variety proportions were included in this study as dependent variables. Next, I will describe the independent variables that were included in the analyses.

### **Independent Variables**

*Race/ethnicity:* The key independent variable race/ethnicity is a nominal scale measured at Wave 0 that accounts for the number of participants within three racial/ethnic categories (i.e. “White non-Latino,” “Black non-Latino,” and “Latino”). A simple indicator coding system for

multi-categorical predictors (i.e. *mex*) which represents *K-1* groups was used for the mediation analyses performed in this study. The result of this coding system was a set of two dummy-coded groups, measured as “Latino,” (i.e. 1 = Yes), and “Black non-Latino” (i.e. 1 = Yes). The group “White non-Latino” is treated as the reference category and represents the group with the smallest numerical code (Hayes & Preacher, 2014). The reason for this operationalization of the variable race/ethnicity is twofold. First, despite their overlap, it is necessary to account for the differences between the concepts of *race* and *ethnicity*. While *race* usually refers to phenotypic characteristics such as skin color or eye color that make individuals look different from one another (National Research Council, 2004), *ethnicity* refers to cultural traditions, ancestry, customs, heritage, country of origin, or lineage of certain groups regardless of race (U.S. Census Bureau, 2011b; Yinger, 1985).

Accounting for this distinction and the racial/ethnic diversity in the U.S. population, the Office of Management and Budget (OMB) released a Federal Register Notice in 1997 detailing the new standards for the classification of federal data on race and ethnicity (Office of Management and Budget, 1997). In particular, the U.S. decennial census (U.S. Census Bureau, 2011b) includes two questions based on: (1) individuals’ self-identification to different races and, (2) whether respondents identify themselves as having or not Hispanic, Latino or Spanish origin.<sup>13</sup>

Second, the operationalization of race/ethnicity that was used in this study guarantees that the categories are exhaustive and mutually exclusive. As explained earlier, previous studies tend

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<sup>13</sup> The reason to include the label “Latino” instead of “Hispanic” in the operationalization of the variable race/ethnicity is to better represent the sample in the Pathways data. The term “Latino” is used to refer to individuals from Latin American countries (i.e. south of The Rio Grande) regardless of their language. A more restrictive label such as “Hispanic” would apply only to individuals who trace their origin to Spain and speak the Spanish language. Therefore, the label “Hispanic” would exclude individuals whom, despite being from Latin American countries, do not speak Spanish (e.g., Brazilians) (Schaefer, 2008).



to examine differences in offending among Whites and Blacks only, and the inclusion of Latinos as a separate category accounts for differences across race/ethnicity in the estimation models of criminal offending. Consistent with the purpose of this dissertation, the inclusion of Latinos in current criminological studies permit assessing the extent of criminal offending among this growing minority group in the U.S., and how they compare with other minorities (i.e. Blacks). The Pathways data allows the study of Latinos as a distinct non-White category. Therefore, the analytic sample of this study allows more reliable estimations of the possible effects of code-related attitudes on criminal offending rates disaggregated by race/ethnicity. Furthermore, the inclusion of Latinos as a separate racial/ethnic category, allows an assessment of the possible mediating effects (i.e. direct, indirect) of code-related attitudes on criminal offending across racial/ethnic groups.

*Code-related attitudes:* Another key independent variable reflecting respondents' adoption of code-related attitudes was derived from Bandura and colleagues' (1996) scale of moral disengagement.<sup>14</sup> The measure of code-related attitudes available in the Pathways data indicates the extent to which individuals are morally disengaged from mainstream values (Bandura, et al., 1996). Consistent with Anderson's (1999) work, when presented with everyday challenges that might curtail one's honor and status, adolescents might develop a set of informal rules to regulate their interpersonal behaviors and interactions. It is argued that to the extent that this set of informal rules reflects moral disengagement (Bandura et. al., 1996) from mainstream values, they are also indicative of the adoption of code-related attitudes. In turn, the adoption of code-related attitudes (i.e. adolescents' disengagement from conventional values) might result in criminal offending. This scale measured at Wave 1 reflects adolescents' attitudes toward the

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<sup>14</sup> For the purposes of this dissertation, *moral disengagement* (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996) will be referred to as *code-related attitudes*.

treatment of others and their ability to disengage from moral self-sanctions (Bandura, et al., 1996; Pelton, Gound, Forehand, & Brody, 2004). Per Anderson's (1999) theory, it is assumed that varying levels of estrangement from mainstream values (i.e. moral disengagement) represent varying levels on the adoption of code-related attitudes. That is, respondents with higher scores on the scale of code-related attitudes are more likely to offend than respondents with lower scores on the scale of code-related attitudes.

Code-related attitudes is a 32-item composite scale that measures adolescents' self-reported attitudes about the treatment of others. For each of the 32 statements, respondents had to respond to a 3-point Likert scale (i.e. 1 = disagree; 2 = neither agree nor disagree; 3 = agree). Each of the 32 items that compose the scale taps into one of the eight sub-dimensions of moral detachment from mainstream values (Bandura, et al., 1996). These sub-dimensions are: (1) moral justification, (2) euphemistic language, (3) advantageous comparison, (4) displacement of responsibility, (5) diffusion of responsibility, (6) distorting consequences, (7) attribution of blame, and (8) dehumanization. The items within each sub-dimension of moral disengagement are shown in Appendix A.

The scale of code-related attitudes measured at the two waves that followed the baseline interview had good internal consistency (Cronbach's  $\alpha = .90$ ; and  $.91$  respectively), which indicates that the 32 items composing the scale were closely related to each other. An overall score of code-related attitudes is calculated as the mean of all 32 items for which respondents answered agreement with the given statements. In order to calculate this mean, respondents had to provide answers to at least 24 of the total 32 items (Mulvey, 2013). Greater scores on this

scale indicate greater adoption of code-related attitudes, or in other words, greater moral detachment from mainstream values.<sup>15</sup>

The scale of code-related attitudes used in this study (i.e. Wave 1) is comparable to measures of code-related attitudes used in previous research (Allen & Lo, 2012; Brezina, et al., 2004; Piquero, et al., 2012; Rose & Ellison, 2013; Stewart, et al., 2006; Stewart & Simons, 2010; Stewart, et al., 2002). Appendix B shows items that have been used in past research to measure Anderson's (1999) code of the street concept. Some of these items are comparable to the items found in the index of code-related attitudes used for this dissertation. For example, the items: "it is all right to fight to protect your friends," and "it is alright to beat someone who bad mouths your family" are comparable to "sometimes you have to use physical force or violence to defend your rights," or "a person should have the right to kill another person to defend oneself or one's family." Similarly, other items found in the index of code-related attitudes used for this dissertation such as, "it is alright to fight when your group's honor is threatened" are comparable to items used to measure code-related attitudes in past research (i.e. "it is sometimes necessary to get into a fight to uphold your honor or to put someone in his or her place"). Therefore the measure of code-related attitudes used in this dissertation is believed to capture the definition of the concept being investigated (Finifter, 1975; Lucas, 2003; C. J. Sullivan & Hirschfield, 2011).

Relatedly, Anderson (1999) explained that the code of the street encompasses those attitudes in which there is lack of consideration for others, disregard of others, cynicism and

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<sup>15</sup> Some of the items within the subscales of moral disengagement do not measure directly the concept of code-related attitudes. Although it would have been desirable to extract a factor better reflective of code-related attitudes using some of the sub-scales of moral disengagement, Pathways instrument's authors do not recommend using the sub-scales alone due to their inconsistency and unreliability. Also, these subscales were not made available to the public in the Pathways datasets. The CFA values of a one-factor solution were: NFI=0.810, NNFI=0.855, CFI=0.865, and RMSEA=0.038 (Mulvey, 2013). A strength of this measure is that the Comparative Fit Index (CFI) is close to 1, while the Root Mean Square Error of Approximation (RMSEA) is close to zero. These indices show an acceptable model fit for the one-factor solution (Hu & Bentler, 1999).

aggression. The measure of code-related attitudes used in this study includes statements – such as “kids who get mistreated usually do things that deserve it,” “to hit obnoxious classmates is just giving them a lesson,” “it is okay to treat badly someone who behave like a worm,” and “someone who is obnoxious does not need to be treated like a human being” – that are consistent with Anderson’s (1999) theory. For example, these statements are reflected in Anderson’s (1999; p. 93) account of the school environment as a staging area, where street-oriented children – and those decent-oriented who might need to code-switch for self-defense – must be prepared to manage their appearance and campaign for respect. In this process, “busting on,” “signifying,” and “bumping on” are tactics used to threaten, tease and attack other people.

Similarly, Anderson (1999) explained that the adoption of code-related attitudes might be reproduced when adolescents campaign for respect, protect their turf, and ultimately justify the use of violence to protect themselves and their peers against perceived threats (i.e. “I got yo’ back”). Some of these attitudes are reflected in the composite scale of code-related attitudes: “a kid in a gang should not be blamed for the trouble the gang causes,” “it is alright to beat someone who bad mouths your family,” “it is alright to fight to protect your friends,” “it is alright to fight when your group’s honor is threatened,” “it is alright to lie to keep your friends out of trouble,” or “if a group decided together to do something harmful it is unfair to blame any kid in the group for it” (Bandura, et al., 1996). Other items – such as “to hit obnoxious classmates is just giving them a lesson,” “children do not mind being teased because it shows interest in them,” or “some people have to be treated roughly because they lack feelings that can be hurt” – reflect socialization processes theoretically linked to the adoption of code-related attitudes that resemble the ability to develop a “tough reputation” (Anderson, 1990, 1999).

In sum, most of the items tapping into moral disengagement (Bandura, et al., 1996) indicate a conceptual overlap with measures of code-related attitudes used in previous research (Brezina, et al., 2004; Piquero, et al., 2012; Stewart, et al., 2006; Stewart & Simons, 2010; Stewart, et al., 2002). For example, moral disengagement and code-related attitudes have been theoretically linked as similar processes among children and adolescents that represent a “moral code of behavior.” This moral code of behavior is not restricted by mainstream values and its proscriptions against antisocial actions, but rather enacted with attitudes that violate mainstream social mores and justify antisocial behaviors to achieve personal safety (Hyde, Shaw, & Moilanen, 2010; Shulman, et al., 2011).

### **Control Variables**

In previous studies, researchers have identified several variables that are expected to predict criminal offending among adolescents. A number of these variables are included as controls in this study. Previous studies have described direct and indirect effects of social structure on violent offending. In particular, these studies offer mixed evidence when examining the effects of social structure on criminal offending and the role of culture (Allen & Lo, 2012; Brezina, et al., 2004; Stewart & Simons, 2006, 2010; Stewart, et al., 2002). Therefore, it is necessary to examine the effects of race/ethnicity on the adoption of code-related attitudes and criminal offending net of the effects of social structure. An indicator of social structure was included in the models. *Socio-economic status (SES)* measured at Wave 0, is a computed index of social position based on the level of education and occupation attained by respondents’ biological parents (Hollingshead, Haug, & Sussman, 1971). Higher scores on this measure indicate lower socio-economic status.

In addition, a series of criminogenic risk factors were included in the analyses as control variables. For example, studies derived from the social learning theory of crime (Akers, 1998) explain the association between peer delinquency, gang involvement and offending. Among Latinos, gang involvement and peer delinquency have been found to be associated with criminal offending (Lopez, et al., 2004; Matsuda, et al., 2013; McNulty & Bellair, 2003; Piquero & Brame, 2008; Piquero, et al., 2012). Consistent with these ideas, a group of control variables were included in this study to assess the effects of race/ethnicity on the adoption of code-related attitudes and criminal offending net of the effects of criminogenic risk factors.

First, *Gang membership* measured at Wave 2 is a dichotomous measure indicating whether the adolescent has been involved in a gang during the recall period (0 = No; 1 = Yes). Second, *Peer delinquency* measured at Wave 2 is a composite scale adapted from the Rochester Youth Study (Thornberry, Lizotte, Krohn, Farnworth, & Jang, 1994). This measure is based on a 5-point Likert scale with response options ranging from 1 = none of them to 5 = all of them, where respondents were asked about the prevalence of friends who engaged in 12 antisocial behaviors (i.e. during the last sixth months, how many of your friends have sold drugs?). The peer delinquency measure was calculated as a mean rating for which data had to be contained in at least 9 of the 12 items (Cronbach's  $\alpha = .92$ ). Higher scores on the peer delinquency measure indicate higher prevalence of delinquent friends among respondents.

Similarly, studies derived from Agnew's (1992) general strain theory have examined the effect of stressors on offending across race/ethnicity. Exposure to violence has been previously associated with offending, particularly among Blacks, (Jang & Johnson, 2003; Kaufman, 2005; Simons, et al., 2003). *Exposure to violence* measured at Wave 2 is a modified version of the Exposure to Violence Inventory (ETV) developed by Selner-O'Hagan and colleagues (1998).

This composite scale indicates the frequency of the respondents' exposure to violent events, both as a victim or as a witness (e.g. attacks with weapons, shootings, sexual attacks). Exposure to violence as a victim contains six items (e.g. "have you ever been chased where you thought you might be seriously hurt"), while exposure to violence as a witness contains seven items (e.g. have you ever seen someone else being raped, an attempt made to rape someone or any other type of sexual attack?). A total score on the exposure to violence scale is calculated by summing the number of witness and victim items endorsed by respondents (i.e. 13 items), where higher scores on this scale indicate greater exposure to violence (Mulvey, 2013; Selner-O'Hagan, Kindlon, Buka, Raudenbush, & Earls, 1998).

Drawing a parallel with macro-level research about the effects of neighborhood context on crime (Sampson, et al., 1997; Sampson & Wilson, 1995; Shaw & McKay, 1942/1969) I included an individual-level community context variable as control. *Neighborhood conditions* measured at Wave 0 is a composite scale derived from 21 items that tap into social disorder (e.g. "adults fighting or arguing loudly") and physical disorder (e.g. "graffiti or tags") surrounding the adolescent's home. Higher scores on this measure indicate higher levels of social and physical disorder in respondents' neighborhoods. Lastly, this study includes *age*, *gender*, *aggressive* and *income* offending measured at Wave 0 as control variables.

Table 1 shows multicollinearity diagnostics for the main independent variable (i.e. race/ethnicity), the statistical controls and the proposed mediator (i.e. code-related attitudes) included as dependent variable in the model. The tolerance coefficients ( $1-R^2$ ) in the table show values close to 1, which indicates that the predictors in the model are not linearly related to each other. Reciprocally, the variance inflation factor (VIF) shows coefficients around 1 for the variables included in the model, which indicates that the predictors are uncorrelated. Similar

results were obtained with different linear combinations, where each predictor was included in the model as the dependent variable (Hocking, 2013).

**Table 1. Multicollinearity Statistics for Study Variables before Multiple Imputation Procedure ( $n=1,289$ )**

<b>Variables</b>	<b>Tolerance</b>	<b>VIF</b>
Race/ethnicity (w0)	.824	1.214
Sex (w0)	.970	1.031
Age (w0)	.988	1.012
SES (w0)	.854	1.171
Gang Membership (w2)	.874	1.144
Peer delinquency (w2)	.749	1.334
Perceived neighborhood conditions (w0)	.944	1.060
Exposure to violence (w2)	.797	1.255

Note: Dependent variable: Code-related attitudes

### **Analytic Sample**

The analyses in this dissertation are based on a sample of serious adolescent offenders between 14 and 18 years old. For this study I derived an analytic sample ( $N=1,289$ ) based on the first three waves of the original Pathways data. Wave 0 includes information on the main independent variables and controls collected at the baseline interview. Wave 1 data were obtained at the 6-month follow-up period and include a measure of code-related attitudes. This measure was incorporated in the analytic models to assess whether the effect of race/ethnicity on criminal offending across ethnic groups is mediated by the adoption of code-related attitudes. Wave 2 includes the criminal offending measures that are used as dependent variables. It has been established in the past that criminal offending is most prevalent during mid to late adolescence (Gottfredson & Hirschi, 1990). The reason to include the dependent variables measured at Wave 2 is that the average age of respondents at that point in time was 17.05 years old, which is consistent with the peak age of offending referenced in most criminological literature (Farrington, 1986; Farrington, Piquero, & Jennings, 2013; Piquero, Farrington, & Blumstein, 2003, 2007)



The final size of the analytic sample used in this dissertation ( $N=1,289$ ) resulted from adjustments made in the original sample ( $n=1,354$ ) due to selection criteria and an analysis of missing data patterns. First, the analyses for this study were based on comparisons between non-Latino Blacks, Latinos and non-Latino Whites (i.e. the reference group) exclusively. For this reason, a total of 65 cases representing only 4.8% of the “Other” race/ethnicity category in the original sample were dropped from the study, resulting in  $n = 1,289$ . Second, since analyses performed on datasets with missing values across waves might generate biased results and loss of statistical power across estimation models, it was necessary to assess missing data patterns and decide the most preferable method of handling missing data (e.g. listwise deletion, mean substitution or multiple imputation).

The first step to handle missing data in a given sample is to assess whether data are: (1) missing completely at random (MCAR); (2) missing at random (MAR) or (3) missing not at random (MNAR) (Acock, 2005; Allison, 2002; Enders, 2010; Little & Rubin, 2002). For example, having data that are missing completely at random (MCAR) indicates that the probability of having a missing observation on ( $Y$ ) is unrelated to the value of ( $Y_i$ ) itself or the value of any other variable. Although meeting the MCAR assumption in social research is particularly difficult, there are two plausible traditional approaches to treat the missing data under this scenario: listwise deletion or mean substitution.<sup>16</sup> For example, if a researcher determines that data in a sample are missing completely at random, he/she could trim the sample and include only those cases with fully observed data (Allison, 2002).

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<sup>16</sup> Mean substitution differs from multiple imputation (MI) in that the first method replaces missing values with the average of known values of a given variable, whereas multiple imputation predicts missing values based on the data present for each case within a sample, and repeats the procedure several times to obtain a multiple imputed dataset. The estimates and standard errors in the multiple imputation procedure are then calculated in each imputed dataset and pooled into an overall estimate and standard error. One advantage of this procedure is that – unlike mean substitution – multiple imputation produces unbiased results when data are missing at random (see for example Enders, 2010).

A more common scenario in criminological research is that data are missing at random (MAR). In this type of scenario, it is assumed that the probability of having missing data on (*Y*) is not related to the value of (*Y*) itself, after controlling for other observed variables in the analyses. For example, data would be assumed to be missing at random (MAR) if the probability of having missing observations on the dependent variable *self-reported offending* depends on some of the other observed variables in the analysis such as *race/ethnicity* or *neighborhood conditions*, but not on *self-reported offending* itself. Since data are rarely MCAR, it is more realistic to assume that data are MNAR or MAR, and therefore multiple data imputation is more appropriate to handle the missing observations (Acock, 2005; Allison, 2002).

Having the above explanation as a background and after excluding 65 cases due to selection criteria, missing data patterns for the study variables across waves 0, 1 and 2 in the Pathways data were analyzed using SPSS v.21 (SPSS Inc., Released 2012). Table 2 shows a summary of the study variables included in this dissertation for which there were missing values.

**Table 2. Summary of Study Variables with Missing Values before Multiple Imputation Procedure (*n*=1,289)**

Variable	Valid	Mean	SD	Missing		No. of Extremes	
				N	%	Low	High
Peer delinquency (w2)	1,185	1.82	.82	104	8.1	0	10
Exposure to violence (w2)	1,201	1.31	1.81	88	6.8	0	97
Gang membership (w2)	1,201	.11	-	88	6.8	-	-
Code-related attitudes (w1)	1,201	1.57	.36	88	6.8	0	5
Aggressive offending (w2)	1,201	.08	.12	88	6.8	0	126
Income offending (w2)	1,201	.06	.13	88	6.8	0	113
Socio-economic status (w0)	1,282	51.51	12.33	7	.5	5	0
Aggressive offending (w0)	1,286	.13	.14	3	.2	0	73
Income offending (w0)	1,286	.15	.18	3	.2	0	54
Neighborhood conditions (w0)	1,287	2.35	.75	2	.2	0	0

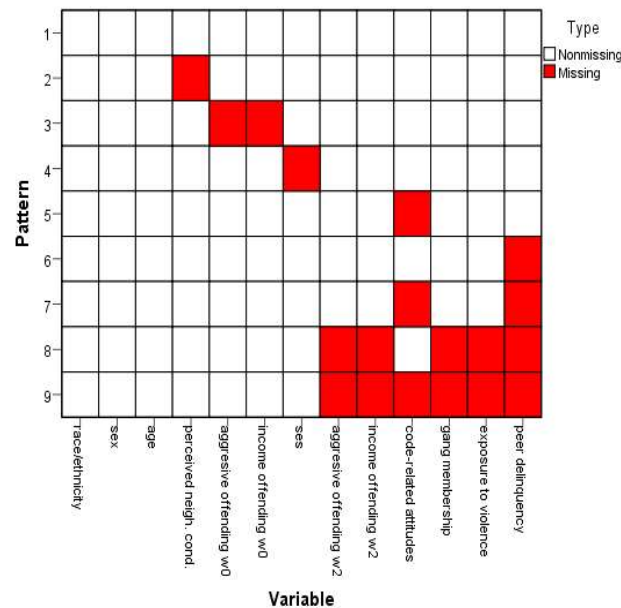
Note: Study variables with complete data are not shown. Little's MCAR Test: *Chi-square*=85.847, *df*=41; *p* < .000

The self-reported offending measures included as dependent variables in this study and the measure of code-related attitudes (i.e. the proposed mediator) had 6.8% missing values. More

than two thirds of the total number of variables ( $n=11$ ) included in this study (i.e. 73%) had missing values. After excluding 65 cases that reflected the “Other” race/ethnicity category in the sample, 12% of the 1,289 cases in the sample had missing values. Overall, approximately 4% ( $n=553$ ) of the total number of values in the entire sample (i.e.  $11 \times 1,289 = 14,179$ ) were missing. Little’s test was significant at  $p < .05$ , rejecting the null hypothesis that the data are MCAR. That is, Pathways data were not missing completely at random and multiple imputation (MI) was deemed as an appropriate method for handling the missing data (Little & Rubin, 2002).

The chart displayed below (Figure 4) was used as part of the multiple imputation (MI) procedure for handling missing data, and reveals patterns of missing values for the study variables, where each pattern corresponds with a group of cases within the dataset that have the same pattern of complete and incomplete data. This step in the MI procedure aids in determining the most appropriate method to impute missing values (i.e. monotonic vs. non-monotonic). Figure 4 shows study variables ordered from left to right, where variables on the right have an increased order of missing values relative to variables on the left. For example, patterns #8 and #9 shows groups of cases with missing values on aggressive offending (Wave 2), income offending (Wave 2), gang membership, exposure to violence and peer delinquency. These patterns represent groups of cases with missing values on more than one variable, and by extension the possibility that data are missing at random (MAR) or missing not at random (MNAR). Given that there are many values that would need to be imputed to achieve monotonicity, multiple imputation is warranted as an appropriate method to deal with these missing data.

**Figure 4. Missing Value Patterns for Study Variables before Imputation Procedure (n=1,289)**



In general, a non-iterative method of multiple imputation might be used if the overall pattern of missing data is monotonic. Conversely, an iterative method (e.g. Markov Chain Monte Carlo) might be used if the overall missing data pattern is non-monotonic. In a given chart of missing value patterns, a monotonic pattern exists if: (1) all cells with non-missing values and all cells with missing values are contiguous and, (2) when there are no missing-data cells within the non-missing portion of the chart, and/or non-missing data cells within the missing-data portion of the chart. As Figure 4 shows, Patterns #7 and #8 represent cases with missing values on the dependent variables used in this study (i.e. aggressive and income offending), as well as code-related attitudes (i.e. Patterns 4, 6 and 8), gang membership, exposure to violence and peer delinquency (i.e. Patterns 5,6 and 7). A visual inspection for contiguity of missing-data cells and non-missing data cells suggests a non-monotonic pattern of missing data for the study variables used in this dissertation and therefore, an iterative method of multiple imputation for missing data was deemed appropriate (Acock, 2005; von Hippel, 2004).

The final sample with no missing values used in this dissertation was then created in SPSSv.21 by substituting the missing values in the original dataset with newly imputed values (SPSS Inc., Released 2012). This process required a sequence of five imputation runs, in which the missing values for each imputation run were saved and then averaged across all five imputations to account for the variance of the missing values. The iteration method used for the MI procedure was the Markov chain Monte Carlo, and the maximum number of iterations for each imputation run was set at 100 to guarantee the attainment of convergence. The statistical procedures and tests performed are based on the aggregated imputed dataset (i.e. five imputations) in order to obtain “pooled” estimates. The aggregated imputed data used in this dissertation is referred to as analytic sample ( $N=1,289$ ) and contains complete data.

There were a total of eleven (11) variables used in this dissertation. Two measures were included as dependent variables in the analyses, whereas the other nine measures consisted of the main independent variable, a proposed mediator and statistical controls. Descriptive statistics for the study variables (Table 3) used in this dissertation are provided below. The following section describes the research questions and analytic strategy of this study.

**Table 3. Descriptive Statistics for Study Variables. Analytic Sample (N=1,289)**

<b>Variables</b>	<b>Mean</b>	<b>SD</b>	<b>Min.</b>	<b>Max.</b>
<b><u>Dependent Variables</u></b>				
<b><i>Self-Reported Offending (w2)</i></b>				
Aggressive offending	.08	.12	.00	.82
Income offending	.06	.13	.00	.90
<b><u>Independent Variables</u></b>				
<b><i>Race/Ethnicity (w0)*</i></b>				
White non-Latino	.21	-	.00	1.00
Black non-Latino	.44	-	.00	1.00
Latino	.35	-	.00	1.00
<b><i>Proposed Mediator (w1)</i></b>				
Code-related attitudes	1.57	.36	1.00	3.00
<b><u>Statistical Controls</u></b>				
Aggressive offending (w0)	.13	.14	.00	.91
Income offending (w0)	.15	.18	.00	.90
Sex (w0)	.87	-	.00	1.00
Age(w0)	16.03	1.14	14	19.00
Socio-economic status (w0)	51.50	12.32	11.00	77.00
Gang membership (w2)	.11	-	.00	1.00
Peer delinquency (w2)	1.85	.81	1.00	5.00
Perceived neighborhood conditions (w0)	2.35	.75	1.00	4.00
Exposure to violence (w2)	1.38	1.80	.00	11.00

Note: White non-Latino is the reference group

## Research Questions

The present study uses a sample of serious adolescent offenders and a longitudinal individual-level approach to examine the possible role of the adoption of code-related attitudes on criminal offending. More specifically, this study considers the importance of code-related attitudes to understand the race/ethnicity-crime link with special attention to Latinos. In doing so, this study relied on Anderson' (1999) perspective to assess racial/ethnic differences in offending and tests main, mediating effects of the adoption of code-related attitudes on the race/ethnicity-crime link. Specifically, this study includes the following research questions:

**Research Question 1:** Net of control variables, are there any race/ethnicity differences in the adoption of code-related attitudes?

**Research Question 2:** Net of control variables, are there any race/ethnicity differences in self-reported aggressive and income offending?

**Research Question 3:** Net of control variables, do code-related attitudes affect self-reported aggressive and income offending among juveniles regardless of their race/ethnicity?

**Research Question 4:** How do race/ethnicity and code-related attitudes work in conjunction to explain self-reported aggressive and income offending? That is, are there any of the effects of race/ethnicity on self-reported aggressive and income offending mediated by the adoption of code-related attitudes? More specifically, are there any significant indirect effects of race/ethnicity on self-reported aggressive and income offending that operate through a measure of code-related attitudes?

Based on the existing literature and empirical tests reviewed in the previous chapter, each of the research questions outlined above entails a number of alternative possibilities for findings. For research question #1 it is expected that there will be differences in the adoption of code-related attitudes across race/ethnicity. Specifically, relative to the reference group (i.e. White non-Latino), Latinos will report lower scores on the adoption of code-related attitudes, while non-Latino Blacks will report higher scores on the adoption of code-related attitudes. Second, for research question #2 it is expected that there will be differences in self-reported offending across race/ethnicity. Specifically, it is expected that relative to the reference group Latinos will report lower aggressive and income offending scores, and that non-Latino Blacks will report higher aggressive and income offending scores.

For research question #3 it is expected that code-related attitudes affect self-reported aggressive and income offending across racial/ethnic groups. That is, net of race/ethnicity higher scores on the adoption of code-related attitudes among juveniles will lead to higher scores on

criminal offending. Finally, for research question #4 it is expected that the relationship between race/ethnicity and criminal offending at least partly operates indirectly through the adoption of code-related attitudes. That is, net of control variables, the effects of race/ethnicity on criminal offending are mediated by the adoption of code-related attitudes. Moreover, it is expected that relative to non-Latino Whites, the *indirect effect* of non-Latino Black on both measures of self-reported offending via the adoption of code-related attitudes will be positive, while the *indirect effect* of Latino on both measures of self-reported offending via the adoption of code-related attitudes will be negative. Similarly, it is expected that relative to non-Latino Whites, the *direct effect* of Black non-Latino on aggressive and income offending will be positive, while the *direct effect* of Latino on aggressive and income offending will be negative.

### **Analytic Strategy**

This study employs bivariate and multivariate regression analyses using SPSS v.21 (SPSS Inc., Released 2012) to estimate a series of models pertaining to the research questions. The statistical tests and analyses are performed using the analytic sample described above ( $N=1,289$ ) which contains complete data (i.e. no missing values) across five imputed datasets. First, pairwise comparisons are computed to assess the zero-order Pearson ( $r$ ), Gamma ( $\gamma$ ), and Eta ( $\eta$ ) correlation coefficients for the study variables. Second, bivariate comparisons assess the prevalence (or lack thereof) in the adoption of code-related attitudes by race/ethnicity, and whether there are significant differences across race/ethnicity in the adoption of code-related attitudes. This analysis shows whether Latinos adhere to code-related attitudes like those described by Anderson (1999). Similarly, bivariate comparisons are conducted to establish the prevalence of self-reported violent and income offenses by race/ethnicity, and whether there are significant differences across racial/ethnic groups in self-reported criminal offending. The



bivariate comparisons denote differences in mean scores of code-related attitudes and self-reported offending (i.e. aggressive and income) between Latinos and the other two racial/ethnic groups (i.e. non-Latino Blacks and non-Latino Whites).

The self-reported offending variety scores included as outcomes in this study show over-dispersed distributions (positive skew) that are not responsive to logarithmic transformations, and are bounded between the values 0 and 1 (i.e. both outcome measures are proportions). However previous research has obtained similar results across different versions (i.e. dichotomized vs. variety scores) of self-reported offending measures (Piquero, et al., 2012), and across different estimation models such as GLM, GSEM, negative-binomial, Poisson and/or OLS (Bersani, et al., 2014; Hampton, Drabick, & Steinberg, 2014; Monahan, Dmitrieva, & Cauffman, 2014; Schubert, Mulvey, & Glasheen, 2011; Schubert, et al., 2004; Sweeten, Pyrooz, et al., 2013). Therefore, consistent with previous research using self-reported offending variety scores derived from Pathways data (Hampton, et al., 2014), this study employs Ordinary Least Squares (OLS) regression to assess the effects of race/ethnicity on criminal offending net of controls.<sup>17</sup> The multivariate linear regression equation used to estimate self-reported criminal offending scores using race/ethnicity, code-related attitudes and statistical controls is parameterized using Equation 1 below:<sup>18</sup>

$$Y_j = i_1 + b_1X_{1j} + b_2X_{2j} + \dots b_kX_{kj} + e_j \quad (1)$$

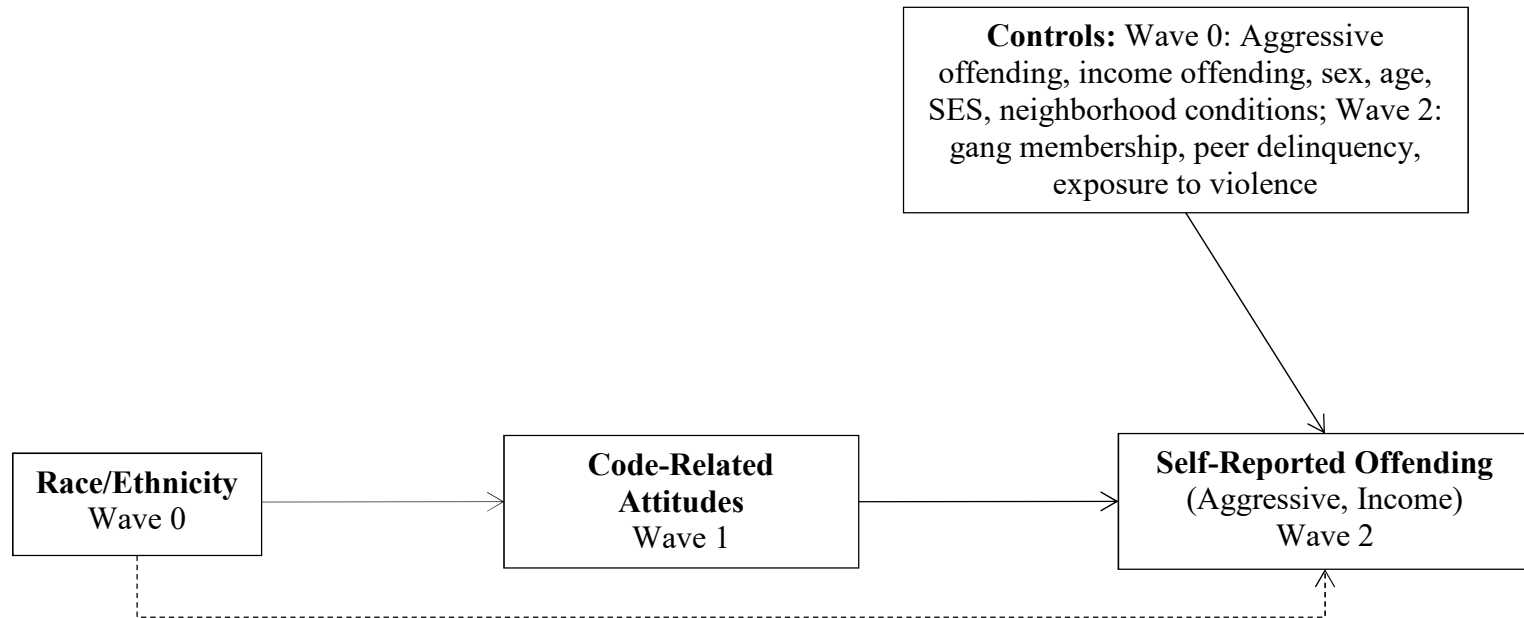
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<sup>17</sup> In the case of the outcome measures used in this study, the assumption of normality required for OLS regression is clearly violated, which theoretically would make the OLS estimation model undesirable over other methods. However, according to Hayes (2013) the normality assumption in social sciences is rarely met, particularly in cases where the measurement scales are bounded by zero and one (i.e. as in the case of the outcome measures in this study), or when they reflect counts. Since the outcome measures in this study are not dichotomous variables, counts or coarse ordinal scales; but rather proportions bounded by zero and one with non-integer values, other regression models such as logistic, probit, Poisson or negative binomial are not appropriate either. Therefore, a decision was made to estimate the models using OLS regression, and conduct a complimentary analysis using a GSEM estimation model to check for the sensitivity of the data to the violation of normality.

<sup>18</sup> All equations shown in this dissertation use notation found in Hayes and Preacher (2013). In this case, coefficients “ $i_1$ ”, “ $i_2$ ,” and “ $i_3$ ” represent intercepts (i.e. the reference category “White non-Latino”).

Where,  $X_{ij}$ 's are cases  $j$ 's measurement on each independent/control variables  $i$ 's, and  $b_i$ 's are regression coefficients for each independent/control variable  $X_i$  (Hayes, 2013). Furthermore, an OLS/ML model testing for possible mediation effects of code-related attitudes on the race/ethnicity-crime link is assessed (Hayes, 2016; Hayes & Preacher, 2014). Figure 5 below shows a general model examining possible mediating effects of the adoption of code-related attitudes in the relationship between race/ethnicity and SRO.

**Figure 5. General Model Linking Race/Ethnicity, Code-Related Attitudes and Self-Reported Offending**



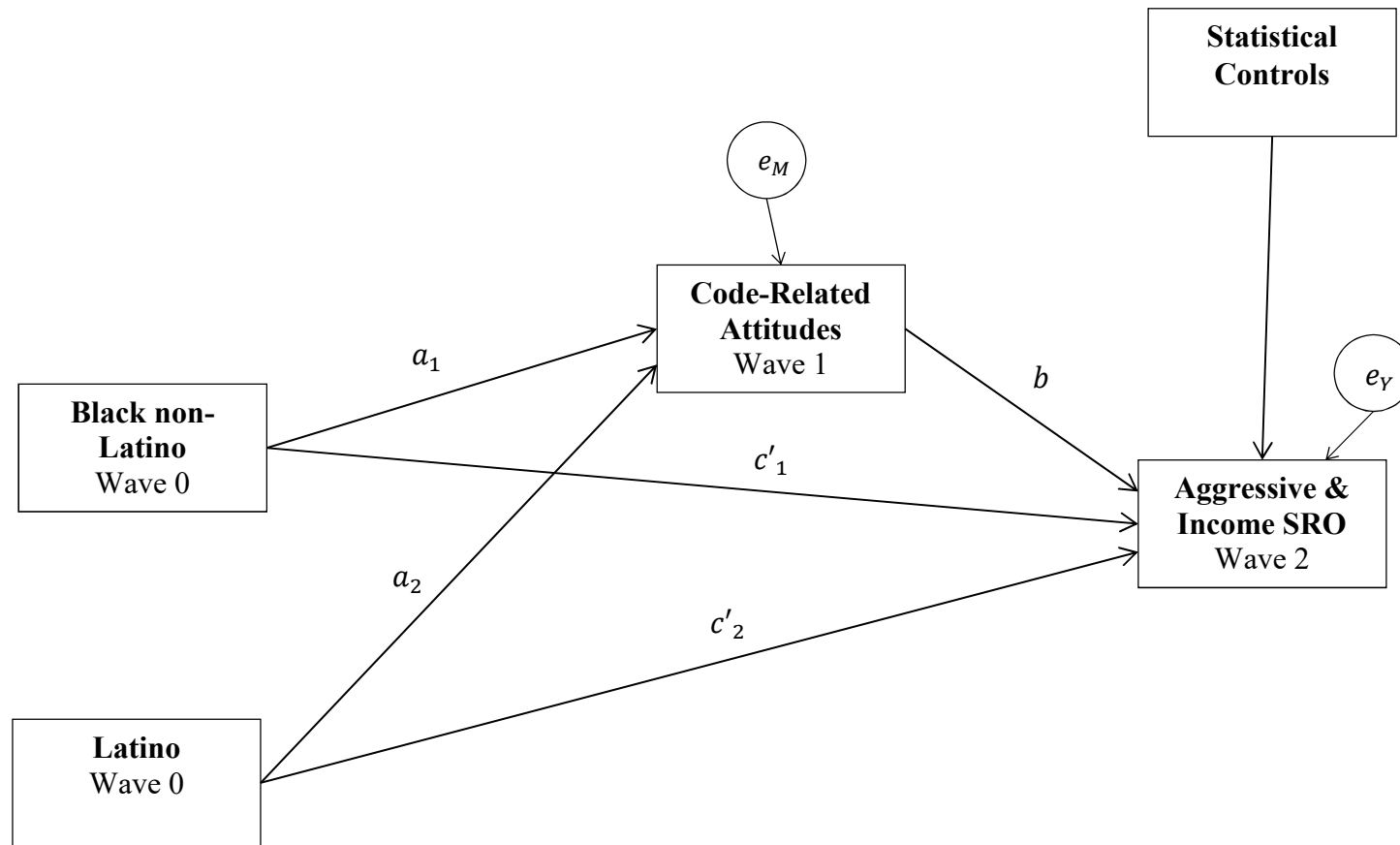
The mediation analyses are performed using Andrew Hayes' PROCESSv2.15 macro which is available for SPSSv.21 users (Hayes, 2013, 2016; Hayes & Preacher, 2014). Separate path models are derived to assess indirect, direct and total effects of race/ethnicity on both measures of self-reported offending through the adoption of code-related attitudes. First, the indirect effects are represented by the straight lines going from race/ethnicity to code-related attitudes, and from code-related attitudes to self-reported offending in Figure 5. That is, race/ethnicity affects the proposed mediator (i.e. code-related attitudes) and this effect is then transmitted to the criminal offending outcomes. Second, the direct effects are represented by the dotted line in Figure 5, by which race/ethnicity transmits its effects on both criminal offending outcomes independent of the influence of race/ethnicity on code-related attitudes. Third, the total effects represent the sum of indirect and direct effects of race/ethnicity on criminal offending. Having a multi-categorical predictor, the possible mediating effects outlined above are disaggregated by race/ethnicity and displayed in the path models for interpretability. To achieve this, a dichotomized simple indicator coding system is used in which  $K-1$  groups are created (see Table 4 below). In this case, the group non-Latino White is assigned the smallest numerical code and treated as the reference category (Fox, 2008; Hayes, 2013; Hayes & Preacher, 2014; Jose, 2013).

**Table 4. Simple Indicator Coding System for Multi-categorical Predictor**

<b>Race/Ethnicity</b>	<b><i>D1</i></b>	<b><i>D2</i></b>
1= White non-Latino	0	0
2= Black non-Latino	1	0
3=Latino	0	1

Consistent with the simple indicator coding system, Figure 6 shows a statistical diagram with the proposed mediation model linking race/ethnicity, code-related attitudes and self-reported offending used for this study (Hayes, 2016; Hayes & Preacher, 2014).

**Figure 6. Proposed Mediation Model Linking Race/Ethnicity, Code-Related Attitudes and Self-Reported Offending**



Statistical controls are: Wave 0: Aggressive offending, income offending, sex, age, SES, neighborhood conditions; Wave 2: gang membership, peer delinquency, exposure to violence

The statistical diagram presented in Figure 6, is a linear mediation model used to estimate the direct, indirect and total effects of race/ethnicity on self-reported offending through code-related attitudes.<sup>19</sup> First, coefficients  $a_1$  and  $a_2$  quantify the differences between Black-non Latino and Latino respectively on the adoption of code-related attitudes. The differences between both racial/ethnic groups on code-related attitudes are quantified relative to the reference group (i.e. White non-Latino). Second, coefficient  $b$  represents the effect of the mediator  $M$  (i.e. code-related attitudes) on the dependent variable  $Y$  (i.e. self-reported criminal offending) net of the effect of the main independent variable  $X$  (i.e. race/ethnicity). Third, coefficients  $c'_1$  and  $c'_2$  quantify the differences between Black non-Latino and Latino respectively on self-reported criminal offending net of the adoption of code-related attitudes. The mediation model presented in Figure 6 is parameterized using Equation 2 and Equation 3 below (Hayes, 2013; Hayes & Preacher, 2014):

$$M = i_1 + a_1D_1 + a_2D_2 + e_M \quad (2)$$

$$Y = i_2 + c'_1D_1 + c'_2D_2 + bM + e_Y \quad (3)$$

From Figure 6, the relative indirect effect of Black-non Latino on self-reported offending is represented by the product  $a_1b$ , while the indirect effect of Latino on self-reported offending is represented by the product  $a_2b$ . Relatedly, the relative direct effect of each racial/ethnic group on self-reported offending is represented by their respective  $c'_1$  and  $c'_2$  coefficients. The relative total effect of race/ethnicity on self-reported offending is parameterized using Equation 4 below:

$$Y = i_3 + C_1D_1 + C_2D_2 + e_Y \quad (4)$$

Based on Equation 4 for the relative total effect,  $C_1$  and  $C_2$  are coefficients that quantify the differences in self-reported offending between the groups coded with  $D_1$  (i.e. Black non-

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<sup>19</sup> As part of the analytic strategy, both outcome measures (i.e. aggressive and income SRO scores) are analyzed separately in the proposed mediation model.

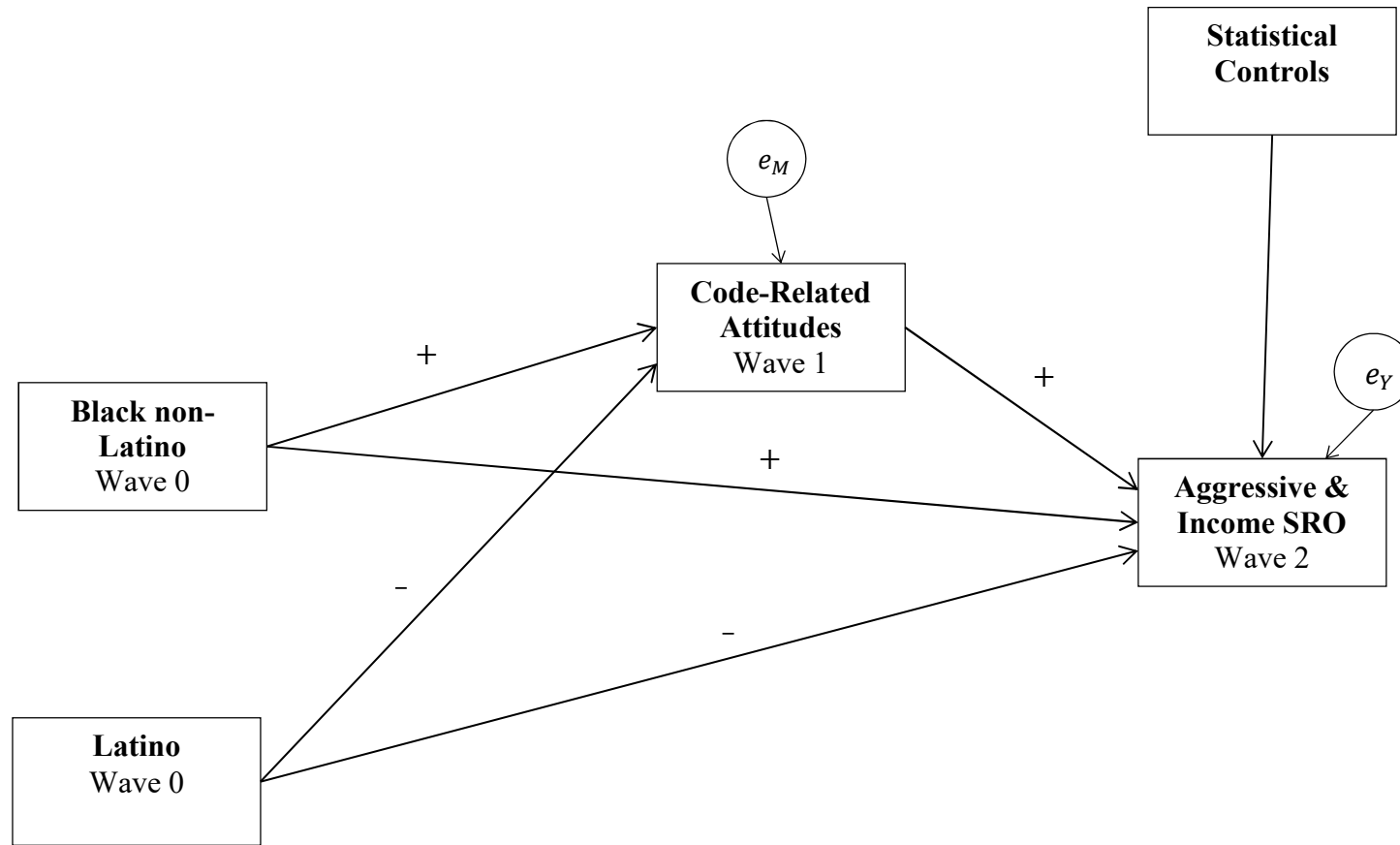
Latino),  $D_2$  (i.e. Latino), and the reference group (i.e. White non-Latino). In this case, the relative total effect of Black non-Latino on self-reported offending, as well as the relative total effect of Latino on self-reported offending are obtained by adding their respective direct and indirect effects as shown in Equation 5 and Equation 6 below:

$$C \text{ (Black non-Latino)} = c'_1 + a_1b \quad (5)$$

$$C \text{ (Latino)} = c'_2 + a_2b \quad (6)$$

Finally, the proposed mediation model presented in Figure 6 is analyzed to assess the aforementioned research questions and hypotheses. These statements are summarized in Figure 7 below, which shows the hypothesized signs of the coefficients for the direct, and indirect effects in the proposed mediation model. In sum, the preceding section outlined the analytic strategy to assess the proposed mediation model that links race/ethnicity and self-reported aggressive and income offending through the adoption of code-related attitudes. This model includes a multi-categorical predictor that was dummy coded with White non-Latino as the reference group. The mediation model allows for the estimation of relative indirect, direct and total effects with special attention to Latinos. The following chapter will cover the results obtained based on the analytic strategy outlined above, where I examine differences across race/ethnicity on levels of code-related attitudes and criminal offending, and answer whether the effects of race/ethnicity on self-reported aggressive and income offending are mediated by the adoption of code-related attitudes.

**Figure 7. Hypothesized Mediation Effects Linking Race/Ethnicity, Code-Related Attitudes and Self-Reported Offending**



Statistical controls are: Wave 0: Aggressive offending, income offending, sex, age, SES, neighborhood conditions; Wave 2: gang membership, peer delinquency, exposure to violence



## CHAPTER IV

### RESULTS

#### Introduction

The previous chapter laid out the study design, measures, research questions and analytic strategy used in this dissertation. To summarize, this study used the first three waves of Pathways data (Waves 0, 1, and 2). The data were modified to meet selection criteria and to assess missing data. First, the sample was reduced from  $n=1,354$  to  $n=1,289$ . This reduction in the sample size was the result of selection criteria, since analyses in this study were based exclusively on three racial/ethnic groups: (1) non-Latino Blacks, (2) Latinos and, (3) non-Latino Whites (i.e. the reference group).<sup>20</sup> Second, after an analysis of data patterns, multiple imputation was deemed as an appropriate method to address missing values across waves. The result of this process was an analytic sample with non-missing data across five imputations ( $N=1,289$ ), on which the statistical analyses and results for this dissertation are based.<sup>21</sup>

This study used a total of 13 variables across models: (1) a main independent variable (i.e. race/ethnicity) consisting of three categories on which a simple indicator coding system was used for the purpose of mediation analyses; (2) a proposed mediator variable (i.e. code-related attitudes); (3) two outcome measures (i.e. aggressive and income SRO scores); and (4) nine statistical control variables covering aggressive and income offending at baseline, socio-demographic characteristics, and risk factors for criminal offending. To assess the research questions and propositions outlined above, a series of tests and, multivariate and mediation

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<sup>20</sup> A total of 65 cases belonging to the “Other” category in the race/ethnicity measure were excluded from the sample.

<sup>21</sup> A detailed description of missing data patterns and the procedures followed in Multiple Imputation are provided in the “Analytic Sample” section in Chapter III.

models were performed. Separate models were estimated for each outcome measure. Two path models linking race/ethnicity, code-related attitudes and criminal offending were estimated: (1) a mediation model linking race/ethnicity, code-related attitudes and self-reported aggressive offending and; (2) a mediation model linking race/ethnicity, code-related attitudes and self-reported income offending. Through a series of equations based on mediation analyses for multi-categorical predictors, the proposed mediation models assessed the direct, indirect and total effects on the race/ethnicity, code-related attitudes and criminal offending link.

The discussion in this chapter presents the results from the analyses of these models. First bivariate analyses present descriptive statistics and comparative statistical tests, pairwise correlations for study variables, as well as a description of the data in terms of the level of adoption of code-related attitudes and self-reported criminal offending across racial/ethnic groups. These results are analyzed to answer research question #1 and research question #2. As hypothesized in the previous chapter, it is expected that there will be significant differences across racial/ethnic groups in the adoption of code-related attitudes, as well as in both measures of self-reported offending. Second, results from multivariate analyses are presented using OLS regression and mediation models. These results assess research question #3 and research question #4. The mediation models were estimated separately for each dependent variable. The results for the mediation models are based on Hayes' approach for mediation analyses with multi-categorical predictors, and incorporate a decomposition of direct, indirect (i.e. through code-related attitudes) and total effects of race/ethnicity on both criminal offending outcomes (Hayes, 2013, 2016; Hayes & Preacher, 2014).

## Bivariate Analyses

The bivariate analyses presented below are based on the research questions and alternative possibilities for findings presented in Chapter III.<sup>22</sup> As explained in Chapter I, official records and self-report data at the national level tend to indicate racial/ethnic differences in criminal offending (see for example Estrada-Martínez, et. al., 2013; Estrada-Martínez, et. al., 2011; Kaufman, 2005; U.S. Department of Justice, 2014). Empirical studies show mixed results on this question, however, and researchers argue to include street-code-related variables that at the micro-level, might help disentangle divergent findings about the race/ethnicity-crime link (see for example Piquero et. al., 2012; Stewart & Simons, 2006, 2010).

In line with the research questions presented in the previous chapter, Table 5 shows descriptive statistics for the study variables in the analytic sample disaggregated by race/ethnicity. Non-Latino Whites display the lowest mean score on the adoption of code-related attitudes ( $\bar{X}$ =1.50;  $SD$ =.34) measured at Wave 1, when compared to non-Latino Blacks ( $\bar{X}$ =1.52;  $SD$ =.33) and Latinos ( $\bar{X}$ =1.66;  $SD$ =.37). Conversely non-Latino Blacks display the lowest score on aggressive offending ( $\bar{X}$ =.06;  $SD$ =.10) and income offending ( $\bar{X}$ =.05;  $SD$ =.10) measures at Wave 2, relative to their counterparts.<sup>23</sup> The same pattern of differences across groups is found when observing baseline SRO scores. That is, at Wave 0, non-Latino Blacks display lower mean aggressive ( $\bar{X}$ =.12;  $SD$ =.13) and income ( $\bar{X}$ =.12;  $SD$ =.15) offending scores than their counterparts. Also at Wave 0, although Latinos display higher aggressive offending scores ( $\bar{X}$ =.15;  $SD$ =.16) when compared to non-Latino Whites ( $\bar{X}$ =.13;  $SD$ =.14), this pattern changes

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<sup>22</sup> For univariate descriptives of study variables in the analytic sample refer to Table 3 in the previous chapter.

<sup>23</sup> As a word of caution, these standard deviation values are quite high, which indicates that the statistics based on these measures might be unduly affected by outliers (e.g. thresholds and/or types of offenses among youth who encounter the juvenile justice system).

when observing income offending scores. In this case, Latinos display a lower income offending score at baseline ( $\bar{X}$ =.15;  $SD$ =.19), when compared to non-Latino Whites ( $\bar{X}$ =.19;  $SD$ =.22).

The group with the lowest socio-economic status at baseline was Latinos ( $\bar{X}$ =56.95;  $SD$ =11.99) followed by non-Latino Blacks ( $\bar{X}$ =49.72;  $SD$ =11.56) and non-Latino Whites ( $\bar{X}$ =46.12;  $SD$ =10.92).<sup>24</sup> Turning to the criminogenic risk factors, the group with the highest proportion of gang involvement and greater number of antisocial peers measured at Wave 2 was Latinos followed by non-Latino Blacks and non-Latino Whites.<sup>25</sup> Interestingly, compared to non-Latino Whites, non-Latino Blacks and Latinos were the racial/ethnic groups with the highest score on exposure to violent events (i.e. both as victims and/or as witnesses). Specifically, Latinos had a significantly lower score on exposure to violence compared to non-Latino Blacks ( $\bar{X}_{i-j}$ =-.30;  $SE$ =.11;  $p$ <.05).

Similarly, both racial/ethnic groups tended to perceive more signs of social and physical disorder in their respective neighborhoods, compared to non-Latino Whites. These differences in perceived neighborhood conditions were statistically significant ( $p$ <.001) across all racial/ethnic groups, with Latinos having better perceptions about their neighborhoods compared to non-

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<sup>24</sup> As explained in Chapter III, the SES scale reflects an index of social position based on parents' occupation and education (Hollingshead, 1971), where higher scores reflect lower SES. Table 3 shows a mean SES score of  $\bar{X}$ =51.50 for the analytic sample ( $SD$ =12.32), which situates Latinos' mean SES score 5.45 units above average relative to the whole sample. In other words, both non-Latino Whites ( $\bar{X}$ =46.12;  $SD$ =10.92) and non-Latino Blacks ( $\bar{X}$ =49.72;  $SD$ =11.56) had a better socio-economic status than Latinos, and their respective SES scores were on average lower (i.e. better) than the whole sample. These differences were significant at  $p$ <.001.

<sup>25</sup> In the analytic sample, Latinos were disproportionately involved in gangs at Wave 2 ( $\bar{X}$ =.23), compared to non-Latino Blacks ( $\bar{X}$ =.05) and non-Latino Whites ( $\bar{X}$ =.03). An examination of previous waves showed a similar pattern. That is, at baseline and Wave 1, Latinos were disproportionally involved in gangs ( $\bar{X}$ =.41 and  $\bar{X}$ =.25 respectively) compared to non-Latino Blacks ( $\bar{X}$ =.13 and  $\bar{X}$ =.07 respectively) and non-Latinos Whites ( $\bar{X}$ =.16 and  $\bar{X}$ =.05 respectively). These multiple comparisons were all significant at  $p$ <.05.

Latino Blacks ( $\bar{X}_{i-j}=-.21$ ;  $SE=.05$ ), but worse perceptions about their neighborhoods compared to non-Latino Whites ( $\bar{X}_{i-j}=.28$ ;  $SE=.06$ ).<sup>26</sup>

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<sup>26</sup> Multiple comparisons were estimated based on ANOVA and assuming unequal variances (i.e. Tamhane's T2 test). These differences are not shown in Table 5.

**Table 5. Descriptive Statistics for Study Variables, by Race/Ethnicity. Analytic Sample (N=1,289)**

<b>Variables</b>	<b>All groups (N=1,289)</b>		<b>Latino (n=454)</b>		<b>Black non-Latino (n=561)</b>		<b>White non-Latino (n=274)</b>	
	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
<b><u>Dependent Variables</u></b>								
Aggressive offending (w2)	.08	.12	.09	.14	.06	.10	.08	.12
Income offending (w2)	.06	.13	.08	.14	.05	.10	.08	.15
<b><u>Independent/Control Variables</u></b>								
Aggressive offending (w0)	.13	.14	.15	.16	.12	.13	.13	.14
Income offending (w0)	.15	.18	.15	.19	.12	.15	.19	.22
Code-related attitudes (w1)	1.57	.36	1.66	.37	1.52	.33	1.50	.34
Sex (w0)	.87	-	.88	-	.88	-	.82	-
Age(w0)	16.03	1.14	16.01	1.11	16.09	1.19	15.95	1.07
Socio-economic status (w0)	51.50	12.32	56.95	11.99	49.72	11.56	46.12	10.92
Gang membership (w2)	.11	-	.23	-	.05	-	.03	-
Peer delinquency (w2)	1.85	.81	1.93	.91	1.80	.75	1.79	.74
Perceived neighborhood conditions (w0)	2.35	.75	2.32	.77	2.53	.70	2.04	.70
Exposure to violence (w2)	1.38	1.80	1.27	1.72	1.57	1.87	1.20	1.77

Table 6 shows zero-order correlation coefficients for the study variables in the analytic sample. First, gamma ( $\gamma$ ) coefficients are displayed for bivariate associations among dichotomous variables (i.e. Latino, Black-non Latino, sex, gang membership). Being a proportional reduction in error measure (PRE), the absolute value of gamma ( $\gamma$ ) indicates the reduction in errors when predicting the ranks of a dependent variable knowing the ranks of an independent variable. Gamma ( $\gamma$ ) also indicates the strength and direction of an association between two variables, and ranges from 0.0 to  $\pm 1.0$ , where a value of 0 denotes no association, and values of  $\pm 1.0$  denote a perfect association between the variables under study (Goodman & Kruskal, 1979). As Table 6 indicates, there is evidence of a significant and moderate association for non-Latino Blacks and gang membership ( $\gamma = -.55$ ;  $p < .01$ ), and a significant and moderate association for Latinos and gang membership ( $\gamma = .72$ ;  $p < .01$ ). That is, non-Latinos Blacks tended to report “no gang affiliation” while Latinos tended to report “gang affiliation.” Similarly, there was an approximately 55% reduction in errors when predicting gang membership from non-Latinos Blacks, and approximately 72% reduction in errors when predicting gang membership from Latinos.

Second, eta ( $\eta$ ) coefficients are displayed for bivariate associations among dichotomous and interval-level variables. The eta ( $\eta$ ) coefficient ranges in value from 0 to 1, where values closer to zero indicate no association, and values closer to 1 indicate perfect association between the variables under study. As shown in Table 6, the eta ( $\eta$ ) coefficients indicate a significant but weak association for (1) Black-non Latino and both measures of criminal offending ( $\eta = .09$  and  $\eta = .11$  at Wave 2 respectively;  $p < .01$ ), (2) Black non-Latino and code-related attitudes ( $\eta = .10$   $p < .01$ ) and, (3) Black non-Latino and risk-factors bivariate relationships.

For Latinos, the eta ( $\eta$ ) coefficients show a significant but weak association for (1) Latino and criminal offending ( $\eta=.09$  and  $\eta=.06$  at Wave 2 respectively;  $p<.01$ ), (2) Latino and code-related attitudes ( $\eta=.19$ ;  $p<.01$ ), and (3) Latino and risk-factors bivariate relationships. Although the size of these coefficients is negligible, a higher proportion of the variance in the adoption of code-related attitudes is explained by Latinos ( $\eta^2=.03$ ) compared to non-Latino Blacks ( $\eta^2=.01$ ). Regarding criminal offending measures, the proportion of the variance in aggressive and income offending scores explained by non-Latino Blacks and Latinos seems to be negligible, except for the income offending measure at baseline where the proportion of variance explained is higher for non-Latino Blacks ( $\eta^2=.02$ ). Alternatively, approximately 8% of the variance in aggressive offending at Wave 2 and approximately 5% of the variance in income offending at Wave 2 is explained by gang membership.

Third, Pearson ( $r$ ) coefficients are displayed for interval by interval correlations. Pearson ( $r$ ) ranges from 0.0 to  $\pm 1.0$ , where a value of 0 denotes no association, and values of  $\pm 1.0$  denote a perfect association between the variables under study. As shown in Table 6, there is a significant association in the positive direction for the bivariate relationship between the adoption of code-related attitudes and both measures of criminal offending at Wave 2 ( $r=.28$  and  $r=.23$  respectively;  $p<.01$ ), and a significant association ( $p <.01$ ) in the positive direction for the bivariate relationship between risk factors and criminal offending. At Wave 2, gang membership displays a weak correlation with both measures of criminal offending ( $r=.28$  and  $r=.22$  respectively;  $p <.01$ ), whereas the association between peer delinquency-criminal offending ( $r=.51$  and  $r=.51$  respectively;  $p <.01$ ), and exposure to violence-criminal offending ( $r=.55$  and  $r=.50$  respectively;  $p <.01$ ) is stronger than those of code-related attitudes and gang membership, but still moderate in magnitude.



At Wave 2, about 8% of the variance in aggressive offending, and about 5% of the variance in income offending is explained by the adoption of code-related attitudes. In contrast, approximately 26% of the variance in both criminal offending measures at Wave 2 is explained by the prevalence of delinquent peers, while approximately 30% and 25% of the variance in aggressive and income offending, respectively is explained by exposure to violence as a witness and/or as a victim. Overall, these results suggest: (1) a statistically significant but, weak association between race/ethnicity and the adoption of code-related attitudes, and between race/ethnicity and criminal offending; and (2) a stronger, but still weak, effect for the adoption of code-related attitudes and criminal offending measures.

**Table 6. Pairwise Correlations for Study Variables. Analytic Sample (N=1,289)**

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Aggressive offending (w2)	1													
2 Income offending (w2)	.74**	1												
3 Black non-Latino (w0)	.09**	.11**	1											
4 Latino (w0)	.09**	.06**	-1.0**	1										
5 Code-related attitudes (w1)	.28**	.23**	.10**	.19**	1									
6 Aggressive offending (w0)	.33**	.29**	.09**	.10**	.26**	1								
7 Income offending (w0)	.24**	.29**	.15**	.05**	.26**	.68**	1							
8 Sex (w0)	.14**	.08**	.10	.07	.12**	.09**	.09**	1						
9 Age (w0)	-.03	.01	.04**	.01	.00	-.02	.00	.03*	1					
10 Socio-economic status (w0)	.04	.01	.13**	.33**	.09**	.04	.02	.05**	-.05	1				
11 Gang membership (w2)	.28**	.22**	-.55**	.72**	.19**	.27**	.19**	.47**	.01	.15**	1			
12 Peer delinquency (w2)	.51**	.51**	.05**	.08**	.26**	.28**	.23**	.15**	-.01	.03	.23**	1		
13 Percievd. neigh. cond. (w0)	.08**	.07*	.21**	.03*	.06*	.19**	.09**	.00	.05	.13**	.01	.14**	1	
14 Exposure to violence (w2)	.55**	.50**	.09**	.05**	.15**	.19**	.11**	.08**	.04	-.02	.13**	.44**	.14**	1

Note: Gamma ( $\gamma$ ) coefficients are displayed for dichotomous by dichotomous associations. Eta ( $\eta$ ) coefficients are displayed for dichotomous by interval associations. Pearson ( $r$ ) coefficients are displayed for interval by interval associations. Coefficients are significant at; \* $p < .05$ , \*\* $p < .01$ . The reference group White non-Latino is not displayed in the table.

It is important to note that aside from the adoption of code-related attitudes, other criminogenic risk factors at the individual-level (i.e. gang membership, peer delinquency, perceived neighborhood conditions, and exposure to violence) are weak-to-moderate correlates of criminal offending in the analytic sample, which reinforces the need to control for these variables in the multivariate analyses. Furthermore, these risk factors are also associated with race/ethnicity, with gang membership displaying the strongest relationship. Finally, having described significant bivariate associations, Table 7 shows differences across racial/ethnic groups on the adoption of Wave 1 code-related attitudes, and Wave 2 criminal offending measures in the analytic sample.

**Table 7. Mean Differences across Race/Ethnicity on the Adoption of Code-Related Attitudes (Wave 1) and Criminal Offending (Wave 2). Analytic Sample (N=1,289)**

		Mean Difference	SE	95% CI	
				Lower	Upper
<b>Code-related attitudes</b>					
Black	White	.0192	.0254	-.0416	.0800
	Latino	-.1342***	.0228	-.1888	-.0797
Latino	White	.1534***	.0275	.0875	.2193
	Black	.1342***	.0228	.0797	.1888
<b>SRO score: Aggressive</b>					
Black	White	-.0129	.0086	-.0336	.0077
	Latino	-.0263**	.0080	-.0453	-.0072
Latino	White	.0133	.0101	-.0108	.0375
	Black	.0263**	.0080	.0072	.0453
<b>SRO score: Income</b>					
Black	White	-.0324	.0104	-.0572	-.0075
	Latino	-.0280**	.0082	-.0476	-.0083
Latino	White	-.0044	.0118	-.0327	.0239
	Black	.0280**	.0082	.0083	.0476

Note: Tamhane's T2 Test. Mean difference is significant at: \*p<.05; \*\*p<.01; \*\*\*p<.001

These results are based on one-way ANOVA tests to estimate mean differences across groups on the adoption of code-related attitudes and criminal offending measures, and whether the mean differences across groups on the variables of interest are significant. That is, Table 7 assesses part of research questions 1 and 2 outlined in Chapter III of this study regarding differences across race/ethnic groups on the adoption of code-related attitudes, aggressive and income offending. Establishing whether differences across groups exists and whether these differences are significant, informs about the relevance of conducting analyses about the race/ethnicity-crime link at the individual level, where the adoption of code-related attitudes is considered as a plausible mechanism to explain this link. In this case, Table 7 compares non-Latino Blacks to non-Latino Whites and Latinos, and Latinos to non-Latino Blacks and non-Latino Whites. Alternatively, eta ( $\eta$ ) and eta-squared ( $\eta^2$ ) coefficients from Table 6 might provide information about race/ethnicity effects on code-related attitudes and criminal offending.

First, in regard to the adoption of code-related attitudes there is evidence of a positive difference for the comparison Latino-White and Latino-Black. That is, on average Latinos have higher scores in the adoption of code-related attitudes at Wave 1 ( $\eta=.19$ ;  $\eta^2=.03$ ), compared to non-Latino Blacks and non-Latino Whites, and these differences are significant at  $p<.001$  when conducting post-hoc tests (i.e. Tamhane's T2 test).<sup>27</sup> Although these differences are very small in relation to the mean score on the adoption of code-related attitudes by each racial/ethnic group, the score on this measure for Latinos ( $\bar{X}=1.66$ ;  $SD=.37$ ), was higher than the average for all

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<sup>27</sup> Tamhane's T2 post-hoc test was used based on the assumption of unequal variances across groups on the scale of code-related attitudes (Levene=4.124;  $df=1,286$ ;  $p=.016$ ), aggressive offending (Levene=6.406;  $df=1,286$ ;  $p=.004$ ), and income offending (Levene=24.627;  $df=1,286$ ;  $p=.000$ ). However, the results shown in Table 7 were consistent when juxtaposed with a multiple comparisons test assuming equal variances (i.e. Tukey's HSD test).

groups ( $\bar{X}=1.57$ ;  $SD=.36$ ), compared to the average for non-Latino Blacks ( $\bar{X}=1.52$ ;  $SD=.33$ ;  $\eta=.10$ ;  $\eta^2=.01$ ), and the average for non-Latino Whites ( $\bar{X}=1.50$ ;  $SD=.34$ ).<sup>28</sup>

Second, Table 7 shows differences between groups in their respective aggressive and income offending scores measured at Wave 2. In this case, the same pattern of findings holds as in the case of the adoption of code-related attitudes. That is, Latinos are higher on average in their aggressive offending scores ( $\eta=.09$ ;  $\eta^2=.008$ ), but these differences are significant for the Latino-Black comparison only ( $\bar{X}_{i-j}=.0263$ ;  $p<.01$ ). Again, these differences are very small across race/ethnic groups, but the mean for Latinos on aggressive offending was still higher ( $\bar{X}=.09$ ;  $SD=.14$ ), than the average across all groups ( $\bar{X}=.08$ ;  $SD=.12$ ). Third, Latinos are significantly higher on their income offending scores ( $\eta=.06$ ;  $\eta^2=.003$ ) when compared to non-Latino Blacks ( $\bar{X}_{i-j}=.0280$ ;  $p<.001$ ).<sup>29</sup> Unlike the comparisons discussed above, the mean difference on income offending scores between Latinos and non-Latino Whites is negative ( $\bar{X}_{i-j}=-.0044$ ), which indicates a slightly higher score; albeit negligible, on income offending for non-Latino Whites over Latinos. However, this difference is not statistically significant ( $p=.897$ ).

Overall, bivariate results presented so far indicate that: (1) Latinos are significantly higher on average than both non-Latino Blacks and non-Latino Whites in their adoption of code-related attitudes; (2) Latinos are significantly higher on average than non-Latino Blacks in their aggressive and income offending scores and; (3) Latinos are higher on average than non-Latino Whites in their aggressive offending scores, but lower on average in their income offending scores. However, the magnitude of these differences across race/ethnic groups is very small. The following section presents multivariate results assessing the race/ethnicity-criminal offending

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<sup>28</sup> Table 5 provides a reference frame for these comparisons.

<sup>29</sup> In this case, the mean income offending score for Latinos ( $\bar{X}=.15$ ;  $SD=.19$ ), was the same as the mean income offending score across all race/ethnic groups ( $\bar{X}=.15$ ;  $SD=.18$ ).

link, while controlling for the effects of other important covariates (i.e. socio-demographic and risk factors). The models also show results assessing possible mediating effects of the adoption of code-related attitudes on the race/ethnicity-criminal offending link with special attention to Latinos.

### **Multivariate Analyses**

In the previous section I presented bivariate analyses results examining descriptive statistics for study variables disaggregated by race/ethnicity, followed by correlations/associations among study variables, and differences across race/ethnicity in mean scores on the adoption of code-related attitudes and criminal offending. The bivariate results presented above suggest that there are significant associations among the main independent variable (i.e. race/ethnicity), code-related attitudes (i.e. the proposed mediator), and criminal offending (i.e. the dependent variable). Furthermore, socio-demographic and risk factors appear to be important correlates of criminal offending in the sample. Specifically, gang membership, peer delinquency, perceived neighborhood conditions, and exposure to violence are statistically significant bivariate correlates of aggressive and income offending.

Multiple comparisons across race/ethnic groups showed evidence of statistically significant differences in the adoption of code-related attitudes and criminal offending. Specifically, when compared to non-Latino Whites, Latinos scored higher on the adoption of code-related attitudes (i.e. difference is statistically significant), higher on aggressive offending (i.e. difference is not statistically significant), and lower on income offending (i.e. difference is not statistically significant). On the other hand, Latinos scored statistically significantly higher on the adoption of code-related attitudes (Wave 1) and both criminal offending measures (Wave

2) than to non-Latino Blacks. However, these results must be interpreted with caution, given the magnitude of the differences found.

Despite these results, it is important to assess whether racial/ethnic differences on the adoption of code-related attitudes and criminal offending remain while statistically controlling for the socio-demographic and risk factors mentioned above. This assessment will provide a framework to understand the processes/mechanisms that might be driving the race/ethnicity-street code-criminal offending link (Hedström, 2005). Table 8 displays OLS model results for aggressive and income offending scores regressed on race/ethnicity and code-related attitudes while statistically controlling for baseline criminal offending, as well as socio-demographic and criminogenic risk factors. The regression coefficients shown in Table 8 are both unstandardized and standardized. In this case, the Beta ( $\beta$ ) coefficients shown in Table 8 are standardized to account for differences in measurement scales across variables in the regression model. Beta ( $\beta$ ) coefficients are useful when comparing the magnitude of each coefficient in the regression model, and establishing which variables have more of an effect in predicting the outcomes.

First, the regression coefficients for the model predicting self-reported aggressive offending scores in the analytic sample are presented. The results for the main independent variable, race/ethnicity, appear to be consistent with the bivariate analyses presented in the previous section, and show a statistically significant regression coefficient in the negative direction for the effect of Black-non Latino on aggressive offending. That is, net of statistical controls, the predicted aggressive offending score for non-Latino Blacks is .02 units lower ( $p < .01$ ) than for Latinos and non-Latino Whites (i.e. the reference category). Contrary to the results for non-Latino Blacks, the regression coefficient for Latinos did not reach statistical significance at  $p < .05$ .

Holding all other variables in the model constant, a 1-unit increase in the adoption of code-related attitudes among adolescents predicts a .03 unit increase in aggressive offending scores, and this relationship is statistically significant at  $p<.001$ . The other variables in the model that displayed a positive regression coefficient predicting aggressive offending scores in the analytic sample were gang membership, peer delinquency and exposure to violence. In this case, adolescents who are involved in a gang are predicted to be .04 units more aggressive ( $p<.001$ ) than those adolescents who have not been involved in a gang. Similarly, for every unit increase in the scale of antisocial peers, there is a .04 unit increase in their predicted aggressive offending scores ( $p<.001$ ). Relatedly, adolescents who experience a 1-unit increase in their exposure to violence scores are predicted to experience an increment in their aggressive offending scores by .03 units ( $p<.001$ ).



**Table 8. Self-reported aggressive and income offending scores regressed on race/ethnicity, code-related attitudes, and statistical controls. Analytic Sample (N=1,289)**

	Dependent Variables			
	Aggressive		Income	
Independent Variables	b (SE)	$\beta$	b (SE)	$\beta$
<i>Race/ethnicity</i>				
Black non-Latino (w0)	-.02 (.01)**	-.09	-.03 (.01)***	-.13
Latino (w0)	-.01 (.01)	-.04	-.02 (.01)*	-.07
Code-related attitudes (w1)	.03 (.01)***	.09	.02 (.01)*	.05
<b>Control Variables</b>				
Aggressive offending (w0)	.12 (.03)***	.14	.02 (.03)	.02
Income offending (w0)	-.01 (.02)	-.01	.09 (.03)***	.13
Sex (w0)	.01 (.01)	.04	.00 (.01)	-.01
Age (w0)	.00 (.00)	-.04	.00 (.00)	.01
Socio-economic status (w0)	.00 (.00)	.01	.00 (.00)	.00
Gang membership (w2)	.04 (.01)***	.11	.03 (.01)**	.07
Peer delinquency (w2)	.04 (.00)***	.24	.05 (.00)***	.29
Perceived neighborhood conditions (w0)	.00 (.00)	-.01	.00 (.00)	-.01
Exposure to violence (w2)	.03 (.00)***	.40	.02 (.00)***	.34
<i>Adjusted R-square</i>	.45		.39	
<i>F-value</i>	88.238		70.947	
<i>df</i>	12		12	

Note: Non-Latino White is the reference group; standard errors shown in parentheses; unstandardized linear regression slopes, \*p<.05, \*\* p<.01, \*\*\*p<.001.

Standardized Beta ( $\beta$ ) coefficients show the magnitude of the effect of each variable included in the model for predicting aggressive offending. Interestingly, the strongest effects are provided by exposure to violence ( $\beta=.40$ ), followed by peer delinquency ( $\beta=.24$ ), baseline aggressive offending ( $\beta=.14$ ), gang membership ( $\beta=.11$ ) and code-related attitudes ( $\beta=.09$ ). In the analytic sample, a unit standard deviation increase in the adoption of code-related attitudes (i.e. Wave 1), predicts an increase of .09 standard deviation units in aggressive offending (i.e. Wave 2), net of statistical controls. Overall, model fit statistics show that the proportion of variance in aggressive offending scores which can be explained by the predictors included in the model is approximately 45%.

Second, Table 8 shows results for the regression of self-reported income offending scores on race/ethnicity, code-related attitudes and statistical controls. With one exception, the patterns observed in the model for the regression of income offending are very similar to those of the previous model of aggressive offending. Net of statistical controls, the predicted income offending score for non-Latino Blacks is .03 units lower than non-Latino Whites ( $p<.001$ ), while the predicted income offending score for Latinos is .02 units lower than non-Latino Whites ( $p<.05$ ). Holding all other variables constant, the effect of code-related attitudes is also statistically significant and among adolescents in the sample a .02 unit increase in their income offending scores is expected for every unit increase in their respective scores on the adoption of code-related attitudes ( $p<.05$ ). Again, the regression model shows that exposure to violence, peer delinquency, and gang membership are statistically significant predictors of income offending scores, with the strongest effects in the model provided by exposure to violence ( $\beta=.34$ ), peer delinquency ( $\beta=.29$ ), gang membership ( $\beta=.07$ ), and code-related attitudes ( $\beta=.05$ ). Altogether, the predictors included in the regression model explain approximately 39% of the variance in

income offending scores. Accounting for differences in scales, a standard deviation unit increase in the adoption of code-related attitudes (i.e. Wave 1) predicts a .05 standard deviation unit increase in income offending (i.e. Wave 2), net of statistical controls. That is, in the analytic sample the adoption of code-related attitudes is a stronger predictor of aggressive than income offending ( $\beta=.09$  vs.  $\beta=.05$ ) across all race/ethnic groups, and net of statistical controls.

In sum, among juveniles the regression of aggressive and income offending scores on race/ethnicity, code-related attitudes and statistical controls showed: (1) lower and statistically significant scores on both aggressive and income offending scores for non-Latino Blacks relative to non-Latino Whites; (2) a lower and statistically significant score on income offending scores for Latinos relative to non-Latino Whites, but no effect on aggressive offending; (3) the adoption of code-related attitudes predicts an increase in both aggressive and income offending scores and; (4) belonging to a gang, having delinquent peers and being exposed to violence are all significant predictors and positively related to both aggressive and income offending scores.

Having described the results from multivariate regression, the next step in the analyses was to examine the mediation effects linking race/ethnicity, code-related attitudes and criminal offending. As described in the previous chapter, a mediation effect occurs when there is evidence (i.e. through changes in size of the coefficients and/or their statistical significance) of an antecedent variable ( $X$ ) influencing an outcome variable ( $Y$ ) through a proposed mediator ( $M$ ). In this study, race/ethnicity ( $X$ ) is a multi-categorical predictor that is hypothesized to influence criminal offending ( $Y$ ) through the adoption of code-related attitudes ( $M$ ). Due to the nature of the main independent variable (i.e. race/ethnicity), the mediation analyses presented in the following paragraphs regarding total, direct and indirect effects are interpreted as mean differences on aggressive and income offending scores among non-Latino Blacks and Latinos,

relative to non-Latino Whites (i.e. the reference group), where code-related attitudes is included in the models as a plausible mediator (Hayes, 2013; Hayes & Preacher, 2014). The path mediation models presented below are estimated using OLS/ML regression based on 10,000 bootstrapped samples. Supplementary analyses were undertaken to check for model sensitivity to violations of regression assumptions. These path mediation models were estimated using Generalized Structural Equation Modeling (GSEM) in STATA and included in Appendix C. Results were similar across estimation models, only showing slight differences in the size of coefficients by decimals, but the same direction of the relationships and statistical significance (see Appendix C), which rendered the OLS models shown in Figures 8 and 9 as appropriate estimation models.<sup>30</sup>

### **Path Model: Aggressive Offending**

Beginning with the model predicting aggressive offending scores, Figure 8 presents results of a path model that displays the effects of race/ethnicity (i.e. Wave 0) on aggressive offending (i.e. Wave 2), where code-related attitudes (i.e. Wave 1) is the main mediating variable. This model holds constant the effects of baseline aggressive and income offending, socio-demographic measures and criminogenic risk-factors. First, path results for non-Latino Blacks are analyzed. For indirect effects, coefficient  $a_1$  denoted by the arrow from Black non-Latino to code-related attitudes indicates mean differences in the adoption of code-related attitudes (i.e. the proposed mediator) for non-Latino Blacks relative to non-Latino Whites. In this

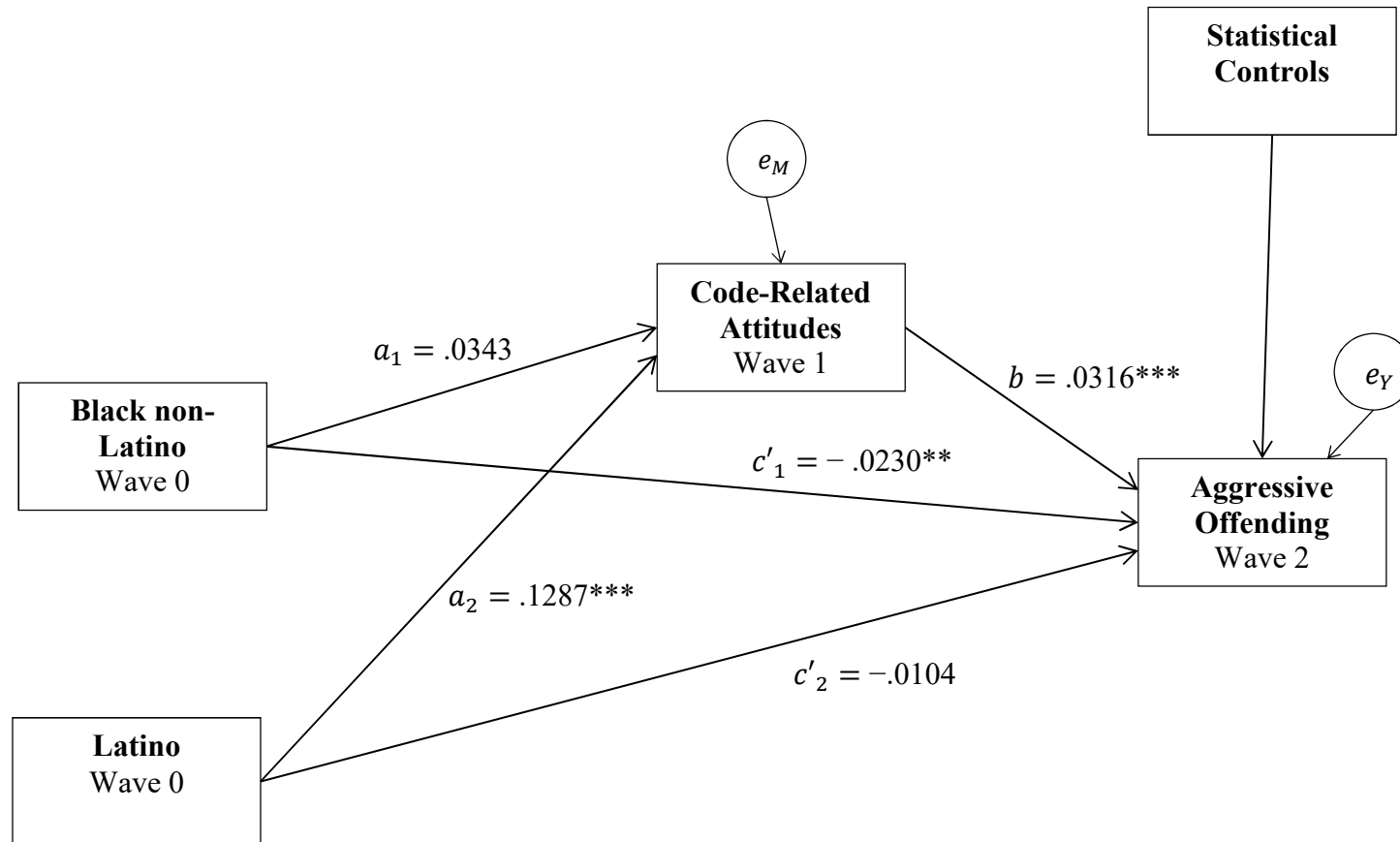
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<sup>30</sup> To account for sample location, a supplementary analysis also included sample site (coded 0 = Philadelphia; 1 = Arizona) as a statistical control in both path mediation models. Results from these models showed similar results to those discussed in the following paragraphs of this dissertation regarding the indirect, direct and total effects of race/ethnicity on aggressive and income offending. However, the model estimating aggressive offending predicted a significant indirect effect of Black non-Latino on aggressive offending through code-related attitudes (indirect effect=.0024;  $SE=.0012$ ;  $p < .05$ ). This path model is not shown in this study. Although my interest in this study was to focus on the possible mediating effects of code-related attitudes on criminal offending among Latinos, evidence of mediation of code-related attitudes on the non-Latino Black-aggressive offending link net of sample site deserves more attention. I plan to explore the relevance of this finding in future research.

case, the coefficient shows that non-Latino Blacks score on average .03 units higher than non-Latino Whites on the adoption of code-related attitudes, but this difference is not significant at  $p < .05$ . Furthermore as indicated by the coefficient  $b$ , holding race/ethnicity constant, those juveniles who scored higher on the adoption of code-related attitudes also scored higher on the aggressive offending scale. That is, a .03 unit increase in aggressive offending scores is expected for every unit increase in the adoption of code-related attitudes, and this relationship is statistically significant ( $p < .001$ ). The direct effect (i.e. as indicated by the arrow from Black non-Latino to aggressive offending) show that non-Latino Blacks are on average less likely to commit aggressive offenses ( $c'_1 = -.02$ ) than non-Latino Whites, and this relationship is significant.

Second, path model results for Latinos are analyzed. Unlike the results regarding indirect effects for non-Latino Blacks, Figure 8 shows a statistically significant relationship between Latino and code-related attitudes. That is, Latinos are on average more likely to adopt code-related attitudes relative to non-Latino Whites. In this case, the predicted score on the adoption of code-related attitudes for Latinos would be  $\approx .13$  units higher relative to non-Latino Whites, and this difference is statistically significant ( $p < .001$ ). For Latinos, the coefficient  $b$  remains the same as in the case of non-Latino Blacks, since this indicates the expected increase in aggressive offending scores for every unit increase in the adoption of code-related attitudes ( $b = .03$ ;  $p < .001$ ). Similar to non-Latino Blacks, the direct effect of Latino on aggressive offending is negative, but in this case not statistically significant ( $c'_1 = -.01$ ), which as I will explain later, might represent an indication of a mediating effect.

**Figure 8. Path Coefficients for the Model linking Race/Ethnicity, Code-Related Attitudes and Aggressive Offending**



Note: Path coefficients significant at  $^{**}p < .01$ ;  $^{***}p < .001$ . Statistical controls are: Wave 0: Aggressive offending, income offending, sex, age, SES, neighborhood conditions; Wave 2: gang membership, peer delinquency, exposure to violence

### Path Model: Income Offending

The second path diagram relates to the analysis of self-reported income offending. Figure 9 presents these results; again treating code-related attitudes as the main mediating variable and controlling for baseline aggressive and income offending scores, socio-demographic measures and criminogenic risk-factors. First, path results for non-Latino Blacks are analyzed. In this case, the indirect effect coefficient denoted as  $a_1$  is the same as in the previous figure (i.e. Figure 8), since this coefficient represents mean differences in the adoption of code-related attitudes for non-Latino Blacks relative to non-Latino Whites, net of controls. Again, relative to non-Latino Whites, non-Latino Blacks are expected to score higher ( $a_1=.03$ ) on the adoption of code-related attitudes, but this difference remains non-statistically significant at  $p<.05$ . On the other hand, similar to results from the regression of aggressive offending scores, juveniles who adopt code-related attitudes are more likely to commit income-related offenses, net of race/ethnicity. That is, a .02 increase in income offending scores is expected for every unit increase in the adoption of code-related attitudes and this relationship is statistically significant at  $p<.05$ . The direct path denoted by the arrow from Black non-Latino to income offending also is negative and statistically significant ( $p<.001$ ). In this case, relative to non-Latino Whites, non-Latino Blacks are less likely to commit income-related offenses. Relative to non-Latino Whites it is expected a .0346 unit decrease in income offending scores for non-Latino Blacks, net of statistical controls.

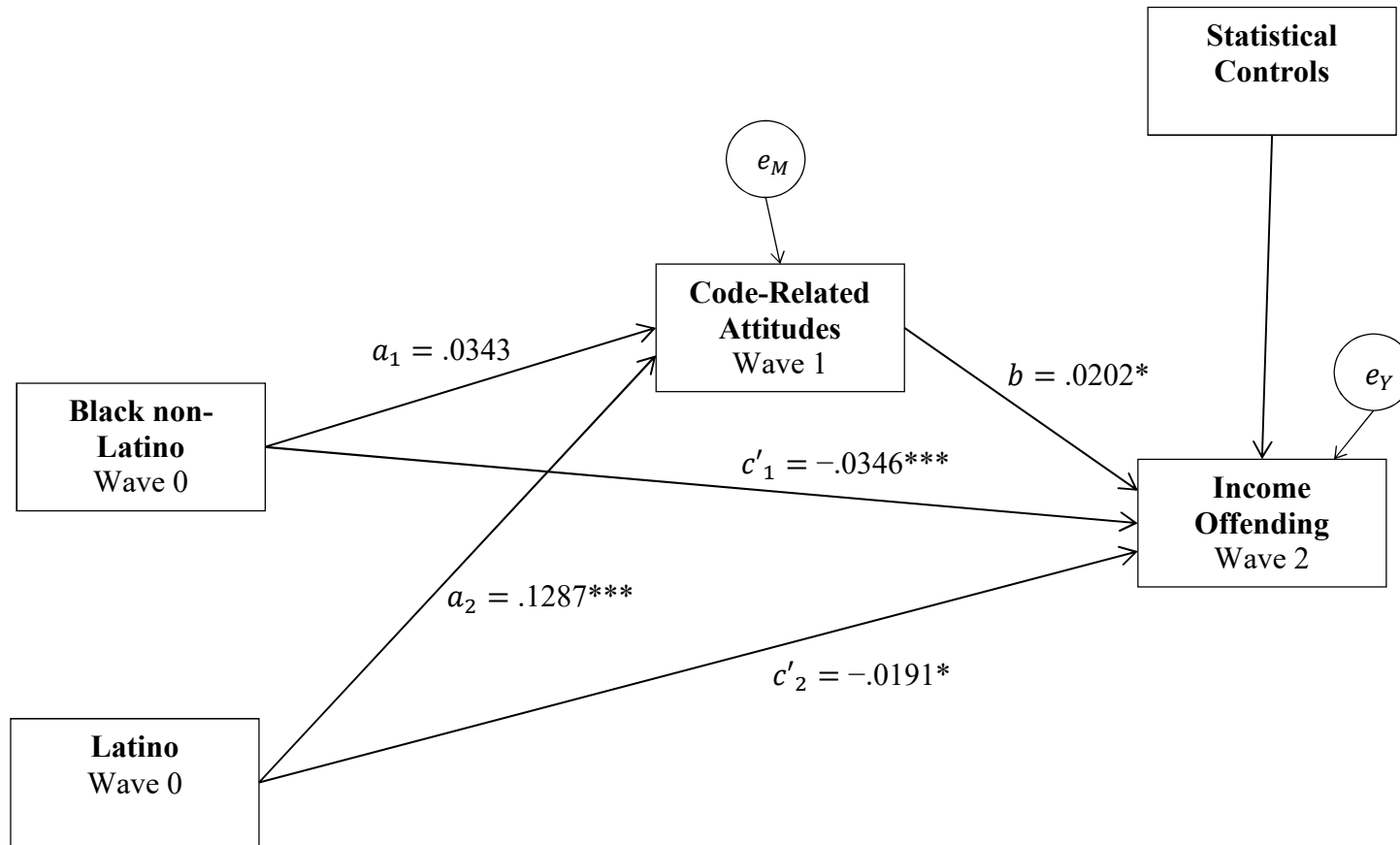
Second, path coefficients for Latinos are analyzed. Relative to non-Latino Whites, it is expected a  $\approx .13$  increase on average in the adoption of code-related attitudes for Latinos ( $p<.001$ ). Regardless of race/ethnicity, a unit increase in the adoption of code-related attitudes among juveniles in the sample predicts a .02 unit increase in their income offending scores, net of controls. The direct effect of Latino on income offending is negative and statistically

significant at  $p < .05$ . That is, adjusting for group differences in the adoption of code-related attitudes, Latinos are on average  $\approx .02$  units less likely to report income-related offenses than non-Latino Whites.

In sum, coefficients  $a_1$ ,  $a_2$  and  $b$  in both figures represent indirect paths of race/ethnicity on criminal offending measures through code-related attitudes, while coefficients  $c'_1$  and  $c'_2$  represent direct effects of race/ethnicity on criminal offending measures. For both outcome measures displayed in the path models, the effect of Black non-Latino on the adoption of code-related attitudes was non-statistically significant, while the effect of Latino on the adoption of code-related attitudes was positive and statistically significant. For both outcome measures, the effect of code-related attitudes was positive and statistically significant, holding all other variables constant. Finally, for both outcome measures the direct effects of Black non-Latino and Latino were negative and statistically significant, relative to non-Latino Whites, and net of statistical controls.



**Figure 9. Path Coefficients for the Model linking Race/Ethnicity, Code-Related Attitudes and Income Offending**



Note: Path coefficients significant at  $*p < .05$ ;  $***p < .001$ . Statistical controls are: Wave 0: Aggressive offending, income offending, sex, age, SES, neighborhood conditions; Wave 2: gang membership, peer delinquency, exposure to violence

## **Decomposition of Effects: Total, Direct and Indirect**

### **Mediation: Aggressive Offending**

Figures 8 and 9 showed path coefficients for a mediation model linking race/ethnicity, code-related attitudes (i.e. the proposed mediator), and both outcome measures, net of statistical controls. The next step in the analyses was to assess whether there is evidence of the purported mediating effect of the adoption of code-related attitudes on the race/ethnicity-criminal offending link. To achieve this goal in terms of statistical inference, Table 9 presents a decomposition of the total, direct and indirect effects of race/ethnicity on self-reported aggressive and income offending while statistically controlling for baseline criminal offending, socio-demographic variables and criminogenic risk factors.

First, the decomposition of *total effects* on aggressive offending are interpreted. In mediation models with multi-categorical predictors (e.g. race/ethnicity), total effects are interpreted as the mean differences in the outcome measure between the dichotomous predictors relative to the reference group. Total effects might be parameterized as the sum of direct and indirect effects of each dichotomous predictor (Hayes, 2013; Hayes & Preacher, 2014). As shown in Table 9, the total effect of Black non-Latino on aggressive offending is statistically significant and negative. The interpretation of this total effect is straightforward. Non-Latino Blacks in the analytic sample are on average .0219 units less likely to commit aggressive offenses relative to non-Latino Whites, and this difference is statistically significant ( $p < .01$ ). Whereas the effect of Black non-Latino on aggressive offending net of controls is statistically significant, the effect for Latinos is also negative but not statistically significant. That is, the mean difference on aggressive offending scores among Latinos in the analytic sample relative to non-Latino Whites is negligible.

**Table 9. Decomposition of the relative effects of race/ethnicity on aggressive and income offending net of control variables.**  
**Analytic Sample (N=1,289)**

	<b>Aggressive</b>			<b>Income</b>		
	Coefficient	95% CI		Coefficient	95% CI	
		Lower	Upper		Lower	Upper
<b>Relative effects of race/ethnicity</b>						
<i>Total effects</i>						
Black non-Latino	-.0219**	-.0360	-.0078	-.0339***	-.0499	-.0180
Latino	-.0063	-.0213	.0088	-.0165*	-.0335	.0006
<i>Direct effects</i>						
Black non-Latino	-.0230**	-.0370	-.0090	-.0346***	-.0505	-.0187
Latino	-.0104	-.0254	.0047	-.0191*	-.0362	-.0019
<i>Indirect effects (through code-related attitudes)</i>						
Black non-Latino	.0011	-.0004	.0032	.0007	-.0001	.0026
Latino	.0041**	.0018	.0073	.0026	.0004	.0059

Note: Unstandardized path coefficients, \*p<.05, \*\* p<.01, \*\*\*p<.001. Bias-corrected confidence intervals based on 10,000 bootstrapped samples.

Second, *direct effects* when  $X$  is multi-categorical are interpreted as the adjusted mean differences of each dichotomous predictor (i.e. Black non-Latino and Latino) on the outcome measure (i.e. aggressive offending), relative to the control group (i.e. White non-Latino). In this case, the effect on aggressive offending for non-Latino Blacks is statistically significant and negative. That is, adjusting for group differences in the adoption of code-related attitudes, non-Latino Blacks reported aggressive offending scores that were .0230 units lower than those of non-Latino Whites, and this difference is statistically significant at  $p < .01$ . Similar to the total effects pattern for Latinos explained earlier, the direct effect of Latinos on aggressive offending was also negative (i.e.  $-.0104$ ) but non-statistically significant relative to non-Latino Whites, net of controls and adjusting for differences between both groups in the adoption of code-related attitudes.

Third, *indirect effects* when  $X$  is multi-categorical are obtained by multiplying  $a_1$  and  $a_2$  coefficients respectively, by the  $b$  coefficient (see Figures 7 and 8), and interpreted as the effect of each dichotomous predictor (i.e. Black non-Latino and Latino respectively) on the outcome measure (i.e. aggressive offending scores) through the proposed mediator (i.e. adoption of code-related attitudes), relative to the reference group (i.e. White non-Latino). In this case, evidence of mediation exists if at least one of the indirect effects shown in Table 9 is statistically significant, and if the 95% confidence interval does not overlap with zero (Hayes & Preacher, 2014).<sup>31</sup> As Table 9 shows, there is evidence of a positive and statistically significant indirect effect of Latinos on aggressive offending scores through the adoption of code-related attitudes. That is, relative to non-Latino Whites, Latinos reported aggressive offending scores that were  $a_2b = .0041$

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<sup>31</sup> The mediation models in this study use 95% bias-corrected confidence intervals (i.e. based on 10,000 bootstrapped samples) to estimate indirect effects. Unlike other mediation analysis procedures (Baron & Kenny, 1986), Hayes and Preacher (2014) advocate this method for statistical inference about indirect effects due to its feasibility, robustness, and because it does not make assumptions about normality of the sampling distribution.

units higher ( $p < .01$ ) due to the positive effect of Latino on code-related attitudes (i.e. from the sign of  $a_2$ ). In other words, relative to non-Latino Whites, Latinos' mean aggressive offending score is indirectly influenced by the adoption of code-related attitudes (Latino, 95% CI = .0018 to .0073). Although the effect size is small, this finding supports the argument that code-related attitudes seems to function as a mediator of the effect of race/ethnicity on aggressive offending, and that by virtue of this mediation effect, the overall negative effect of Latino on aggressive offending is reduced. Unlike the results for Latinos, the indirect effect of non-Latino Blacks on aggressive offending relative to non-Latino Whites is not statistically significant ( $a_1 b = .0011$ ; CI = -.0004 to .0032;  $p > .05$ ), which rules out the assertion that relative to non-Latino Whites, differences in aggressive offending scores among non-Latino Blacks are mediated by code-related attitudes.

### **Mediation: Income Offending**

Table 9 also shows a decomposition of total, direct and indirect effects for a model estimating the effects of race/ethnicity on income offending scores where code-related attitudes is included as a plausible mediator. The results for this model are slightly different from the model predicting aggressive offending. First, the *total effects* row shows a significant coefficient for the effect of Black non-Latino on income offending, and a significant coefficient for the effect of Latino on income offending, net of statistical controls. That is, relative to non-Latino Whites, non-Latino Blacks reported on average lower income-related offenses by .0339 units ( $p < .001$ ); and Latinos reported lower income-related offenses by .0165 units ( $p < .05$ ).

Second, there is evidence of statistically significant *direct effects* in the negative direction for non-Latino Blacks and Latinos. For non-Latino Blacks, the expected mean difference on income offending independent of non-Latino Black's effect on code-related attitudes is -.0346

( $p < .001$ ), while for Latinos, the expected mean difference in income offending independent of Latino's effect on code-related attitudes is  $-.0191$  ( $p < .05$ ). Third, the *indirect effects* row in Table 9 shows that relative to non-Latino Whites, the mean differences between non-Latino Blacks ( $a_1b = .0007$ ) and Latinos ( $a_2b = .0026$ ) on income offending scores through the adoption of code-related attitudes are not statistically significant, and therefore the claim that code-related attitudes functions as a mediator in the race/ethnicity-income offending link is not supported.

In sum, results from the mediation models presented above showed the following: (1) the adoption of code-related attitudes among juvenile offenders (i.e. regardless of race/ethnicity) predicts higher scores on both aggressive and income offending scores. Both coefficients are statistically significant and code-related attitudes is a stronger predictor of aggressive offending than income offending; (2) relative to non-Latino Whites, there is a positive and statistically significant difference in the adoption of code-related attitudes for Latinos, but not for non-Latino Blacks; (3) relative to non-Latino Whites, there is a negative and statistically significant mean difference (i.e. *direct effect*) on aggressive offending for non-Latino Blacks, but not for Latinos; (4) relative to non-Latino Whites, there is a negative and statistically significant mean difference (i.e. *direct effect*) on income offending for non-Latino Blacks, and Latinos; (5) relative to non-Latino Whites, the observed mean differences (i.e. *total effects*) on aggressive offending are statistically significant for non-Latino Blacks, but not for Latinos, and the observed mean differences on income offending are statistically significant for both groups; and finally (6) while there is no evidence of mediation effects for the income offending model, there is evidence of a statistically significant mediating effect of code-related attitudes explaining mean differences in aggressive offending for Latinos, but not for non-Latino Blacks, relative to non-Latino Whites. The implications of these results are discussed in the next chapter.

## CHAPTER V

### DISCUSSION

#### Introduction

This study has strengths over previous studies assessing the race/ethnicity-crime link under the scope of Anderson's theory (1999). Among the most relevant advantages is that this study included analyses of race/ethnicity that looked beyond the Black-White dichotomy. Specifically, assessing criminal offending among Latinos provided a better picture of the processes that might drive their criminal offending levels, how they differ from other groups and what particular characteristics among this group appear to be more relevant to explain their offending. Relatedly, this study took a step back from previous research and focused on individual-level processes. An advantage of this micro-level framework (i.e. versus macro- or multi-level) is that when studying racial/ethnic differences in serious offending among youth, it captured the effects of certain experiences that might be particular to Latinos (e.g. gang affiliation, adherence to street codes or perception of neighborhood conditions), and that might exacerbate their likelihood of criminal offending. Also, this micro-level study integrated cultural and socio-psychological processes like the adherence to code-related attitudes, gang affiliation, association with delinquent peers and exposure to violence to better understand the race/ethnicity-criminal offending link.

The previous chapter presented results of this study. First, bivariate analyses showed descriptive statistics for the study variables disaggregated by race/ethnicity, bivariate correlation coefficients and multiple comparisons across race/ethnic groups with respect to their levels of code-related attitudes and self-reported criminal offending scores (i.e. aggressive offending and income offending). Second, multivariate analyses showed results derived from regression models

estimating the effects of race/ethnicity and code-related attitudes on criminal offending outcomes, net of statistical controls. These models allowed proper temporal ordering of criminal offending measures (Wave 2) with the main independent variable (Wave 0) and code-related attitudes measured (Wave 1). Path mediation models predicting both criminal offending outcomes showed the direct and indirect effects of race/ethnicity net of statistical controls. These models included code-related attitudes as a proposed mediator in the race/ethnicity-criminal offending link. Similarly, total effects of race/ethnicity on criminal offending were derived from the path models and in all cases the models included non-Latino Whites as the reference category. This allowed for an assessment of total, direct and indirect effects on criminal offending disaggregated by race/ethnicity that, unlike common practice in previous studies about the race/ethnicity-offending link (Baumer, et al., 2003; Brezina, et al., 2004; Matsueda, et al., 2006; Piquero, et al., 2012; Sharkey, 2006; Stewart, et al., 2006; Stewart & Simons, 2006, 2010; Stewart, et al., 2002), included Latinos as a separate category. The following sections present a summary of findings from this study in relation to the research questions, limitations, ideas for future research, policy implications and conclusions.

## **Summary of Key Findings**

### **Results of Bivariate Analyses**

A description of disaggregated data by race/ethnicity showed that among juveniles in the analytic sample ( $N=1,289$ ), non-Latino Blacks displayed the lowest scores on both self-reported aggressive and income offending measured at baseline and Wave 2 (i.e. 12 months after baseline interview). While differences across race/ethnic groups on all measures were small, Latinos displayed criminal offending scores that were higher when compared to the average for all



groups. This pattern was repeated when examining code-related attitudes, since Latinos had higher scores on this measure than non-Latino Blacks and non-Latino Whites.

This finding should be juxtaposed with the fact that among juveniles in the sample, Latinos had the lowest socio-economic status at baseline, and were disproportionately involved in gang-related activities during the year after adjudication to the juvenile justice system (i.e. Wave 2) relative to non-Latino Blacks and non-Latino Whites. Furthermore, Latinos had the highest prevalence of antisocial friends after adjudication relative to non-Latino Blacks and non-Latino Whites; and comparable perceptions of social/physical disorder about their neighborhoods at baseline, and exposure to violent incidents after adjudication to that of non-Latino Whites. In contrast, non-Latino Blacks tended to perceive more signs of social/physical disorder in their neighborhoods before adjudication, and experienced more violent incidents after adjudication, relative to Latinos and non-Latino Whites (see Table 5).

The next step was to analyze measures of association/correlation among study variables. Pairwise comparisons showed a significant association/correlation of race/ethnicity with the outcome measures at baseline and Wave 2. Specifically, the associations were statistically significant and in the positive direction for the bivariate correlations Black non-Latino-Aggressive offending, Black non-Latino-Income offending, Latino-Aggressive offending, and Latino-Income offending. The code-related attitudes scale was significantly correlated (i.e. although not strongly) in the expected direction with both criminal offending measures at Wave 2, indicating that an increases in the levels of street-codes are associated with increases in criminal offending. In contrast, among adolescents in the sample, having delinquent peers and being exposed to violence are more strongly (i.e. moderately) correlated with criminal offending in the expected direction.

Since pairwise comparisons showed statistically significant associations/correlations in the expected direction for the main independent variable (i.e. race/ethnicity), the proposed mediator (i.e. code-related attitudes) and both criminal offending measures (i.e. aggressive and income offending), the next step was to examine the size, direction and whether there were statically significant differences across race/ethnic groups on levels of code-related attitudes and criminal offending. These multiple comparisons showed that non-Latino Blacks' average score on the code-related attitudes scale was significantly lower than that of Latinos, whereas Latinos' score on their average level of street-code attitudes was significantly higher than that of non-Latino Blacks and non-Latino Whites. In other words, Latino youth displayed higher levels of street-code attitudes after adjudication (i.e. Wave 1) to the juvenile criminal justice system than their counterparts. The other two findings in the data were statistically significant differences between Latinos and non-Latino Blacks in their respective average scores on aggressive and income offending. Specifically, Latino youth in the sample committed a higher proportion of aggressive offenses, and income offenses during the year after adjudication to the juvenile justice system (i.e. Wave 2) than non-Latino Blacks. All these differences however, were small in size across all groups, especially for the Latino-Black comparison.

### **Results of Multivariate Analyses**

Bivariate analyses showed a positive correlation in the expected direction for the relationship between code-related attitudes and criminal offending. That is, among juveniles in the sample, higher levels of street code-attitudes at Wave 1 were correlated with higher proportions of self-reported aggressive and income offending. In addition, there were significant differences found across race/ethnic groups in their respective levels of code-related attitudes and criminal offending. Latinos tended to have higher scores than their counterparts (i.e. particularly

non-Latino Blacks) in their levels of street-code attitudes, aggressive and income offenses, but these differences were small in size. Other important correlates of criminal offending were gang membership, peer delinquency, perceived neighborhood conditions of social/physical disorder, and exposure to violence. Given these zero-order correlations among study variables, a series of OLS regression and mediation models were estimated to (1) assess differences across race/ethnicity on their respective levels of street-code attitudes and criminal offending, while holding constant important criminogenic risk factors mentioned above, and (2) assess the possible mediating effect of code-related attitudes in the race/ethnicity-criminal offending link.

First, an OLS model regressing Wave 2 criminal offending measures on baseline race/ethnicity and Wave 1 code-related attitudes, while statistically controlling for socio-demographic and risk factors showed that non-Latino Blacks were less likely to commit aggressive and income offenses compared to their counterparts, while the effect for Latinos was negative and statistically significant for the regression of income offending scores only. This finding is contrasted with bivariate results that showed that the average income offending level for Latinos was higher compared to non-Latino Blacks. Net of the effects of statistical controls, the proposed mediator predicted aggressive and income offending in the expected direction, indicating that among juveniles higher levels of adoption of street-code attitudes lead to higher criminal offending. Among criminogenic factors, belonging to a gang, witnessing and/or experiencing violent victimization, and having an increased number of delinquent peers predicted both criminal offending measures in the expected direction.

Second, the possible mediating effect of code-related attitudes on the race/ethnicity criminal offending link was estimated. Through path mediation models and disaggregation of *total*, *direct* and *indirect* effects it was demonstrated that the measure of code-related attitudes

was a statistically significant mediator for the regression of aggressive offending on race/ethnicity, but not for the regression of income offending on race/ethnicity. Specifically, relative to non-Latino Whites, differences in aggressive offending scores were indirectly influenced (e.g. operated through) by the adoption of code-related attitudes among Latinos, but not among non-Latino Blacks. This suggests that street-code attitudes might have played a role among Latinos in the sample to explain their aggressive offending levels after adjudication to the juvenile justice system. In the following section I summarize answers to the research questions and hypotheses outlined in Chapter III based on key findings of this dissertation.

### **Assessment of Research Questions**

As explained in Chapter I, official reports and self-report data at the national level tend to indicate that non-Latino Blacks and Latinos engage in serious criminal offending at higher rates than non-Latino Whites (see for example Estrada-Martínez, et. al., 2013; Estrada-Martínez, et. al., 2011; Kaufman, 2005; U.S. Department of Justice, 2014), but these differences often disappear when considering other factors such as peer relations, family structure or neighborhood conditions. For example, past research has found that differences in serious offending between non-Latino Blacks and non-Latino Whites are explained by community disadvantage, while differences in serious offending between Latinos and non-Latino Whites are explained by involvement in gangs (see for example McNulty & Bellair, 2003).<sup>32</sup>

Similarly, the existing literature and empirical tests that were reviewed in Chapter II indicate the existence of racial/ethnic differences in serious offending, but these studies suffer some limitations (e.g. including Latinos within a non-White category) and overall, offer mixed

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<sup>32</sup> Another factor that explains racial/ethnic differences in offending are the outcome measures used in past research. For example, Elliott and Ageton (1980) explained that racial/ethnic differences in offending documented in past research might vary by virtue of the specific “self-reported delinquency” measures used by different studies.

results about the effects of race/ethnicity on criminal offending. Interestingly, some studies that include Latinos as a separate category in their samples have found that this group tend to be less violent than non-Latino Blacks and non-Latino Whites. Researchers have argued to extend the scope of studies by examining Latino status effects and including street-code-related variables that at the individual-level, might help to unravel divergent findings about the race/ethnicity-crime link (see for example Piquero et. al., 2012; Stewart & Simons, 2006, 2010).

One of the advantages of this study is that it examined differences in criminal offending beyond the White-Black dichotomy by including Latinos as a separate category. This study also considered the possible role of code-related attitudes in the race/ethnicity-criminal offending link among Latinos. This approach was relevant since it extended Anderson's theory (1999) to a fast-growing population in the US. In Chapter III, I outlined four research questions and alternative possibilities for findings to understand the interplay of street-code attitudes and criminal offending across racial/ethnic groups.

### **Research Question #1**

The first research question asked whether there are racial/ethnic differences in the adoption of code-related attitudes, net of the effects of other socio-demographic and criminogenic risk factors. A hypothesis related to this question was that there are significant differences across race/ethnic groups in their levels of code-related attitudes and more specifically, that relative to non-Latino Whites (i.e. the reference group), non-Latino Blacks report higher scores, and Latinos report lower scores on the adoption of street-code attitudes (see Figure 7). This question was assessed in two steps. The first step was to estimate mean differences across race/ethnicity in their respective levels of code-related attitudes absent of statistical controls. From Table 7, bivariate comparisons across groups showed a statistically

significant difference in the adoption of code-related attitudes among Latinos, relative to non-Latino Blacks and non-Latino Whites. Specifically, Latino adolescents in the sample had higher levels of street code-attitudes than non-Latino Blacks and non-Latino Whites. The Black-White comparison mean difference was non-significant.

The second part of question #1 was assessed by including statistical controls in an OLS regression model to estimate mean differences across race/ethnicity in the adoption of code-related attitudes. Net of the effects of possible confounding variables, it was demonstrated that there were statistically significant differences across race/ethnicity in levels of street-code attitudes. Specifically, net of statistical controls, there were significant differences in the average levels of street-code attitudes but only among Latinos relative to the reference group (see Figures 8 and 9). Therefore, these findings suggest partial support for the hypothesis derived from question #1. Although it was demonstrated that net of statistical controls there were in fact differences in the adoption of code-related attitudes across race/ethnicity, the hypothesized direction of these differences was contrary to what was initially expected. Namely, Latinos reported higher mean levels of street-code attitudes relative to non-Latino Whites ( $b=.15$ ;  $SE=.03$ ;  $p<.001$ ).<sup>33</sup> Also, although the direction of the effect for non-Latino Blacks on code-related attitudes was as initially hypothesized, it did not reach statistical significance ( $b=.02$ ;  $SE=.02$ ;  $p>.05$ ).

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<sup>33</sup> An important consideration is that the sample in this study did not include the general population of adolescents, but rather a sample of serious adolescent offenders. Being serious offenders, it should be expected that compared to the general population, adolescents in the sample used in this study have higher levels of code-related attitudes regardless of their race/ethnicity. In this study, Latinos had higher levels of code-related attitudes compared to non-Latino Whites and non-Latino Blacks, and also were disproportionately involved in gangs at baseline and Wave 2. This seems to indicate that adherence to street codes among Latinos might be particularly exacerbated and instrumental when dealing with situational constraints that are presented to them in institutionalized environments (i.e. correctional settings).

These findings related to question #1 might be juxtaposed with previous research at the individual level that examined racial/ethnic differences in the adoption of code-related attitudes. For example, the findings related to research question #1 contradict Brezina and colleagues' (2004) assertion that race/ethnicity does not have direct nor indirect effects on the adoption of street-code attitudes, as well as Piquero and colleagues' (2012) finding that the effect of race/ethnicity on street code-attitudes is not significant after controlling for demographic variables. These contradictory findings might be tempered with the fact that the studies mentioned above examined Black-White differences only. Certainly, results from this dissertation are in line with Brezina and colleagues' (2004), and Piquero and colleagues' (2012) findings to the extent that net of statistical controls, the indirect effect of Black non-Latino on code-related attitudes was also non-significant, but contrary to both studies, this dissertation examined effects of Latino on code-related attitudes and found evidence of a positive and statistically significant effect for this relationship, net of socio-demographic variables and criminogenic risk-factors.

Thus, this dissertation was informative about the relevance of including Latinos as a separate racial/ethnic group in studies that examine the race/ethnicity-criminal offending link, and about the applicability of Anderson's Code of the Street theory (1999) to a racial/ethnic group other than African-Americans. In this context, it is plausible Latinos might experience similar structural constraints to that of non-Latino Blacks such as concentrated disadvantage (see for example Baumer et. al. 2003; Stewart & Simons, 2006), but at the individual-level some constraints might be exacerbated for Latinos compared to African-Americans, which might render individual characteristics (e.g. gang membership and/or gang-related experiences) as more

important than neighborhood contexts to explain the enactment of code-related attitudes among this group (see for example Bourgois, 2003; Flores 2014).

This seems to be consistent with previous research contradicting the “Latino Paradox.” As explained in Chapter II of this dissertation, research tends to indicate lower offending among Latinos relative to other racial/ethnic groups by virtue of their higher levels of social integration, labor force attachment and/or familism. These characteristics have been explained as protective factors among Latinos that might curtail their likelihood of adopting street-codes that result in offending. However, a limited number of studies have shown that individual-level processes are particularly important to explain why, in some instances, Latinos are more likely to offend than other groups. For example, research conducted by Estrada-Martínez and colleagues (2013, 2011), and Kaufman (2005) has shown that exposure to violence, peer delinquency and gang membership explain higher offending among Latinos compared to other groups. In addition, Matsuda and colleagues (2013) also found that among juveniles, joining a gang provides a breeding ground for the adoption of street-codes that results in a heightened risk of offending for gang members compared to non-gang members. Certainly, results from this dissertation are consistent with these ideas since compared to their counterparts, Latinos in the analytic sample displayed significantly higher mean levels of code-related attitudes (see Table 5), but also were disproportionately involved in gangs ( $\bar{X}$ =.23), compared to non-Latino Blacks ( $\bar{X}$ =.05), and non-Latino Whites ( $\bar{X}$ =.03).<sup>34</sup>

## **Research Question #2**

The second question in this dissertation asked whether there were any race/ethnicity differences in self-reported aggressive and income offending scores, net of control variables. A

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<sup>34</sup> The proportion of Latinos in the analytic sample that were involved in gangs, was also disproportionately higher when compared to the proportion of gang membership across all groups ( $\bar{X}$ =.11;  $SD$ =.32).



hypothesis derived from this question was that there are differences across race/ethnic groups in both outcome measures and that relative to non-Latino Whites, non-Latino Blacks report higher and Latinos report lower aggressive and income offending scores. Again, this question was assessed in two parts. First, bivariate comparisons showed whether there were differences on both outcome measures across race/ethnic groups, and whether these differences were statistically significant. Whereas differences in aggressive and income offending scores between non-Latino Blacks and non-Latino Whites were non-significant, the mean differences in both outcome measures between non-Latino Blacks and Latinos were statistically significant. Relative to non-Latino Blacks, Latinos had aggressive and income offending scores that were significantly higher than those of non-Latino Blacks (i.e.  $\bar{X}_{i-j}=.0263$ ;  $p<.01$  and  $\bar{X}_{i-j}=.0280$ ;  $p<.001$  respectively). The coefficients for the other comparisons (e.g. Black-White and Latino-White) were not statistically significant (i.e. from Table 7). However, the addition of code-related attitudes, as well as other socio-demographic and risk factors as controls in the regression model rendered different results.

Specifically, the addition of the measure of code-related attitudes, as well as the other statistical controls in the OLS regression model, showed that, on average, relative to non-Latino Whites, non-Latino Blacks committed less aggressive and income offenses, and Latinos committed fewer income offenses (i.e. from Table 8). These findings confirm the hypothesis derived from research question #2 in that net of statistical controls, there was evidence of race/ethnicity differences in self-reported aggressive and income offending. Perhaps more interestingly, the addition of code-related attitudes in the regression models might explain why relative to non-Latino Whites, the comparison for non-Latino Blacks reached statistical significance (i.e. predicting both outcomes), and the comparison for Latinos reached statistical

significance (i.e. predicting income offending) in the negative direction. However, the mechanisms by which the addition of code-related attitudes in the OLS regression model rendered significant coefficients in the negative direction for the Black-White comparison and for the Latino-White comparison was not clear, and called for more refined path analyses that included code-related attitudes as a possible mediator in the race/ethnicity-criminal offending link.

Relatedly, the hypothesis derived from research question #2 was partially confirmed. In this case, relative to non-Latino Whites, the hypothesized positive and statistically significant effect of non-Latino Blacks on aggressive and income offending (i.e. from Figure 7) was not confirmed, while the hypothesized negative and statistically significant effect of Latinos on income offending only was confirmed (i.e. see Figures 8 and 9). Namely, adjusting for group differences in their adoption of code-related attitudes, non-Latino Blacks committed less aggressive and income offenses, and Latinos committed less income offenses, relative to non-Latino Whites.

These findings are consistent with some studies outlined in Chapter II that indicate lower offending rates for racial/ethnic minorities relative to Whites, despite experiencing higher levels of concentrated disadvantage and/or individual constraints (see for example Burchfield & Silver, 2013; Martinez, 2002, 2010; Sampson, 2008; Sampson, et al., 2005; Wright & Rodriguez, 2012), but contradict findings from other studies that indicate higher offending rates for racial/ethnic minorities relative to Whites (see for example Estrada-Martínez, et al., 2013; Estrada-Martínez, et al., 2011; Kaufman, 2005; Lopez et al., 2004; Matsuda et al., 2013), and again highlight the relevance of the adoption of street-codes as an individual-level process to disentangle racial/ethnic differences in offending (Bronfenbrenner, Condry, & Russell Sage, 1970; Ceci,

2006). As explained later, this is relevant since the examination of possible mediation effects of street-codes in the race/ethnicity-criminal offending link served to clarify the mechanisms by which the direct effects of non-Latino Black on both outcome measures were significantly lower (aggressive:  $b=-.02$ ;  $SE=.01$ ;  $p<.01$ ; and income:  $b=-.03$ ;  $SE=.01$ ;  $p<.001$ ), while the direct effects of Latino on income offending were significant lower, relative to non-Latino Whites ( $b=-.02$ ;  $SE=.01$ ;  $p<.05$ ).

### **Research Question #3**

The third research question in this dissertation asked whether code-related attitudes affect self-reported aggressive and income offending scores, net of control variables. Relatedly, it was hypothesized that regardless of race, the adoption of code-related attitudes among juveniles leads to higher aggressive and income offending scores. Consistent with the analytic strategy described in Chapter III, the effect of street-code attitudes on offending net of statistical controls was estimated through OLS regression and path mediation analyses. Table 8, and Figures 8 and 9 provide the answer to research question #3 in that holding all other variables constant, levels of the adoption of code-related affect levels of aggressive and income offending. There was evidence of a statistically significant, positive effect for code-related attitudes on both outcome measures, net of statistical controls.

The hypothesis derived from research question #3 was confirmed since among juveniles in the sample, higher scores in their code-related attitudes predicted higher aggressive and income offending scores. This finding is important for two reasons. First, it confirms empirical research within the tradition of Anderson's (1999) Code of the Street theory and substantiates past study findings that relate street-code attitudes with higher violent offending, especially among African-Americans (Alleyne, Fernandes, & Pritchard, 2014; Fontaine, Fida, Paciello,

Tisak, & Caprara, 2014; Hyde, et al., 2010; Paciello, Fida, Tramontano, Lupinetti, & Caprara, 2008; Pelton, et al., 2004; Shulman, et al., 2011; Stewart, et al., 2006; Stewart & Simons, 2006, 2010; Stewart, et al., 2002). Second, it extends the scope of Anderson's theory to explain not only violent, but also income-related offenses among youth. As this study showed, the adoption of code-related attitudes among youth (i.e. regardless of race/ethnicity) was a significant predictor of income offending at Wave 2, and the magnitude of this effect was comparable to the effect of other longstanding correlates of criminal offending like gang membership.<sup>35</sup> However, this finding begs the question of why the mediating effect of code-related attitudes only was significant when predicting race/ethnicity differences in aggressive offending but not income offending. A plausible explanation is that the adscription to street-codes among Latinos might be a useful mechanism to avoid victimization and maintain "respect" among their peers; a process that entails the use of interpersonal aggression/violence rather than the commission of income-related offenses.

#### **Research Question #4**

The fourth research question asked about the mechanism by which race/ethnicity and code-related attitudes might work in conjunction to explain criminal offending, specifically, whether racial/ethnic differences in aggressive and income offending are mediated by racial/ethnic differences in the adoption of code-related attitudes. In this case, it was hypothesized that racial/ethnic differences on aggressive and income offending measures operate *indirectly* (i.e. are mediated) through the adoption of code-related attitudes. Specifically, it was hypothesized that relative to non-Latino Whites, the *indirect* effect (i.e. through code-related attitudes) of Black-non Latino on both measures of criminal offending is positive, while the

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<sup>35</sup> See standardized Beta ( $\beta$ ) coefficients in Table 8. The other significant predictors of income offending were peer delinquency and exposure to violence.

*indirect* effect (i.e. through code-related attitudes) of Latino on aggressive and income offending is negative, net of statistical controls. It also was hypothesized that the *direct* effect of Black non-Latino on aggressive and income offending is positive, while the *direct* effect of Latino on aggressive and income offending is negative.

First, research question #4 was answered in that there was evidence of at least one mediation effect (i.e. through code-related attitudes) for the race/ethnicity criminal offending link. Specifically, the effect of Latino status on aggressive offending is mediated by code-related attitudes, which partially confirmed the hypothesis derived from research question #4. However, unlike hypothesized, the *indirect* effect of Latino on both outcome measures was positive, but only statistically significant for the model predicting aggressive offending. This finding confirms part of the hypothesis, since there is evidence of mediation in that the effect of Latino on aggressive offending operates *indirectly* through the adoption of code-related attitudes to predict higher criminal offending among this group, relative to non-Latino Whites. This result warrants further discussion. As shown in the indirect chains denoted by arrows in Figures 8 and 9, Latino status was significantly and positively related to the adoption of code-related attitudes and in turn, higher levels of code-related attitudes predicted significantly higher criminal offending scores (i.e. both aggressive and income offending), relative to non-Latino Whites. However, the *direct* effects denoted by the arrows from Latino to aggressive offending and from Latino to income offending were both negative, and only significant when predicting income offending. The intricacies of this result might suggest a concern that requires further attention, and in this case I suggest three possible explanations.

First, an issue that might explain the seemingly counterintuitive finding about the mediation effect (i.e. the *indirect* effect) versus the *direct* and *total* effects of Latino on

aggressive offending relates to the size and the signs of the coefficients. For example, from Figure 8, it can be noted that the indirect chains (i.e. arrows) connecting Latino  $\rightarrow$  code-related attitudes  $\rightarrow$  aggressive offending show significant coefficients in the positive direction. That is, Latino status predicts higher levels of code-related attitudes and in turn, code-related attitudes predict higher aggressive offending scores among this group, relative to non-Latino Whites.

As explained in chapter III, these coefficients  $a_2$ , and  $b$  are then multiplied to obtain the indirect effect that is rather small ( $a_2b=.0041$ , from Table 9), but significant and positive, which confirms mediation. Then, to obtain the *total* effect of Latino status on aggressive offending, the *indirect* effect ( $a_2b$ ) is summed to the *direct* effect ( $c'_2$ ) which is a negative but larger coefficient ( $c'_2 = -.0141$ , from Figure 8) than the coefficient for the *indirect* effect. Logically, the size and signs of the *indirect* and *direct* effects produces a summed coefficient for the *total* effect of Latino status on aggressive offending that is negative, but that might have been larger had not been for the mediating role of code-related attitudes in the indirect chain of relationships. That is, Latino status' *total* negative effects on levels of criminal offending are offset by virtue of their higher levels of code-related attitudes. This same logic might be applied when examining the *direct* and *total* effects for the other paths included in the models estimated in this study. The second possible explanation to the intricacy of this finding is that despite the fact that levels of code-related attitudes mediated the effect of Latino status on aggressive offending in the positive direction, Latinos in the sample might have either lacked opportunities for offending or under-reported their offenses by virtue of their involvement in the juvenile justice system, which could explain the negative *direct* effects of race-ethnicity on criminal offending (Elliott & Ageton, 1980; Huizinga, et al., 1991; Krohn, Thornberry, Gibson, & Baldwin, 2010; Maxfield, Weiler, &

Widom, 2000).<sup>36</sup> In general, this study found lower levels of offending, but higher levels of code-related attitudes among Latinos relative to non-Latino Whites. That is, Latinos are as likely – or even less likely – to offend than non-Latino Whites, but they have higher levels of code-related attitudes that mediate the Latino status-aggressive offending link. Therefore, the third possible explanation is that among Latinos, higher levels of code-related attitudes might be due in part to higher levels of acculturation; an issue that has been suggested in the past and that requires attention in future research (Rose & Ellison, 2013).

Overall, these findings answer the research questions and partially support the hypotheses outlined in Chapter III. First, consistent with previous research at the individual-level, this study found that among adolescents, the adoption of code-related attitudes is a predictor of aggressive offending, net of a series of socio-demographic and risk factors (Baumer, et al., 2003; Sharkey, 2006; Stewart, et al., 2006; Stewart & Simons, 2006, 2010; Stewart, et al., 2002). This study extended previous research in that the effects of code-related attitudes on income-related offenses were also examined. That is, the adoption of code-related attitudes among youth also is a significant predictor of income offending in the positive direction. Higher levels of code-related attitudes among youth lead to higher levels of aggressive and income offending. These findings support Anderson's Code of the Street theory (1999) and extends its core principles to explain criminal offending among the Latino population (Alleyne, et al., 2014; Bourgois, 2003; Fontaine, et al., 2014; Hyde, et al., 2010; Paciello, et al., 2008; Pelton, et al., 2004; Piquero & Brame, 2008; Shulman, et al., 2011).

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<sup>36</sup> As a reminder, the only significant *direct* effects of race/ethnicity (i.e. all predicting lower criminal offending) relative to non-Latino White were for the paths (1) Black non-Latino-aggressive offending, (2) Black non-Latino-income offending, and (3) Latino-income offending. The same pattern of results was held for the *total* effects. The issue of self-report bias per justice involvement effect might have also applied to the other race/ethnicity groups in this study. This issue is recognized as a general limitation of this study, given the nature of the sample and the outcome measures (i.e. justice-involved sample and self-reported offending measures).

Second, this individual-level study seems to confirm past macro-level, and multi-level research findings indicating less aggressive and income offending among non-Latino Blacks, and less income offending among Latinos, relative to non-Latino Whites. The direct and total effects disaggregated by racial/ethnic groups showed that non-Latino Blacks are less likely to commit aggressive and income offenses relative to non-Latino Whites, and that Latinos are less likely to commit income offenses relative to non-Latino Whites, net of statistical controls. This finding is consistent with past individual and multi-level research (Alvarez-Rivera, et al., 2014; Bersani, 2014; Bersani, et al., 2014; Burchfield & Silver, 2013; Eggers & Jennings, 2014; Feldmeyer, et al., 2013; Harris & Feldmeyer, 2013; Harris, et al., 2015; Martinez, 2002, 2010; Sampson, 2008; Sampson, et al., 2005), and contradicts a few studies that found higher offending levels for African-Americans and Latinos (i.e. relative to non-Latino Whites), net of controls (Estrada-Martínez, et al., 2013; Estrada-Martínez, et al., 2011; Kaufman, 2005).

These findings, however, must be interpreted with caution, given the size of the mean differences in offending across racial/ethnic subgroups which tended to be very small. In addition, as suggested before, a caveat to the findings about *direct* and *total* effects of race/ethnicity on criminal offending relates to the sample context of this study compared to the sample context of previous studies. While other studies have used general population samples, this dissertation is based on a sample of serious juvenile offenders who are involved with the juvenile justice system. Certainly, the nature of the sample as well as the nature of the outcome measures used in this study (i.e. self-reported serious offenses) might help explain the findings about *direct* and *total* effects of race/ethnicity on criminal offending.

Third, the path model estimating aggressive offending and decomposition of total, direct and indirect effects (i.e. Figure 8 and Table 9) showed that relative to non-Latino Whites,



differences in aggressive offending among Latinos are mediated by the adoption of code-related attitudes. This finding suggests the salience of code-related beliefs among Latinos as a coping strategy to deal with situational constraints. For example, a recent study by Mears and colleagues (2013) found that code-related attitudes are an instrumental part of daily interactions among youth outside and inside correctional settings (Mears, Stewart, Siennick, & Simons, 2013). Although Mears and colleagues' study did not include Latinos as a subgroup in their analyses, this dissertation seems to replicate their findings, and more nuanced analyses are needed to fully investigate Anderson's thesis among Latinos.

As explained in the previous paragraphs, the only significant *indirect* effect (i.e. mediation effect) for the race/ethnicity-criminal offending link was found in the model estimating aggressive offending scores. In this case, relative to non-Latino Whites, Latino status predicted higher levels of code-related attitudes which lead to higher aggressive offending. Given that this is a juvenile-justice involved sample, it is possible that the adoption of code-related attitudes among Latinos serves an instrumental purpose, such as avoiding victimization from other racial/ethnic groups within the correctional setting.<sup>37</sup>

Although this study did not assessed victimization risks, previous studies have argued that racial/ethnic minorities might embrace code-related attitudes to avoid victimization and the risk of getting “dissed” in the presence of their peers (Anderson, 1999; Belgrave et al., 2004; Bourgois, 2003; Stewart, et al., 2006; Stewart & Simons, 2010). For example, being confined to

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<sup>37</sup> A complimentary examination of race/ethnicity comparisons at baseline (i.e. Wave 0) using the non-imputed data showed significant differences in the adoption of code-related attitudes between Latinos-White non-Latinos ( $\bar{X}_{i-j}=.09$ ;  $SE=.03$ ;  $p<.05$ ), and Latinos-Black non-Latinos ( $\bar{X}_{i-j}=.09$ ;  $SE=.02$ ;  $p<.001$ ). That is, at baseline Latinos still had a significantly higher levels of adoption of code-related attitudes than non-Latino Blacks and non-Latino Whites. These differences were larger at Wave 1 (see Table 7), suggesting that the importation of code-related attitudes among Latinos might serve an instrumental purpose within the correctional setting (see for example Mears et al., 2003). Although this argument is plausible, a life-course examination (e.g. across subsequent Waves in Pathways data) of the adoption of code-related attitudes among Latinos might be helpful to answer this question.

correctional settings within the juvenile-justice system might place Latinos at close proximity with other serious offenders, which increments their risk of offending and victimization. Two findings from this study related to this idea were that (1) adolescents who were exposed to violence (as victims and/or witnesses) were more likely to commit aggressive offenses, and (2) Latinos were disproportionately involved in gangs at Wave 2 compared to non-Latino Blacks and non-Latino Whites.

These findings suggest that juveniles who are more at risk of victimization might also be more likely to adopt street-code attitudes and that involvement in gangs might be perceived as an avenue to avoid victimization among Latinos who are involved with the juvenile justice system. In turn, the enactment of street-codes among Latinos might serve an instrumental purpose of peer- and self-protection in these settings. In general, these findings also suggest that being involved in gangs, having delinquent peers and being exposed to violence might offset the effects of other protective factors that Latino youths might have such as familism or first generation immigrant status (Almeida, Johnson, McNamara, & Gupta, 2011; Bersani, et al., 2014). Among Latinos, other protective factors that have been suggested in the past are levels of social integration, acculturation, and labor force attachment (Estrada-Martínez, et al., 2011; Martinez, 2002; Rose & Ellison, 2013). Certainly, this argument has implications for future research, since some of these factors might be considered in future studies that examine criminal offending and victimization among Latinos. In the following section I will discuss limitations of this study that must be considered when conducting future research on this topic.

### **Study Limitations and Future Research**

Despite its advantages, this study has some limitations. First, although this study extended Anderson's (1999) ideas to explain criminal offending across race/ethnicity with

special attention to Latinos (Bourgois, 2003), findings from this analyses are not generalizable to females, non-serious adolescent offenders or community samples of youth.<sup>38</sup> As suggested before, Pathways draws information from only two urban cities in the U.S., and the race/ethnicity measure used in this study is still a categorical factor that, by virtue of sample characteristics, might operate by exposing juveniles to a very particular environment and/or risk/protective factors. Specifically, the outcome measures examined in this study refer to serious offending among juveniles who are involved with the juvenile justice system, and thus variability in levels of street-codes and offending in the analytic sample might be due in part to particular experiences within institutional settings.<sup>39</sup> These particular experiences were not assessed by Anderson, as his ethnographic study focused on the general population. In addition, Anderson's theory has been mainly assessed in the past by using samples from the general juvenile population (Baumer, et al., 2003; Brezina, et al., 2004; Stewart, et al., 2006; Stewart & Simons, 2006, 2010), but not juvenile justice-involved populations, as the case in this study.

Therefore, it is recommended that future research considers the extent to which code-related attitudes might be exported from the community to justice-involved youths, and whether street-codes beliefs are more important than other correlates of criminal offending to explain violence in these settings (Irwin & Cressey, 1962; Mears, et al., 2013; Thomas, 1977; K. N. Wright, 1991). As this dissertation suggests, code-related attitudes (i.e. Wave 1) appear to be

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<sup>38</sup> Also, a limitation of this study is that I did not assess contextual differences between the two sample sites. Future research should assess this concern (see for example study findings by Piquero and Brame, 2008).

<sup>39</sup> As a word of caution, not all of the youth in Pathways data were institutionalized. Also, patterns of differences in levels of code-related attitudes and gang membership across race/ethnicity groups in the analytic sample seem to predate juvenile-justice involvement. For example, Latinos had significantly higher levels of code-related attitudes and higher involvement in gangs at baseline (i.e. Wave 0) and Wave 2 than non-Latino Blacks and non-Latino Whites. This suggests that Latinos in the analytic sample might have had more risk-factors (e.g. code-related attitudes, gang membership, peer delinquency and/or exposure to violence) than non-Latino Whites and non-Latino Blacks), but this finding might not be the same when examining race/ethnicity differences among juveniles in the general population.

imported to the juvenile justice system among Latinos, in that this measure mediates the relationship between Latino status and aggressive offending (i.e. Wave 2). However, it is not clear whether this pattern holds over time net of the effects of baseline code-related attitudes.<sup>40</sup> An examination of street-codes and criminal offending across race/ethnicity and over the life-course might provide a good opportunity to understand the intricacies of street-codes in different settings and its risk- and/or protective qualities for violence and victimization (Piquero, 2015). In addition, given some mixed findings in this dissertation, it is important to contextualize the individual-level processes involved in the adoption of code-related attitudes across race/ethnicity by including other aspects of youth's environments. This might entail an examination of the different layers of the ecological environment in which youths develop their attitudes like their immediate settings, interactions with neighbors or peers, and interactions at their communities or schools, that might shape their cultural values and responses to situational constraints (Bronfenbrenner, et al., 1970).

Second, an effort was made to overcome limitations intrinsic to the data. For example, the statistical models estimated in this dissertation are based on Multiple Imputation (MI) datasets, which allows more reliable estimates than those that would be obtained with missing values in the original sample, or based on list-wise deletion of cases with missing data (von Hippel, 2004). Also, the outcome measures used in this study (i.e. self-reported aggressive and income offending variety scores) have been deemed as more appropriate over dichotomous or frequency scales, since they offer the opportunity to capture a large spectrum of serious offenses, are not as restrictive as frequency or dichotomous scales, and tend to have a higher correlation

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<sup>40</sup> The models estimated in this study did not control for code-related attitudes measured at baseline. Future research might include this measure, considering the potential timing of the processes being investigated.

with offending measures that are based on official reports (Bendixen, et al., 2003; Sweeten, 2012).

However, the outcome measures used in this study were highly right skewed and bounded between 0 and 1, which make them sensitive to violations of OLS regression assumptions, particularly the assumption of normality. To maintain the richness of the information contained in the variety scales, a decision was made to not dichotomize the outcome measures and estimate the models using OLS regression. Although past studies using these scales in the Pathways data have used different estimation methods such as OLS regression, negative binomial or Poisson regression (Bersani, et al., 2014; Hampton, et al., 2014; Monahan, et al., 2014; Schubert, et al., 2011; Schubert, Mulvey, Loughran, & Losoya, 2012; Sweeten, Pyrooz, et al., 2013), future research should carefully assess which estimation model better fits the data. Notwithstanding, a complimentary analysis using Generalized Structural Equation Modeling (GSEM) in Stata.v13 (StataCorp, 2013), which should be more precise about the potential violations of OLS regression and robustness in spite of them (Bohrnstedt & Carter, 1971; Fox, 2008), showed that the results obtained in this dissertation based on OLS regression were not sensitive to these violations (see Appendix C).

Third, the scale of code-related attitudes used in this dissertation was originally conceived as a composite-scale based on 32 items that measured adolescents' attitudes about the treatment of others, and their ability to disengage from moral self-sanctions (Bandura, et al., 1996). Relatedly, according to Anderson's (1999) ideas, the code of the street emerges as an adaptation to situational constraints, and provides a rationale for the use of violence to prevent victimization, or being "dissed." To the extent that adolescents face situational constraints in their communities or in institutional settings, violence resulting from the adoption of street-codes

is instrumental and reflects adolescents' ability to disengage from moral self-sanctions. Therefore, the scale of code-related attitudes used in this dissertation was deemed as an appropriate measure of street-codes (see Appendix A and B).

Despite this argument, past research examining street-code attitudes have relied on two other measures of street-codes as valid indicators of Anderson's concept (Brezina, et al., 2004; Stewart, et al., 2006; Stewart & Simons, 2006, 2010; Taylor, et al., 2010). Given that the street-codes scale used in this dissertation was not originally conceived as a direct measure of "the code of the street," and that Anderson's theory has been gaining more attention in recent years, it is recommended that future studies assess the construct validity of the code-related attitudes scale used in this dissertation, and compare it with other street-code measures used in previous studies. This type of assessment might allow researchers to develop a more refined measure of "the code of the street" which has good internal consistency and better measurement quality across settings than other scales used in the past.<sup>41</sup>

Fourth, an interesting finding of this study was that the adoption of code-related attitudes mediates the relationship between race/ethnicity and criminal offending. Specifically, the effect of Latino status on aggressive offending operates indirectly through the adoption of code-related attitudes. In general, results from mediation models with categorical measures (i.e. race/ethnicity) must be interpreted with caution. For example, a simple mediation model that includes a main independent variable, a proposed mediator (i.e. code-related attitudes) and a dependent variable (i.e. criminal offending) is referred to as a causal sequence in which the main independent variable transmits its effects on the dependent variable through a mediator. Despite the appropriate causal sequence in the research design and the inclusion of possible confounders

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<sup>41</sup> This process would also entail assessing criterion-related validity of the "street-codes" construct such as predictive, concurrent and convergent validity (Shadish, Cook, & Campbell, 2002).

in the models of this study, the characteristics of the independent variable (i.e. race/ethnicity) only allows for non-causal interpretations about the mediating effect of code-related attitudes on the race/ethnicity crime link (Hayes & Preacher, 2014; VanderWeele & Robinson, 2014).

Finally, this study found that longstanding correlates of criminal offending such as having delinquent peers, being a member of a gang or being exposed to violent events are all important predictors of aggressive and income offending in the expected direction. Given that levels of code-related attitudes mediate the race/ethnicity-criminal offending link among Latinos, and that Latinos in the analytic sample were disproportionately involved in gangs compared to non-Latino Blacks and non-Latino Whites, future research should assess the possible moderating effects of gang membership in the race/ethnicity-criminal offending link among Latinos (Hayes, 2013; Jose, 2013).<sup>42</sup> This is important since as past qualitative and quantitative research using samples from the general population suggest, gang membership seems to be an important correlate of offending among Latinos (Bourgois, 2003; Durán, 2013; Flores, 2014; McNulty & Bellair, 2003; Rios, 2011). Arguably, gangs represent an extension of the nuclear family for Latino youths, where the enactment of code-related attitudes is instrumental to provide protection against victimization. In such circumstances, a core value of the code of the street like loyalty to the gang (e.g. “I got your back”) is displayed to face everyday challenges such as lack of trust in mainstream institutions, discrimination, or negative treatment by social control institutions. That is, Latino youths within the gang assume roles provided socialization processes such as overt masculinity, intimidation, bullying in schools, substance abuse, and use of violence when threatened or challenged (Durán, 2013).

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<sup>42</sup> Other possible moderating measures that might be considered in future research as relating to Latinos, but that were not included in this study are immigrant status, acculturation and/or familism.

As explained before, the processes involved in offending among Latinos versus non-Latino Blacks might be different. For example, McNulty and Bellair (2003) found that concentrated disadvantage is an important correlate of violence among non-Latino Blacks but not Latinos, while gang-membership is an important correlate of violence among Latinos but not non-Latino Blacks. This is consistent with findings from this study, since in the analytic sample, Latinos had the highest prevalence of antisocial friends and gang participation, while non-Latino Blacks had the highest perception of physical and social disorder in their neighborhoods (see Table 5).

### **Study Implications**

The study of the race/ethnicity-criminal offending link and the role of street-code attitudes on this relationship has both theoretical and policy implications. First, from a theoretical standpoint this study found the relevance of Anderson's (1999) Code of the Street theory as it applies to Latinos in the US. Although Anderson's theory was initially conceived to explain violence in Black neighborhoods characterized by conditions of social and economic disadvantage, his ideas might be generalized; at least theoretically, to the Latino population. Likewise, Bourgois' (2003) ethnographic study offered an account of everyday experiences in Latino neighborhoods whereby situational constraints might drive individuals to adopt street-codes that result in criminal offending. Multi-level studies have advanced our understanding of the race/ethnicity-crime link by drawing from Anderson's (1999) Code of the Street theory, but little attention has been paid to this issue as it relates to a fast growing minority in the US such as Latinos.

This study suggests that Latinos might experience situational constraints that at the individual-level are very similar to those of Blacks. The intersection of race/ethnicity, street-code



attitudes and situational constraints aids in understanding and explaining criminal offending among Latinos, and how they differ from other racial/ethnic groups. This study might allow researchers to re-formulate part of Anderson's thesis as it relates to Latinos, while demystifying biased portrayals of this group as entirely criminogenic (Harris & Feldmeyer, 2013; Sampson, 2008; Sampson, et al., 2005). This task also would entail considering other theoretical perspectives pertaining to the Latino experience like acculturation, immigration, socialization experiences within the community, school, correctional settings, family dynamics, identity formation and other risk factors like discrimination that altogether might contribute to the etiology of street-codes and criminal offending among racial/ethnic minorities; particularly Latinos (Alvarez-Rivera, et al., 2014; Bersani, 2014; Gibson & Miller, 2010; Knight et al., 2012; Rose & Ellison, 2013; Smokowski, David-Ferdon, & Stroupe, 2009).

For example, the intersection of race/ethnicity and immigration might help elucidate whether differences in offending across native and foreign-born Latinos are mediated by the adoption of street-codes.<sup>43</sup> This is important since, analogous to importation theory within correctional settings (Irwin & Cressey, 1962; Mears, et al., 2013), future research could elucidate (1) whether code-related attitudes that are conducive to criminal offending among Latinos are brought to the U.S. by virtue of criminogenic beliefs that are pervasive in those countries from which Latino immigrants come from or, (2) if instead code-related attitudes are adopted by immigrants after they arrive to the U.S. as a consequence of situational constraints they experience in an already highly violent society (Sampson, 2008). Similarly, the intersection of race/ethnicity and experiences within correctional settings such as gang involvement or exposure

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<sup>43</sup> Also, future research using Pathways data might explore possible mediating and moderating effects of code-related attitudes in the immigration status-offending/recidivism link among Latinos (see for example Wright and Rodríguez, 2012).

to violence might help elucidate possible moderating effects (i.e. interaction terms) of code-related attitudes on the race/ethnicity-criminal offending link (Jose, 2013).

This study also has policy implications that should be considered. As explained earlier, most empirical research on street-codes and offending/victimization has examined Black-White differences and found that the adoption of code-related attitudes among Blacks is linked to higher likelihood of violence and victimization. Consistent with those findings, path analyses in this study also revealed that among Latinos, the adoption of code-related attitudes are conducive to higher aggressive and income offending. Therefore, efforts conducted in different settings (e.g. community, juvenile justice system) to curtail opportunities among youth to embrace street-code beliefs would be likely to reduce criminal offending and victimization.

For example, at the core of his thesis Anderson (1999) explained that the code of the street is pervasive in communities characterized by concentrated disadvantage where individuals (i.e. particularly adolescents) tend to have a sense of hopelessness about the future, experience discrimination or have distrust/cynicism about the effectiveness of formal social control institutions like the police. These conditions make street-codes and violence a viable option to solve disputes among youth (Anderson, 1999; Bourgois, 2003). A meaningful policy response to decrease distrust in legal institutions in these communities would be to improve police-citizen partnerships with aid from other formal institutions like churches, community organization and schools.

Some approaches like community-oriented policing (COP) have been deemed as a meaningful response by the criminal justice system in which police abuses are minimized, police-community relationships are strengthened, and police legitimacy is improved in communities where street-codes are present. Improving police-citizen relationships in

communities characterized by street-codes and violence would likely reduce criminal offending (Tyler & Wakslak, 2004). Also, given that the majority of research reviewed in Chapter II reveals that Latino adolescents are as likely; or even less likely, to offend than non-Latino Whites, this study has implications for other legal institutions like those in charge of immigration, and calls for a reexamination of policies pertaining to Latino immigrants (Harris, et al., 2015; Higgins, Gabbidon, & Martin, 2010; Lilley & Boba, 2009; Peguero, Popp, & Koo, 2015; Stansfield, 2014; Vaughn et al., 2014).<sup>44</sup>

Similarly, alongside legal institutions like police and corrections, efforts conducted by other social institutions like community organizations, churches and schools are important to prevent the adscription to street-codes that are conducive to violence and offending among youth. For example, school-based programs designed to prevent violence among youth have recently been developed, and efforts are being made to assess particular risk factors (Peguero, 2013; Peguero & Popp, 2012; Peguero, et al., 2015). To the extent that the adoption of street-code attitudes is identified through extensive research as a plausible criminogenic risk-factor, school-based programs might target street-codes among youth, and evaluate whether this approach aids in reducing problem behaviors and delinquency.

Restorative justice and mediation also are strategies implemented by the criminal justice system that could curtail the enactment of street-codes not only in the community but also in correctional settings. For example, restorative justice achieves conflict resolution by conciliating victims and offenders in a rather informal process where other criminal justice actors like police are not involved. Likewise, mediation programs involve a process in which victims and

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<sup>44</sup> This study also found that net of the effects of statistical controls, Latinos in the analytic sample were as likely to offend as non-Latino Whites, specifically when examining income-related offenses. I plan to examine the intersection of race/ethnicity, immigration and code-related attitudes to explain criminal offending in future research derived from this dissertation.

offenders make compromises to solve their disputes. Both approaches have been implemented in the past and research indicates that participants of these programs tend to be satisfied with the outcome, and achieve conflict resolution (D. Sullivan & Tifft, 2005). In general, although restorative justice and mediation programs have been deemed as effective approaches to promote conflict resolution and maintain order among individuals in the community, their effectiveness to potentially curtail adolescent's need to adhere to street-codes to solve disputes has not been assessed. However, to the extent that these programs are effective in promoting better understanding among juveniles to solve their disputes, either in their communities or within the juvenile justice system, the enactment of street-codes might become less instrumental and lose legitimacy.

This study also has policy implications specifically related to the implementation of gang prevention programs. As it was suggested in the previous chapters, this study found that (1) among adolescent in the analytic sample, Latinos were disproportionally involved in gangs, and (2) gang affiliation was a significant predictor of criminal offending. This is important since it has been suggested that gangs might provide a breeding ground for code-related attitudes among youth (Matsuda, et al., 2013). Therefore, gang prevention programs targeting Latino youth in the U.S. might be effective to prevent criminal offending and victimization among this group. For example, a recent multi-site evaluation of the Gang Resistance Education and Training program (GREAT) targeting a racially/ethnically diverse youth sample across 31 schools in seven cities, found that participants in the treatment groups were less likely to affiliate in gangs, less likely to be violent and/or engage in criminal activities, and more likely to adopt pro-social attitudes(Esbensen, Peterson, Taylor, & Osgood, 2012). Arguably, to the extent that gang prevention programs are effective in promoting pro-social attitudes among youth, the adherence

to code-related attitudes would be less important. These programs also could be tailored to assess specific criminogenic risks/needs among Latino adolescents.

Finally, a recent study underscored that certain experiences such as lack of family support, being involved in gangs and being subject to disciplinary sanctions exacerbates the enactment of code-related attitudes among individuals who are incarcerated (Mears, et al., 2013). In line with the previous arguments, some disciplinary actions to which juveniles (i.e. involved in the criminal justice system) are subject to, might be perceived as unfair/unjust paving the way for the enactment or further entrenchment of street-codes, and ultimately violence as a more viable option to solve disputes and gain “respect” among peers. Reasonably, policies within the juvenile justice system aimed at encouraging increased family support (e.g. family visits), redirecting gang involvement through pro-social identify formation, and reducing disciplinary actions that are seen as unfair would be likely to impede adherence to street-codes that are conducive to criminal offending.

## CONCLUSION

This study examined the adoption of code-related attitudes and its purported effects on criminal offending across race/ethnicity. More importantly, this dissertation took a step forward from previous research by including Latinos as a separate category. This method was useful to describe and explain differences in levels of code-related attitudes, as well as differences in levels of aggressive and income offending reported by a racially/ethnically diverse group of serious adolescent offenders. To achieve this goal, this dissertation tested a mediation hypothesis that linked the effects of race/ethnicity status on criminal offending through the adoption of code-related attitudes. First, bivariate analyses revealed that Latinos reported higher average scores on the adoption of code-related attitudes than non-Latino Blacks and non-Latino Whites, as well as higher average scores on aggressive and income offending than non-Latino Blacks.

The mediation models were based on Anderson's Code of the Street theory (1999) and tested individual-level effects of race/ethnicity status on code-related attitudes and criminal offending. These models indicate that net of socio-demographic and criminogenic risk-factors, non-Latino Blacks and Latinos report lower aggressive and income offenses than non-Latino Whites. However, the indirect effect of Latino status on aggressive offending is positive, indicating partial support for the mediation hypothesis. That is, code-related attitudes mediates the effect of Latino status on aggressive offending. Relative to non-Latino Whites, Latinos are more likely to adopt code-related attitudes that are conducive to higher aggressive offending levels. These findings suggest that Anderson's (1999) theory might be extended to other racial/ethnic groups, and that street-codes are relevant to understand the mechanisms behind the purported race/ethnicity-crime link. Given that some of the findings in this study are mixed, other factors such as gang involvement, peer delinquency, and exposure to violence are likely to

be relevant in the process whereby Latinos adopt code-related attitudes that might be conducive to offending. These factors, along with others such as familism, acculturation and immigration status should be considered in future research to better elucidate these processes.

This study made a contribution by broadening the scope of Code of the Street theory and by looking beyond the White-Black dichotomy that has characterized criminological research in the past. It also provided an assessment of the mediating mechanisms that might explain differences in criminal offending among Latinos and non-Latino Blacks relative to non-Latino Whites. While recognizing important limitations inherent to research on the race/ethnicity-crime link and street-codes, this study offered some directions for future research in this area, as well as discussed some policy implications that have the potential to prevent the adherence to street-codes among Latino adolescents, and by extension to prevent violence and criminal offending, producing desired outcomes within the criminal justice system and society at large.

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## APPENDIX A

**Table 10. The Eight Sub-dimensions of Moral Disengagement**

<b>Sub-dimension</b>	<b>Items</b>
Moral justification	<p>It is all right to fight to protect your friends</p> <p>It is alright to beat someone who bad mouths your family</p> <p>It is alright to fight when your group's honor is threatened</p> <p>It is alright to lie to keep your friends out of trouble</p>
Euphemistic language	<p>Slapping and showing someone is just a way of joking</p> <p>To hit obnoxious classmates is just giving them a lesson</p> <p>Taking someone's bicycle without their permission is just "borrowing it"</p> <p>It is not a bad thing to "get high" once in a while</p>
Advantageous comparison	<p>Damaging some property is no big deal when you consider that others are beating people up</p> <p>Stealing some money is not too serious compared to those who steal a lot of money</p> <p>It is okay to insult a classmate because beating him/her is worse</p> <p>Compared to the illegal things people do, taking some things from a store without paying for them is not very serious</p>
Displacement of Responsibility	<p>If kids are living under bad conditions they cannot be blamed for behaving aggressively</p> <p>If kids are not disciplined they should not be blamed for misbehaving</p> <p>Kids cannot be blamed for using bad words when all their friends do it</p> <p>Kids cannot be blamed for misbehaving if their friends pressured them to do it</p>
Diffusion of responsibility	<p>A kid in a gang should not be blamed for the trouble the gang causes</p> <p>A kid who only suggests breaking rules should not be blamed if other kids go ahead and do it</p> <p>If a group decided together to do something harmful it is unfair to blame any kid in the group for it</p> <p>It is unfair to blame a child who had only a small part in the harm caused by a group</p>

*Continued...*

Distorting consequences	It is okay to tell small lies because they don't really do any harm Children do not mind being teased because it shows interest in them Teasing someone does not really hurt them Insults among children do not hurt anyone
Attribution of blame	If kids fight and misbehave in school it is their teacher's fault If people are careless where they leave their things it is their own fault if they get stolen Kids who get mistreated usually do things that deserve it Children are not at fault for misbehaving if their parents force them too much
Dehumanization	Some people deserve to be treated like animals It is okay to treat badly someone who behaved like a "worm" Someone who is obnoxious does not deserve to be treated like a human being Some people have to be treated roughly because they lack feelings that can be hurt

Source: Bandura, A., Barbaneli, C., Caprara, G. V., & Pastorelli, C. (1996). Mechanisms of Moral Disengagement in the Exercise of Moral Agency. *Journal of Personality and Social Psychology*, 71(2), 364-374.

## APPENDIX B

**Table 11. Variables Used in Past Studies Measuring Anderson's (1999) Code of the Street Concept**

Study	Variable Name	Number of Items	Operational Definition/Items
<b>Allen &amp; Lo, (2012)</b>	Code-based beliefs	Seven-item index/Likert scale	How important it is to carry a gun for the purposes of: (1) <i>"defending oneself,"</i> (2) <i>"feeling more secure,"</i> (3) <i>"being prepared,"</i> (4) <i>"discouraging others from interfering with one,"</i> and (5) <i>"preserving one's drug trafficking business"</i> Without a gun: (6) <i>"I would lack respect among my crowd,"</i> (7) <i>"my friends would look down on me"</i> ( $\alpha = .72$ )
<b>Brezina et. al., (2004)</b>	Code-related beliefs	Three-item index/Likert scale	Appropriateness of physical retaliation: it is (1) <i>"sometimes necessary to get into a fight to uphold your honor or to put someone in his or her place,"</i> (2) <i>"all right to beat up another person if he or she started a fight,"</i> and (3) <i>"all right to beat up another person if he or she called you a dirty name"</i> ( $\alpha = n/a$ )
<b>Piquero et. al., (2012)</b>	Street code	Seven-item index/Likert scale	Same as Stewart et. al. (2006) ( $\alpha = .70$ )
<b>Rose &amp; Ellison, (2013)</b>	Mores on violence	Three separate items/Likert scale	Participants' mores on violence: (1) <i>"violence deserves retaliation with violence,"</i> (2) <i>"it is sometimes necessary for individuals to use violence against other individuals to prevent future violence,"</i> and (3) <i>"a person should have the right to kill another person to defend oneself or one's family"</i>
<b>Stewart &amp; Simons, (2010)</b>	Adopting the Street code	Seven-item index/Likert scale	Same as Stewart et. al. (2006)

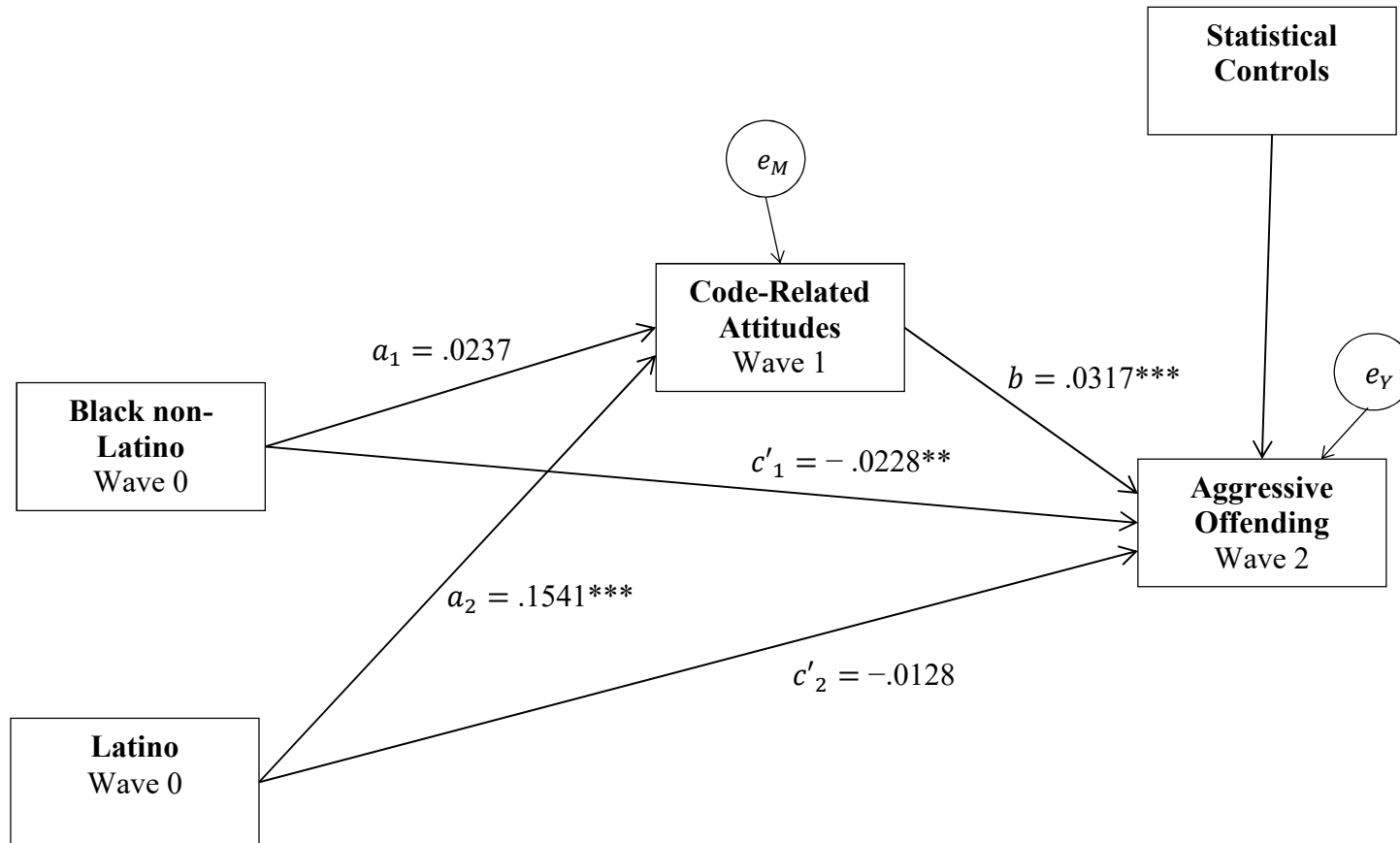
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<b>Stewart et.al., (2006)</b>	Adopting the street code	Seven-item index/Likert scale	Street code attitudes: (1) "when someone disrespects you, it is important that you use physical force or aggression to teach him or her not to disrespect you," (2) "if someone uses violence against you, it is important that you use violence against him or her to get even," (3) "people will take advantage of you if you don't let them know how tough you are," (4) "people do not respect a person who is afraid to fight physically for his/her rights," (5) "sometimes you need to threaten people in order to get them to treat you fairly," (6) "it is important to show others that you cannot be intimidated," and (7) "people tend to respect a person who is tough and aggressive" ( $\alpha = .78$ )
<b>Stewart et.al., (2002)</b>	Adopting a street code	Six-item/Likert scale	The extent to which it is justifiable and advantageous to use violence: (1) "sometimes you have to use physical force or violence to defend your rights," (2) "people will take advantage of you if you don't let them know how tough you are," (3) "people do not respect a person who is afraid to fight physically for his/her rights," (4) "sometimes you need to threaten people in order to get them to treat you fairly," (5) "it is important to show others that you cannot be intimidated," and (6) "people tend to respect a person who is tough and aggressive" ( $\alpha = .69$ )



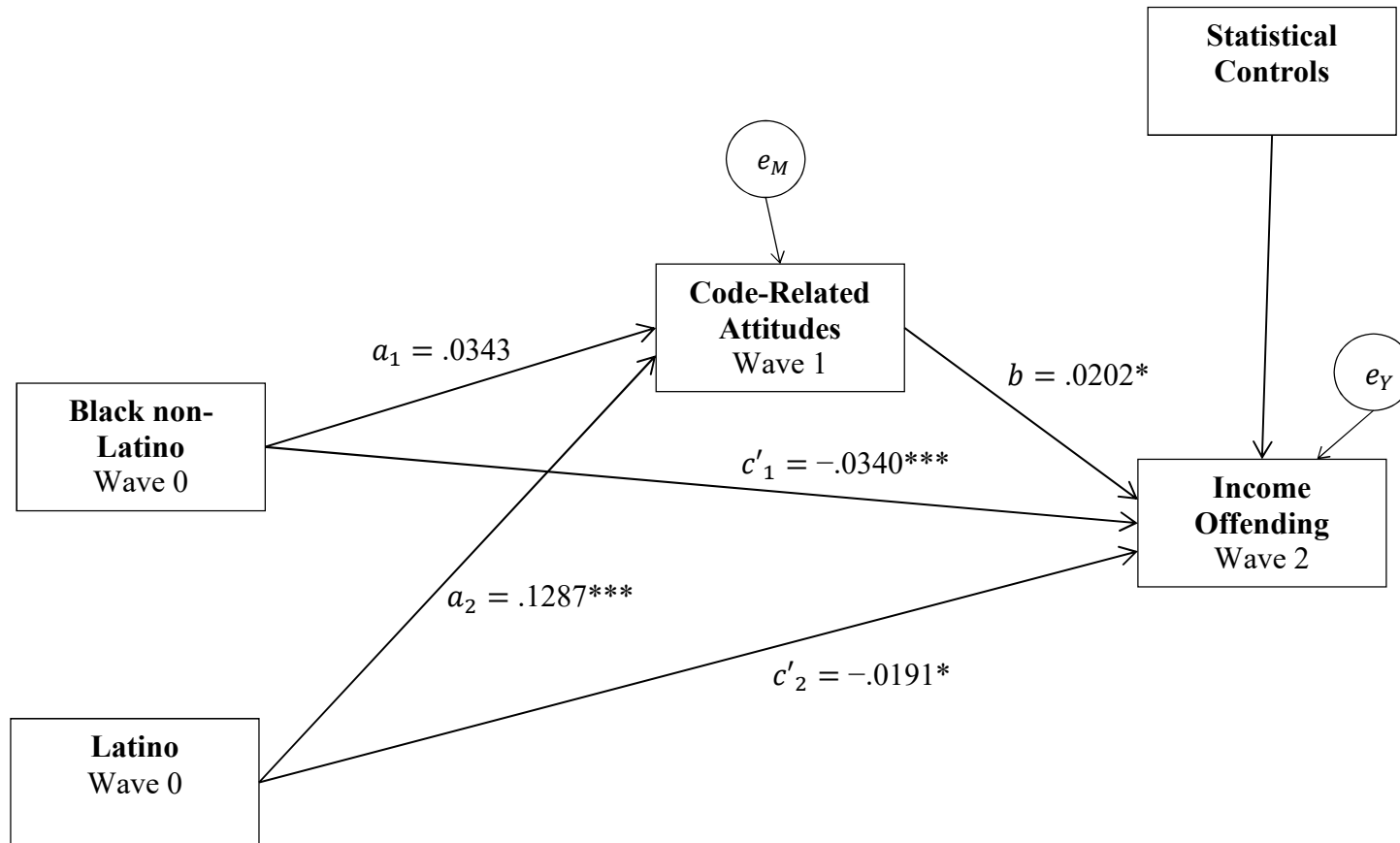
## APPENDIX C

**Figure 10. Path Coefficients for the Model linking Race/Ethnicity, Code-Related Attitudes and Aggressive Offending, (GSEM Results)**



Note: Path coefficients significant at  $^{**}p < .01$ ;  $^{***}p < .001$ . Statistical controls are: Wave 0: Aggressive offending, income offending, sex, age, SES, neighborhood conditions; Wave 2: gang membership, peer delinquency, exposure to violence

**Figure 11. Path Coefficients for the Model linking Race/Ethnicity, Code-Related Attitudes and Income Offending (GSEM Results)**



Note: Path coefficients significant at  $*p < .05$ ;  $***p < .001$ . Statistical controls are: Wave 0: Aggressive offending, income offending, sex, age, SES, neighborhood conditions; Wave 2: gang membership, peer delinquency, exposure to violence