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## **The Effects of Family Structure Stability and Parenting Practices on Juvenile Delinquency: Variations by Immigrant Generational Status and Race/Ethnicity**

Lanmeng Ma

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THE UNIVERSITY OF NEW HAVEN

THE EFFECTS OF FAMILY STRUCTURE STABILITY AND PARENTING  
PRACTICES ON JUVENILE DELINQUENCY: VARIATIONS BY  
IMMIGRANT GENERATIONAL STATUS AND RACE/ETHNICITY

A DISSERTATION

Submitted in partial fulfillment

of the requirements for the degree of

DOCTOR OF PHILOSOPHY IN CRIMINAL JUSTICE

BY

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University of New Haven

West Haven, Connecticut

September 2021

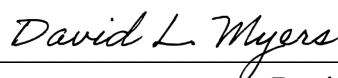
THE EFFECTS OF FAMILY STRUCTURE STABILITY AND PARENTING PRACTICES  
ON JUVENILE DELINQUENCY: VARIATIONS BY IMMIGRANT GENERATIONAL  
STATUS AND RACE/ETHNICITY

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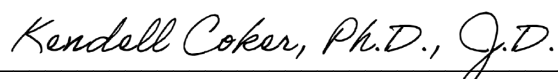
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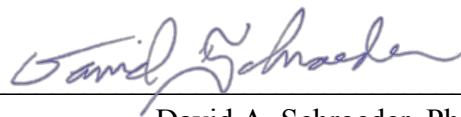
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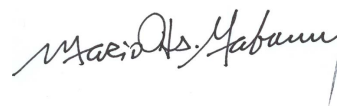
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## ABSTRACT

While the important role of various psychosocial factors in the development of criminality has long been acknowledged, many researchers, criminologists and criminal justice professionals firmly believe that family is specifically at the core. The purpose of this dissertation is to examine the relationships among family structure stability, parenting practice dimensions, and concurrent/subsequent delinquent behaviors, both theoretically and empirically. This study investigates how immigrant generational status and racial/ethnic disparities modulate associations between the stability of family structure, aspects of parenting practices, and adolescent delinquency, using a nationally representative sample from the National Longitudinal Study of Adolescent to Adult Health (Add Health). Findings of this study are consistent with social control theories' predictions that show the protective effects of stable family, intact family structure, and effective parental control on deviant behaviors. Compared to family formation, family dissolution seems to have a lighter impact on youths. High parental warmth consistently protects youths from unwanted behaviors over time, while extreme high levels of direct parental supervision may lead to a "backfiring" effect that relates to later deviant activities in young adulthood. This dissertation does not find as much support for social control theories when testing deviant behaviors among immigrant generational groups. Although first-generation youths report lower parental warmth and lower family socioeconomic status, they are less likely to engage in delinquency and less likely to report substance use than the youths of later

generations. The details of the present study's data and methods, its importance for research and policy, and its limitations are described and discussed.

**Keywords:** Family structure stability, parental warmth, parental supervision, grandparent co-residence, social control theories, immigrant generational status, racial/ethnic disparities, substance use, juvenile delinquency, young adult criminality

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## **CHAPTER I: INTRODUCTION**

Crime is a complex phenomenon that exists in every society. Besides personal damage to citizens, social costs of crime are considerable (McLaughlin et al., 2016). Increasing attention on severe youth violence and delinquency has led to a surge of research to ascertain which risk and prevention factors in adolescents may influence such developmental pathways (Heinrichs, et al., 2005). While the important role of various psychosocial and environmental factors in the development of criminality has long been acknowledged, many researchers, criminologists and criminal justice professionals firmly believe that family is at the core, especially in the early stages of youth (Bernard et al., 2010; Boshier, 2011; Gottfredson & Hirschi, 1990; Hirschi, 1969; Kubrin et al., 2009).

Non-marital childbearing, “broken home”, poor parenting, family stress, conflict, poverty, insufficient maternal support and many other family-related risk factors have been shown to be strongly associated with children’s deviant behavior (Heinrichs, 2006; Hoeve et al., 2009; Moran & Ghatge, 2005). Particularly, Hoeve and colleagues (2009) have found that parenting practice dimensions have significant links to delinquency. Although parenting practices accounted for only about 11% of the variance in child antisocial behavior, it cannot be considered a small percentage in a complex social behavioral phenomenon, which has an inherently large amount of unexplained variation.

To better understand and prevent delinquency and crime, it is necessary to learn how family and parents shape children's developmental outcomes like juvenile delinquency and later adult criminality. Thus, this study uses both theoretical and empirical analysis to approach this question. The primary goal of this study is to simultaneously assess the effect of two dimensions of social control – family structure stability and parenting practices – on the concurrent adolescent delinquency and a later young adult criminality across immigrant generations and different races/ethnicities, while controlling for participants' age, gender, family socioeconomic status, and prior (early-onset) delinquency and violent victimization.

### **Statement of the Problem**

Over the past few decades, the patterns of the U.S. family structure have varied significantly. In 1960, there were more than 87% of all youth (those under 18) living in two-parent households. This figure has decreased to less than 69% in 2016 (U.S. Census Bureau, 2017). According to the U.S. Census Bureau data (2020), most children who live in single-parent households live with their mothers. The proportion of children living with their mothers in single-parent households grew from 8% of the juvenile population in 1960 to 21% in 2020. In 1970, the mothers of 7% of the children living in single-mother households had never been married; this proportion grew to 50.4% in 2020.

Marriage rates have been consistently dropping, while more people now choose cohabitation instead. In 2018, there were 8.5 million cohabitating opposite-sex couples living together (U.S. Census Bureau, 2018). Among people aged 25 to 34, 15% lived with an unmarried partner in 2018, increased from 12% in 2008. Among U.S. young adults aged 18 to 24, cohabitation is more prevalent than living with a married spouse. Nine percent of these young adults lived with an unmarried partner compared to 7% who lived with a spouse in 2018 (U.S. Census Bureau, 2018). On the other hand, a CDC's National Center for Health Statistics report indicated that unmarried cohabitations overall are less stable than marriages: the probability of a first marriage ending in separation or divorce within ten years is 33%, compared with 62% for cohabitations (Bramlett & Mosher, 2002). At the same time, compared to births in the early 1980s, the share of births to unmarried mothers in the mid-2000s had more than doubled from 21% to 43%. Births to cohabiting mothers have more quadrupled; from 6% to 26% between 1980 to 2014 (Wu, 2017). That is, nowadays, children are less likely to live in a married-intact family and more likely to be exposed to family transitions and "broken homes" (Definitions of "intact family" and "broken homes" are presented in the Appendix).

In addition to the social impact of families and youth's living arrangements, it is also essential to understand the role of one of the fastest growing segments of American society, the children of immigrants, and their involvement in delinquency. According to U.S. Census data, every one in four children under 18 have at least one foreign-born parent (U.S. Census Bureau,



2010). During the past few decades, the foreign-born percentage of total population for the United States has increased dramatically: from the lowest point of 4.7% in 1970 to 13.4% in 2017 (U.S. Census Bureau, 2010, 2019a), and the foreign-born population is still growing (U.S. Census Bureau, 2019a). The debates over immigrants are a long-standing social/political issue often presented with conflicting information. With the increasing share of immigrant population, “criminal” immigrants became one of the most heated political debates (Peguro, 2011). The Bureau of Justice Statistics (BJS) reported that in 2019, there were 97, 897 non-U.S. citizens incarcerated; more than 18% of federal prisoners (31,500 of 174,400) were non-U.S. citizens (Carson, 2020).

Thus, the Trump administration’s many immigration policies have relied on claims that illegal immigrants bring “tremendous crime” and drugs into America (Adelman et al., 2018; Adelman et al., 2017; Salvador, 2017). In addition, as of 2017, almost half (45%) of Americans agreed that immigrants make crime worse in the country (Gallup Polls, 2017). On the other hand, recent empirical studies found the opposite, that the rising immigrant population links to the falling in crime, especially violent crime (Adelman et al., 2017; Light et al., 2020; MacDonald et al., 2013; Ousey & Kubrin, 2009). Also, at the individual level, studies generally indicated that foreign-born people are less likely to engage in criminal activities than native-born Americans (Bersani, 2014; Bui, 2009; Peguro, 2011). The influence of foreign cultures on parenting and

the selective effect of immigrant policies on family composition could both be contributing factors in shaping youth behaviors and well-being in immigrant families.

Racial/ethnic disparities in the justice-involved population are also one of the major concerns in criminal justice systems from law enforcement to courts and corrections. Thus, race and ethnicity are commonly considered while analyzing youth behavioral outcomes. Looking at the demographic composition, there are about 43,646,370 African Americans in the U.S., which comprises 13.4% of the U.S. population (U.S. Census Bureau, 2017). However, according to the BJS latest report on National Prisoner Statistics, Black or African Americans disproportionately represented 40% of all sentenced prisoners in the U.S. in 2016. Besides, for the highest Black-to-White racial disparity age group, age 18 to 19, Black males were 11.8 times more likely to be incarcerated than White males (Carson, 2018). Young Black males are also disproportionately represented among those arrested, as evidenced by their threefold increased arrest rate per capita for possession of marijuana, according to the data over the past two decades (Nguyen & Reuter, 2012).

In addition to the persons in custody, their children are also affected considerably. Approximately 1 in 9 African American children, 1 in 28 Hispanic children, and 1 in 57 White children have an incarcerated parent in the United States (Adalist-Estrin, 2014). In 2018, nearly 50% of Black children under 18 lived with their mother only; this percentage is 25% for Hispanic youth and 17% for White youth (U.S. Census Bureau, 2019b). Therefore, it is also

critical to clarify the racial/ethnic impact on relationships between family structure, parenting practices, and delinquency.

Changes in family composition, increases in the population of immigrants, and the severe racial/ethnic disparity in the prison population have generated considerable public concerns, especially about the effects of these changes on the development of children's behavioral outcomes and well-being (Parke, 2003). In the meantime, high profile violent incidents often shape public perceptions of juvenile offending. Youths seem to be more aggressive and appear more like serious offenders under the current policies. On the other hand, some people may argue that although family structure instability is more common over time, this phenomenon possibly does not do any harm to our youths. Juveniles only commit a small portion of the nation's crime. In 2015, about 14 percent of serious violent crimes were committed by juvenile offenders (OJJDP, 2017a).

In addition, juvenile arrest rates have been coming down for many years. The arrest rate of juveniles for all offenses declined 70% from its highest level in 1996 to 2016 (OJJDP, 2017b). Of the juvenile population (age 10-17) of more than 33 million (Puzzanchera et al., 2017), law enforcement agencies in the U.S. made an estimated 921,580 arrests of juveniles in 2015, 56% less than the arrests in 2006 (OJJDP, 2017c). Although about 884,900 of those cases went to court, between 2006 and 2015, case rates decreased 49% for property offense cases, 48% for public order offenses, 40% for person offenses, and 38% for drug law violations (OJJDP, 2018).

The interpretation of these official statistics could be that juveniles today are simply less likely to violate laws than the youths from ten years ago.

Regarding the causes of the delinquency reduction, experts frequently debate the reasons that account for the fall in delinquency. One explanation is that there is an increasing attention being paid to child well-being development before a youth ends up in the justice system. Besides, extremely high costs of each stage of the juvenile justice system operations have led many states to close juvenile detention facilities and to consider alternatives to traditionally punitive responses to delinquency. For instance, the State of Connecticut has implemented many juvenile diversion-related laws in 2015, including the order to close the Connecticut Juvenile Training School in 2018 (CGA: PA 16-147) and removal of all types of status offenses from juvenile court jurisdiction by July 1, 2019 (PA 17-2).

Another possible reason for the decline in juvenile arrests is the underrepresentation of official records on juvenile delinquent behaviors. Many juveniles who commit delinquent acts (even serious crimes) never enter the juvenile justice system (Morgan & Kena, 2017). Children who engage in minor delinquency, such as status offenses, are often referred to their parents and schools by police officers directly, without making arrests. For example, existing data sources provide mixed results regarding youth drug use. On the one hand, the arrest rates for juvenile drug abuse violations recorded by police have declined since the 1997 peak to 2012 (OJJDP, 2014). On the other hand, national self-report studies find that illicit drug use by 8<sup>th</sup>, 10<sup>th</sup>, and

12<sup>th</sup>-grade students increased from 2006 until 2013, approaching the high levels of the late 1990s (Johnston et al., 2017). If juvenile drug use is actually on the rise, the declining juvenile arrest rates for drug crimes may result from the increase in the social tolerance of such behavior and an unwillingness to bring these children into the juvenile justice system for intervention or punishment by the authorities.

In fact, youth violence and drug use are still one of the essential public concerns, despite the police-reported decreases in both violent and drug-related offenses since the 1990s (OJJDP, 2014, 2017a). A 2018 report from the Centers for Disease Control and Prevention's Youth Risk Behavior Survey (YRBS) monitoring health risk behaviors among the 9<sup>th</sup>-to-12<sup>th</sup> graders in the United States outlines self-reported school crime that was prevalent in 2017 (Kann et al., 2018). According to the report, nearly 1 in 4 high school students was in fights, and 1 in 17 was threatened or injured with a weapon on school property; 1 in 5 had used marijuana during 30 days before the survey.

The National Crime Victimization Survey conducted by the Bureau of Justice Statistics released its latest findings in 2018. In the long run, the rate of violent victimization declined significantly (74%) from 1993 to 2017. But the recent report indicated an increase in nonfatal violent victimization from 2015 to 2017, especially for the juvenile group aged 12 to 17 (Morgan & Truman, 2018). Victims (age 12 or older) of violent crime rose 9% from 2015 to 2016 and 17% from 2015 to 2017. The rate of violent victimization of people aged 12 to 17 increased from

25.1 to 33.5 per 1,000 between the years of 2016 and 2017. The serious violent victimization rate rose from 5.9 in 2016 to 10.4 in 2017. Both increases in juvenile violence rates are significant at the 90% and 95% confidence levels (Morgan & Truman, 2018).

Consequently, developing a portrait of juvenile delinquency from police records provides only a partial image, since only a small proportion of crime/delinquency was reported. It is crucial for the public, the media, officials, and juvenile justice professionals to have an accurate view of juvenile delinquency, the proportion and characteristics of youth involved in antisocial behaviors, and the risk and protective factors of such deviant behaviors. Therefore, it is important for researchers to ask not only why arrests for delinquency have fallen, but also what are the risk factors which cause juvenile delinquency and violence in the first place. These questions are critical to answer with regard to policy and practice implications, to help develop better programs to prevent and intervene in delinquency.

Although delinquency has various incentives, and there are theories focused on motivations and resistance for delinquency, this present study turns to family as a fate that nobody can avoid. Parents or guardians play a central role in child rearing and the process of child maturation. Beginning with the child's birth, parental figures are responsible for his/her physical and emotional care, day-to-day activities, performance in school, and almost all things a child may face in his/her early ages. Thus, this dissertation focuses on the protective and adverse

impacts of parental factors on children's behavioral outcomes across immigrant generations and races/ethnicities.

## **Research Questions**

The current study comprehensively evaluates the effects of two family-related factors, family structure stability and parenting practices, on the concurrent delinquency and subsequent criminality in young adulthood, while taking into account immigrant generational status and racial/ethnic disparities. This study will assess these effects through the analysis of the study of Adolescent to Adult Health (Add Health) interview data on a nationally representative sample of 4834 high school students by answering the following research questions:

1. Does the family structure and its stability impact the concurrent and subsequent youth delinquent activities (property and violent), substance use, and police contact and arrest throughout young adulthood? Do the relationships among these variables differ based on age, gender and race/ethnicity? Does the early age of onset of delinquent behaviors, violence exposure/victimization, and the family socioeconomic status affect these relationships?
2. Do parenting practices shape adolescents' short-term and long-term delinquent behaviors? Is the indirect parental control (parental warmth/attachment) a more important predictor than the direct parental control? Do the relationships among these variables differ based on youth's age, gender, and race/ethnicity? Does the stability of family structure, the early onset

of delinquency, and the family socioeconomic status affect these relationships?

3. How does immigrant generational status along with family structure stability impact adolescent delinquency, substance use, and police contact and arrests in young adulthood? Do relationships among these variables differ by age, gender, and race/ethnicity? Do parenting practices, early delinquency, violence exposure/victimization, and family socioeconomic status modify these relationships?

The following review of literature includes both theoretical frameworks (Chapter II) and empirical studies (Chapter III). The literature review discusses Nye's and Hirschi's social control theories and the previous research findings on the relationships between family structure and youth behavioral development, as well as the effects of parenting dimensions on the deviant behavior of youth. More importantly, the gaps in the existing research are also identified.



## CHAPTER II: THEORETICAL FRAMEWORK

With decreasing marriage rates and high levels of divorce, children currently face increasing challenges brought about by these social changes (CDC, 2017). Effects of family transitions, lack of father or mother figure, and family conflicts on adolescent delinquency could be of critical importance to influence youth well-being. From the control theories' prospective, instead of asking why people commit crime, we should ask why people don't get involved in criminal activities. The theorists assume that criminal motivation exists in everyone. The critical factor in crime causation might be therefore the absence of control, both external and internal. That is, in order to build a safer society, delinquency impulses need to be controlled for either internally, externally, or both. While examining juvenile delinquency, social control theories have put much weight on the family-related factors, especially on family structure and parenting practices.

Nye's (1958) and Hirschi's (1969) social control theories differ in detail but agree that the relevant structural and processual dimensions of families may facilitate social control and eventually account for observed differences in youth delinquent activities. The following reviews the theoretical literature of Nye's and Hirschi's theories on the relationships among family structure, family instability, parenting practice, and juvenile delinquency.

**Nye (1958)**

In 1958, F. Ivan Nye published *Family Relationships and Delinquent Behavior*, which studied a sample of high school students in Washington state and their delinquent behaviors. Unlike many other research studies at that time that were using official records, Nye used youth self-reports and found that delinquency was commonly carried out by most adolescents for reasons like convenience or fun. Nye believed that delinquent behavior was facilitated by the lack of social control or ineffective social control. Nye's social control theory (1958) stated his version of the control process, which included direct controls, indirect controls, internalized controls and opportunity controls.

As Nye's particular focus was on the family, he believed that "the family is considered to be the single factor most important in exercising control over adolescents" (Nye, 1958, p. 8). Nye further indicated that parents can influence their children's behavioral development in certain ways through different controls. First, the direct control of behavior works through parental restriction and supervision, punishment for youth misconduct, and rewarded compliance. Second, internalized control creates rules and norms in a child's conscience and is often formed through socialization and education. The third, indirect control works through the amount of affective attachment and emotional investments the child has with his/her parents. It helps youth to abstain from delinquent activities because such acts might cause pain and disappointment to their close family. Finally, Nye identified opportunity control as availability of

need satisfaction. Although there is variety of people's needs and aspirations, meeting satisfaction inside a family is one of the essentials to prepare youth and guide youth to achieve needs and goals outside the family. All types of controls are expected to be provided from the close family, especially youth's parents. Therefore, a missing father/mother figure and poor parenting practices are very likely to produce insufficient level of control over youth behavior, which would form a hotbed of criminality.

### ***Effects of Family Structure***

While family is the key social unit which promotes social control, Nye argued that family structure does not exert a direct effect on adolescent delinquency, but rather an indirect effect through the social controls stemming from family components. "The actual attitudes and relationships affecting [social] control are considered the crucial factors, but these are found more concentrated in families with certain structures than others" (Nye, 1958, p. 34). Indeed, Nye believed that children from single-parent homes would exhibit higher levels of misconduct, which results primarily from a lack of direct parental control and decreased parental attachment. The evidence was found in many studies that, compared to youth from intact families, growing up in a single-parent family is associated with negative child development outcomes, such as juvenile delinquency, adult convictions, and a lower quality of life in adulthood (Demuth & Brown, 2004; Henry et al., 1996; Mitchell et al., 2015).

### *Effects of Family Instability*

In addition, Nye pointed out that compared to family structure, family conflicts are significantly and positively related to juvenile delinquency. Nye also indicated that the interactional side of relationships between parent and child greatly moderates the direct parental control. When children felt respect and attachment towards their parents, direct parental control appears to be more effective, and these youths are less likely to engage in deviance. Therefore, Nye may argue that family stability is a stronger measure of the impact of “broken homes”, compared to the static family structure measure, since family instability will account for a certain level of family conflicts.

The impact of family transitions, such as divorce, separation, and remarriage, on youth derives from the fact that family structure change involves physical and psychological dissolutions or formation of the family unit. Consequently, children who experience family structure changes typically experience lost or limited contact with the non-custodial parent, conflicts with the newly joining family members, in addition to sometimes acute emotional distress (Cooper et al., 2009; Jones, 1992). For that reason, family stability may be a stronger measure than family structure when examining youth behavioral outcomes.

Manning and Bulanda (2007) found that the negative effect of living in a cohabiting parent family is related to family stability. Their study demonstrated that youth, who live in a

stable cohabiting intact family, face similar odds of being suspended or expelled from school compared to children who live in a married intact family. At the same time, Juby and Farrington (2001) found that delinquency rates of boys who were not with their mother were very high. Boys living with their fathers were more than three times at risk of juvenile conviction or self-reported deviant behavior than those who were living with their mothers. The absence of the mother often led to family instability and changing living situations, such as living with relatives and in foster homes. Besides the current type of family structure, the stability of family is also significant if not more important to adolescent development.

### ***Effects of Parenting Practice***

Many studies particularly support the critical influence of parenting practices, rather than family structure, on youth development outcomes (Kierkus & Baer, 2002). Demuth and Brown (2004) found that although delinquency levels are lowest among youths who are residing in intact families, parental absence is not a significant predictor of deviant behaviors while controlling for differences in parenting practices and individual's characteristics.

In Phillips' study (2012), he showed that higher family satisfaction and lower negative emotions were associated with better outcomes in self-esteem and delinquent attitudes. On the other hand, these family climate variables do not vary significantly by family structures. In a similar vein, Barfield-Cottledge (2015) revealed that family attachment is a more significant

predictor of adolescent alcohol and marijuana use, compared with the family structure. These studies suggest that family structure may not be the cause of juvenile engagement in delinquency, or it may only have an indirect influence on adolescents. Besides, Demuth and Brown (2004) further indicated that, compared to married intact families, the levels of parental involvement, monitoring, and attachment are lower on average in single-parent families. Also, parenting practice scores (reflecting the quality of parenting) are all negatively associated with deviance, revealing that family structure facilitates direct and indirect parental controls that eventually inhibit adolescent delinquency.

Nye also examined the generosity with money to children and discovered a U-shaped relationship with delinquency. Youth who receive very little or very much money from their parents or jobs were both more likely to engage in delinquent behavior than those who have moderately generous parents. This is supported by a recent study by Harris-McKoy (2016), indicating that although direct parental control is a necessary supplement to preventing delinquency, it can be too pervasive and restrictive, which would actually increase delinquent behavior. That is, too much or too little parental control is associated with greater levels of deviance. Parental control likely also follows a U-shaped curvilinear relationship with adolescent delinquent behaviors.

Overall, studies supporting Nye's theoretical point of view would suggest that juveniles who experience low levels of parental control and/or low child-parent attachment are more likely

to behave delinquently, and poor parenting practices are often associated with “broken homes”.

Intact family structure facilitates strong parental control and close parent-child attachment that prevents delinquency. Thus, family structure is likely to have an indirect influence on delinquent behavior through parenting practices.

### **Hirschi (1969)**

Hirschi's social bond theory (1969) suggests that a strong bond to conventional social institutions offers protection against deviant behaviors. Unlike Nye's four types of control, the social bond Hirschi refers to includes four elements: attachment to others, commitment to conventional goals, involvement in conventional activities, and belief in the rules of society.

Hirschi (1969) tested his hypothesis that the weaker an individual's attachment, commitment, involvement, and belief, the more likely such youth is to commit delinquency. He drew a sample from the Richmond Youth Project, which included 17,500 students entering the public high schools in a metropolitan area in Oakland, San Francisco. Hirschi also indicated that attachment, commitment, involvement, and belief would be positively associated with one another.

Although attachment does not stand alone from other components of social bonds, and attachments to school and peers are also critical to youth, attachment to parents is the most obvious form of social control, especially in the earlier childhood years. Perhaps, it is also the

most logical explanation of delinquency. If a relationship between a child and his/her parent is close, the youth will tend not to do things that may displease or disappoint his/her parents. The concern for such child-parent relationships often prevents children from committing delinquency. Specifically, Hirschi argues that the bond of attachment, which is similar to Nye's (1958) indirect parental control, works through the parent's psychological presence in the mind of the child, the communication between the parent and child, and the emotional connection of the child to the parents. This child-parent bond is likely the most important family-related factor in preventing delinquency regardless of social class position.

In line with social control theories, parenting practices are at the core of preventing children from engaging in delinquent acts. Direct and indirect parental controls are very likely to shape adolescents' behavior (Agnew, 2006; Barnes et al., 2006; Mckee, 2012; Klevens & Hall, 2014; Nilsson, 2017; Schroeder et al., 2010; Spano et al., 2012; Wu & Chao, 2005).

### ***Effects of Indirect Parental Control***

From both Nye's and Hirschi's points of view, social control is most effective in preventing delinquency when child-parent respect and attachment are mutual. According to Hirschi, indirect parental control – attachment/warmth – should have a stronger effect than direct control on delinquency. Hirschi stated that the child attached to the parents may be less likely to engage in situations where delinquency is possible, simply because he/she spends more time with



the parents and is under direct parental control. However, opportunities for delinquency are plentiful, and delinquency only takes very little time; the direct parental control would likely have only minor protective effects on youth deviance. Therefore, Hirschi did not include direct parental control as an important component in his social bond theory. Instead, he believed that the more important consideration is whether the parents are psychologically present, through parental attachment, in the child's mind when the child confronts delinquent opportunities (Hirschi, 1969).

The evidence was found supportive of social control frameworks in later studies. Gault-Sherman (2012) found a significant effect of parental attachment on both violent and property delinquency and substance use, but there was not a significant influence of parental monitoring (direct control) on any type of delinquency. Yun and colleagues (2016) indicated both direct and indirect impacts of parental warmth on youths' delinquent behaviors overtime in a Korean sample (Yun et al., 2016). Hoeve and colleagues (2012) conducted a meta-analysis studying relationships between parenting practice variables and delinquency using 74 published and unpublished manuscripts. Their analysis revealed that poor child-parent attachment was significantly associated with higher levels of delinquency for both boys and girls. Although they also found significant associations between most parenting variables and delinquency, these results are inconsistent among studies. Therefore, child-parent bond could be the center issue for consideration of early intervention to reduce or prevent delinquent behavior in juveniles.

### ***Attachment to Unconventional Parents***

However, attachment to unconventional parents appears uncertain in terms of preventing delinquency (Definition of “unconventional parents” is presented in the Appendix). According to the BJS estimates, 2.3% of U.S. children (under the age of 18) had a parent in a state or federal prison in 2007 (Glaze & Maruschak, 2008). In addition, research consistently shows that crime runs in the family. Having a convicted father, mother, brother, and sister are all independently significant predictors of a boy’s own convictions (Farrington et al., 1996). That is, criminal parents tend to have delinquent children (Agnew, 2001; Eitle, 2006; Farrington, 2010). There are many suggested explanations for why offending tends to be concentrated in certain types of families. From a learning perspective, theorists believe that criminal behavior is learned. Sutherland (1947) posited that criminal behavior is learned in interaction with other people in a process of communication, primarily within intimate personal groups, such as friends and family. Also, according to strain or other subcultural theories, the values of many parents, largely in the lower class, are to some degree conducive to criminality. When adopting this angle, we could argue that alienation from unconventional parents seems to be a way to prevent delinquency, while being closely attached to criminal parents would increase deviant behavior.

However, from a biological/etiologiical point of view, many researchers argued that criminals were physically and genetically inferior to non-criminals (Frisell et al., 2011; Lombroso, 1876; Tielbeek et al., 2017). In 1972, Wolfgang and his colleagues revealed a strong

relationship between IQ and delinquency, independent of class and race. In this case, biological or genetic components might be the primary cause of delinquency. Environmental factors, such as family structure and parenting practice, might have little influence on youth delinquent behaviors outside the genetic transmission route. Frisell and colleagues (2011) used a sample of all convictions for violent crime in Sweden from 1973 to 2004 and compared rates of violent convictions among their relatives. The study results indicated a strong familial aggregation of interpersonal violent behavior among first-degree relatives. That is, children, parents, and full siblings who live in the same family had higher a likelihood of both having violent criminal convictions.

Biosocial theories also assume that different factors, such as biological, psychological and social factors, may have different and independent effects on youth. Terrie E. Moffitt (1993) separated antisocial behaviors in Adolescence-Limited and Life-Course-Persistent categories. Moffitt believed that the majority, Adolescence-Limited youth, learn deviant behavior through mimicking, but around 5 percent of youth, the Life-Course-Persistent offenders, have physical anomalies in neural development, which leads to poor verbal and executive functioning that is related to childhood emergence of deviant behavior. Moffitt suggested that the basis of the problematic behaviors may be genetically determined or encouraged by environmental factors, such as inconsistent parenting and poverty.

To address the concern about unconventional parents and delinquency relationship, Hirschi adopted father's occupation as a measure of social class status and found that, just as boys from higher-class families, boys strongly attached to lower-class fathers are less likely to be delinquent than boys weakly attached to their lower-class fathers. Although father's occupation may not be representative of parental criminality or parents' attitudes towards law violation, socioeconomic status (SES) based on deviant-subculture theories explained many parents' cultural values to some extent. An early literature review by Braithwaite (1981) has addressed the relationship between social class and criminality and the associated contradictions in the literature. Braithwaite indicated that most studies using official records of crime and delinquency showed lower class juveniles and adults to have disproportionately higher offense rates. At the same time, among self-report studies, the findings were mixed. Twenty-two out of 47 self-report studies failed to uncover a significant difference between social classes in criminality.

Also consistent with Hirschi's findings, Larzelere and Patterson (1990) revealed that the effect of socioeconomic status (measured by parents' educational level and their occupational prestige) on delinquency (used both official and self-report data) in 13-year-old boys was moderated significantly by parental supervision and discipline. Another recent study by Bellair and colleagues (2021) found that, although parenting practices had a mediating effect, economic hardship was associated with youth externalizing behavioral outcomes. Therefore, regardless of socioeconomic status, effective parenting is likely to play a protective role in preventing

delinquency. However, it is worthy of exploring how much influence parenting practices have on juvenile delinquency while accounting for the effect of SES.

On the other hand, the findings on the relationship between unconventional parents and their offsprings' behavioral development are often inconsistent, especially using parents' criminal records as a measure of parental criminality. Studies showed that heredity can be responsible for the intergenerational transmission of delinquency/violence. Farrington and his colleagues studied 1395 Pittsburgh boys and found that arrests of family relatives, especially arrests of the father, predicted the boy's delinquency (Farrington et al., 2001). Hutchings and colleagues (1984) examined nonfamily adoptions and found that siblings adopted in different homes tended to be concordant for convictions, especially when their biological father had a criminal record. In Walters's 1992 meta-analysis of 38 family, twin, and adoption studies, the findings showed, on average, that these studies found evidence of a hereditary basis of criminality (Walter, 1992). Hjalmarsson and Lindquist (2013) used Swedish adoption data with police register data to test parent-son relations in criminality. They indicated that both biological and adoptive parents are important. Adoptive parents, especially an adoptive mother, appear to be more influential than biological ones. The study also found that adoptive parental education may mitigate the negative impact of biological parents' criminality (Hjalmarsson & Lindquist, 2013).

If biological predispositions are the determination in delinquent or violent behaviors of youth, then parents can do little to prevent the child's delinquent behavior. However, biological and psychological theories are part of a "multiple factor" approach to criminal behavior. The presence of certain biological factors is said to increase the likelihood, but not to determine absolutely, that an individual will engage in criminal behavior. Thus, it becomes more important to carefully and adequately control the impact of social environmental factors, such as ineffective parenting, which according to Moffitt may be associated with or encourage delinquency.

To summarize, Hirschi's social bond theory posited that children are less likely to be delinquent to the extent that they are bonded to conventional parents, who hold values less conducive to criminality and who may not contain "criminal" genetic traits. On the other hand, children who have a close relationship with unconventional parents, as Hirschi tested using father's social class, would be better off when compared to those who are alienated from unconventional parents and thus may lack a crucial social bond (Hirschi, 1969, 2001).

### ***Attachment to Delinquent Peers***

Besides the concern about unconventional parents, studies found that attachment to delinquent peers is often linked to higher levels of delinquency, including Hirschi's study in 1969 (Barnes et al., 2006; Haynie & Osgood, 2005; Ingoldsby et al., 2006; Trucco et al., 2011). In addition, studies revealed that, in general, parental monitoring and attachment weakened over

time for all adolescents (Schroeder et al., 2010; Spano et al., 2012). That is, as youths grow up, they tend to be more independent and autonomous from their originated families.

Looking at the transition of a youth from adolescence to young adulthood, Hirschi further indicated that “boys with a large stake in conformity are unlikely to have delinquent friends, and even when a boy with a large stake in conformity does have delinquency friends, the chance he will commit delinquent acts is relatively low” (Hirschi, 2001, p. 159). That is, children attached to their parents are less likely to have delinquent friends; friends with unconventional attitudes are less likely to have a strong influence on these youths’ behaviors. This might also explain the negative relationship between child-parent attachment and delinquency, which was indicated in Hirschi’s study. The protective role of parents also was supported by some later studies (Trucco et al., 2011). Pardini and colleagues (2005) examined 481 adolescent boys and indicated that boys with a positive child-parent relationship were less likely to have deviant peer involvement. Increased family conflict predicted changes in beliefs about delinquency, and these increased tolerant beliefs were related to subsequent increased involvement with delinquent peers. Mrug and Windle (2009) used a sample of 500 children from the Birmingham Youth Violence Study and found that high parental warmth decreased the influence of peers on later antisocial behaviors. Delinquent peers predicted youth delinquency and substance use only when both initial levels of antisocial behavior and negative parenting were high.

Although evidence has shown that child-parent attachment prevented children from having delinquent friends, Hirschi found that, in an urban male sample, parent attachment is positively associated with peer attachment. The study also showed that adolescents, who have strong associations with delinquent friends, were less likely to commit delinquent behavior than those who have less intense associations with delinquent peers. Hirschi further argued that the more a child respects his/her friends, the less likely such child is to engage in delinquency even if the friends are unconventional. On the contrary, Hindelang (1973) replicated Hirschi's original 1969 study using a rural sample. The study found a virtual mirror image of Hirschi's findings of peer attachment. The results revealed that child-parent attachment is inversely related to child-peer attachment. Also, a positive relationship between peer attachment and delinquency involvement was revealed in the study. Hindelang suggested a need for more specific measurements of conventional and unconventional peer attachments. Overall, the relationship between attachment to unconventional friends and delinquency is ambiguous. We could use Hirschi's argument that the operative factor is peer delinquency; the attachment to friends is irrelevant to delinquent behaviors (Hirschi, 1969, p. 152). As indicated in Hirschi's social bond theory, the closer the child's relation with his parents, the more he is attached to and identifies with them, the lower his chances of having deviant friends and engaging in delinquency.



### ***Effects of Direct Parental Control***

On the other hand, direct parental control, though it was less emphasized by Hirschi and Nye, may play a protective role in reducing peer influence and preventing delinquency. According to Hirschi's idea of involvement in conventional activities, the importance of involvement is that if youth cannot occupy their leisure time in “meaningful ways” (Hirschi, 1969, p. 192), they are likely to engage in delinquency regardless of their attachment to parents or to peers. Of course, it is hard to define what activities are meaningful and what are less meaningful. But activities, approved by parents or under the direct parental control, should be considered as conventional in most cases. Just the opposite, if youths were left with much time to themselves, they are more susceptible to delinquent opportunities and, thus, are more likely to get involved in antisocial behaviors. This also reflected Hirschi idea that the operative factor of delinquency is peers' delinquent activities, not the attachment to friends.

Later studies have also found evidence to support this assumption. Haynie and Osgood (2005) used a nationally representative sample and found that, rather than attachment to friends, friends' greater delinquency level and more time spent in unstructured activities with friends led youth to higher rates of delinquency involvement. That is, no matter how close a child is attached to his/her friends, if parents could guide the child to more conventional friends or prevent the child from unstructured socializing with friends, such youth would be less likely to engage in delinquent behaviors.

Brauer and De Coster (2015) revealed similar findings that peer attachment was not associated with delinquency. Instead, high peer delinquency and low perceived peer disapproval of delinquency led to greater juvenile delinquency involvement. More importantly, when interactive effects were tested, they found that it is not so much that close friends disapprove but what they actually do that influences delinquency. Lareau (2002) looked into the types of youth activities and further clarified the differences between social classes. She tested activities organized by adults and informal activities for youth from different social classes. Although not all informal activities were non-meaningful activities, Lareau found that middle-class youth have more adult-organized activities than working or poor classes. That is, working-class and poor parents were more likely to leave leisure times to children themselves. Therefore, we could argue that the negative peer influence mainly comes through the increases in delinquent opportunities, and the delinquency variations in socioeconomic classes might be due to the differences in the levels of parental monitoring. Direct parental control seems to be an effective prevention that reduces the deviant opportunities and, therefore, protects adolescents from committing delinquency.

### ***Differences by Race/Ethnicity***

Additionally, Hirschi also took considerations of race and ethnicity in his analysis. Although Black participants were found to be more likely to have a higher rate of self-reported delinquency, more likely to have negative attitudes toward laws and police, and less likely to be

concerned about the consequences of law violation than White boys, these differences were small. After controlling for the effects of academic achievement, the differences between Black and White boys in delinquent activity were greatly reduced (Hirschi, 1969).

Later studies found supportive evidence for Hirschi's assumption. Although racial/ethnic disparities in delinquency involvement were discovered in many empirical studies, social/environmental factors often greatly moderated the impact of race/ethnicity. Peebles and Loeber (1994) revealed that African American youths reported more frequently and more seriously delinquent acts than White youths. But the delinquent behavior of Black youths was similar to that of White youths, when Black youths did not live in underclass neighborhoods. This study indicated that boys' hyperactivity and parental supervision were the strongest correlates of delinquency. A study done by Peguero and colleagues (2011) has also shown non-significant differences in school misbehavior among Black, Latino, and White Americans. Instead, students who are more attached and committed to school, and who are female, have two-parent families, and experienced increased parental involvement were less likely to engage in deviance. Matsueda and Heimer (1987) found that a "broken home" is more influential in producing delinquent behavior among Blacks than non-Blacks. This relationship suggested that Blacks who live in single-parent families experience the process of learning an excess of definitions favorable to delinquency, whether due to delinquent peers, disadvantaged neighborhood, and family stressors, and/or weakened or ineffective mechanisms of social

control. Therefore, as Hirschi concluded, the causes of delinquency are the same among Black and White boys; thus, there is no need to focus on Black boys to look for separate reasons for delinquency.

### **Theoretical Framework of Present Study**

Unlike Hirschi's social bonds to parents, to peers, to school, and to work, Nye specifically focused on the effects of family. However, both Nye and Hirschi expressed the importance of parental influence on youth behavior development. Following the logic of Nye's social control theory, the current study will test the relationships among family structure, family instability, parenting practice variables, and adolescent delinquency. Even though Hirschi did not specify the impact of family structure, children who experience family transitions typically deal with absence of the non-custodial parent or conflicts with the newly joining family members, which certainly interrupts existing child-parent bonds.

Nye stated in his study that family structure exerts an indirect effect through the social controls stemming from family components. Thus, this study will take parenting practices into consideration when examining the effects of family structure on youth deviance. In addition, as Nye suggested, the current study measures family structure dynamically by capturing the family composition changes between the two waves of a longitudinal study (Add Health), which stands as a proxy for family conflicts stemming from family instability. This measurement of the family

structure stability allows the current study to better assess the family's influence on youth behavior development.

Also, Nye indicated the power of direct and indirect parental controls, where the indirect control is similar to Hirschi's idea of child-parent attachment, which is believed to be a more influential protective factor than direct parental control. Hence, by classifying parenting practices into direct and indirect parental control, the current study will examine whether both types of parental control contribute to delinquency prevention, and whether indirect parental control (child-parent attachment) is a more influential protective factor against delinquency than direct control.

Furthermore, Hirschi believed that the causes of delinquency vary little regardless of race/ethnicity and social class. Moreover, in Nye's and Hirschi's work, the influence of foreign culture on family and delinquency were not addressed. With the radical increase in the immigrant population and the overwhelming racial disparity in the criminal justice system in the U.S., there is a great importance for this study to examine the roles of participants' race/ethnicity, socioeconomic status, and immigrant generational status in a family setting to better understand how parenting practices and family structure impact delinquency differently in various populations.

The following chapter focuses on empirical works of family and delinquency. The literature review examines the previous findings on the relationships between family structure and youth behavioral development, as well as the effects of parenting dimensions on the deviant behavior of youth. More importantly, the gaps in the existing research are also addressed in the next chapter.

### **CHAPTER III: REVIEW OF EMPIRICAL LITERATURE**

Nye's and Hirschi's control theories have provided the theoretical framework of the relationships between family structure, parenting practices, and juvenile delinquency. To summarize, efficient direct and indirect parental controls, which would be better provided in intact families, enhance the youth's healthy psychological, behavioral, and social development. Racial/ethnic and socioeconomic status variability in delinquency is expected to be mainly accounted for by the levels of parenting practice and family structures. The following review of existing research will examine the empirical testing of these assumptions about family-related factors, individual characteristics, and youth misbehaviors. Also, this chapter will focus on identifying the gaps in previous research, which would be addressed by this study.

#### **Stability of Family Structure**

Growing up in a happy and healthy family often protects children from psychological, social, and behavioral problems. However, family formation and dissolution are both common in our society (Furstenberg, 2014). Along with increasing rates of cohabitation, more than 40% of married couples end in divorce in the United States (CDC, 2017). Among all individuals aged 15 and over, 17% had married more than once (Lewis & Kreider, 2015). Thus, American children grow up in various types of family structure and might experience changes in family composition in their life course.

Although many previous empirical studies have examined the relationship between family structure, family stability, and delinquency, the results are inconsistent or insufficient. Consistent with Nye's control theory, studies using static family structure measurements often find that living in a two-biological-parent (intact) family results in the best child developmental outcomes, including better child well-being, fewer problematic behaviors, and better school engagement compared with other familial types (often referred to as "broken homes") (McKee, 2012; Apel & Kaukinen, 2008; Parks, 2013; Mitchell et al., 2015). For instance, living with a single parent, especially a father, increases the risk of delinquent behaviors in youth (Eitle, 2006; Farrington, 2010; Juby & Farrington, 2001; Demuth & Brown, 2004).

On the other hand, there are studies showing little or substantially reduced impact of family structure on youth's adverse development outcomes, especially when controlling for other variables, such as parenting practice, family stability, socioeconomic status (SES), and gender of the parent (Barfield-Cottledge, 2015; Phillips, 2012; Manning & Bulanda, 2007; Brown, 2004; Farrington, 2010). Manning and Bulanda's study (2007) points out the importance of family stability. Their study discovered that the variation in delinquency and poor school engagement between children from cohabiting and married intact families might be accounted for by family stability. The study indicated that children from stable cohabiting intact families did just as well in school as children in married intact families. Brown (2004) also found that SES moderates the association between family cohabitation and delinquency for younger youth (age 6-11).



Other than the types of family structure, family stability is also shown to be positively related to children's behavioral development (Petts, 2009; Manning & Bulanda, 2007). Some studies have found, however, that not all types of family structure change necessarily lead to adverse outcomes in youth. Family formation through marriage or cohabitation by parents is often found to be a predictor of juvenile antisocial behaviors, as shown by Manning & Bulanda (2007) and Apel & Kaukinen (2008), but Mitchell and colleagues (2015) demonstrated that biological father entrances in single-mother households were associated with lower youth antisocial behavior. Additionally, compared to the intact family structure, single-parent status is usually found to be a risk factor of juvenile delinquency. However, Schroeder and colleagues (2010b) revealed that family dissolution is not associated with increases in offending.

Family-related factors are always critical concepts for social scientists to examine in order to understand youth deviance. The reality is that people live in an interconnected and complex world that makes it hard to separate these concepts from other related events. Notwithstanding the previous scientific research and its achievements, there are still gaps and limitations in existing studies. First, many previous studies adopted a cross-sectional design, whereby family structure information was collected at a single point in time (Barrett & Tuner, 2006; Brown, 2004; Manning & Bulanda, 2007; Manning & Lamb, 2003; Mckee, 2012). This static measurement of family structure limits our understanding of the changing family climates, such as inconsistent parenting practice/parental discipline and increased family conflict. Studies

have found that these family climates often lead to unwanted youth behavioral outcomes. For example, inconsistent parenting/discipline has been related to both youth externalizing and internalizing problems (Benson et al., 2008; Halgunseth et al., 2013; Pardini et al., 2015).

Similarly, a meta-analysis conducted by Hoeve and colleagues (2009) has shown that inconsistent parental discipline is associated with delinquency, though it appears to be a weaker predictor than other family-related factors, like parental monitoring, rejection, and psychological control.

In addition to the adverse effect of inconsistent parenting and discipline, Ingoldsby and colleagues (2006) found that in early childhood, family conflict places children at risk for early-starting antisocial behavior trajectories. Pardini, Loeber, and Stouthamer-Loeber (2005) revealed that boys' delinquent peer associations were initially influenced by family conflict. Haas and colleagues (2004) suggested a link between "broken homes" and delinquency, but also indicated variables like family conflicts were masked by other problems in these households. Although the present study does not examine specifically family conflict, it models it by proxy. The measurement of family structure stability in the present study would be more dynamic using a longitudinal approach rather than the cross-sectional measures used in most previous studies. By measuring the changes in family composition overtime, this study is partially accounting for the changing family climate when testing its impacts on adolescent delinquent behaviors.

Most social science researchers would agree that measurement of variables is a very important and often a problematic issue of studying social phenomena. In people's lives, things are always changing and are usually intertwined with one another. Therefore, when we study the effects of family structure on delinquency, it is critical to understand how the stability of family structure influences youth. Thus, the present study also reconsiders the methods of measuring family stability.

Despite the fact that family stability is rarely tested by researchers who focus on the relationship between delinquency and family-related factors, the measurement of family stability in those studies that do include it is simple and unidirectional. For example, among the studies that have included a family stability measure, some use a dichotomously coded variable (Petts, 2009; McKee, 2012), while others count the number of family transitions (Fomby & Sennott, 2013; Krohn et al., 2009; Manning & Bulanda, 2007). Cavanagh and Huston (2008) have adopted cumulative family instability as well as four binary indicators for different time periods of family instability. Therefore, their study is unique in that it has accounted for the time effects in the relationship between family instability and delinquency. However, these measurements of family instability did not demonstrate the directions of the changes in family composition. It was assumed that all family structure changes had an equal impact on youth well-being, which might not be true in all cases (Mitchell et al., 2015; Schroeder et al., 2010).

Therefore, none of the previous family stability measures could discover enough details to identify whether the change had a positive or negative effect on youth's delinquent behavior. Also, in many cases, when family stability/transition was included as an independent variable, family structure would often be dropped from or simplified in analytic models (Fomby & Sennott, 2013; Henry et al., 1996; Krohn et al, 2009; Petts, 2009; Schroeder et al., 2010b). Thus, more precise and comprehensive measurement of family structure and its stability is needed and is adopted in this study.

Next, none of the previous studies identified the influence of reunion families, which is defined in this dissertation as "broken homes" reuniting into intact (two-biological-parent) families from one time point to the next. Even though there was not a large number of reunion families, remarriages surely cannot represent this type of family transition. Two relevant studies looked at family transitions. Schroeder and colleagues (2010b) discovered that a transition into a single-parent household is not associated with changes in offending or family functioning, but, instead, experiencing a family formation between waves of data is associated with significant increases in offending. Mitchell and colleagues (2015) further clarified that, among boys, biological father entrances are associated with lower antisocial behavior while social father entrances are associated with higher problematic behavior, compared to staying in a stable single-mother family (Definitions of "social father" is presented in the Appendix). Although there is only a limited number of reunion families, by including this family structure type as

distinct, the current study will provide a more valid understanding of family reunification on youth development.

Finally, studies have often found individual differences in children's responses to family transitions. Nye (1958) stated that the effectiveness of parental control might differ by the initial level of parent-child attachment. Along with many studies that only analyzed male or female samples (Henry et al., 1996; Hub et al., 2006; Krohn et al., 2009), there are studies that have shown the changing level and type of parental control given to boys and girls (Jo & Zhang, 2014).

Other studies have revealed the gender differences in youths' reactions to family transitions. Some studies have shown that boys turn out to have a stronger reaction to early family transitions and instability than girls do (Cavanagh & Huston, 2008; Krohn et al., 2009; Manning & Bulanda, 2007; Mitchell et al., 2015; Skolnick & Skolnick, 2014). More specifically, Cavanagh and Huston (2008) studied 1364 families and captured the timing of family instability: from birth to the end of kindergarten and from first grade to the end of fourth grade. They found that family instability is associated with greater changes in peer competency and externalizing behaviors among boys compared to girls. That is, in early childhood, boys who experienced greater family instability were perceived as less competent with peers and had more problematic behaviors.

On the other hand, when looking at adolescence or long-term development, researchers have demonstrated the opposite gender pattern in the relationship between family structure transitions and delinquency. In a longitudinal study conducted by Sun and Li (2009), the findings suggest that 8<sup>th</sup>-grade girls in unstable post-divorce households consistently make less academic progress over time than boys, compared with their counterparts in stable families. Fomby and Sennott's study (2013) further revealed the positive association between family transitions and youth problem behavior for both older male and female adolescents (15 to 17 years), but this association was stronger for girls than for boys in early adolescence (12 to 14 years).

In general, according to the previous studies, family instability seems to have a negative impact on child developmental outcomes. More specifically, early family transitions may have a stronger adverse effect on boys than on girls. But during early adolescence, family instability would lead to more unfavorable outcomes for girls than for boys. In later adolescent years, family structure changes would be equally harmful for both male and female youth. This study uses a nationally representative sample to test these inconsistent relationships. We would be able to see whether the effect of changes in family structure on adolescent behaviors shapes differently by gender and age groups, as well as whether other demographic factors (like immigrant generation and race/ethnicity) play a role in this process.

## **Parenting Practices**

Above, I have described the empirical findings supporting the importance of intact family structure and family stability in preventing unwanted youth behaviors, and how different types of family composition impact children's well-being and development. Some researchers would suggest that family structure is just the surface of family climate. Hirschi's social bond theory argues that the strength of parent-child relationship is the most important element in deterring delinquency. Besides the parent-child attachment (indirect parental control), Nye points out the importance of direct parental control in preventing youth misbehaviors. Thus, instead of quantity, the quality of parenting practices is the key to protecting kids from antisocial peers and deviance. Accordingly, if a single-parent family maintains a strong attachment/bond between the parent and child, this child should not be at higher risk for delinquency compared to children from two-parent households.

In support of this assertion, Barfield-Cottledge (2015) found that family attachment rather than a family structure is a more significant predictor of adolescent alcohol and marijuana use. A longitudinal study conducted by Schroeder and colleagues (2010b) revealed that prior parent-child attachment and delinquency significantly condition the effect of family formation on later offending. When the initial attachment was high, the later family formation transition decreased offending; but when the initial attachment was low, the later family formation and dissolution increased delinquency.

Nevertheless, control theorists (Gottfredson & Hirschi, 1990; Nye, 1958) emphasized the importance of family structure; they suggested that single-parent family presents a significant problem; they argued that a strong parent-child attachment, or indirect parental control, was hard to maintain in the absence of the other parent. Compared to intact families, single-parent households, by nature, would be less capable of providing proper support, supervision, and socialization of the youth due to the absence of the other parent. Therefore, this study would take into consideration the influence of both family structure and parenting practices on adolescents' behavioral outcomes.

When looking at parenting practice on its own, the quality of parenting is a family dynamic that is empirically supported to be one of the most influential predictors of juvenile antisocial attitudes and future deviant behavior by many research studies (Schroeder et al., 2010b). Moreover, many studies have found evidence suggesting that effective parenting can also change trajectories of delinquency (Moffitt et al., 2002; Hoeve et al., 2008). Barnes and colleagues (2006) used a 6-wave longitudinal study of adolescents from western New York State and found that higher parental monitoring at wave 1 predicted lower initial levels of child problem behaviors. In addition, consistently higher parental monitoring predicated lower rates of increase in deviant behavior over time, even after controlling for individual differences and peer deviance. Another study (Schroeder et al., 2010a) has also shown that the strong parent-child



attachment predicted criminal desistance for adult children through the emotional benefits of a closer family connection.

In terms of measuring parenting, the concepts of parenting dimensions and parenting styles are applied widely in empirical studies (Hoeve et al., 2007). Many studies classified and organized parenting practices either by categories of parenting styles (Baldry & Farrington, 1998; Hoeve et al., 2007, 2008; Moitra & Mukherjee, 2010; Rothrauff et al., 2009; Rossman & Rea, 2005) or by essential dimensions of parenting practice (Burton, 2000; Kerr et al., 2012; Palmer & Gough, 2007; Schroeder et al., 2010a).

Typically, classification of parenting styles is based on the level of two parenting dimensions: parental control and support (Hoeve et al., 2007, 2009; Rothrauff et al., 2009). Parental control refers to supervision, demands for conformity, and also punishment and restrictive discipline. Responsiveness/support from parents includes warmth, affection, acceptance, communication, availability, and reliability. Parenting styles vary with the amount of control and support a parent exhibits. The most commonly used categories of parenting practices are authoritative, authoritarian, permissive, and neglectful parenting (Hoeve et al., 2007, 2008, 2009; Rodriguez, 2010). Parents who practice the authoritative parenting style generally provide high levels of support along with high levels of control toward their children. Authoritative parents tend to be warm, nurturing, and sensitive to their children's needs and emotional changes. At the same time, they are also child-oriented and use inductive discipline techniques,

such as guiding the child's behavior cognitively, giving information, and stimulating responsible behavior of the child (Baumrind, 1968, 1971; Hoeve et al., 2009; Rothrauff et al., 2009).

Authoritarian parents display high levels of demandingness, but inadequate support. These parents often emphasize obedience and strict respect for rules. A permissive parenting style refers to high parental support and low control. A neglectful parenting style, which in particular has been linked to subsequent deviance, implies both low parental support and low control (Hoeve et al., 2009).

The authoritative parenting style is reported to be the best and the most protective parenting style among the four (Hoeve et al., 2009; Moitra & Mukherjee, 2010). Youths learn to improve and correct their behavior only if they understand the reasons. Generally speaking, the authoritative parenting style involves a high level of acceptance of children, good supervision, and appropriate discipline with adequate communication. Thus, it is considered a protective parenting practice to prevent youths' delinquent behavior (Baldry & Farrington, 1998; Hoeve et al., 2009).

From a typological analysis point of view, pro-typology researchers believe that in order to better understand the impacts and implementation of parenting, it is necessary to learn parental behavior as patterns (Darling & Steinberg, 1993; Hoeve et al., 2007, 2008, 2009; Moitra & Mukherjee, 2010; Rodriguez, 2010). This approach helps to understand social organizations (like family) and parenting as social phenomena. On the other hand, some researchers prefer to look

into individual parental factors (Barnes et al., 2006; Demuth & Brown, 2004; Jiang & Peguero, 2017; McKee, 2012; Schroeder et al., 2010a, 2010b; Spano et al., 2012). These researchers tend to break patterns of parenting practice into detailed and individual parenting elements, such as levels of supervision, support, parental rejection, neglect, and hostility. The reason for this approach may be that any parental dimension can be included in different parenting styles. For instance, both authoritative and authoritarian parenting styles have high levels of parental monitoring/control over youth. The idea is that this dimension of parental supervision as an independent variable would have a similar influence on children regardless of the parenting style.

Also, it is true that parents do not always consistently “deliver” parenting styles to their children, especially when such parents are under the influence of stress or family conflicts. Palmer and Hollin (2001) have indicated that child-perceived consistency of discipline was negatively correlated with self-reported misbehaviors. A 2005 study by Rossman and Rea also found that battered mothers, who experienced significantly higher levels of both verbal and physical abuse, confessed to a greater use of non-reasoning punishment and less consistency in their discipline. This study has also shown that parents who display a high authoritative parenting style combined with authoritarian or permissive parenting factors (such as using non-reasoning punitive strategies and ignoring misbehaviors) reported that their children have noticeably higher levels of trauma symptoms such as distress. The results show that child trauma symptomatology might relate more to inconsistent parenting than to a single, uniform parenting

style. Because of these concerns, this study adopts the essential parenting dimension approach, which provides a clear view of each parenting element without being confused by the interactions among other elements and factors in parenting styles.

While looking at findings from empirical studies, not only parenting styles, but also parenting dimensions are found to exert inconsistent effects on adolescents' behavior development. Some researchers believe that parental monitoring/supervision is at the core of effective parenting (McKee, 2012; Spano et al., 2012), while others indicate the importance of parental warmth/attachment (Demuth & Brown, 2004; Schroeder et al., 2010a, 2010b), and still others reveal the equal effects of both parental control and attachment on delinquency (Barnes et al., 2006; Jiang & Peguero, 2017). At the same time, some researchers have found very little or only an indirect impact of parenting practice (Jo & Zhang, 2014; Keijsers et al., 2010). Between parental control and parent-child attachment, both Nye's and Hirschi's social control theories argue that the strength of parent-child relationship is the more important element in deterring delinquency. That is, compared to family structure and direct parental control, indirect parental control through child-parent close emotional attachment would protect children from engaging in unwanted activities.

Parenting greatly shapes youth behaviors, but adolescents' age and gender also influence parenting practices. Studies tend to show reductions in parental control and warmth over time (Schroeder et al., 2010a; Spano et al., 2012). For example, family factors may have fewer effects

on older youths than on younger ones. Spano and his colleagues (2012) found that only younger adolescents whose exposure to violence is sharply increasing, low-increasing, and high-declining are more likely than youth with stable-low violence exposure trajectory to have declining parental monitoring. That is, for adolescents with uneven exposure to violence trajectories, parental monitoring is more likely to play a protective role in their lives when they are younger.

Regarding the influence of youth gender, by comparing means for boys and girls, Jo and Zhang (2014) found that parents are more likely to monitor, recognize, and punish girls' misbehaviors compared to those of boys. This finding might also explain why boys are more likely to be involved in delinquent behaviors than girls. Following these empirical findings, the present study compares parental controls and their effects between a younger cohort (those under the age of 16) and an older one (age 16 and over), as well as for girls and boys.

Another shortcoming in the previous research is that most studies have been conducted using cross-sectional research designs, which cannot identify the long-term influence of parenting practices on youth behavioral development. For example, Demuth and Brown (2004) have analyzed Add Health data and revealed that levels of parental involvement, supervision, monitoring, and closeness are higher, on average, in two-biological-married-parent families than in single-parent families. Furthermore, family process scores are consistently higher in single-mother families than in single-father families. The study also revealed that parent-child closeness exhibits the most significant effect on delinquency, second only to child gender. It also has a

considerably larger effect on delinquency than the direct controls of parental involvement, supervision, and monitoring. However, the study only analyzed a single wave (Wave I) of Add Health data. Thus, both dependent and independent variables were measured statically. None of the changes in family structure, parenting practices, and adolescent behavior patterns could be identified, or causal effects examined through temporal order.

Another interesting direction of this dissertation is that research has pointed to possible reciprocal effects between parenting practices and youth behavior. Huh and his colleagues (2006) argue that parenting styles and parental reactions cannot be viewed as independent of the juveniles' behavior. The authors used longitudinal data from 496 adolescent girls; they indicate that the deficits in parenting could be a consequence of problematic behavior, rather than the cause. They believe that increases in a child's deviant behavior raise parental tolerance, which in turn decreases parental control and supportive attempts. Therefore, early child performance may eventually form parental reactions. Again, this bidirectional relationship between parenting practice and youth misbehavior cannot be identified using a cross-sectional approach.

Finally, this study takes into consideration a likely U-shaped relationship between direct parental control and adolescent delinquency. Nye has found that youth who received very little or very much money from their parents or jobs were more likely to engage in delinquent behavior than those who had moderately generous parents. Harris-McKoy (2016) also indicated that direct parental control was essential for delinquency prevention, but too lenient or too

restrictive direct parental control would actually increase delinquent behaviors in youths. This study looks at both ends and further examine the existence of the U-shaped relationship between parental control and youth reactions reflected in misbehaviors.

### **Immigrant Generational Status**

Neither Nye nor Hirschi has discussed immigration in their control theories. According to traditional sociological theories of crime, early studies during the twentieth century established that immigrants are more likely to engage in crime because they experience higher levels of poverty, lower educational attainment, and on average settle into disadvantaged areas that expose their children to higher rates of delinquency (Shaw & McKay, 1969). Despite stereotypes of the “criminal” immigrant taken by some policymakers and influencing public perception, one can hardly find any contemporary empirical research indicating that immigrants cause or commit more crime. In fact, various studies and crime statistics have found that immigrant and immigrant-generation status is associated with less crime, particularly violent crime (Adelman et al., 2017; Bersani, 2014; Light et al., 2020; Martinez & Valenzuela, 2006).

The positive effects of an intact family apply to native-born Americans as well as immigrant populations (Wolff et al., 2017). However, there is a gap in empirical research examining the interactions or combinations of immigrant generational status, family structure, parenting practices, and delinquent versatility, and the impact of these factors on adolescent

delinquency and substance use. Most studies find that immigrants, especially foreign-born individuals (first-generation immigrants), exhibit remarkably low involvement in crime across races/ethnicities (Bersani, 2014; Bui, 2009; Le & Stockdale, 2011; Martinez & Valenzuela, 2006; Ousey & Kubrin, 2009).

A macro-level study (Ousey & Kubrin, 2009) has found that a higher immigrant concentration in inner cities links to remarkable reductions in violent crime. The study, then, discovers that half of the decrease in within-city violent crime is accounted for by an increase in two-parent family structures associated with cities that have rising immigration populations. However, without carefully disentangling individual-level variability, the relationship between family structure and crime could be spurious. Adelman and colleagues (2017) used a stratified sample of 200 U.S. Metropolitan Statistical Areas; they also found similar results, which indicate that immigration is consistently associated with decreases in both violent and property crime throughout a 40-year period from 1970 to 2010 in the United States.

Jiang and Peguero (2017) examined the independent effect of family control (parental attachment and control), school control, and association with delinquent friends on adolescent delinquency across immigrant generations. The study found that, based on the Add Health data, the first generation of immigrants has the lowest involvement in all forms of delinquency. According to Table 1 from the study (p. 211), 48% of the first-generation immigrants are of Hispanic origin and 31% are Asian, compared to 5% and 1% of the third-plus generation.



Therefore, race/ethnicity might have a moderating effect on the relationship between immigrant generational status and delinquency. On the other hand, family control and school control are stronger predictors of delinquency for the third-plus generation than for earlier generations of immigrants. It is possible that there are uncaptured variables, such as family structure and its stability, that distinguish the first-generation immigrants or contribute to interactions between variables that influence youth behavior.

MacDonald and Saunders (2012) have discovered that although immigrant household status is related to lower social bonds, lower family socioeconomic status, and higher neighborhood disorder, when controlling for neighborhood-related processes of collective efficacy and disorder, immigrant households have a significantly lower youth violence exposure. That is, a persistently lower rate of violence exposure is found for immigrant youth compared to similarly situated nonimmigrant youth. Hence, again, the lower crime rates associated with immigration populations may be due to some uncaptured variables, such as family-related factors. Therefore, the current study will test family structure stability and immigrant generational status, which both could have an independent influence on delinquency while controlling for initial delinquency and family socioeconomic status.

## **Race/ethnicity**

Besides immigrant generational status, race/ethnicity also proven to be a critical moderator of the associations between family-related factors and youth behavioral development. In general, positive and effective parenting, as well as an intact family structure, is associated with less delinquency. For example, the intact family structure has been found the most beneficial family composition for adolescent well-being. It is especially true for the White population, while weaker positive effects are found for non-Whites (Apel & Kaukinen, 2008; McKee, 2012).

In the same vein, among single-parent families, some studies have shown that the adverse effects of single-parent family often apply to European American children, but not to African Americans. Dunifon & Kowaleski-Jones (2002), Paxton and colleagues (2007), and Schroeder and colleagues (2010c) have all found that living in single-parent families is not associated with delinquency for African American children. In Schroeder and colleagues' (2010c) study, Black respondents exhibit significantly higher adult offending than Whites in general. But the authors have also found that non-intact family structure predicts adult criminal offending among White adolescents, but not among Black participants.

A study conducted by Amey and Albrecht (1998) even discovered that, compared to White and Latino youths, Black youths who come from intact families are the most likely users

of both alcohol and marijuana. At the same time, a single-parent Black family, especially single-mother family, provides protections against substance use better than an intact Black family. Spano and coauthors (2011) found that parental monitoring remains stable and high during adolescence for about half of the youth living in extreme poverty, where many African American single mothers reside. Such high monitoring protects juveniles from high exposure to violence in the neighborhood.

According to these studies, the single-parent family structure should not be considered a risk factor for African American households. Therefore, within the African American sample of Add Health, we might see whether the same situation holds: whether youths from stable single-parent families do better than or about the same as those from intact families within the same race/ethnicity group.

While looking at family structure variations, some notable differences have been found among races/ethnicities. Barrett and Turner (2006) indicated that significantly more White respondents live in intact families, compared with African Americans and non-Cuban Hispanics. Gibson-Davis & Gassman-Pines (2010) also indicated that, at age 24 months, 86% of White children live with married parents, whereas only 34% of Black children and 62% of Hispanic children live with married parents. Hispanic children have the highest rate of living with cohabiting parents (21%). Black children have the highest rate of living with never-married mothers (47%). Hummer & Hamilton (2010) also revealed that African Americans and

Hispanics have the highest rates of births to unmarried mothers; Asian Americans have the lowest, and Whites fall in the middle.

Regarding family stability, Hummer and Hamilton (2010) further indicated that African American mothers have the lowest rates of marriage (9 percent) and cohabitation (13 percent) and the highest relationship breakup rate (71 percent). Moreover, Schroeder and colleagues (2010) found that racial/ethnic minorities are more likely to experience family transitions compared to Whites. Based on the descriptive statistics above, the impact of family structure and its stability on adolescent misbehavior is expected to vary by race/ethnicity.

Parenting practice and its impact are also very likely to be shaped based on participants' racial/ethnic background. A protective influence of positive parenting practices on deviance might only apply to youth from certain racial/ethnic groups but not others. Some negative parenting practices are also not necessarily linked to negative outcomes of child development, especially when race/ethnicity is considered (Amey & Albrecht, 1998; Chao, 2001; Ho et al., 2008; Schroder et al., 2010c; Wu & Chao, 2005). Chao (2001) compares Chinese immigrant children across generations to European American children regarding school performance. His study found that first-generation Chinese children from authoritarian families do just as well in school as those from authoritative homes. The positive effects of authoritative parenting on school performance were found for European American children and second-generation Chinese, but not for the first-generation Chinese. Parental closeness might explain the relationship, since

first-generation Chinese reported being somewhat closer to their parents than their second-generation counterparts.

Another study (Ho et al., 2008) revealed that parental harshness was positively related to child aggression in European Canadian families but negatively related in South Asian Canadians. According to teachers' reports, at low levels of parental harshness, South Asian and European Canadians did not differ in child aggression, but European Canadian children showed higher levels of aggression at high levels of parental harshness. Schroeder and colleagues (2010c) studied the relationship between parenting and adult criminality. They found that lacking in parental demandingness is positively related to adult criminal offending among the Black sample, but not among the White sample. These studies provide evidence of variability among racial/ethnic groups in children's responses to parenting practices. The present study focuses on the relationships between family structure, parenting practice, and adolescent delinquency, but it also aims to investigate the interactive impacts of immigrant generational status and race/ethnicity in their interplay with family factors.

### **Summary of Key Points**

After reviewing the literature on the impact of family structure, family instability, parenting practices, and immigrant generational status on delinquency, the effect of race/ethnicity on youth development outcomes is examined as well. This chapter also

demonstrates the limitations and gaps that existed in the previous research, while outlining what the present study contributes to this literature by addressing these concerns.

Firstly, this study improves the measurements of major variables and use a nationally representative sample with a longitudinal design. Instead of using a static measurement of family structure like many previous research studies, this study uses a longitudinal approach that measures changes in family composition between Wave I and Wave II (one year apart) of the National Longitudinal Study of Adolescent to Adult Health (Add Health) data. The average age of participants is 16 years at Wave I. This study captures the effects of both family structure and its stability, indicative of a certain degree of family conflict and stress. In addition, the present study emphasizes the changes in family stability as measured through comparing family structure types between two waves. More specifically, this study differentiates the impact of a stable intact family from other family types over time. This method resolves the concern about a uniform measure of family stability in previous studies, which assumed all changes in family composition are equally harmful for youth.

In addition, this study measures family structure by counting adults who were actually living with the youth at the time, instead of referring to the parental marital status only (Leiber et al., 2008; Turney & Kao, 2009). The statistics provided earlier in this paper show that cohabitating families are at an increase in the U.S. Thus, using marital status of a parent to determine the youth living arrangement is often inaccurate in more and more cases.

Secondly, the present study has a category of reunion family when measuring stability of family structures between the two waves. This would allow us to see how the change of a “broken home” reuniting into an intact family influences youth behavioral outcomes. If intact families are always the best family composition for youth’s well-being, as previous studies have shown, family reunions should lead to the better outcomes for youth in terms of delinquent behaviors than other types of family changes. Although there is only a small portion of reunion families, it would still be a useful supplement for us to understand the dynamic of stable intact families and late-formed intact families (the later entrances of biological parents into youth lives).

Also, utilizing a longitudinal design, the current study not only provides the knowledge of family composition in a dynamic measure, it also gives us a chance to see how changes in parenting practices influence youth behavioral outcomes, along with the effects of family structure. When measuring parenting practices, this study applies the Add Health data from both Wave I to Wave II. By including family-related variables, we can discover whether the initial or concurrent parenting has the stronger influence (or a change in parenting dimensions), and how family structure stability impacts youth behaviors in conjunction with parenting practices or their changes. Besides, by adopting multiple waves of information, we can see whether parenting and family composition shape adolescents’ short-term (W1/W2) and/or long-term (W3) behaviors.

Thirdly, regarding concerns about measuring parenting practices, instead of the method of using parenting styles as an independent variable, the present study adopts the essential parenting dimensions approach. Using the essential parenting dimensions to measure parenting practice, this study reduces potential impact of having inconsistent parenting styles in a household and provide a clearer view of how direct and indirect parental control differentially influences youths' behavior. Parenting practice dimensions adopted in this study are a two-dimensional framework, which contains parental support and parental control (Haapasalo, 2001; Hoeve et al., 2007, 2009; Rothrauf et al., 2009). Parental support (indirect parental control) refers to parental warmth, acceptance, affection, and responsiveness; on the other hand, parental control (direct parental control) includes monitoring, punishment, and demandingness (Demuth & Brown, 2004).

Next, it is still unclear whether the family structure itself has an independent impact on the youth's well-being, or whether the way parents raise their kids instead influences children's behavior. The empirical studies that tested both family structure and parenting practices tend to find inconsistent results in juvenile behavioral outcomes, as described in this chapter. To deepen our understanding of the impact of family structure and parenting, this dissertation controls parenting dimensions when examining the impact of family structure and its stability. For example, do children from stable intact families have better behavioral outcomes than the youth



from stable single-parent households, when child-parent attachments are of the same strength between the two family-structure types?

In addition, Huh and colleagues (2006) have found that, instead of youth responses to ineffective parenting in deviant behaviors, parenting practices may be shaped by their kids' behaviors accordingly. But their study used a sample which only contained 496 middle school girls from a southwestern metropolitan area in the U.S. Instead, this study tests for these reciprocal effects by using a nationally representative sample to identify the effect of child behavior on parenting and vice versa in a dynamic approach. Two-wave panel data analysis and path analysis will indicate whether parenting measured at Wave I predicts adolescent behavior outcomes at Wave II, and whether Wave I delinquency predicts Wave II scores of parenting practice variables.

Finally, this study analyzes the impact of race/ethnicity, immigrant generational status, and other individual characteristics on youth behavioral development. Many previous studies have found that, in general, Black and Latino youths are often more likely to engage in delinquency than Whites (Bazyler, 2013; Mrug & Windle, 2009; Peeples & Loeber, 1994; Schroeder et al., 2010c). Asian youths are generally found to have the lowest crime rate among all race/ethnicity groups (Feldmeyer & Cui, 2015; Peguero et al., 2011; Wu & Chao, 2005). However, as mentioned before, limited research on interaction effects between family structure and race/ethnicity and their impact on adolescent delinquency showed inconsistent results.

Specifically, how family structure changes along with race/ethnicity to impact adolescent antisocial behavior is unclear based on the previous empirical studies. The present study extends and re-tests these relationships.

Besides immigrant generational status and race/ethnicity, youth's age, gender, and socioeconomic status are also worth taking into consideration when examining the relationships between family-related factors and deviant behaviors. As youths grow older, earlier studies tend to show a decreasing impact of family-related factors on youth's behavior in general. Also, studies have indicated gender differences in responding to parenting practices and family instability.

Overall, family structure, family stability, and parenting practice are critical to youth well-being and behavioral development, including delinquency. Analyzing the Add Health nationally representative sample by gender, age, immigrant generation, and race/ethnicity, this study allows us to see a clearer image of how family-related factors differentially shape the behavior of these demographic groups. The present study provides a comprehensive picture of relationships among family structure types, family stability, parenting practice dimensions, immigrant generational status, race/ethnicity, and delinquent behaviors while controlling for individual demographic factors, and evaluating the impact of these variables on US youth's concurrent and subsequent deviant behaviors longitudinally.

## **Research Questions/ Hypotheses**

Research that examines relationships between parenting and delinquency variables has been largely static, and there exists a growing body of literature focused on testing hypotheses related to racial/ethnic disparities and immigrant generational status effects on youth's developmental outcomes (Barrett & Tuner, 2006; McKee, 2012; Schroder et al., 2010c; Wolff et al., 2017). To address the gaps and to follow the trends, there is a need for more longitudinal studies to clarify the impact of these individual-level characteristics on the relationships between family factors and delinquency. The present study attempts to explain adolescents' concurrent adolescent delinquent behaviors (W2), as well as young adult criminality and formal police contacts (W3), through the impact of family structure and its stability (W1-W2), parenting practices in the form of direct and indirect parental control (W1-W2), race/ethnicity effects, and influence of immigrant generational status. Particularly, this study's primary research questions are:

1. How does the family structure and its stability affect delinquency and subsequent crime?
2. Does direct and indirect parental control modulate the above relationships?
3. How does the immigrant generational status affect delinquency and subsequent crime?
4. Do the above relationships vary by race/ethnicity?

The hypotheses (research questions) are derived from the aforementioned theoretical perspectives of Nye's and Hirschi's social control theories and previous empirical research. The following list lays out the research questions (RQ) for each of the main predictive variables discussed in this chapter.

### ***Section 1: Family Structure and its Stability***

**RQ1a:** How does family structure and its stability, as well as grandparent co-residence, affect adolescents' contemporaneous (W2) and subsequent (W3) delinquent behavioral outcomes, such as property and violent delinquency, substance use, and police contacts and arrests, when controlling for respondent's gender, age, and family socioeconomic status?

**RQ1b:** Will the effect of family structure and its stability on adolescents' contemporaneous and subsequent delinquent behavioral outcomes change when initial delinquent involvement and violence exposure are taken into consideration?

**RQ1c:** Do parenting practice components weaken the relationship between family structure stability and adolescent delinquent behaviors? Do parenting practices (W2) have a stronger impact than family structure stability on a youth's concurrent and subsequent delinquency (property and violent), substance use, and on police contact and arrest, controlling for adolescents' demographics and family socioeconomic status? Does direct parental control differ

from indirect parental control in their effects on adolescents' concurrent (W2) and subsequent (W3) delinquency?

***Section 2: Parenting Practices (Direct and indirect parental control)***

**RQ2a:** How does consistency of parenting practices (stable high, stable low, severe increase, severe decrease, and minor changes in direct and indirect parental control) affect adolescent deviant behaviors, controlling for sociodemographic variables and initial delinquency?

**RQ2b:** Besides the impact of parenting practices on adolescents, does youth behavior influence their parents' approach, i.e., get reflected in parenting practice changes from Wave 1 to Wave 2?

**RQ2c:** Does direct parental control have a U-shaped relationship with adolescents' concurrent and subsequent delinquency? That is, are both low and high direct parental control poles associated with higher levels of youth misbehavior, as opposed to the mid-range of parental control scale?

***Section 3: Immigrant Generational Status and Language Used at Home***

**RQ3a:** Will immigrant generational status have a stable independent impact on adolescent's concurrent (W2) and subsequent (W3) deviant behaviors, taking into account the adolescent's demographics (gender and age) and family socioeconomic status? Does English used at home as a primary language impact outcome variables among first-generation youths?

**RQ3b:** Does family structure stability and parenting practices weaken the impact of immigrant generational status on adolescents' concurrent and subsequent deviant behaviors (W2 and W3) and police contact and arrests (W3)?

***Section 4: Race/Ethnicity Disparity***

**RQ4a:** Does the effect of family structure stability and parenting practices on adolescents' contemporaneous and subsequent deviant behaviors (W2 and W3) and later police contacts (W3) vary by race/ethnicity?

**RQ4b:** Does race/ethnicity affect different immigrant generations in terms of adolescent's concurrent and subsequent deviant behavior, taking into account the adolescent's gender, age, and family socioeconomic status variables?

**RQ4c:** Among African American families, do family structure stability and parenting practices have a strong impact on adolescent's concurrent and subsequent deviant behavior (W2 and W3), taking into account the adolescent's gender, age, family socioeconomic status, initial delinquency, and violence exposure?

## CHAPTER IV: METHODOLOGY

In order to answer the research questions of the present study, potential datasets were searched for those that: 1) studied young people, 2) included key variables such as family structure, parenting practices (both direct and indirect parental control components), immigrant generational status, participants' demographic information, and, most importantly, various types of delinquency, and 3) followed the sample studied over time. After comparing several datasets, the National Longitudinal Study of Adolescent to Adult Health (Add Health) was chosen for this study.

The initial purpose of Add Health is to study human social, behavioral, and biological linkages across the life course. Although it could be ideal to have more family-related factors for the current study, the Add Health data is plentiful enough to include the characteristics of respondents' social, economic, psychological, and physical well-being, with contextual data on the family, neighborhood, community, school, friendships, peer groups, and romantic relationships. This information provided unique opportunities to study how social environments and behaviors in adolescence are linked to health and achievement outcomes into adulthood. More specifically for this study, the Add Health data provided comprehensive information about large social settings, including family composition and dynamics, parenting practices, participants' perceptions of family lives, and individual demographic characteristics, which all could potentially affect adolescents' behavioral development.

## **Description of Data and Sample**

The present dissertation uses data from the National Longitudinal Study of Adolescent to Adult Health (Add Health), which is conducted by a team of researchers from the University of North Carolina. The primary sampling frame for Add Health was derived from the Quality Education Database (QED), which represents all high schools in the United States with respect to region of country, urban city, size, and ethnicity. Five waves of data were collected from the same subjects during 1994 to 2018 and the first four waves' data were made available through the Inter-University Consortium for Political and Social Research (ICPSR). The survey is administered based on a probability sampling strategy, and the study utilized school-based systematic sampling methods, which produced a stratified random sample of a total of 132 schools that were composed of the selected 80 high schools and 52 paired middle schools. Nearly 80% of the initially sampled schools participated. Each school that declined participation was replaced by a school within the same stratum. Students in each school were stratified by grade and sex. About 17 students were randomly chosen from each stratum so that a total of approximately 200 adolescents were selected from each of the 80 pairs of schools. A total core in-home sample of 12,105 adolescents was interviewed (Harris, 2013).

The In-School Questionnaire, a self-administered instrument formatted for optical scanning, was administered to more than 90,000 students in grades 7 through 12 in a 45- to 60-minute class period between September 1994 and April 1995. All students who completed the



In-School Questionnaire plus those who did not complete a questionnaire but were listed on a school roster were eligible for selection into the core in-home sample.

The clustered sampling method ensured a nationally representative sample of the United States adolescents in grades 7 through 11 (also includes 12th graders who were part of the genetic oversample and the adopted oversample) during the 1994-95 school year (Wave I). The Add Health cohort was followed into young adulthood with four follow-up interviews. The fifth interview was conducted in 2016-18 when the study cohort was aged 32 to 42 years old (Harris et al., 2009; Harris et al., 2019). Additionally, to enhance a comprehensive understanding of youth development, besides participants in the core sample, Add Health oversampled for specific racial/ethnic groups, such as Cuban, Chinese, and Puerto Rican. The survey also oversampled subjects based on their genetic relatedness to siblings, for example, twins, full-siblings, half-siblings, and adolescents living in the same household (i.e., stepbrothers/sisters). Furthermore, Add Health study oversampled Black adolescents from families with well-educated parents (participants who have a parent with a college degree). Adoption status and disability of participants were also considered while sampling.

The present study adopts the Public-Use dataset, which provides a smaller sample randomly selected from the full Add Health dataset. The resulting Public-Use dataset is composed of fewer analytic units, consisting of one-half of the core sample and one-half of the oversample of African American adolescents with a parent who has a college degree. For Wave I

data, it is a merged file containing the In-Home Interview data and the Parent Questionnaire data. The Public-Use datasets from the later waves contain data collected through in-home interviews. Also, since this study focuses on the family-related factors, it incorporates data from Waves I, II, and III. Measures of family structure and parenting practices are generated from earlier waves, I and II. Subsequent delinquency items are measured using Wave III data. By Wave IV, participants reached their adulthoods (ages of 24 to 32 in 2008) and mostly moved out of their parents' home. In addition, family-related factors, which are the major focus in this study, are expected to have little impact during one's adulthood. Thus, Wave IV and V data are excluded from analytic plans. Regarding the sample size, the Add Health Public-Use data reflected 6,504 respondents at Wave I in 1994-1995; 4,834 of the 6,504 Wave I respondents (74.3%) were interviewed at Wave II in 1996; 4,882 of the original Wave I respondents (75%) were re-interviewed again at Wave III between in 2001-02. For the purpose of the current study, the final sample (n= 4834) includes juveniles who had participated in both Wave I and Wave II. Eighty percent (n= 3,844) of these participants had also participated in Wave III interviews.

By including data from multiple waves, the Add Health dataset provides youth's self-reported information longitudinally, meaning that the same data has been collected from the same subjects over several different time periods from 1994 and on. It allows this study to look at trends and changes of phenomena over time from adolescence to early adulthood. Overall, the present dissertation intends to examine the family-related factors, along with demographic

characteristics of youth, and the impact of these factors on delinquency and early adulthood criminality.

## **Measures**

Nye (1958) and Hirschi (1969) proposed that family structure, family stability, and parenting practices directly or indirectly produce social control, which regulates youth's behavior and prevents delinquency. Fortunately, the Add Health data grants the opportunity to test these relationships in both the short term and long run. In particular, the in-home interviews asked participants comprehensive questions about their parents and family composition across waves of data collection. Respondents were asked to provide a roster of their family members and to describe their perspectives on parenting and child-parent relationships. In addition, the data were collected on various types of self-reported misconducts from adolescence to adulthood. The basis for selecting variable measures is discussed below.

## ***Dependent Variables***

The present study tests outcome variables that include three types of adolescents' self-reported misconducts from both Wave 2 and Wave 3 of Add Health data (later waves of data were used to ensure the correct temporal sequence of causes and effects). Formal police contacts were measured at Wave 3 and thus are also included in the analyses. Self-reported delinquency measures included in this study are violent delinquency, property delinquency, and substance

use. Although delinquency often refers to as adjudicated delinquent cases, the original study of Add Health uses “delinquency scales” to refer to these self-reported misconducts; thus, the current study also adopts the word *delinquency*. Delinquent activities are broken down into these 3 types because it is expected that the effect of the independent variables may differ among delinquency types, as suggested by many prior empirical studies (Eitle, 2006; Henry et al., 1996; MacDonald & Saunders, 2012; Martinez & Valenzuela, 2006). In addition, information on formal police contacts available in Wave 3 includes incidents of having been stopped and detained by police (traffic violations excluded) and arrests.

Delinquency indices collected from Wave 2 refer to the contemporaneous misconduct of respondents (when associated with independent variables from Wave 2). Delinquency measurements from Wave 3 provide a chance to show the longer-term effects of predictors (7 years later from Wave 1 in 1994 to Wave 3 in 2001). There were minor adjustments on certain questions when measuring delinquency across time from adolescence into early adulthood. The following descriptions contain the operationalization of the variables. The coding distributions and descriptive statistics of each dependent variable in the study are also presented in the table format below.

*Property Delinquency.* The in-home Add Health surveys from Wave 2 and Wave 3 assessed how often the respondents had engaged in 6 property deviant activities over the previous 12 months from the interview time. This delinquency index includes the following

items: (1) deliberately damage property, (2) shoplift, (3) steal something worth more than \$50, (4) burglarize, (5) steal something worth less than \$50, (6) drive a car without permission (Wave 2), and buy, sell, or hold stolen property (Wave 3). Each item was coded as 0 = never; 1 = 1 or 2 times, 2 = 3 or 4 times, and 3 = 5 or more times. The property delinquency index takes the sum of the aforementioned responses. This measurement uses the sum across all items to create a variable, which is consistent with the literature on adolescent delinquency (Bui, 2009; Demuth & Brown, 2004; Jiang & Peguero, 2017; McGloin & O'Neill Shermer, 2009).

The resulting index of property delinquency has a range from 0 to 18 and a reasonably high internal consistency: Cronbach's Alpha values of .78 (Wave 2) and .73 (Wave 3). Due to the significant positive skewness of the measurement distributions for both waves, the property delinquency indices were first inversely transformed  $[1/(x+1)]$  for normality. Then, the values are reverse-coded  $[1 - 1/(x+1)]$ , so that the higher values still mean more delinquent acts. Since the distributions of property delinquency were still not close to normal after transformation, dichotomous variables were created such that any property delinquency was coded as 1 and no involvement as 0. Although dichotomous coding losses precision in the measurements, it avoids violating the "normality" assumption of linear regression models. Binary coded delinquency measures were commonly used in previous research studies, especially with highly skewed variable distributions (Cobb-Clark & Tekin, 2014; Cundiff, 2013; Leiber et al., 2007; Parks, 2013). More descriptive information and statistics of the variables are shown in Table 1.

**Table 1.** *Dependent variables: Property delinquency*

Dependent Variables	Mean (SD) or %	Skew ness	N	Cronbach's Alpha
Property Delinquency (Wave 2) – Continuous <b>Sum of the following responses and inversely coded</b> In the past 12 months, how often did you... (6 items) <ul style="list-style-type: none"> <li>deliberately damage property that didn't belong to you?</li> <li>take something from a store without paying for it?</li> <li>steal something worth more than \$50?</li> <li>go into a house or building to steal something?</li> <li>steal something worth less than \$50?</li> <li>drive a car without its owner's permission?</li> </ul>	.21 (.320)	1.02	4807	.78
Property Delinquency (Wave 2) – Dichotomous <b>Sum of the above responses and binary coded</b> In the past 12 months, have you ever committed above acts (Y/N)	Yes: 31.3%	-	4807	-
Property Delinquency (Wave 3) – Continuous <b>Step 1: Sum of the following responses and inversely coded</b> In the past 12 months, how often did you... (6 items) <ul style="list-style-type: none"> <li>deliberately damage property that didn't belong to you?</li> <li>take something from a store without paying for it?</li> <li>steal something worth more than \$50?</li> <li>go into a house or building to steal something?</li> <li>steal something worth less than \$50?</li> <li>buy, sell, or hold stolen property?</li> </ul>	.10 (.237)	2.02	3823	.73
Property Delinquency (Wave 3) – Dichotomous <b>Sum of the above responses and binary coded</b> In the past 12 months, have you ever committed above acts (Y/N)	Yes: 16.8%	-	3823	-

*Note.* % is the valid percent; N is the valid sample size. Continuous variables are inversely coded.

*Violent Delinquency* index consists of responses to 4 items that assessed the level of engagement in violent deviant activities in the past 12 months. The activities included: (1) take part in a fight where a group of your friends was against another group, (2) hurt someone badly enough to need bandages or care from a doctor or nurse, (3) use or threaten to use a weapon to get something from someone, (4) get into a serious physical fight (Wave 2) or use a weapon in a

fight (Wave 3). Item 2 from Wave 3 was coded as a continuous variable. This study recoded the item so that all responses to the questions were measured on the same four-point ordinal scale (0 = never, 1 = 1 or 2 times, 2 = 3 or 4 times, 3 = 5 or more times). These responses were then summed up to create continuous violent delinquency indices, which have acceptable internal consistency: the values of Cronbach's Alpha are .70 (Wave 2) and .64 (Wave 3). These measurements are consistent with the previous research (Apel & Kaukinen, 2008; Bersani, 2014; Fomby & Sennnott, 2013; Manning & Lamb, 2003; Phillips, 2012; Spohn & Kurtz, 2011).

As the distributions were skewed, an inverse transformation was applied for normality. Then, the data were reverse-coded. Binary variables were also constructed for the violent delinquency to address non-normality after the inverse transformation: any violent delinquency was coded as 1 and no engagement in such behaviors as 0. Dichotomous coding was also broadly adopted in prior studies that examined delinquent behaviors, since measurements of criminality are often highly positively skewed (Bazyler, 2013; Bui & Thongniramol, 2005; Parks, 2013). The descriptive statistics of violent delinquency are summarized in Table 2.

**Table 2.** *Dependent variables: Violent delinquency*

<b>Dependent Variables</b>	<b>Mean (SD) or %</b>	<b>Skew ness</b>	<b>N</b>	<b>Cronbach's Alpha</b>
Violent Delinquency (Wave 2) – Continuous <b>Sum of the following responses and inversely coded</b> In the past 12 months, how often did you... (4 items) <ul style="list-style-type: none"> <li>• hurt someone badly enough to need bandages or care from a doctor/nurse?</li> <li>• use or threaten to use a weapon to get something from someone?</li> <li>• take part in a fight where a group of your friends was against another group?</li> <li>• get into a serious physical fight?</li> </ul>	.18 (.294)	1.10	4811	.70
Violent Delinquency (Wave 2) – Dichotomous <b>Sum of the above responses and binary coded</b> In the past 12 months, have you ever committed above acts (Y/N)	Yes: 29.4%	-	4811	-
Violent Delinquency (Wave 3) – Continuous <b>Sum of the following responses and inversely coded</b> In the past 12 months, how often did you... (4 items) <ul style="list-style-type: none"> <li>• hurt someone badly enough to need bandages or care from a doctor/nurse?</li> <li>• use or threaten to use a weapon to get something from someone?</li> <li>• take part in a fight where a group of your friends was against another group?</li> <li>• use a weapon in a fight?</li> </ul>	.08 (.207)	2.38	3824	.64
Violent Delinquency (Wave 3) – Dichotomous <b>Sum of the above responses and binary coded</b> In the past 12 months, have you ever committed above acts (Y/N)	Yes: 13.3%	-	3824	-

*Note.* % is the valid percent; N is the valid sample size. Continuous variables are inversely coded.

*Substance Use* indices are determined by adolescents' responses to questions on their use of tobacco, alcohol, and illegal drugs. Respondents reported in the Add Health in-home questionnaire on the number of days during the past 30 days that they (1) have smoked cigarettes, chewed tobacco, (2) used illegal drugs (includes items asked about marijuana, cocaine, inhalant, and other illegal drugs), and (3) how often during the past 12 months they have drunk alcohol. The measures of illegal drug use were adjusted slightly by changing inhalants to



crystal meth in Wave 3 Add Health questionnaire. The responses to the items are then coded into binary variables (1 = yes and 0 = no), which measures three types of substance use by respondents: smoking cigarettes/chewing tobacco, using any illegal drugs, and drinking alcohol, following the way it was done in other studies (Lipari et al., 2017; Paxton et al., 2007; Peña et al., 2017; Rothrauff et al., 2009). Descriptive statistics of the variables are presented in Table 3.

**Table 3.** *Dependent variables: Substance use*

Dependent Variables	%	N	Cronbach's Alpha
Substance Use (W2) – Dichotomous <ul style="list-style-type: none"> <li>• Have you used alcohol in the past 12 months?</li> <li>• Have you used tobacco in the past 30 days?</li> <li>• Have you used any illegal drug in the past 30 days?</li> </ul>	Yes: 44.3% Yes: 35.8% Yes: 16.1%	Alcohol: 4822 Tobacco: 4828 Drugs: 4739	Alcohol: NA Tobacco: NA Drugs: .71
Substance Use (W3) – Dichotomous <ul style="list-style-type: none"> <li>• Have you used any illegal drug in the past 30 days?</li> </ul>	Yes: 23.4%	3843	.48

*Note.* % is the valid percent; N is the valid sample size.

According to the descriptive statistics, drinking alcohol becomes more common as adolescents get older. About 44% of participants had reported drinking alcohol in the past 12 months at Wave 2. By Wave 3, nearly 72% of the respondents who answered this question reported using alcohol. The proportion of people who have used tobacco decreased slightly from 35.8% to 35.3%, and the proportion using illegal drugs increased by 7.3% (from 16.1% to 23.4%) from Wave 2 to Wave 3. Since alcohol and tobacco use would no longer be delinquent acts when youths reached their adulthoods at the time of Wave 3, illegal drug use was used as the only measure of substance use at Wave 3 in the later analytic models.

*Police Contacts* are collected from Wave 3 Add Health data. Two items are used to measure the formal police contacts. Respondents reported that (1) how many times they have been stopped or detained by the police for questioning about their activities (minor traffic violations were excluded). The responses were 0 = never, 1 = 1 time, 2 = 2 or 3 times, 3 = 4 or 5 times, 4 = 6 or more times. Due to the large number of youths who never were stopped or detained (the mean of the variable is .34), the variable was recoded into a binary one (0 = never and 1 = ever). There were 742 (19.5%) participants who were stopped or detained by police, while the majority of the respondents (n= 3062, or 80.5%) were never stopped or detained by law enforcement authorities for questioning. Participants also reported (2) whether or not they have ever been arrested or taken into custody by the police. The responses for this item were dichotomous, where 0 = no (n= 3406) and 1 = yes (n= 411). See Table 4 below for more details.

**Table 4.** *Dependent variables: Police contacts*

Dependent Variables	%	N
Police Contacts (W3): Stop and Detention (Yes/No) • How many times have you ever been stopped or detained by the police for questioning about your activities? Don't count minor traffic violations.	Yes: 19.5%	3804
Arrests (Yes/No) • Have you ever been arrested or taken into custody by the police?	Yes: 10.8%	3817

*Note.* % is the valid percent; N is the valid sample size.

Tables 5, 6, and 7 provide the Pearson correlation and phi correlation coefficients between the dependent variables used in the study, for Wave 2 and Wave 3 (continuous and

dichotomous variables separately) correspondingly. Pearson correlations were used when two variables are continuous or when comparing one continuous with one dichotomous variable (also called point-biserial correlation). To ensure the test validity, ratio-level property and violent delinquency measures, as described earlier, are re-coded for the purpose of distributional normality using  $[1 - 1/(x+1)]$ . When two binary variables were tested, phi correlation coefficients were applied. All dependent variables are significantly associated with one another as expected, and only formal police contact variables (stops/detentions and arrests at wave 3) have a correlation coefficient that is greater than .50. It is reasonable that people would likely be stopped or detained by police before getting arrested.

**Table 5.** *Pearson and Phi correlations: Wave 2 dependent variables*

	<b>Violent delinquency</b>	<b>Property delinquency</b>	<b>Illegal drug use</b>	<b>Tobacco use</b>	<b>Alcohol use</b>
<b>Violent delinquency</b>	1	.324**	.228**	.176**	.185**
<b>Property delinquency</b>		1	.274**	.204**	.255**
<b>Illegal drug use</b>			1	.366**	.346**
<b>Tobacco use</b>				1	.383**
<b>Alcohol use</b>					1

*Note.* \*\*. Correlation is significant at the 0.01 level (2-tailed).

**Table 6.** *Pearson and phi correlations: Wave 3 dependent variables*

	<b>Violent delinquency</b>	<b>Property delinquency</b>	<b>Illegal drug use</b>	<b>Tobacco use</b>	<b>Alcohol use</b>	<b>Stops/ Detention</b>	<b>Arrest</b>
<b>Violent delinquency</b>	1	.308**	.174**	.153**	.060**	.253**	.284**
<b>Property delinquency</b>		1	.237**	.105**	.131**	.278**	.247**
<b>Illegal drug use</b>			1	.291**	.211**	.219**	.224**
<b>Tobacco use</b>				1	.159**	.142**	.187**
<b>Alcohol use</b>					1	.130**	.099**
<b>Stops/ Detention</b>						1	.702**
<b>Arrest</b>							1

*Note.* \*\*. Correlation is significant at the 0.01 level (2-tailed). Correlation greater than .5 is highlighted.

**Table 7.** *Pearson and phi correlations: Wave 3 dependent variables (binary-coded delinquency)*

	<b>Violent delinquency</b>	<b>Property delinquency</b>	<b>Illegal drug use</b>	<b>Tobacco use</b>	<b>Alcohol use</b>	<b>Stops/ Detention</b>	<b>Arrest</b>
<b>Violent delinquency</b>	1	.271**	.169**	.159**	.059**	.244**	.278**
<b>Property delinquency</b>		1	.224**	.100**	.134**	.260**	.231**
<b>Illegal drug use</b>			1	.291**	.211**	.219**	.224**
<b>Tobacco use</b>				1	.159**	.142**	.187**
<b>Alcohol use</b>					1	.130**	.099**
<b>Stops/ Detention</b>						1	.702**
<b>Arrest</b>							1

*Note.* \*\*. Correlation is significant at the 0.01 level (2-tailed). Correlation greater than .5 is highlighted. Violent and property delinquency are *binary-coded*.

As for the analytic plan, since the dependent variables will be used separately in

regression models, the significant relationships among the dependent variables would not be a problem. It is also worth noting that correlation coefficients among various types of delinquency and misconduct decrease as adolescents get older from Wave 2 to Wave 3. The decreases in the correlations might be a result of many youth reaching adulthood without engaging in delinquent behavior, even in the face of multiple risks (Moffitt, 1993).

### ***Independent Variables***

*Family structure stability* measures the changes in participants' family composition in a nearly one-year interval between Wave 1 and Wave 2. The variable accounts for the impact of both family structure type and its continuity on youth's behavioral development. Family structure was coded using responses from the household roster questions, which asked youth to report each residential family member and the relationship to the youth in both W1 and W2. The questions about the household roster were identical in both of these waves. Based on the family structure reported from two time points, family structure stability was then coded into eight categories:

(1) stable intact family (n= 2428; youth in two-biological-parent families for both Wave 1 and Wave 2),

(2) stable single biological mother family (n= 813; single-biological-mother families for both Wave 1 and Wave 2),

(3) stable single biological father family (n= 86; single-biological-father families in both Wave 1 and Wave 2),

(4) stable other family (n= 668; includes single biological parent with a stepparent/partner, other family arrangements, and adoptive or foster parent family). Youths who reported living with people other than any parent figure at both waves (n= 161) were coded as missing, since it was impossible to determine whether those youths were living with the same people during the two waves.

(5) reunion family (n= 64; any type of “broken homes” at Wave 1, but became intact two-biological-parent families at Wave 2),

(6) unstable breakup family (n= 275; family structure that changed from any two-parent family into a single-parent or no-parent family between W1 and W2),

(7) unstable formation family (n= 214; family structure that changed from a single-parent into a non-biological-two-parents family, or a no-parent family into a non-biological-two-parents family or into any single-parent family between W1 and W2), and

(8) unstable other (n= 125; other changes in family structure between Wave 1 and Wave 2. For example, youth moved from a two-biological-parent family at W1 to any other two-parent family type at W2, or moved from a single-mother family to a single-father family, etc.).

More descriptive information on the variable is presented in Table 8. Besides comparisons across the above distinct family types, the subsequent analyses will also compare stable versus unstable families overall to see if there are any differences in youths' behavioral outcomes.

With a growing number of “broken homes” and dual-worker households in today's society, grandparents play an increasing role in caring for their grandchildren in families (Griggs et al., 2010. Definition of “broken homes” is presented in the Appendix). In addition, studies indicate that the presence of grandparents in households is more prevalent among immigrant populations (Perez, 1994). Although research generally found positive relationships between grandparental involvement and child well-being, both psychologically and physically, the cross-sectional design of studies might have overlooked the sustained impact of grandparents' presence on young people's well-being (Griggs et al., 2010; Flouri et al., 2010; Attar-Schwartz & Khoury-Kassabri, 2016). This study also measures the *consistency of grandparent co-residence* between Wave 1 and Wave 2. The presence of grandparents is measured through co-residence with the family and coded into a categorical variable: (1) any grandparent residing with the family at both waves, (2) any grandparent residing with the family at a single wave (W1 or W2), and (3) no

grandparents residing with the family at either wave. As seen in Table 8, the majority of adolescents (91.4%) did not live with a grandparent at either wave.

**Table 8.** *Independent variables: Family structure/stability*

Independent Variables	%	N
Family structure stability between W1 and W2		4673
• <a href="#">Stable intact family</a> : Two-biological-parent families for both W1 and W2	52.0%	
• <a href="#">Stable single-mother family</a> : Single bio. mother families for both W1 & W2	17.4%	
• <a href="#">Stable single-father family</a> : Single bio. father families both W1 & W2	1.8%	
• <a href="#">Stable other family</a> : Includes single bio. parent with a stepparent/partner, adoptive parent family and foster parent family	14.3%	
• <a href="#">Reunion family</a> : “Broken homes” at W1, but became two-biological-parent families at W2	1.4%	
• <a href="#">Unstable breakup family</a> : Changed from any two-parent family in to a single-parent or no-parent family between W1 and W2	5.9%	
• <a href="#">Unstable formation family</a> : Changed from a single-parent into a non-bio. two-parent family, or no-parent family into a non-bio. two-parent family or into any single-parent family between W1 and W2	4.6%	
• <a href="#">Unstable other family</a> : Other changes in family structure between W1 and W2	2.7%	
* Missing: includes missing and no-parent family at both waves (N=161, 3.3% of 4834)		
Grandparents co-residence between W1 and W2		4834
• <a href="#">Consistent co-residence of grandparents at both waves</a> : Grandparent(s) present at both W1 and W2	4.8%	
• <a href="#">Co-residence of grandparents at a single wave</a> : Grandparent(s) present at W1 or W2	3.8%	
• <a href="#">No grandparent co-resident</a> : No grandparent present at either W1 or W2	91.4%	

*Note.* % is the valid percent; N is the valid sample size.

*Parenting practice components* are measured by four variables that attempt to capture the quality of a youth’s relationship with the parent (indirect parental control) and the degree of parental supervision and control (direct parental control). In particular, indirect parental control refers to parental warmth/attachment; direct parental control includes measurements of parental involvement in daily activities, youth’s autonomy, and physical presence of parents. Unlike



many other studies, in which parenting practice variables were coded from the primary caregiver (Hoeve et al., 2008; Meldrum, 2008; Menting et al., 2016) or from parents indistinguishably (Barnes et al., 2006; Henneberger et al., 2014; Jo & Zhang, 2014; Keijsers et al., 2010; Spano et al., 2011), the in-home Add Health survey asked participants the same set of questions to report the degrees of parental involvement, presence, and attachment with their residential mothers and fathers separately.

*Parental warmth and attachment* indicate indirect parental control. The present study adopts the higher score of child-parent attachment measurement between the two parents, although other studies tend to use the average or the sum of parental attachment when dealing with measures about both mother and father (Klevens & Hall, 2014). The reason to adopt the higher score is that, in a two-parent household, there is often a primary caregiver that is the parent who is best able to meet the child's needs, who is most willing to accept parental responsibilities, or who has been caring for the child the most. Also, youths from single-parent households do not necessarily obtain lower levels of parental warmth, and this way of measurement reflects this reality.

Some studies have shown that youth from single-parent households do not necessarily end up with adverse behavioral outcomes, especially when parental supervision and child-parent attachment are high (Amey & Albrecht, 1998; Schroeder et al., 2010). Gault-Sherman (2012) measured parental involvement (shared activities) using the maximum scores from 9

dichotomous items (any parent said yes would be counted in as 1 for such item; then, sum up all 9 items). This measurement would be better than using the mean, and might be good when measuring direct parental control, but the single parent families are still disproportionately underestimated. Although none of the previous studies reviewed had used the higher scale between the two parents to measure parent-child attachment, by adopting the higher score between the two parents instead of creating the sum or average, this study does not unfairly put single-parent families in a disadvantaged position when comparing them to two-parent families.

The resulting *scale of parental warmth and attachment* (indirect parental control) is measured by 5 items from the Add Health survey. Respondents reported their relationships and feelings toward their residential mothers and fathers: (1) How close do you feel to your mother/father? (2) How much do you think she/he cares about you? (3) Most of the time, your mother/father is warm and loving toward you; (4) You are satisfied with the way your mother/father and you communicate with each other; (5) You are satisfied with your relationship with your mother/father. Response options for the first two items were not at all=1, very little=2, somewhat=3, quite a bit=4, and very much=5. Items 3 to 5 had responses with answers: strongly agree = 1, agree = 2, neither agree or disagree = 3, disagree =4, and strongly disagree = 5. Since the Likert scales were similar but the coding direction was opposite, items 3 to 5 were reverse-coded to indicate the same measure as items 1 and 2, with higher scores signifying higher parental warmth/attachment. Then, this study takes the sum of these 5 items separately for

mother and father. The scales have a reasonably high internal consistency: Cronbach's Alpha values of .84 (Wave 1) and .83 (Wave 2) for mother's and Cronbach's Alpha values of .88 (Wave 1) and .87 (Wave 2) for father's. Next, the higher score between the parents is adopted as the estimate of parental warmth and attachment, if there were scores of both parents. The resulting scale ranges from 5 to 25 from both Wave 1 and Wave 2 and has a reasonably high internal consistency for both parents. The details are summarized in Table 9.

**Table 9.** *Independent variables: Indirect parental control*

Independent Variables	Descriptive Statistics	N	Cronbach's Alpha
Parental warmth and attachment (W1 and W2) <b>Sum of the following 5-point-answer-scale responses and adoption of the higher score between the two parents:</b> <ul style="list-style-type: none"> <li>How close do you feel to your {MOTHER/ADOPTIVE MOTHER/ STEPMOTHER/ FOSTER MOTHER/etc.}/ {FATHER/ADOPTIVE FATHER/STEPFATHER/FOSTER FATHER/etc.}?</li> <li>How much do you think your she/he cares about you?</li> <li>Most of the time, you're your mother/father is warm and loving toward you.</li> <li>You are satisfied with the way your mother/father and you communicate with each other.</li> <li>Overall, you are satisfied with your relationship with your mother/father.</li> </ul>	Mean (SD) [Range]  W1: 22.6 (2.88) [6-25]  W2: 22.3 (2.88) [5-25]	W1: 4765  W2: 4690	W1: M: .84 F: .88  W2: M: .83 F: .87

*Note.* N is the valid sample size; SD is standard deviation. W1 is Wave 1, and W2 is Wave 2. M indicates measures for mother; F indicates measures for father.

For measures of direct parental control variables (parent physical presence, youth autonomy, and parental involvement), the sum or the mean of parents' scores is often used as the estimate in other studies (Chen et al., 2009; Gault-Sherman, 2012), since two parents often share

responsibilities when caring for their children. In this case, adolescents from single-parent households would be more likely to have less direct parental control when compared to the youths from two-parent families. Therefore, consistent with the parenting practices literature, this study defines direct parental control measures following the standard approach of summing up the mother's and father's scores on the relevant scales. The following paragraphs list the in-depth measurements of direct parenting practice components.

*Direct parental control* is estimated by three variables, which are the physical presence of parents, youth autonomy, and parental involvement in youth's daily activities.

First, the *physical presence of parents* is measured using three items, which asked about how often youth's mother/father is at home (1) when the participant leaves for and returns from school, and (2) when he/she goes to bed. The questions asked about the mother and father separately. The responses to the questions were ordinal scales that included the following categories: always, most of the time, some of the time, almost never, and never. The responses were reverse coded as 5 to 1 respectively. The responses to the first item also include an option that indicates youths whose parents take them to and bring them back from school. Unlike studies that ignored this fact (Cundiff, 2013; Demuth & Brown, 2004; Leiber, et al., 2007; Leiber, et al., 2008), this study coded this response as 6 in the resulting scale, since these parents would provide more supervision by accompanying the child to and from school.

The sum of the aforementioned responses was created to measure parent presence. The higher score indicates more presence of a parent. The resulting index adopted the sum of the mother's and father's scores and ranges from 3 to 34 for both Wave 1 and Wave 2. Although the Cronbach's alpha values are low for both parents, the items were directly observable and meant to measure the availability of parents at different times of the day, and they were not a result of any underlying concept. Thus, high internal consistency is not expected for this index. More descriptive information is listed in Table 10.

Secondly, *youth autonomy* is another direct parental control variable; it is based on a set of seven dichotomous items, which asked respondents about the kinds of decisions their parents allow them to make: Do your parents let you make your own decisions about (1) the time you must be home on weekend nights? (2) The people you hang around with? (3) What you wear? (4) How much television you watch? (5) Which television programs you watch? (6) What time you go to bed on week nights? (7) What you eat? The responses are yes (coded as 1) and no (coded as 0). Consistent with prior research (Jiang & Peguero, 2017) that used Add Health data, the youth autonomy scale for this study was created by summing across these 7 items and ranges from 0 to 7 for both Wave 1 and Wave 2.

The higher score in the youth's autonomy indicates the youth has more freedom and less direct parental control. Thus, the youth autonomy is expected to be negatively related to parental control. Using youth autonomy to measure parental control avoids the criticism of measuring

adolescent disclosure by asking parents' knowledge of their child's activities, friends, and whereabouts (Gault-Sherman, 2012). The resulting youth autonomy scale ranges from 0 to 7 with the means of 5.02 (Wave 1, Cronbach's Alpha = .62) and 5.37 (Wave 2, Cronbach's Alpha = .65). Adolescents generally gain higher levels of freedom and less parental control over time (see Table 10 for more details).

*Parental involvement* is the third direct parental control variable. It is measured with 10 binary items, which provide detailed information about the extent to which parents are involved in various aspects of their adolescent children's lives. These parental involvement variables have been also used in other prior studies that estimate parental control or child-parent bonds (Cobb-Clark, & Tekin, 2014; Willgerodt, 2008). The Add Health project asked respondents to report about things they have done with their residential mothers/fathers in the past 4 weeks: (1) gone shopping, (2) played a sport, (3) gone to a religious service or church-related event, (4) talked about someone you're dating, or a party you went to, (5) gone to a movie, play, museum, concert, or sports event, (6) had a talk about a personal problem you were having, (7) had a serious argument about your behavior, (8) talked about your school work or grades, (9) worked on a project for school, (10) talked about other things you're doing in school. The responses were coded dichotomously, where yes=1 and no=0. Then, the sums of the responses were created to measure mother's and father's involvement separately and both range from 0 to 10 for both Wave 1 and Wave 2. Finally, the mother's and father's involvement scores were combined to

measure parental involvement in general, since shared activity participation requires parents' physical presence, which provides direct parental supervision on youth. The resulting index has a mean of 5.98 for Wave 1 and a mean of 6.11 for Wave 2. The Cronbach's alpha reliability coefficients are in the mid-range for both waves and for both parents (see Table 10 for more details).

**Table 10.** *Independent variables: Direct parental control*

Independent Variables	Descriptive statistics	N	Cronbach's Alpha
Physical presence of parents (W1 and W2) <b>Sum of the following responses and combining mother's and father's scores:</b> <ul style="list-style-type: none"> <li>How often is your parent at home when you leave for school?</li> <li>How often is your parent at home when you return from school?</li> <li>How often is your parent at home when you go to bed?</li> </ul>	Mean (SD) W1: 19.2 (6.06) W2: 19.4 (6.07) Range: 3-34	W1: 4765 W2: 4680	W1: M: .39 F: .26 W2: M: .35 F: .28
Youth Autonomy (W1 and W2) <b>Sum of the following responses</b> (7 binary items: yes=1, no=0): Do your parents let you make your own decisions about... <ul style="list-style-type: none"> <li>The time you must be home on weekend nights?</li> <li>The people you hang around with?</li> <li>What you wear?</li> <li>How much television you watch?</li> <li>Which television programs you watch?</li> <li>What time you go to bed on week night?</li> <li>What you eat?</li> </ul>	Mean (SD) W1: 5.0 (1.55) W2: 5.4 (1.55) Range: 0-7	W1: 4770 W2: 4699	W1: .62 W2: .65

Parental involvement (W1 and W2) <b>Sum of the following responses and combining mother's and father's scores</b> (10 items: yes=1, no=0): Which of the things listed on this card have you done with your {MOTHER/ADOPTIVE MOTHER/STEPMOTHER/FOSTER MOTHER/etc.}/ {FATHER/ADOPTIVE FATHER/STEPFATHER/FOSTER FATHER/etc.} in the past four weeks? <ul style="list-style-type: none"> <li>• Have you gone shopping?</li> <li>• Have you played a sport?</li> <li>• Have you gone to a religious service or church-related event?</li> <li>• Have you talked about someone you're dating, or a party you went to?</li> <li>• Have you gone to a movie, play, museum, concert, or sports event?</li> <li>• Have you had a talk about a personal problem you were having?</li> <li>• Have you had a serious argument about your behavior?</li> <li>• Have you talked about your school work or grades?</li> <li>• Have you worked on a project for school?</li> <li>• Have you talked about other things you're doing in school?</li> </ul>	Mean (SD) W1: 6.0 (3.35) W2: 6.1 (3.48) Range: 0-20	W1: 4767 W2: 4698	W1: M: .54 F: .55 W2: M: .57 F: .57
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*Note.* N is the valid sample size; SD is standard deviation. W1 is Wave 1, and W2 is Wave 2. M indicates measures for mother; F indicates measures for father.

**Sociodemographic variables.** *Race/Ethnicity* is one of the primary predictors of interest, and it was collected from Wave 1 data of the in-home Add Health survey based on responses from two questions: respondents were asked to identify their Hispanic origin and then report their racial/ethnic background as White, Black/African American, American Indian/Native American, Asian/Pacific Islander, or other. The present study recoded respondents' race/ethnicity into a nominal variable with five categories: Hispanic or Latino origin (11.7%), Non-Hispanic White (58.5%), Non-Hispanic Black (21.4%), Asian and Pacific Islander (3.1%), and other (5.3%). Non-Hispanic White served as the reference group in the analyses. American Indians/Native Americans and mixed-race respondents (people who marked more than one



race/ethnicity) were coded into “other”, since there was a very limited number of them. The details are summarized in Table 11.

Immigrant-generation and immigrant-family status was included as the fourth set of independent variables, which are measured by adolescents’ and their parents’ places of birth and the primary language spoken at home. Turney and Kao (2009) have found that, among immigrants, having a non-English primary language has a weaker relationship with parental involvement at school compared with Whites.

*Immigrant generational status* is coded from Wave 1 in-home questionnaire using three items: (1) Were you born in the US? (2) Was your resident mother born in the US? (3) Was your resident father born in the US? Following the generational status measurements of many empirical studies (Bersani, 2014; Brown et al., 2008; Jiang & Peguero, 2017), the current study defined immigrant generational status as coded into three groups (1 = yes, 0 = no): first generation, second generation, and third-plus generation. *First generation* indicates that the youth and at least one parent were born outside the U.S. *Second generation* adolescents were those who were born in the United States, but at least one parent was born outside the U.S. *Third-plus generation* includes youths who, along with both of their parents, were born in the United States. It also includes Americans who were born outside the US if the only or both parents were born in the U.S.

There are studies considering first generation to be foreign-born youth with both foreign-born parents (Bui, 2009). However, youths with one foreign-born parent and one native-born parent were omitted from this measurement. Also, there would be an increased number of missing values due to a significant lack of information on single-parent families. Therefore, as long as the foreign-born youth has one foreign-born parent, the current study defines the youth as a first-generation youth. Among Add Health sample, the majority of adolescents (n=4105, or 87.6%) were the third-plus generation youths, 354 (7.6%) youths were the second generation, and 225 (4.8%) were the first generation. Descriptive information about the variable is presented in Table 11.

The *English-speaking household* is based on respondents' Wave 1 reports on the question about whether English was the primary language spoken at home (then, coded as English=1, other=0). About 93% of respondents in the sample had English as their primary language at home. The details are summarized in Table 11.

**Table 11.** *Independent variables (sociodemographic): Race/Ethnicity and immigrant generational status*

Independent Variables	%	N
Race/Ethnicity (W1) <ul style="list-style-type: none"> <li>Are you of Hispanic or Latino origin?</li> <li>What is your race?</li> </ul>	Non-Hispanic White: 59% Non-Hispanic Black: 21% Hispanic/Latino origin: 12% Asian/Pacific Islander: 3% Other: 5%	4831
Immigrant generational status (W1) <ul style="list-style-type: none"> <li>Were you born in the U.S.?</li> <li>Was your resident mother born in the U.S.?</li> <li>Was your resident father born in the U.S.?</li> </ul> 1. <u>1<sup>st</sup> generation</u> : Child and at least one parent were born outside the U.S. 2. <u>2<sup>nd</sup> generation</u> : Child was born in the US. and at least one parent was born outside the U.S. 3. <u>3<sup>rd</sup> and plus generation</u> : Child and both parents were born in the U.S.	4.8% 7.6% 87.6%	4684
English-speaking household (W1) <ul style="list-style-type: none"> <li>What language is usually spoken in your home? (0-Other, 1-English)</li> </ul>	English: 93.2%	4833

*Note.* % is the valid percent; N is the valid sample size.

### ***Control Variables***

To identify the independent effects of the main predictive variables on adolescent delinquency, it is important to control for the influence of other potential confounding variables found in prior research to be related to adolescent deviance. Therefore, a few factors that are likely to influence delinquent behavior and substance use are also included in the analytic models as control variables: respondents' demographic characteristics, family socioeconomic status, prior deviant behaviors, and prior violent victimization (Brown, 2004; Felson & Staff, 2006; Hoeve et al., 2008, 2012; Huh et al., 2006; Mrug & Windle, 2009).

Participants' demographic characteristics are controlled for in the statistical analyses, as most of the prior studies have done (for example, see Fomby & Sennott, 2013). *Age* of participant is calculated from Wave 1, and it is measured as the difference between the interview completion year and the youth's birth year. The resulting scale is coded in years and is a continuous variable. Adolescent respondents' ages range from 12 to 21 years old, with a sample mean of 15.63 years old in 1994-95 (Wave 1). *Gender* is a dichotomous variable gathered from Wave 1 data for whether the respondent is male (male=1, female=0). In the sample, 47.9% of respondents are male (see Table 12 for more details).

Family socioeconomic resources often have been found as a significant predictor of youth antisocial behaviors (Brown, 2004; Brown et al., 2008). Poverty has long been shown to exhibit adverse effects on people's lives, physically and psychologically, such as low educational levels for both parents and their children, living in socially disorganized neighborhoods, showing socio-emotional problems, and engaging in serious antisocial behaviors (Rekker et al., 2015; Sheely-Moore & Bratton, 2010). In addition, there are research studies showing that poverty is often associated with poor parenting practices such as neglect (Ryan et al., 2013). Therefore, it is important to include socioeconomic status indicators as control variables when testing the impact of other predictive factors.

The present study uses the educational levels of parents and whether any parent was receiving public assistance as estimates of family socioeconomic status. Although the Add

Health parent questionnaire asked the parents to report their family income, which could be a better measurement, the current study did not include it due to a large number of missing values (32%) in the variable. *Parents' educational levels* were extracted from responses to two questions that asked how far in school (1) the resident father and (2) resident mother went. There are 34% of missing values in the father's educational level, largely due to a great percentage of single-mother households in the sample. Also, since the mother's educational level is highly associated with father's, only mother's score was used to measure the parents' education level. If mother's educational level was not reported, father's score was then adopted. The responses were measured on a 10-point ordinal scale. The responses to the question ranged from never went to school (coded 10 and recoded into 0 in this study) to beyond 4-year college/university (coded as 9). The higher score indicated that the parents were better educated and thus likely earned higher incomes. People who did not know or were not clear with the answer were coded as missing (4.6% of the sample).

*Public assistance* is also used to measure the lower socioeconomic class status, which is a scale comprised of yes and no responses to two questions that asked the respondent's resident mother and father if she/he was currently receiving public assistance such as welfare. The answers were collected from both Wave 1 and Wave 2. The present study combined the responses from both waves. The public assistance index was then coded as a dichotomous

variable, where yes=1 and no=0. When any resident parent has reported receiving public assistance at Wave 1 and/or Wave 2, such family is coded as 1 (see Table 12 for more details).

**Table 12.** *Control variables (sociodemographic): Age, gender, and estimates of family socioeconomic status*

Control Variables	Descriptive Statistics	SD	N (% missing)
Age (W1) Year of interview (W1) completion minus respondent's birth year	Mean (SD): 15.6 (1.60) Range: 12-21	1.60	4832 (.04% missing)
Gender (W1) Respondent's sex is male/female? (Male = 1, Female = 0)	Male: 47.9%	-	4834 (0% missing)
Educational level (W1) <b>Mother's educational level (father's score was used when mother's score was not reported):</b> <ul style="list-style-type: none"> <li>How far in school did your resident mother go?</li> <li>How far in school did your resident father go?</li> </ul>	Mean (SD): 5.5 (2.36) Range: 0-9	2.36	4613 (4.6% missing)
Public assistance (W1 and W2) <b>Any parent receives public assistance at any point of time during W1 &amp; W2.</b> <ul style="list-style-type: none"> <li>Does resident mother or father receive public assistance, such as welfare? (Y/N)</li> </ul>	Yes: 14.2%	-	4801 (0.7% missing)

*Note.* % is the valid percent; N is the valid sample size; SD is standard deviation. W1 is Wave 1, and W2 is Wave 2.

*Initial delinquency.* To better limit historical threats to the internal validity of the study, violent delinquency, property delinquency, and substance use data collected from Wave 1 (W1 for short) are included in the analyses as control variables. These variables were measured in the same ways as they were measured and described above for Wave 2. Wave 1 property delinquency index ( $\alpha = .77$ ) ranges from 0 to 18 and has a mean value of 1.17. Wave 1 violent

delinquency index ( $\alpha = .72$ ) ranges from 0 to 12, with a mean of 1.00. As the distributions of delinquency measurements were severely positively skewed, inverse transformations were applied. Due to the continuing skewness of the variable distribution, dichotomous variables were also created. Substance use (W1) had a mean of .88 and a range from 0 to 3. Nearly half of respondents (49.8%) were non-users of any substance at Wave 1 (see Table 13 for more detailed descriptive statistics).

*Initial violence exposure/victimization.* The measure includes five items reflecting serious direct and indirect violent victimization reported at Wave 1. Respondents were asked how many times during the past 12 months did each of the following things happen: (1) you saw someone shoot or stab another person, (2) someone pulled a knife or gun on you, (3) someone shot you, (4) someone cut or stabbed you, and (5) you were jumped. Response options for each item included never (coded as 0), once (coded as 1), and more than once (coded as 2). The violence exposure/victimization index was first created by summing up across these 5 items (Cronbach's  $\alpha = .68$ ). Since the resulting index was highly positively skewed (skewness = 3.141) with a sample mean of .51 and a range from 0 to 10, the violence exposure/victimization index for this study was inversely transformed  $[1/(x+1)]$  for normality. Although the variable distribution is still slightly skewed, as a control variable, it would not be a serious issue for a regression model. In addition, when testing correlations between immigrant status, race/ethnicity, and initial deviance, the dichotomously coded initial deviance measures were used. In the sample, over 37%

respondents reported ever committed a property delinquency, and about 42% reported a violent delinquency, and 1161 (24.2%) adolescents reported at least one type of violent exposure experience at Wave 1. The details are summarized in Table 13.

**Table 13.** *Control variables: Initial delinquency and initial violence exposure*

Control Variables	Mean / %	SD	N	Cronbach's Alpha
Property delinquency (Wave 1) <b>Sum of the following responses and inverse transformation applied</b> In the past 12 months, how often did you... (6 items) <ul style="list-style-type: none"> <li>deliberately damage property that didn't belong to you?</li> <li>take something from a store without paying for it?</li> <li>steal something worth more than \$50?</li> <li>go into a house or building to steal something?</li> <li>steal something worth less than \$50?</li> <li>drive a car without its owner's permission?</li> </ul>	.74 Yes: 37.8%	.34	4781	.77
Violent delinquency (Wave 1) <b>Sum of the following responses and inverse transformation applied</b> In the past 12 months, how often did you... (4 items) <ul style="list-style-type: none"> <li>hurt someone badly enough to need bandages or care from a doctor/nurse?</li> <li>use or threaten to use a weapon to get something from someone?</li> <li>take part in a fight where a group of your friends was against another group?</li> <li>get into a serious physical fight?</li> </ul>	.85 Yes: 42.6%	.27	4788	.72
Substance use (Wave 1) <ul style="list-style-type: none"> <li>Have you used alcohol in the past 12 months? (Yes=1, No=0)</li> <li>Have you used tobacco in the past 30 days?</li> <li>Have you used any illegal drug in the past 30 days?</li> </ul>	Yes: 43.3% Yes: 27.1% Yes: 13.5%	-	4823 4822 4790	NA NA .301



Violence exposure (Wave 1) <b>Sum of the following responses</b> Past 12 months, how often did each of the following things happen? <ul style="list-style-type: none"> <li>You saw someone shoot or stab another person.</li> <li>Someone pulled a knife or gun on you.</li> <li>Someone shot you.</li> <li>Someone cut or stabbed you.</li> <li>You were jumped.</li> </ul> <b>Then, inversely coded</b>	Mean: .50 Range: 0-10 Skewness: 3.228 Yes: 24.2%	1.17	4797	.68
	Mean: .85 Skewness: -1.405	.27		

Note. % is the valid percent; N is the valid sample size.

**Table 14.** High Pearson correlations among independent and control variables: Possible solutions

Variables with correlation coefficients > 0.5	Solutions
W1 Parent presence vs Stable bio. two-parent family: .584** W1 Parent presence vs Stable bio single-mother family: -.536**	Split the sample into groups by family structures for analysis, or <b>test variables in separate models</b>
Grandparents in neither wave vs grand. in a single wave: -.648** Grandparents in neither wave vs grand. in both waves: -.731**	<b>Grandparents in neither wave will be the reference group</b>
3 <sup>rd</sup> + generation vs 1 <sup>st</sup> generation: -.598** 3 <sup>rd</sup> + generation vs 2 <sup>nd</sup> generation: -.761**	<b>3<sup>rd</sup>+ generation will be the reference group</b>
Language used at home vs 3 <sup>rd</sup> + generation: .610** Language used at home vs 1 <sup>st</sup> generation: -.609** Language used at home vs Hispanic origin: -.504**	<b>Remove language used at home from the main regression models, but test it within the 1st-generation</b>
Parent presence W1 vs Parent presence W2: .655** Parental involvement W1 vs Parental involvement W2: .510** Parental warmth W1 vs Parental warmth W2: .588**	<b>Avoid using two waves' parenting measures in the same model.</b>
W2 Parent presence vs Stable two-bio-parent family: .537** W2 Parent presence vs Stable single-bio-mother family: -.571**	Split the sample into groups by family structures for analysis, or <b>test variables in separate models</b>
W1 violent delinquency vs W1 violence exposure: .553** (When both variables are inversely coded, the correlation is reduced to .459**)	<b>Use the more influential variable, or test variables in separate models</b>

Note. \*\*. Correlation is significant at the 0.01 level (2-tailed). The solutions in bold font are adopted.

Bivariate Pearson correlation analyses were conducted between independent and control variables to detect any potential issues with multicollinearity in regression models. Since all variables are either continuous or dummy variables, Pearson correlations were adopted. Many variables are significantly associated with one another, but very few of the variables have correlation coefficients that are greater than .50. Based upon the correlation results, the variable of language used at home is removed from the main analysis models, but it is tested within the first generation. Reference groups for certain variables are fixed. After the proper adjustments, multicollinearity is not an issue in the regression models in this study. Variables with correlation coefficients that are greater than .50 are listed in Table 14 shown above.

### **Analytic Strategy**

This study used data from the National Longitudinal Study of Adolescent to Adult Health (Add Health), which included information regarding adolescents' family structure, child-parent relationships, parenting practices, behavioral outcomes, and youth experiences in the justice system. As described above, these data enable the present study to examine 1) the relationships among family structure, parenting practice, and juvenile delinquency, 2) the effects of immigrant generational status on youth behavioral development outcomes, and 3) racial/ethnic variation in above relationships.

The analytic model estimation was conducted using statistical analyses performed in IBM SPSS version 27. The analyses utilized regression models to predict levels of violent, property, and substance-use delinquency. Since most delinquent indices contain many zeroes and are distributed with overdispersion, variable transformations were applied using inverse numbers ( $1/x$ ) after adding 1 in each case. Due to the continued skewness of delinquency measure distributions after transformation, dichotomous variables were created for all delinquency indices. In addition, other methods of variable transformation and recoding were applied according to the needs of each hypothesis. Details can be seen in the later chapter when results are discussed for individual hypotheses.

*Descriptive statistics* were used to describe the mean, standard deviation, percentage, and sample size of the main testing variables across family structure types, immigrant generational groups, and racial/ethnic groups (See Table 15 in the later text as an example). Due to the small size of certain subgroups, regression models can be inappropriate to use. In that situation, answers to some research questions would rely more on the analysis of descriptive statistics, which provided direct observations about the Add Health sample. Descriptive statistics were provided to show sample composition when two independent factors are considered. For instance, a cross tabulate shows the number and percent of respondents living in a stable intact family with grandparents in both Wave 1 and Wave 2 (See Table 19).

*Inferential statistics.* The Pearson coefficient was used to estimate the degree of association between two continuous variables, the phi coefficient was recorded to measure the degree of association between two dichotomous variables, and the point biserial correlation coefficient was used to measure the degree of association between a continuous variable and a dichotomous variable. To eliminate the problem of possible partialling fallacy, predictive variables that were less correlated with the outcome variables were dropped from the regression models. That is, if the correlation between two independent/control variables is higher than either of these two variables' correlation with the dependent variable, the independent/control variable with the lower correlation coefficient with the dependent variable will be excluded from the regression model (Gordon, 1968).

In general, since many of the delinquency variables are dichotomous measures, hierarchical binary logistic regression is the most appropriate method of analysis. More specifically, when testing the effects of independent variables of dichotomous outcomes, such as the effects of family structure stability on youth delinquent outcomes, binary logistic regressions were adopted.

Also, these analytic models were estimated separately for concurrent delinquency (Wave 2) and subsequent crime (Wave 3). For both short-term and long-term examinations, this study first estimated reduced models with control variables only (i.e., age, gender, family socioeconomic variables, initial delinquency scales, and previous violence exposure) as predictors in order to observe their impacts on the levels of concurrent and subsequent self-

reported delinquency. Building on the baseline models, additional blocks of predictors grouped by theory and empirical research (e.g., family structure stability, parenting practice components, immigrant generational status, and race/ethnicity) were then added in subsequent models.

A cross-lagged panel design was adopted to indicate whether Wave 1 parenting predicts Wave 2 adolescent behavioral outcomes and whether Wave 1 delinquency predicts Wave 2 parenting practice scores in research question 2b (RQ2b). Hierarchical binary logistic regressions were used to indicate possible correlations between Wave 1 parenting practices and Wave 2 adolescent delinquency; and hierarchical multiple linear regressions were used when testing reciprocal relationships between W1 youth deviant acts and W2 parental control levels, which are dependent variables and were coded as continuous variables.

## **Summary**

This chapter of methodology described the data, operationalization of measures, research hypotheses, and analytic plan for the present dissertation. The current study used the Public-Use Add Health sample (n=4834, participated in both W1 and W2) to examine research questions about the effects of family-related factors, respondents' immigrant generational status, and race/ethnicity on juvenile delinquency measures. The descriptions of the study variables, including the dependent variables, independent variables, and control variables, were given. The main outcome variables were operationalized and recoded to measure youth concurrent and

subsequent delinquency (property and violent), substance use, and formal police contact (stop/detention and arrests).

The main independent variables included family structure stability across Waves 1 and 2, grandparent co-residence, parenting practice and its stability, immigrant generational status, and respondents' race/ethnicity. Sociodemographic control variables such as gender, age, and socioeconomic status at baseline were also included. The present dissertation investigates four research aspects translated into eleven research questions, which were described above. Also, the analytic plan was summarized in this chapter. Bivariate analyses report descriptive statistics, which were used to identify differences across groups in self-reported juvenile deviant activity indices. These analyses aim to determine the prevalence and patterns of associations between independent variables and adolescent deviant behaviors over time.

Multivariate analyses produce inferential statistics that examined the significant associations between indicators (such as family structure stability) and outcome variables (such as adolescent delinquency and police contact). To test some of the hypotheses/research questions, it was possible to estimate regression models to assess the significance and the strength of the key independent variables and their interactions on the likelihood of youth concurrent and subsequent deviance and later encounter with justice system. More specifics are given in the following chapter, which presents the detailed analytic methods and testing results of each individual hypothesis/research question.

## **CHAPTER V: RESULTS**

In order to answer the research questions of the present study, the associated hypotheses are addressed in this chapter. Results of the analyses are organized into four sections corresponding to the four research aspects. The first section demonstrates the effects of family structure stability and grandparent co-residence on youth contemporaneous and subsequent delinquency indices. The second section aims at explaining how direct and indirect parental control under various family structures would impact juvenile delinquency measures over time. The third section indicates the role of immigrant generational status in developing adolescent behavioral outcomes. The last section of this chapter looks at the disparity of youth behavioral outcomes across races and ethnicities. Within each section, the thorough analytic methods and results are devoted to examining the research questions relating to the topic. Brief summaries are also provided at the end of each research question.

### **Section 1: Family Structure and its Stability**

This section is devoted to answering the following research question: How does youth's family structure and its stability affect delinquency and subsequent crime? There are three hypotheses created to address different aspects of this question. A series of descriptive statistics (see Tables 15 to 18) give an overview of youth behavioral patterns under the influence of family

structure stability and grandparent co-residence, as well as the nature of youth family composition.

**Table 15.** *Descriptive statistics: Wave 2 deviance by family structure stability type*

Family structure stability	Percentage of youths involved				
	Wave 2 (1996)				
	Property delinquency	Violent delinquency	Alcohol use	Tobacco use	Drug use
Stable two-bio-parent family (n=2381)	30.9%	25.8%	43.3%	34.2%	13.3%
Stable single-bio-mother family (n=792)	30.7%	32.4%	41.3%	33.5%	18.5%
Stable single-bio-father family (n=82)	37.2%	33.7%	51.2%	36.5%	21.7%
Stable other family (n=645)	29.8%	33.0%	49.1%	39.7%	18.2%
Reunion family (n=63)	34.4%	37.5%	39.1%	35.9%	9.5%
Unstable breakup family (n=264)	30.3%	30.5%	44.1%	38.2%	18.7%
Unstable formation family (n=205)	35.5%	32.5%	49.1%	45.5%	20.5%
Unstable other family (n=119)	37.4%	35.8%	44.0%	37.6%	24.8%
<b>Sample total (n=4551)</b>	<b>31.2%</b>	<b>29.1%</b>	<b>44.2%</b>	<b>35.8%</b>	<b>16.0%</b>

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

Table 15 demonstrates youth involvement in various types of delinquent activities at Wave 2, when the respondents were around 17 years old and were from different family structure types. As described in the earlier chapter, family structure stability measures the changes in participants' family structure in a nearly one-year interval between Wave 1 and Wave 2. Youth



from a *stable intact family* means living with two biological parents for both Wave 1 and Wave 2. *Stable single biological mother/father families* are single-biological-mother/father families for both Waves. *Stable other families* include single biological parent with a stepparent/partner, other family arrangements, and adoptive or foster parent families. *Reunion families* refer to any type of “broken homes” at Wave 1 but became two-biological-parent families at Wave 2.

*Unstable breakup families* are families that changed from any two-parent composition into a single-parent or no-parent family between W1 and W2. Family structure that changed from a single-parent into a two-parent family (at least one parent is not a biological parent), or a no-parent family into a non-biological-two-parent family or into any single-parent family between W1 and W2 are considered *unstable formation families*. The last family structure type, *unstable other families*, included all other changes in family structure between Wave 1 and Wave 2. For example, youth moved from an intact two-biological-parent family at W1 to any other two-parent family type at W2, or moved from a single-mother family to a single-father family, etc. In this case, youths were often moved into a household with new caregivers. Youths who lived without any parent in either wave were excluded from the analysis, since they might experience family structure changes which would not be captured in the data.

As shown in Table 15, about one third of youths have conducted some type of property and violent delinquent acts in the previous 12 months of the Wave 2 survey. Youths from stable intact two-parent families reported the least involvement in violent delinquency than youths from

all other family structure types. Nearly half of respondents reported under-age drinking. Family composition did not seem to have a clear impact on use of alcohol and tobacco. Compared to other delinquency measures, illegal drug use was least common, but there were still 1 in every 6 youths who have used drugs in the previous 30 days of the Wave 2 interview. Youths who lived with both biological parents reported lower levels of drug use.

**Table 16.** *Descriptive statistics: Wave 3 criminality by family structure stability type*

Family structure stability	Percentage of youths involved				
	Wave 3 (2001-2002)				
	Property delinquency	Violent delinquency	Police stop/detention	Arrests	Drug use
Stable two-bio-parent family (n=2031)	16.6%	11.1%	18.2%	8.3%	21.8%
Stable single-bio-mother family (n=611)	16.4%	15.2%	21.9%	13.1%	22.8%
Stable single-bio-father family (n=67)	19.4%	16.2%	28.8%	16.7%	30.4%
Stable other family (n=504)	15.9%	16.3%	19.3%	11.1%	25.0%
Reunion family (n=50)	22.0%	14.0%	18.0%	12.0%	18.0%
Unstable breakup family (n=203)	12.8%	12.8%	18.3%	11.8%	29.1%
Unstable formation family (n=156)	19.9%	16.7%	23.4%	20.8%	27.8%
Unstable other family (n=92)	21.7%	18.5%	19.8%	16.5%	30.4%
<b>Sample total (n=3714)</b>	<b>16.6%</b>	<b>13.1%</b>	<b>19.4%</b>	<b>10.6%</b>	<b>23.4%</b>

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

Table 16 indicates participants' involvement in delinquency and police contacts at Wave 3 across different family structure types. The distribution patterns were similar to Wave 2 ones. The magnitude of most delinquency measures has dropped over 50% from Wave 2 to Wave 3, except for illegal drug use. This finding is consistent with the age-crime curve and earlier studies that revealed a decline in deviance over time from adolescence to early adulthoods.

In general, based on Tables 15 and 16, youths from stable families, except for those from stable single-bio-father homes, were involved in less property delinquency than those who from unstable families. As it is expected, youths from stable two-bio-parent families reported lower levels of contemporaneous property and violent delinquency, substance use, and subsequent police contacts and arrests. More specifically, adolescents from stable intact families reported the least engagement in violence and formal police contact (stop/detention and arrests) compared to youths from other family structure types. Youths from reunited families reported higher involvement in both concurrent property and violent delinquency and subsequent property delinquency. But they appeared to report less engagement in substance use, especially in drug use. Also, these youths reported lower percentages of subsequent deviance measures. This is generally in line with the expectation that youths from a family with both biological parents were better off than those from other family structure types. Respondents from unstable breakup homes consistently reported least property and violent delinquency than those from other unstable family types, but they reported more drug use. Youths who lived with a single-bio-

father or in unstable formation families reported higher levels of deviant acts, formal police contact (stop/detention and arrests), and especially of drug use. Whether or not these effects are significant when other variables are taken into account is revealed by the regression models later in this chapter.

Besides family structure stability, grandparent co-residence was also planned to be included in the analyses. Living with grandparents may provide additional parental control or potential family conflicts, which may influence adolescent's behavioral development in a positive or a negative way. Tables 17 and 18 below provide the percentages of engagement in Wave 2 and Wave 3 delinquency and the later contact with criminal justice system.

During adolescence (W2), respondents who did not report living with a grandparent in either Wave 1 or Wave 2 reported lower levels of property and violent delinquency. Youths who reported consistent presence of grandparents in both waves reported less involvement in alcohol and tobacco use; whereas respondents who had lived with grandparents at a single wave appeared to have the most problematic behavioral outcomes (see Table 17). When respondents reached their early adulthoods at Wave 3, living without any grandparent presence in a household produced the best behavioral outcomes in all subsequent delinquency, police contact, and drug use measures (see Table 18).

**Table 17.** *Descriptive statistics: Wave 2 deviance by grandparent co-residence*

Grandparent co-residence	Percentage of youths involved				
	Wave 2 (1996)				
	Property delinquency	Violent delinquency	Alcohol use	Tobacco use	Drug use
No grandparent co-resident (n=4391)	31.1%	28.9%	44.6%	36.0%	16.0%
Grandparents present at a single wave (n=183)	34.4%	37.2%	44.3%	37.2%	17.2%
Grandparents present at both waves (n=233)	33.0%	31.3%	38.6%	30.0%	17.5%
<b>Entire sample</b> (n=4807)	31.3%	29.4%	44.3%	35.8%	16.1%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

**Table 18.** *Descriptive statistics: Wave 3 criminality by grandparent co-residence*

Grandparent co-residence	Percentage of youths involved				
	Wave 3 (2001-2002)				
	Property delinquency	Violent delinquency	Police stop/detention	Arrests	Drug use
No grandparent co-resident (n=3494)	16.7%	13.1%	19.3%	10.5%	23.1%
Grandparents present at a single wave (n=142)	19.0%	14.1%	20.4%	12.0%	29.6%
Grandparents present at both waves (n=187)	16.6%	16.6%	23.5%	15.0%	25.5%
<b>Entire sample</b> (n=3823)	16.8%	13.3%	19.5%	10.8%	23.4%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

Generally, youths without grandparent co-residence at both W1 and W2 reported better behavioral outcomes compared to those who had ever lived with grandparents in the same household, especially in the long term. More specifically, youths reported no grandparent co-

residence at either wave reported the lowest levels of property/violent delinquency and drug use at Wave 2; they also reported the least engagement in all W3 deviances and police contact measures compared to those who have ever lived with grandparents. Adolescents who lived with grandparents at a single wave reported the highest levels of concurrent deviant acts. Also, they consistently reported the highest levels of illegal drug use. For those who lived with grandparents at both waves, they reported the highest levels of violence and police contact (stop/detention and arrests). The above descriptive statistics give an overview of adolescent delinquency levels among the Add Health sample. The following paragraphs aim to examine the hypotheses that look at different aspects of the relationships between the family structure stability during adolescence and criminality measures over time.

***RQ1a:** How does family structure and its stability, as well as grandparent co-residence, affect adolescents' contemporaneous (W2) and subsequent (W3) delinquent behavioral outcomes, such as property and violent delinquency, substance use, and police contacts and arrests, when controlling for respondent's gender, age, and family socioeconomic status?*

Before testing this hypothesis, descriptive statistics of key variables are produced in cross tabulates (shown in Table 19 to Table 21). This background information could provide a good base of understanding about the Add Health sample. Then, hierarchical binary logistic regressions are used to identify significant associations between family structure variables and adolescents' contemporaneous (W2) and subsequent (W3) behavioral outcome measures.

Table 19 provides an overview of the sample distributions in each family arrangement type, including both family structure stability and grandparent co-residence during Wave 1 and Wave 2. Table 20 shows the commonality of grandparent co-residence across immigrant generations. The previous literature often found big household size among first-generation families (Clark et al., 2009; Van Hook & Glick, 2007).

**Table 19.** *Descriptive statistics: Family structure stability by grandparent co-residence*

Family structure stability	Grandparent co-residence			Total
	No grandparent presence	Grandparents presence at a single wave	Grandparents presence at both waves	
Stable two-bio-parent family	2331 (96%)	45 (1.9%)	52 (2.1%)	2428
Stable single-bio-mother family	707 (87%)	35 (4.3%)	71 (8.7%)	813
Stable single-bio-father family	76 (88.4%)	4 (4.7%)	6 (7%)	86
Stable other family	641 (96%)	15 (2.2%)	12 (1.8%)	668
Reunion family	59 (92.2%)	5 (7.8%)	0 (0%)	64
Unstable breakup family	252 (91.6%)	19 (6.9%)	4 (1.5%)	275
Unstable formation family	177 (82.7%)	27 (12.6%)	10 (4.7%)	214
Unstable other family	90 (72%)	19 (15.2%)	16 (12.8%)	125
<b>Total</b>	<b>4333 (92.7%)</b>	<b>169 (3.6%)</b>	<b>171 (3.7%)</b>	<b>4673 (100%)</b>

*Note.* Above figures are valid sample size or percent.

As shown in Table 19, less than 8% of respondents in the Add Health sample reported to have lived with their grandparents at a single wave or both waves. This percentage is low, even for the families of first-generation immigrant youths (10.2%, see Table 20). A possible reason may be that the first survey was administrated when youths were around 16 years old, while

grandparent co-residence is more likely to occur in a household when kids were young (before going to kindergarten/school), when more assistance was needed in the household.

**Table 20.** *Descriptive statistics: Immigrant generational status by grandparent co-residence*

<b>Immigrant generational status</b>	<b>Grandparent co-residence</b>			
	No grandparent co-residence	Grandparents present at a single wave	Grandparents present at both waves	<b>Total</b>
1 <sup>st</sup> generation	202 (89.8%)	12 (5.3%)	11 (4.9%)	225
2 <sup>nd</sup> generation	322 (91.0%)	12 (3.4%)	20 (5.6%)	354
3 <sup>rd</sup> + generation	3766 (91.7%)	149 (3.6%)	190 (4.6%)	4105
<b>Total</b>	322 (91.6%)	173 (3.7%)	221 (4.7%)	<b>4684 (100%)</b>

*Note.* Above figures are valid sample size or percent.

According to Table 19, youths in unstable other families (i.e., youth who moved from an intact two-biological-parent family at W1 to any other two-parent family type at W2, or moved from a single-mother family to a single-father family, etc.) reported the highest proportions of grandparent co-residence in the households, followed by those were from stable single-biological-mother families and unstable formation families (at least one parent is not biological parent). A temporary grandparent-stay (reported co-residence at a single wave) was more common for these unstable families.

This study also looks at the family socioeconomic status across grandparent co-residence family types; Table 21 below indicates that households without grandparent co-residence appeared to have a higher level of socioeconomic status measures. These families had mothers with higher educational levels and were less likely to receive public assistance compared to



families with grandparent co-residence at a single or both waves. Therefore, living with grandparents may be a result of financial hardship instead of childcare-assistance needs from grandparents, at least among families with teenage youths in the Add Health sample.

**Table 21.** *Descriptive statistics: SES variables by grandparent co-residence*

<b>Grandparent co-residence</b>	<b>Ever received public assistance at W1 or W2</b>	<b>Mother's educational level</b>
	<b>%</b>	<b>Mean (SD)</b>
No grandparent co-resident (n=4224)	13.2%	5.58 (2.36)
Grandparents present at a single wave (n=169)	25.8%	4.88 (2.41)
Grandparents present at both waves (n=219)	23.7%	5.09 (2.38)
<b>Total (n=4612)</b>	<b>14.2%</b>	<b>5.53 (2.36)</b>

*Note.* n means valid sample size; % means valid percent.

After looking at the descriptive statistics that provided an overview of the sample composition, inferential statistics are produced to examine the influence of family structure factors on youth behavioral outcomes. Based on the cross tabulate shown in Table 19, there are many subgroups that contain very few study objects. For instance, there was no reunion family that has reported persistent grandparent co-residence in both waves, and there were only four stable single-biological-father families that have reported any grandparent presence in a household at a single wave. Findings based on limited units of analysis could be misleading.

Thus, to mitigate the issues of small subgroup size, family structure stability and grandparent co-residence status were tested in separate regression models. The following tables illustrate the results of the hierarchical logistic regression models. Tables 22 to 25 demonstrate

two-step logistic regression models. Step one provides the baseline that controls for demographic variables, including respondent's age, gender, and family socioeconomic status. At the second step, family structure stability types are added into the models. Stable two-biological-parent family is treated as the reference group in comparing to other family types. In the tables below, only significant odds ratios are shown.

### *Family Structure Stability*

**Table 22.** *Hierarchical logistic regression: Family structure stability and Wave 2 delinquency*

Independent variables	Exp B			
	Wave 2 (1996)			
	Property delinquency		Violent delinquency	
Age	.93***	.92***	.94**	.94**
Gender (male)	1.45***	1.45***	2.08***	2.10***
Mother's educational level	—	—	.93***	.93***
Public assistance	—	—	1.45***	1.33***
<b>Family structure stability</b>				
Stable two-bio-parent (R)				
Stable single-bio-mother	—		1.34**	
Stable single-bio-father	—		—	
Stable other family	—		1.38**	
Reunion family	—		—	
Unstable breakup family	—		—	
Unstable formation family	—		—	
Unstable other family	—		—	

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

When assessing the effects of youth demographic factors and family structure stability on concurrent (W2) juvenile delinquency, the following findings emerged (see Table 22). Older youths were found to be less likely to engage in both property and violent delinquency during adolescence. Males were nearly 1.5 times more likely to commit property delinquency and twice more likely to commit violent delinquency compared to females. Family structure stability did not have a significant impact on juvenile concurrent property delinquent acts. But, in comparing to youths from stable intact families, those from stable single-biological-mother households and stable other families were over 30% more prone to violent delinquency.

Table 23 shown below indicates the effects of demographic and family structure stability variables on respondents' later (W3) criminal activity measures. Both property and violent delinquency decrease with age, but the decreases are sharper for females than for males, especially in violent delinquency. Youths from families that ever received public assistance were around 1.4 times more likely to report property delinquency and 1.5 times more likely to report violent delinquency at Wave 3. But receiving public assistance was not found significant when predicting property delinquency at Wave 2. Mother's educational level was not significant for subsequent violent deviance and was unexpectedly found to be positively related to property delinquency.

The effect size of demographic variables became bigger over time from Wave 2 to Wave 3, especially when looking at the gender disparity. In predicting Wave 2 delinquency, male

youths were nearly 1.5 times more likely to commit property delinquency and 2 times more likely to commit violent delinquency compared to females. By Wave 3, males were about 3 times higher on property crime and over 4 times higher on violent crime in contrast to female respondents.

**Table 23.** *Hierarchical logistic regression: Family structure stability and Wave 3 delinquency*

Independent variables	Exp B			
	Wave 3 (2001-2002)			
	Property delinquency		Violent delinquency	
Age	.82***	.81***	.87***	.86***
Gender (male)	2.88***	2.90***	4.84***	4.90***
Mother's educational level	1.08***	1.079***	—	—
Public assistance	1.38*	1.353*	1.67***	1.48**
<b>Family structure stability</b>				
Stable two-bio-parent (R)				
Stable single-bio-mother	—		1.48**	
Stable single-bio-father	—		—	
Stable other family	—		1.56**	
Reunion family	—		—	
Unstable breakup family	—		—	
Unstable formation family	—		—	
Unstable other family	—		1.96*	

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

With regard to family structure stability, it still was not associated with property delinquency at Wave 3. But family structure stability influenced Wave 3 violent delinquency in a similar way as the way in which it influenced Wave 2's. Results indicated that participants from

stable single-biological-mother families, stable other families, and unstable other families were 48% to 96% more likely to report violent activities during early adulthood comparing to those who came from stable intact families. That is, it is more likely to produce adverse impacts on youths behavioral outcomes, if such youths were living with a single-mother, living with single mother/father with a partner, living with parents who were not biological parents, withdrawing from a two-biological-parent family at W1 to any other two-parent family type at W2, moving from a single-mother family to a single-father family, and etc. In the light of results from both Wave 2 and Wave 3 regression models, family structure stability appeared to be associated with both short-term and long-term violent behaviors but not with property delinquency.

When looking at adolescent contemporaneous (W2) substance use, age appeared to be positively related to all substance use factors (as indicated in Table 24 below). Gender and mother's educational levels did not seem to make a difference in underage drinking and drug use. At the same time, being a male and with less educated mothers made one more prone to use tobacco during adolescence. Public assistance reception was only significantly negatively related to teenage alcohol use. That is, youths from a family that reported ever receiving public assistance were 20% less likely to use alcohol at Wave 2.

Family structure stability types were found significantly related to all substance use. Comparing to youths from stable intact families, those who from stable other families were about 30% more likely to use alcohol, 20% more likely to use tobacco, and 43% more likely to use

illegal drugs. Respondents from unstable formation families were about 40% more likely to report tobacco use and 51% more to use drugs. Youths from stable single-biological-mother families and unstable other families were also more prone to drug use relative to those who were from stable intact families.

**Table 24.** *Hierarchical logistic regression: Family structure stability and Wave 2 substance use*

Independent variables	Exp B					
	Wave 2 (1996)					
	Alcohol use		Tobacco use		Drug use	
Age	1.28***	1.26***	1.16***	1.16***	1.16***	1.16***
Gender (male)	—	—	1.20**	1.20**	—	—
Mother's educational level	—	—	.95***	.95***	—	—
Public assistance	.80*	.80*	—	—	—	—
<b>Family structure stability</b>						
Stable two-bio-parent (R)						
Stable single-bio-mother					1.49***	
Stable single-bio-father					—	
Stable other family	1.30**		1.20*		1.43**	
Reunion family	—		—		—	
Unstable breakup family	—		—		—	
Unstable formation family	—		1.40*		1.51*	
Unstable other family	—		—		1.78*	

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

**Table 25.** Hierarchical logistic regression: Family structure stability and Wave 3 criminality

Independent variables	Exp B					
	Wave 3 (2001-2002)					
	Police stop/ detention		Arrests		Drug use	
Age	.90***	.90***	—	—	.89***	.88***
Gender (male)	3.75***	3.78***	5.31***	5.43***	1.72***	1.71***
Mother's educational level	1.05**	1.05**	—	—	1.05**	1.05**
Public assistance	—	—	1.65**	—	—	—
<b>Family structure stability</b>						
Stable two-bio-parent (R)						
Stable single-bio-mother	1.37*		1.73***		—	
Stable single-bio-father	—		—		—	
Stable other family	—		—		—	
Reunion family	—		2.55*		—	
Unstable breakup family	—		—		1.64**	
Unstable formation family	—		2.76***		—	
Unstable other family	—		2.19*		1.76*	

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

Table 25 presents the regression model results of the family structure stability effects on respondents' later (W3) formal police contact and adulthood (W3) drug use. The findings indicate that respondents tend to age out of deviant behaviors, but age did not significantly predict arrests. Consistent with prior study findings, males were found to be more prone to all types of criminality measures. Again, mother's educational level was unexpectedly found to be positively related to police stop and drug use. Parental educational levels and receipt of public assistance both aim at measuring family socioeconomic status, but these two factors appeared to

have opposite impacts on respondents' later non-violent delinquent behaviors in the Add Heath sample. In order to eliminate the possible partialling fallacy in a regression model, parental educational levels and receipt of public assistance were also tested in separate models, which still produced the same results as shown in Table 25. It appeared that parental education was positively related to police stop/detention (whereas the impact power was limited), and receipt of public assistance was positively associated with arrests. Thus, whether these two variables measure the same thing becomes doubtful. Also, it is possible that, among youths from poor families, those with higher educated mothers may engage in more defiant behaviors that lead to police stops or detentions but do not rise to the level requiring an arrest.

In analyzing the lasting effects of family structure stability, this study found significant relationships between previous family structure stability and adulthood police contact measures and illegal drug use. In general, youths from stable two-biological-parent families tend to act approximately the same as or better than youths from other family types, across all deviant measures, both contemporaneously and subsequently. More specifically, results revealed that respondents from stable single-biological-mother families were 1.4 times more likely to report police stops/detentions and 1.7 times more likely to report arrests than those from stable intact families did. Youths from reunion, unstable formation, and unstable other families also reported higher arrests. That is, besides single-mother family, family formation and family instability appeared to have negative impacts on youth behavioral outcomes. For later illegal drug use,



youths from unstable breakup and unstable other families were around 70% more at risk than those from stable intact families.

### *Grandparent Co-residence*

Besides family structure stability, grandparent co-residence was also tested but in separate regression models in predicting the same sets of youth deviant behaviors. Tables 26 to 29 demonstrate the results of the regression models, which aim to indicate the short-term and long-run effects of grandparent co-residence in households on youth criminality measures.

**Table 26.** *Hierarchical logistic regression: Grandparent co-residence and Wave 2 delinquency*

Independent variables	Exp B			
	Wave 2 (1996)			
	Property delinquency		Violent delinquency	
Age	.92***	.92***	.94**	.93**
Gender (male)	1.44***	1.44***	2.08***	2.09***
Mother's educational level	—	—	.93***	.93***
Public assistance	—	—	1.46***	1.45***
<b>Grandparent co-residence</b>				
No grandparent presence (R)				
Presence at a single wave	—		1.39 (p=.052)	
Presence at both waves	—		—	

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

**Table 27.** Hierarchical logistic regression: Grandparent co-residence and Wave 3 delinquency

Independent variables	Exp B			
	Wave 3 (2001-2002)			
	Property delinquency		Violent delinquency	
Age	.82***	.82***	.87***	.87***
Gender (male)	2.81**	2.82***	4.58***	4.60***
Mother's educational level	1.07***	1.07***	—	—
Public assistance	1.38*	1.37*	1.63***	1.62***
<b>Grandparent co-residence</b>				
No grandparent presence (R)				
Presence at a single wave	—		—	
Presence at both waves	—		—	

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

Tables 26 and 27 indicate a limited impact of grandparent co-residence in households on youths' concurrent (W2) and subsequent (W3) delinquent activities. Although adolescents from families with a grandparent present at a single wave (ever lived with grandparents during Wave 1 or Wave 2) reported higher engagements in Wave 2 violent delinquency (see Table 17), the difference was close to significant but not quite ( $p=.052$ ). This could be a result of the limited group size, since less than 8% of respondents in the Add Health sample reported to have lived with their grandparents at a single wave or both waves.

When assessing the effect of grandparent co-residence on subsequent property and violent deviance, the findings revealed no significant relationships. Although youths from families that ever lived with grandparents reported higher levels of engagement in the subsequent

criminality measures compared to those who had not (see Table 18), the differences of the involvement were not found significant. For the most part, based on the regression results and descriptive frequencies, grandparent presence did not appear to provide positive parental supervision and its effects in bivariate analyses are likely explained by the fact that grandparent co-residence is an indicator of financial troubles and family instability.

**Table 28.** *Hierarchical logistic regression: Grandparent co-residence and Wave 2 substance use*

Independent variables	Exp B					
	Wave 2 (1996)					
	Alcohol use		Tobacco use		Drug use	
Age	1.28***	1.28***	1.16***	1.16***	1.15***	1.15***
Gender (male)	—	—	1.20**	1.20**	—	—
Mother's educational level	—	—	.95***	.95***	—	—
Public assistance	.81*	.82*	—	—	—	—
<b>Grandparent co-residence</b>						
No grandparent presence (R)						
Presence at a single wave	—		—		—	
Presence at both waves	—		—		—	

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

When assessing the impact of grandparent co-residence in households on concurrent (W2) juvenile substance use, the following findings emerged (see Table 28). The effects of demographic variables were consistently similar to the previous tests' results. It would be worth to mention that age was positively related to all underage substance use. Moffitt's (1993) idea of adolescence-limited offenders may apply to this finding. At Wave 2, youths were 13-22 years old

(average age was 17). Youths might want to try ‘cool’ things when they were young. At wave 3, the average age of participants reached 23. Age became negatively associated with criminality measures or it did not seem to make a difference (see Table 29). In terms of grandparent co-residence, there was no significant effect revealed on teenage substance use variables. The descriptive statistics provide mixed results (refer to Table 17).

**Table 29.** *Hierarchical logistic regression: Grandparent co-residence and Wave 3 criminality*

Independent variables	Exp B					
	Wave 3 (2001-2002)					
	Police stop/ detention		Arrests		Drug use	
Age	.90***	.90***	—	—	.90***	.90***
Gender (male)	3.80***	3.82***	5.29***	5.43***	1.75***	1.76***
Mother's educational level	1.05*	1.05*	—	—	1.05*	1.05*
Public assistance	—	—	1.64**	1.63**	—	—
<b>Grandparent co-residence</b>						
No grandparent presence (R)						
Presence at a single wave	—		—		1.49*	
Presence at both waves	—		1.64*		—	

Notes: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

As shown in Table 29, when assessing the effect of grandparent co-residence on respondent's later (W3) criminality measures, grandparent co-residence status appeared to have a potential lagged effect on self-reported arrests and subsequent drug use. Youths who have lived with grandparents at both Wave 1 and Wave 2 were 64% more likely to report arrests at Wave 3 compared to those who haven't lived with grandparents at neither wave. Youths who have lived

with grandparents at a single wave (W1 or W2) reported 49% more adulthood drug use than their counterparts who lived without grandparents. Therefore, again, instead of being an additional source of parental supervision, grandparent co-residence appeared to provide no impact or even have a negative impact on youth behavioral development.

*Summary RQ1a:* Finally, when looking at how family structure stability and grandparent co-residence affect juvenile delinquent acts and early adulthood criminality, generally, this study found that these family factors had no impact on property delinquency. Respondents from stable intact families appeared to be at lower risk for violent delinquency and reported less police contact and drug use relative to other family structure types. Grandparent co-residence seems to have a delayed adverse effect on youths' more severe criminal acts (arrest and drug use). That is, three-generation families do not seem to be a promising family structure for adolescents' behavioral development.

***RQ1b:** Will the effect of family structure and its stability on adolescents' contemporaneous and subsequent delinquent behavioral outcomes change when initial delinquent involvement and violence exposure are taken into consideration?*

The previous literature has found solid evidence that indicates a strong relationship between people's initial deviant acts and later misbehaviors, including criminality. Therefore, the effect of family structure and its stability on the concurrent and subsequent delinquent activity

was expected to be mitigated when initial delinquent behaviors (W1) and violence exposure (W1) are taken into account. Comparing to RQ1a, to ensure the independent influence of family structural factors on youth behavioral development, the hypothesis RQ1b was created to include youth initial delinquency measures and violence exposure (see Table 13 for the detailed list of the variables) in the regression models.

Before estimating the regression models, test assumptions were considered and tested. Due to the strong interrelationships among assorted initial delinquent behaviors, bivariate correlation (Pearson's  $r$  and point biserial correlation) tests were conducted to eliminate the predictors that were highly correlated with each other, while keeping the most influential predictor in the later regression models predicting youths' subsequent delinquent acts. By doing so, possible issues of multicollinearity could be avoided for the later regression models.

To ensure the validity of the bivariate correlation tests, all scale level variables were inversely coded for the purpose of distributional normality. Also, three originally scale-level drug use variables were inversely coded for the same reason – to ensure normality. All correlation matrix was calculated for all initial delinquency measures and Wave 1 violence exposure measures, along with each subsequent (W2 & W3) delinquency measure (dependent variable); ten bivariate correlation tests were conducted. As the results of the correlation tests, Wave 1 property delinquency was found to be the most influential predictor of similar behaviors in Waves 2 and 3, as well as for police stop and detention at Wave 3. Wave 1 violent

delinquency is the strongest predictor of W2 and W3 violent delinquency. Initial alcohol and tobacco use predicted subsequent alcohol and tobacco use. Wave 1 drug use is not only the strongest predictor of Wave 2 and Wave 3 drug use but also of Wave 3 arrests. The significant correlations are summarized in Table 30.

**Table 30.** *Pearson and point biserial correlations: Wave 1 inverse-coded initial delinquency*

<b>Dependent Variables</b>	<b>Strongest predictor of W1 deviance (correlation coefficients)</b>
<b>Wave 2 (1996)</b>	
Property delinquency	W1 property delinquency (-.411***)
Violent delinquency	W1 Violent delinquency (-.425***)
Alcohol use	W1 Alcohol use (-.521***)
Tobacco use	W1 Tobacco use (-.546***)
Illegal drug use	W1 Drug use (-.439***)
<b>Wave 3 (2001-02)</b>	
Property delinquency	W1 property delinquency (-.205***)
Violent delinquency	W1 Violent delinquency (-.211***)
Police stop/detention	W1 property delinquency (-.190***)
Arrest	W1 Drug use (-.216***)
Illegal drug use	W1 Drug use (-.254***)

*Note.* Dependent variables are dichotomous variables; predictor variables are inversely coded.

\*\*\*. Correlation is significant at the .001 level (2-tailed).

After taking care of the issues of multicollinearity, hierarchical binary logistic regressions were then estimated to test the effect of family structure stability on youth behavioral outcomes at two points in time after controlling for youth initial delinquent experience. Tables 31 to 34 revealed the results of the three-step logistic regression models. Step one controlled for

demographic variables; step two added the most influential initial deviance measure; then the final step added family structure stability types into the models.

**Table 31.** *Hierarchical logistic regression: Family structure stability and Wave 2 delinquency (controlling for initial deviance)*

Independent variables	Exp B					
	Wave 2 (1996)					
	Property delinquency			Violent delinquency		
Age	.93***	.91***	.91***	.94**	.93**	.93**
Gender (male)	1.47***	1.22**	1.23**	2.08***	1.54***	1.55***
Mother's educational level	—	—	—	.93***	.95**	.95**
Public assistance	—	—	—	1.44***	—	—
W1 property delinquency		1.49***	1.49***			
W1 violent delinquency					1.68***	1.68***
<b>Family structure stability</b>						
Stable two-bio-parent (R)						
Stable single-bio-mother			—			—
Stable single-bio-father			—			—
Stable other family			—			1.34**
Reunion family			—			—
Unstable breakup family			—			—
Unstable formation family			—			—
Unstable other family			—			—

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

When assessing the impact of youth demographic factors and family structure stability on types of concurrent (W2) juvenile delinquency after controlling for youth initial deviance (measured one year before W2), the following findings emerged (see Table 31). Family structure



types were not significant in predicting property delinquent measures; after accounting for youths' initial violence, stable single-biological-mother family was no longer associated with youths' reported violent behaviors. The only significant family type is stable other family (i.e., families with a biological parent and a partner, adoptive/foster families, and stable single-non-biological-parent families). According to the regression, youths from stable other families were 34% more likely to engage in violent behavior than youths from stable two-biological-parent families. Additionally, the previous deviance was a more powerful predictor of both adolescent property and violent delinquency compared to youth's age, gender, mother's education levels, and family structure stability. That is, if a child had previously committed property delinquency, such person was about 1.5 times more likely to engage in later property crime; if a child had previously committed violent delinquency, such a person was about 1.7 times more likely to engage in later violence as well.

Table 32 below presents the regression models' results for Wave 3 (seven years after Wave 1) property and violent delinquency. The models tested the influences of demographic variables, which had increased greatly. Although initial deviance was still a significant predictor, it was no longer the strongest indicator of subsequent crime, when youths reached their early adulthood. Instead, being a male and living in poverty were the stronger risk factors. It is reasonable to conjecture that there may be some other undiscovered factors, besides initial deviance and family structures, that related to male gender and living with fewer financial

resources have a delayed adverse effect on people's behavioral outcomes. As for family structure types, youths from stable single-biological-mother and stable other families were still more likely to commit adulthood violence, even after controlling for prior violence and socioeconomic factors. Also, in contrast to stable intact family, the stability of other family structure forms seemed to have an increasing effect on violence in the long-term, which is unexpected.

**Table 32.** *Hierarchical logistic regression: Family structure stability and Wave 3 delinquency (controlling for initial deviance)*

Independent variables	Exp B					
	Wave 3 (2001-2002)					
	Property delinquency			Violent delinquency		
Age	.82***	.80***	.81***	.871***	.86***	.85***
Gender (male)	2.89***	2.64***	2.90***	4.89***	4.18***	4.23***
Mother's educational level	1.08***	1.08***	1.08***	—	—	—
Public assistance	1.40*	1.38*	1.35*	1.68***	1.51**	1.38*
W1 property delinquency		1.17***	1.17***			
W1 violent delinquency					1.28***	1.28***
<b>Family structure stability</b>						
Stable two-bio-parent (R)						
Stable single-bio-mother						1.36*
Stable single-bio-father						—
Stable other family						1.58**
Reunion family						—
Unstable breakup family						—
Unstable formation family						—
Unstable other family						—

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

**Table 33.** *Hierarchical logistic regression: Family structure stability and Wave 2 substance use (controlling for initial substance use)*

Independent variables	Exp B								
	Wave 2 (1996)								
	Alcohol use			Tobacco use			Drug use		
Age	1.29***	1.22***	1.13***	1.16***	1.05*	1.05*	1.16***	1.06*	—
Gender (male)	—	—	—	1.197**	—	—	—	—	—
Mother's educational level	—	—	—	.95***	.97*	.97*	—	—	—
Public assistance	.79*	.73*	.75*	—	—	—	—	—	—
W1 alcohol use		9.00***	9.02***						
W1 tobacco use					12.41***	12.43***			
W1 drug use								11.91***	11.84***
<b>Family structure stability</b>									
Stable two-bio-parent (R)									
Stable single-bio-mother									
Stable single-bio-father									
Stable other family									
Reunion family									
Unstable breakup family									
Unstable formation family									
Unstable other family									

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

Table 33 presents the associations of family structure stability types and respondents' Wave 2 substance use while controlling for youth's initial use of substances. The test results reveal that initial substance use has very likely absorbed the effects of the other indicators, such as demographic variables and family structure stability. Although age still has positive effects on substance use at this stage and poverty is associated with reduced alcohol use, the effect sizes

decreased after controlling for initial use of alcohol. Gender and family structure stability were no longer significant predictors of underage tobacco use. None of the demographic variables predicted adolescent illegal drug use.

Stable other family was the only significant risk factor of drug use, which may possibly be a statistical fluke (see Table 15). Based on self-reported initial substance use, youth who reported alcohol use at Wave 1 were 9 times more likely to report alcohol use at Wave 2; respondents with tobacco use at Wave 1 were over 12 times more likely to use tobacco at Wave 2; those who used drugs at Wave 1 were nearly 12 times more likely use drugs at Wave 2. In sum, the hierarchical regression models present evidence that is in line with the expectation: if a youth used any substance early on, the chance of such youth to continue using the substance would be enormous.

When predicting Wave 3 (seven years after Wave 1) police contact measures and illegal drug use, the influences of demographic variables have increased compared to the impact at Wave 2 (see Table 34). A similar picture that concerning trends and differentials emerges. Even though initial delinquency and drug use largely absorbed the effects of demographic variables and family structure stability on subsequent police stop/detention, arrests, and use of drugs, compared to Wave 2 models, effect sizes of the remaining significant variables have increased when predicting adulthood substance use. This is especially true for the variable of male gender. The models indicate that males were over 3 times more likely to be stopped or detained by

police, 5.8 times more likely to be arrested, and nearly 2 times more likely to use drugs than female respondents. There is also evidence that showed a strong relationship between initial drug use and subsequent arrests. People who reported using drugs at Wave 1 were 4.6 times more likely to continue using it seven years later; they were also 4.7 times more likely to report later arrests.

**Table 34.** *Hierarchical logistic regression: Family structure stability and Wave 3 criminality (controlling for initial deviance)*

Independent variables	Exp B								
	Wave 3 (2001-2002)								
	Police stop/detention			Arrests			Drug use		
Age	.90***	.89***	.89***	—	—	.93*	.89***	.84***	.83***
Gender (male)	3.75***	3.45***	3.49***	5.37***	5.68***	5.81***	1.73***	1.76***	1.75***
Mother's educational level	1.05*	1.05**	1.05*	—	—	—	1.05**	1.05**	1.05**
Public assistance	—	—	—	1.67**	1.56**	—	—	—	—
W1 property delinquency		1.19***	1.19***						
W1 drug use					4.94***	4.69***		4.61***	4.57***
<b>Family structure stability</b>									
Stable two-bio-parent (R)									
Stable single-bio-mother			1.33*			1.58**			—
Stable single-bio-father			—			—			—
Stable other family			—			—			—
Reunion family			—			—			—
Unstable breakup family			—			—			1.62**
Unstable formation family			—			2.46***			—
Unstable other family			—			—			—

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

Besides family structure stability, the hierarchical logistic regressions were also conducted to test the influence of living with grandparents on juvenile delinquent short- and long-term outcomes. In most models, grandparent co-residence was still not found significant after controlling for youth initial delinquency. Initial deviance measures influenced subsequent delinquency/criminality similarly. Therefore, the resulting tables are not included here. Among all regression models, only three produced significant findings. Youths from a family that had grandparents present at a single wave were 1.5 times (Exp B=1.53\*) more likely to report violent delinquency at Wave 2 than those who do not live with grandparents. Findings also indicated that youths from a family that had grandparents presented at both waves were 1.5 times (Exp B=1.47\*) more likely to report ever being stopped/detained at Wave 3 than those who have lived without grandparents in the household. Youths from a family that had grandparents present at both waves were 1.7 times (Exp B=1.71\*) more likely to report arrests than those from families without grandparent co-residence. In general, respondents who did not live with grandparents were better off in their behavioral developments, especially in more severe behavioral outcomes, such as violence and later arrests.

Summary RQ1b: In conclusion, the effect of family structure variables on adolescents' contemporaneous and subsequent delinquent behavioral outcomes have not changed much when initial delinquent involvement and violence exposure are taken into consideration, but there are still some notable findings from the tests. First, initial deviance appeared to largely absorb the

effects of demographic variables and family structure stability. After initial deviance measures are included in the regression models, the odds ratios of all demographic and family structure variables decreased substantially. Second, the long-term effects of initial deviance on future delinquency appeared to be limited. By adding initial (W1) delinquent experience variables into the model, model classification accuracy statistics were increased (by 2% to 17%) when predicting Wave 2 dependent variables. These increases were minor in predicting Wave 3 dependent variables. At the same time, the odds ratios of initial deviance in predicting the same type of deviance later on decreased over time. This finding would support that most juvenile delinquents desist later on, which is consistent with Moffitt's (1993) idea of adolescent-limited offenders. Third, unlike the previous results, after controlling for youth's initial deviance, grandparent co-residence became a significant risk factor for juvenile violent delinquency and later police stop/detention. Thus, grandparent co-residence seems to have a moderating effect on the relationships between youth initial deviant acts and adolescent violence and adulthood police contact. That is, Grandparent co-residence might interact with youth initial deviance that eventually impacts youth behaviors.

The next hypothesis shifts the focus from the classification of family composition to youth reported parental control levels. Thus, it may indicate whether the composition of a family has an independent impact on the behavioral development of adolescents, especially in complex and unstable family relationships.

*RQ1c: Do parenting practice components weaken the relationship between family structure stability and adolescent delinquent behaviors? Do parenting practices (W2) have a stronger impact than family structure stability on a youth's concurrent and subsequent delinquency (property and violent), substance use, and on police contact and arrest, controlling for adolescents' demographics and family socioeconomic status? Does direct parental control differ from indirect parental control in their effects on adolescents' concurrent and subsequent delinquency?*

Researchers often argue that parenting is the actual factor that impacts youth developmental outcomes rather than the structure of a family (Hirschi, 1969; Demuth & Brown, 2004; Barfield-Cottledge, 2015). Therefore, this hypothesis is taking four parenting components into consideration. Parenting practices were coded as scales and measure direct and indirect parental control on adolescents in the Add Health sample. Direct parental control was comprised of parent physical presence at home, youth autonomy, and parental involvement in youth daily activities (Table 10 lists the survey questions that measured each parenting factor). Indirect parental control was measured by respondent's self-reported parental warmth (See Table 9 for coding information).

Tables 35 and 36 below display the descriptive statistics (averages and standard deviations in parentheses) of each parental control component at Wave 1 and Wave 2 across family structure stability types. From where we can easily identify the differences in parenting



over time across family composition types. The higher scores on average indicate higher levels of parental control measures, except for youth autonomy. The higher scores in autonomy a youth reported, the lower direct parental control the youth experienced, since such youth had more freedom of making their own decisions on certain daily activities.

**Table 35.** *Descriptive statistics: Wave 1 parenting variables by family structure stability type*

Family structure stability	Mean (SD)			
	W1 Direct parental control			W1 Indirect parental control
	Physical presence of parents	Youth autonomy	Parental involvement	Parental warmth and attachment
Stable two-bio-parent family (n=2415)	22.53 (3.792)	4.95 (1.529)	7.03 (3.331)	23.08 (2.386)
Stable single-bio-mother family (n=797)	12.12 (2.382)	5.05 (1.623)	4.24 (2.027)	22.17 (3.322)
Stable single-bio-father family (n=85)	10.76 (2.318)	5.39 (1.544)	3.75 (2.293)	21.08 (3.553)
Stable other family (n=665)	18.96 (6.000)	5.08 (1.471)	6.01 (3.458)	22.49 (2.932)
Reunion family (n=54)	16.31 (6.593)	4.80 (1.653)	4.20 (2.536)	22.07 (3.458)
Unstable breakup family (n=222)	19.88 (5.822)	5.04 (1.589)	5.47 (3.398)	22.16 (2.975)
Unstable formation family (n=196)	12.88 (4.426)	5.26 (1.421)	3.99 (2.257)	22.02 (3.182)
Unstable other family (n=92)	16.43 (6.716)	5.05 (1.640)	5.11 (3.898)	21.42 (4.353)
<b>Sample total (n=4526)</b>	19.15 (6.056)	5.02 (1.551)	5.98 (3.346)	22.62 (2.878)

*Note.* n means valid sample size.

Parental practice measures were calculated at both Wave 1 and one year later at Wave 2. It provides an opportunity to observe the dynamic changes of parenting scales before and after any family structure change. Table 35 presents the descriptive results of initial parental control scales by family structure stability types. In general, the difference of indirect parental control by family composition is not obvious. Compared to all other family types, youths from stable two-biological-parent households reported highest levels of parental warmth and most direct parental control measures. On the other hand, adolescents from single-father families reported the lowest levels of all parental control measures than those from other family types.

Inconsistent with the expectation based on studies by Amey & Albrecht (1998) and Spano and coauthors (2011), youths from stable single-mother families did not report high levels of direct parental control. Instead, single mothers were only slightly better than single fathers and single parents who formed a family at Wave 2 in exercising parental control. There may be other moderators that exist. A later section of analyses will include race and ethnicity, since the single-mother protective power was reported specifically for African American families in some previous studies (Amey & Albrecht, 1998; Spano et al., 2011). As expected, youths from single-parent families at Wave 1 reported lower levels of initial direct parental control. However, it is worth noting that juveniles from unstable break-up families also reported low levels of initial direct parental control. Therefore, family conflicts that may exist in these families led to the lack of parental control over children in the households.

The descriptive statistics of Wave 2 parenting measures (measured one year after Wave 1) are presented in Table 36 and show similar patterns. Generally, youths from all family types reported similar levels of parental warmth. At the same time, youths from single-parent families (including both stable single-mother/father families) and breakup families reported relatively lower levels of parental warmth. Families that had both parents, especially stable two-biological-parent families, tend to provide higher levels of direct parental control compared to those from single-parent or breakup families.

**Table 36.** *Descriptive statistics: Wave 2 parenting variables by family structure stability type*

Family structure stability	Mean (SD)			
	W2 Direct parental control			W2 Indirect parental control
	Physical presence of parents	Youth autonomy	Parental involvement	Parental warmth and attachment
Stable two-bio-parent family (n=2415)	22.43 (3.926)	5.29 (1.558)	7.21 (3.478)	22.68 (2.437)
Stable single-bio-mother family (n=797)	11.89 (2.597)	5.47 (1.513)	4.21 (2.154)	21.82 (3.357)
Stable single-bio-father family (n=85)	10.78 (2.451)	5.80 (1.549)	3.21 (1.995)	20.20 (3.894)
Stable other family (n=665)	20.95 (5.301)	5.40 (1.441)	6.32 (3.583)	22.03 (3.003)
Reunion family (n=54)	22.04 (4.125)	5.30 (1.369)	7.04 (3.706)	22.56 (2.237)
Unstable breakup family (n=222)	12.92 (4.872)	5.52 (1.432)	4.07 (2.158)	21.24 (3.463)
Unstable formation family (n=196)	18.03 (6.277)	5.46 (1.637)	4.94 (3.123)	22.08 (2.752)
Unstable other family (n=92)	17.83 (6.854)	5.45 (1.686)	5.16 (3.593)	22.02 (2.946)
<b>Sample total (n=4526)</b>	<b>19.36 (6.070)</b>	<b>5.37 (1.546)</b>	<b>6.11 (3.482)</b>	<b>22.26 (2.876)</b>

*Notes.* n means valid sample size.

Since Wave 2 data were collected only one year after Wave 1 surveys, there was not much change in parental practices between the two waves. But when a single-parent family later formed a two-parent household, all measures of direct parental control increased. As expected, by having an extra set of eyes on them, youths in the households with two parents would receive higher degrees of direct parental supervision, such as parent physical presence and parental involvement in youth's daily activities, compared to any type of single-parent families.

The above cross tabulates show the patterns of parental control level across family types. Bivariate correlation tests (results are not shown) did indicate high correlations between family structure and parental practices, especially between parent presence and stable two-biological-parent family type. Due to this consideration of multicollinearity, hierarchical logistic regression models were conducted without including family structure stability and parenting as predictors in the same regression models. The conducted regression models contained three steps in predicting youth delinquency: the first step included demographic variables as well as youth initial deviant activities; the second step added three direct parental control variables; the third step included parental warmth as the indirect parental control measurement. In view of the fact that parental practices were measured twice, both Wave 1 and Wave 2 parenting practices were tested as predictors of youth deviant behaviors. The repetition of the tests allows the researcher to see the reliability and dynamic influence of parenting on juvenile behavioral development. Tables 37 to 46 present the regression results.

**Table 37.** Hierarchical logistic regression: Parenting practices and W2 property delinquency

Independent variables	Exp B					
	Wave 2 (1996)					
	Property delinquency			Property delinquency		
Age	.91***	.91***	.90***	.90***	.90***	.89***
Gender (male)	1.20**	1.21**	1.25**	1.21**	1.24**	1.33***
Mother's educational level	—	—	—	—	—	—
Public assistance	—	—	—	—	—	—
W1 property delinquency	1.48***	1.48***	1.47***	1.49***	1.49***	1.46***
	<b>W1 Parenting practices</b>			<b>W2 Parenting practices</b>		
Parent presence		—	—		.98*	—
Parental involvement		—	—		1.03**	1.05***
Youth autonomy		—	—		—	—
Parental warmth			.96**			.92***

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Table 38.** Hierarchical logistic regression: Parenting practices and W2 violent delinquency

Independent variables	Exp B					
	Wave 2 (1996)					
	Violent delinquency			Violent delinquency		
Age	.93**	.94**	.93**	.92***	.92***	.91***
Gender (male)	1.54***	1.54***	1.55***	1.53***	1.54***	1.60***
Mother's educational level	.95**	.96**	.95**	.95**	.95**	.95**
Public assistance	—	—	—	1.25*	1.24*	1.24*
W1 violent delinquency	1.67***	1.66***	1.68***	1.67***	1.66***	1.66***
	<b>W1 Parenting practices</b>			<b>W2 Parenting practices</b>		
Parent presence		.98*	.99*		.99*	—
Parental involvement		—	—		—	—
Youth autonomy		—	—		—	—
Parental warmth			.97*			.95***

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

Results in Tables 37 and 38 uphold the relationships between demographic variables and delinquent acts during adolescence. Respondents tend to age out of both property and violent offenses. Boys were more prone to delinquency than girls. Mother's education level was not associated with property delinquency, but it was negatively related to the violent activities. Initial delinquent activities were still the strongest predictors of later delinquency. The physical presence of parents was likely to have a protective effect on delinquency, but this impact was no longer significant after parental warmth is included in the tests. Parental warmth seems to have consistently protected juveniles from both property and violent offenses. Also, according to the odds ratio and the significance, the study found that concurrent (W2) effective parenting was more influential than earlier (W1) parenting in preventing youth delinquency during adolescence.

**Table 39.** *Hierarchical logistic regression: Parenting practices and W3 property delinquency*

Independent variables	Exp B					
	Wave 3 (2001-2002)					
	Property delinquency			Property delinquency		
Age	.80***	.80***	.79***	.81***	.80***	.79***
Gender (male)	2.59***	2.61***	2.75***	2.60***	2.62***	2.75***
Mother's educational level	1.07**	1.07**	1.07**	1.07**	1.07**	1.07**
Public assistance	1.38*	1.37*	1.37*	1.36*	1.37*	1.37*
W1 property delinquency	1.17***	1.17***	1.16**	1.17***	1.17***	1.16***
	<b>W1 Parenting practices</b>			<b>W2 Parenting practices</b>		
Parent presence		—	—		—	—
Parental involvement		—	—		—	—
Youth autonomy		—	—		—	—
Parental warmth			.95**			.94**

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Table 40.** *Hierarchical logistic regression: Parenting practices and W3 violent delinquency*

Independent variables	Exp B					
	Wave 3 (2001-2002)					
	Violent delinquency			Violent delinquency		
Age	.86***	.87***	.87***	.86***	.86***	.86***
Gender (male)	3.94***	3.97***	4.00***	3.89***	3.84***	3.90***
Mother's educational level	—	—	—	—	—	—
Public assistance	1.47**	1.45*	1.45*	1.47**	1.44**	1.44*
W1 violent delinquency	1.29***	1.28***	1.28***	1.28***	1.28***	1.28***
	<b>W1 Parenting practices</b>			<b>W2 Parenting practices</b>		
Parent presence		.98*	—		—	—
Parental involvement		—	—		—	—
Youth autonomy		.93*	.93*		—	—
Parental warmth			—			—

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

Tables 39 and 40 present regression results of Wave 1 and Wave 2 parenting components in predicting young adulthood (W3) delinquency measures. It extended the time period to see how parenting practices influenced juvenile criminality in the long run (until participants' early adulthood). The logistic regression results revealed that only those who reported higher levels of parental warmth were less likely to engage in property offenses during their early twenties. Parental warmth did not appear to have an impact on the later violence. Also, most parenting components seemed to have limited effect on adulthood violent behaviors. The only significant finding is that youths who had greater freedom to make own decisions on their daily activities at Wave 1 were 7% less likely to engage in adulthood violent acts.

This finding does not persist when Wave 2 youth autonomy measures were tested. The test results revealed no significant effect of Wave 2 direct nor indirect parental control on adulthood violent behaviors. On the other hand, demographic variables, such as age, gender, and poverty, as well as initial deviance became more powerful factors in predicting adulthood offenses compared to their effects on delinquency during adolescence.

Reasonably, these demographic variables, or maybe other factors associated with such variables, play more important roles in youth behavioral development than early parenting practices. In general, based on the results shown in Tables 37 to 40, indirect parental control (parental warmth) was a stronger indicator than direct parental control in predicting juvenile delinquency and adulthood offenses, especially for property delinquency. Also, as expected, the effects of parenting on youth behavior withered away overtime.



**Table 41.** Hierarchical logistic regression: Parenting practices and W2 alcohol use

Independent variables	Exp B					
	Wave 2 (1996)					
	Alcohol use			Alcohol use		
Age	1.12***	1.10***	1.10***	1.12***	1.10***	1.09***
Gender (male)	—	—	—	—	—	—
Mother's educational level	—	—	—	—	—	—
Public assistance	.74**	.75**	.74**	.75**	.78*	.78*
W1 alcohol use	8.87***	8.66***	8.48***	8.79***	8.62***	8.35***
	<b>W1 Parenting practices</b>			<b>W2 Parenting practices</b>		
Parent presence		.99*	.99*		.98**	.98**
Parental involvement		1.04**	1.04**		1.05***	1.06***
Youth autonomy		1.08**	1.08**		1.13***	1.13***
Parental warmth			.97*			.94***

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Table 42.** Hierarchical logistic regression: Parenting practices and W2 tobacco use

Independent variables	Exp B					
	Wave 2 (1996)					
	Tobacco use			Tobacco use		
Age	—	—	—	1.05*	—	—
Gender (male)	—	—	—	—	—	—
Mother's educational level	.97*	.96*	.96*	.96*	.95**	.95**
Public assistance	—	—	—	—	—	—
W1 tobacco use	12.31***	12.12***	11.95***	12.50***	12.43***	12.31***
	<b>W1 Parenting practices</b>			<b>W2 Parenting practices</b>		
Parent presence		.99*	—		—	—
Parental involvement		—	—		—	1.03*
Youth autonomy		—	—		1.06*	1.06*
Parental warmth			.97*			.93***

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

Tables 41 and 42 present the results of the impact of parenting practices on underage alcohol and tobacco use. Again, the test results indicated that the effective concurrent parenting practices (W2) better regulated juvenile substance use compared to early parenting practices (W1). Particularly, indirect parental control – youth-reported parental warmth – was found negatively related to both underage use of alcohol and tobacco. Every unit increase in Wave 1 parental warmth scales resulted in about 3% decrease in the likelihood of adolescent using alcohol or tobacco; every unit increase in Wave 2 parental warmth scales led to 6-7% decrease in the likelihood of concurrent teenage use of alcohol or tobacco.

All direct parental control measurements at both waves were also significantly associated with underage alcohol use. The physical presence of parents reduced the likelihood of juvenile alcohol use by 2%, while youth autonomy and parental involvement increased the chance. As for juvenile tobacco use, early direct parental control variables (W1) were not significant, but youths who reported higher levels of concurrent autonomy during Wave 2 were more likely to report underage use of tobacco. Unexpectedly, juveniles who experienced more parental involvement in daily activities were also more likely to use tobacco. The positive relationship between underage substance use and parental involvement raises a question as to what role the parents invite in the children's life, or possibly, the children's problematic performance makes the parents more involved in the children's life activities.

**Table 43.** Hierarchical logistic regression: Parenting practices and W2 drug use

Independent variables	Exp B					
	Wave 2 (1996)					
	Drug use			Drug use		
Age	—	—	—	—	—	—
Gender (male)	—	—	—	—	—	1.27*
Mother's educational level	—	—	—	—	—	—
Public assistance	—	—	—	—	—	—
W1 drug use	11.62***	11.10***	10.56***	12.03***	11.85***	11.44***
	<b>W1 Parenting practices</b>			<b>W2 Parenting practices</b>		
Parent presence		.97***	.98**		.97***	.98**
Parental involvement		—	1.03*		—	1.05**
Youth autonomy		—	—		1.13***	1.14***
Parental warmth			.95***			.90***

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Table 44.** Hierarchical logistic regression: Parenting practices and W3 drug use

Independent variables	Exp B					
	Wave 3 (2001-2002)					
	Drug use			Drug use		
Age	.84***	.82***	.82***	.84***	.81***	.81***
Gender (male)	1.79***	1.82***	1.88***	1.78***	1.80***	1.85***
Mother's educational level	1.05*	1.04*	1.04*	1.04*	1.04*	1.04*
Public assistance	—	—	—	—	—	—
W1 drug use	4.65***	4.52***	4.32***	4.61***	4.61***	4.46***
	<b>W1 Parenting practices</b>			<b>W2 Parenting practices</b>		
Parent presence		.99*	—		—	—
Parental involvement		—	—		—	—
Youth autonomy		—	—		1.10**	1.10**
Parental warmth			.96**			.95**

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

When predicting juvenile (W2) and early adulthood (W3) drug use, initial drug use was always the strongest predictor among other variables (see Tables 43 and 44). Most demographic variables were not significant in predicting juvenile drug use, but later became significant in predicting adulthood drug use, except for receiving public assistance. During adolescence, both direct and indirect parental control were significantly associated with teenager use of drugs. Physical presence of parents and parental warmth prevented youth from drug use, while parental involvement in daily activities and youth autonomy again were positively associated with teenage drug use. When respondents reached their early twenties, parenting practices became less influential. Parental warmth persistently significantly decreased drug use. Also, youth who reported high autonomy at Wave 2 were more likely to use drugs during their young adulthood.

**Table 45.** *Hierarchical logistic regression: Parenting practices and W3 police stop/detention*

Independent variables	Exp B					
	Wave 3 (2001-2002)					
	Police stop/detention			Police stop/detention		
Age	.89***	.88***	.87***	.89***	.88***	.88***
Gender (male)	3.47***	3.57***	3.68***	3.54***	3.62***	3.75***
Mother's educational level	1.04*	—	—	1.04*	—	—
Public assistance	—	—	—	—	—	—
W1 property delinquency	1.19***	1.18***	1.18***	1.19***	1.18***	1.17***
	<b>W1 Parenting practices</b>			<b>W2 Parenting practices</b>		
Parent presence		.97***	.97***		.98**	.98*
Parental involvement		—	1.03*		—	—
Youth autonomy		—	—		—	—
Parental warmth			—			.96*

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Table 46.** Hierarchical logistic regression: Parenting practices and W3 arrests

Independent variables	Exp B					
	Wave 3 (2001-2002)					
	Arrests			Arrests		
Age	—	.91*	.90**	—	.91*	.90*
Gender (male)	5.59***	5.89***	6.09***	5.96***	6.05***	6.30***
Mother's educational level	—	—	—	—	—	—
Public assistance	1.58**	1.52*	1.51*	1.46*	—	1.39*
W1 drug use	4.68***	4.24***	4.08***	4.64***	4.42***	4.22***
	<b>W1 Parenting practices</b>			<b>W2 Parenting practices</b>		
Parent presence		.95***	.95***		.97**	.97**
Parental involvement		—	—		—	—
Youth autonomy		—	—		—	—
Parental warmth			—			.94**

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

Tables 45 and 46 present the results of the regression models in predicting young adulthood (Wave 3, seven years after Wave 1) police contact measures. Expected patterns were found for the demographic variables and initial deviance. The likelihood of the respondents to be stopped, detained, or arrested by police decreases with age. Males and those who from economically disadvantaged families (received public assistance), as well as those who previously reported property delinquency and drug use, were more likely to report police stop/detention and arrests during early adulthood.

In terms of parental control, the results indicate that parent physical presence during adolescence reduced adulthood police contacts. Each unit increase in parent presence raised the

likelihood of police stop/detention by 2-3%, and by 3-5% for arrests. Parental warmth also lowered the chance of police stop, detention, and arrests, but it might not have a long-term effect, since only Wave 2 parental warmth measure was found significant.

*Summary RQ1c:* Thus, let us revisit the three questions in this hypothesis. The first one is: (1) Do parenting practice components weaken the relationship between family structure stability and adolescent delinquent behaviors? According to social control theories, parenting practices will mediate the relationship between family structure stability and adolescent delinquent behaviors. Effective parenting (high levels of direct and indirect parental control) will prevent youth from engaging in delinquency and crime regardless of the family structure and its stability. Of course, testing parenting practices without having family structure stability in the same regression models cannot answer this question. Parenting and family structure variables must be included into the models independently, since the partialling fallacy could be created if both indicators were included within a same statistical analytic model.

Even though this hypothesis could not be fully tested with the current design, in order to see how parenting practices worked in different family compositions, the additional regression models were estimated within each family structure subgroup. That is, the sample was split by family structure stability types, which enabled us to see how demographic variables and parenting components influence adolescents across different family structures. Although some subgroups have limited numbers of participants, there are enough stable two-biological-parent,

stable single-mother, and stable other families in the sample for a valid statistical analysis (see Table 47). Of course, when interpreting and considering study results, it is important to keep in mind that certain significant findings may be due to the larger group sizes and some findings based on a small group size could have issues with generalization.

**Table 47.** *Descriptive statistics: Family structure stability type*

<b>Family structure stability</b>	<b>Frequency (n)</b>	<b>Percent (%)</b>
Stable two-bio-parent family	2428	52.0%
Stable single-bio-mother family	813	17.4%
Stable single-bio-father family	86	1.8%
Stable other family	668	14.3%
Reunion family	64	1.4%
Unstable breakup family	275	5.9%
Unstable formation family	214	4.6%
Unstable other family	125	2.7%
<b>Sample total</b>	<b>4673</b>	<b>100%</b>

*Note.* n means valid sample size; % means valid percent.

The test results revealed that parental control variables had a more persistent impact on youths from stable two-biological-parent families compared to other family types. Indirect parental control (parental warmth) was consistently negatively associated with most deviant behaviors during adolescence (W2), but this impact was limited for youths who experienced family formation between Wave 1 and Wave 2. When predicting young adulthood criminality measures (W3), parental warmth appeared to have persistent protective effects only for respondents who were from stable intact families.

In terms of direct parental control, physical presence of parents was the more effective factor compared to parental involvement and youth autonomy. Parent presence was negatively related to juvenile property delinquency for youths from stable intact families, stable single-mother, and stable single-father families but not for youths from unstable families. It was also negatively related to violent delinquency at W2 for youths from stable intact, stable single-mother, and reunion families. The higher the level of parent presence, the less likely the respondents from stable intact families are to report later police stop and detention.

The second question in hypothesis RQ1c is: (2) Do parenting practices (W2) have a stronger impact than family structure stability on a youth's concurrent and subsequent delinquency (property and violent), substance use, and on police contact and arrest, controlling for adolescents' demographics and family socioeconomic status? To answer the question, Nagelkerke R square statistics were compared between models. Regression models ran separately with family structure stability and parenting variables. The results show that parenting practices had a greater predictive power (Nagelkerke R square of the model) than the family structure had in almost all regression models in predicting juvenile and adulthood criminality measures. Although the difference in R square statistics were modest, it is reasonable to conclude that parenting practices, compared to family structure, had a stronger impact on youth behavioral outcomes. Therefore, parenting seemed to play a similar if not more important role in youth



behavioral development than family structure did. This may also point out the interactive correlations between family composition and parenting like Nye (1958) suggested.

The third question in hypothesis RQ1c is: (3) Does direct parental control differ from indirect parental control in their effects on adolescents' concurrent and subsequent delinquency? Yes, the results indicated that parental warmth was a more consistent factor that was significantly negatively correlated with most deviant youth activities and criminality measures including juvenile property and violent delinquency, substance use, and early adulthood formal police contact measures. That is, indirect parental control consistently played a protective role in most youth behavioral outcomes. This is in line with Hirschi's (1969) social control theory that suggested the importance of child-parent bonds in preventing youth delinquent acts. At the same time, direct parental control (physical presence of parents, parental involvement, and youth autonomy) had limited influence on youth deviant behaviors. Although their impact was limited, among direct parental control variables, higher levels of physical presence were associated with better youth behavioral outcomes, including fewer formal police contact.

## Section 2: Direct and Indirect Parental Control

The first section of the hypotheses focused on the question of how do family structure and its stability affect delinquency and subsequent crime? It also partially answered the question of whether direct and indirect parental control weaken the above relationships. When comparing the effects of Wave 1 parenting and Wave 2 parenting, the results of RQ1c indicated similar predicting patterns on youth deviant acts. In general, the higher levels of parental warmth and parent physical presence often led to lower levels in self-reported deviance measures both concurrent and subsequent. Nevertheless, the effect of parenting consistency was left out from the consideration. The current study investigates the effect of family structure as a dynamic event, and the same lens can be applied to parenting practice. This section of the hypotheses concentrates on in-depth analysis of changes in direct and indirect parental control during adolescence and the behavioral development outcomes corresponding to the parenting changes.

***RQ2a: How does consistency of parenting practices (stable high, stable low, severe increase, severe decrease, and minor changes in indirect and direct parental control) affect adolescent deviant behaviors, controlling for sociodemographic variables and initial delinquency?***

On the basis of existing parental control variables, two measurements of parenting practice consistency were coded. Direct parental control consistency was composed of parent presence and youth autonomy measures. Parental involvement in youth's daily activities was

excluded from the direct parental control measure. The findings of the previous hypotheses suggest that parental involvement may be reactions to youth misbehaviors rather than proactive parenting strategies, since parental involvement in youth's daily activities had little impact on or, in some occasion, was positively associated with juvenile misbehaviors, such as substance use.

To create the measurement of direct parental control consistency, a combined parental control scale at each wave (W1 and W2) was coded into low, medium, and high control categories, and then consistency was coded according to movements from W1 to W2 regarding the categories of parental control. Specifically, the following steps were taken:

- 1) Reverse-code ( $x_{\max} + 1 - x$ ) youth autonomy to make higher scores mean less freedom and higher parental control.
- 2) Standardized z scores were created for both parent presence and reverse-coded youth autonomy, and then a fixed number (the absolute value of the lowest value on the scale) was added to each case to make all z scores positive numbers. The reason for using standardized scores is that the original scales of these two variables are very different from each other, so using z scores can equalize these two variables. Shifting the scale into all positive numbers made determining thresholds during the further steps of analysis easier to do.
- 3) Two sets of z scores were summed up to make one ratio-level variable for the measurement of direct parental control.

- 4) After checking the variable distributions, both Wave 1 and Wave 2 direct parental control scales were found normally distributed. Thus, low, medium, and high levels of direct parental control groups were finalized based on standard deviation locations from the variable mean. If a respondent had a score with a corresponding z score of less than -1, the respondent would be considered in the low direct parental control group. Having corresponding z scores between -1 and 1 would be classified as the medium control group. Z scores greater than 1 would be in high control group. This process ensured that about 68% of respondents were in the medium level of direct parental control group in both Wave 1 and Wave 2 (see Table 48).

**Table 48.** *Descriptive statistics: Direct parental control groups*

Direct parental control	Wave 1		Wave 2	
	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
Low	836	17.6%	759	16.2%
Medium	3203	67.2%	3195	68.3%
High	724	15.2%	724	15.5%
<b>Sample total</b>	4763	100%	4678	100%

*Note.* n means valid sample size; % means valid percent.

- 5) The final step was to create the variable of direct parental control consistency. There were five parenting consistency types were created: minor changes (low control (L) at W1 and medium control (M) at W2 (L-M), M-L, M-H, H-M, and M-M), stable low control (L-L), stable high control (H-H), severe increase (L-H), and severe decrease (H-L). Descriptive statistics for these five groups are shown in Table 50.

Indirect parental control was measured according to youth reporting on parental warmth (see Table 9). To create the measurement of indirect parental control consistency, the recoding process took three steps:

- 1) Checked the distribution normality, histogram, and quartiles for the variable of parental warmth measured in both Wave 1 and Wave 2. The distributions were highly negatively skewed.
- 2) Used quartiles to determine low, medium, and high indirect parental control groups for each wave's measure, which worked with the distribution of values better than the z score process. An individual would be categorized into low indirect parental control group if such person is located in the first quartile of the distribution. Medium level of indirect parental control group was classified as the respondents in the middle two quartiles; the fourth quartile was the high control group (see Table 49). Standard deviations were not used for sorting here, since the variable distributions were highly negatively skewed, with the majority of respondents reporting high levels of parental warmth. Compared to the direct parental control groups, there were still more participants in high control groups in either wave.
- 3) The same classification method as for direct parental control was adopted to divide the final variable of indirect parental control consistency into five categories: minor changes, stable

low, stable high, severe increase, and severe decrease. Descriptive statistics are listed in Table 50.

**Table 49.** *Descriptive statistics: Indirect parental control groups*

Indirect parental control	Wave 1		Wave 2	
	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
Low	1190	24.6%	919	19.6%
Medium	1838	38.0%	2434	51.9%
High	1737	36.5%	1337	28.5%
<b>Sample total</b>	4765	100%	4690	100%

*Note.* n means valid sample size; % means valid percent.

**Table 50.** *Descriptive statistics: Consistency of parental control categories*

	Direct parental control n (%)	Indirect parental control n (%)
Minor changes	3862 (83.2%)	3067 (65.9%)
Stable low	429 (9.2%)	559 (12.0%)
Stable high	321 (6.9%)	866 (18.6%)
Severe increase	18 (0.4%)	69 (1.5%)
Severe decrease	13 (0.3%)	95 (2.0%)
<b>Sample total</b>	4643 (100%)	4643 (100%)

*Note.* n means valid sample size; % means valid percent.

Based on the above frequency statistics, the majority of respondents experienced minor changes in parental control during Wave 1 and Wave 2; over 80% for direct parental control and about 66% for indirect parental control. On the flip side, severe increase and severe decrease groups had very few subjects, which may create problems for regression-based statistical analyses.

Thus, the associations of severe increase and severe decrease with the dependent variables were tested using cross-tabulations rather than regression analyses. For indirect parental control, both severe changes seem to be associated with adverse situations in terms of delinquency, although severe increase was associated with slightly better youth behavioral outcomes compared to severe decrease. But for direct parental control, severe increase appeared to be associated with less delinquency, and severe decrease was associated with more (see Table 51).

Increases in direct parental control had the opposite pattern of associations with delinquency than the decrease in direct parental control had. Therefore, it would not be a good idea to combine severe increase and severe decrease into one category of “drastic changes” as a possibility for increasing group sizes. The resulting picture would be muddled by possible effects of two changing types canceling each other. As a result, we decided to keep severe changes separate as parental control stability categories and allow the limitations of having small subgroup size (but keeping it in mind when interpreting the results).

To test research question RQ2a of how parenting consistency affects juvenile deviant behaviors and adulthood criminality, hierarchical logistic regression models were conducted with controlling for demographic variables and initial delinquency. But before estimating the regression models, the descriptive statistics were first produced to elucidate the magnitude of participants’ concurrent and subsequent misbehaviors across parental control stability groups.

Tables 51 and 52 present the percentages of respondents' involvement in juvenile delinquency and young adulthood criminality by parental control consistency types.

**Table 51.** *Descriptive statistics: Wave 2 deviance by parental control consistency type*

	Percentage of youths involved				
	Wave 2 (1996)				
	Property delinquency	Violent delinquency	Alcohol use	Tobacco use	Drug use
<b>Sample total</b>	31.3%	29.3%	44.3%	35.8%	16.1%
<b>Direct parental control</b>					
Minor changes	30.9%	28.5%	43.6%	34.7%	15.4%
Stable low	36.3%	30.9%	55.2%	42.4%	25.3%
Stable high	26.7%	27.0%	27.6%	27.0%	8.6%
Severe increase	27.8%	27.8%	27.8%	38.9%	5.6%
Severe decrease	41.7%	41.7%	58.3%	41.7%	33.3%
<b>Indirect parental control</b>					
Minor changes	31.3%	29.5%	44.3%	35.8%	15.6%
Stable low	44.1%	34.1%	53.1%	41.4%	25.2%
Stable high	20.6%	21.2%	35.0%	26.3%	9.4%
Severe increase	27.9%	33.8%	41.2%	41.2%	20.6%
Severe decrease	45.2%	36.6%	50.5%	45.2%	30.1%

*Note.* % means valid percent. All tested variables are dichotomous.

The results shown in Table 51 depict that levels of concurrent direct and indirect parental control seem to be associated with all types of misbehaviors during adolescence. That is, youth who experienced stable high levels of direct or indirect parental control generally reported lowest levels of all types of antisocial behaviors than youths from other groups did. On the other hand, participants who experienced low levels of parental control engaged in more misbehaviors



during adolescence, while a severe decrease in parental control was associated with the greatest involvement in measured delinquent activities.

Respondents who reported severe increase in parental control expressed different patterns between direct and indirect parental control. Youths who underwent a severe increase in direct parental control acted similarly to those who had stable high control and engaged in adolescent delinquency less compared to those who were from minor changes, stable low, and severe decrease groups, except for tobacco use. However, those who experienced a severe increase in indirect parental control from Wave 1 to Wave 2 had mixed behavioral outcomes. Mostly, severe increase in parental warmth was associated with more problematic behaviors compared to stable high and minor changes groups.

**Table 52.** *Descriptive statistics: Wave 3 criminality by parental control consistency type*

	Percentage of youths involved				
	Wave 3 (2001-2002)				
	Property delinquency	Violent delinquency	Police stop/ detention	Arrests	Drug use
<b>Sample total</b>	16.8%	13.3%	19.5%	10.8%	23.5%
<b>Direct parental control</b>					
Minor changes	17.0%	12.6%	19.2%	10.0%	23.6%
Stable low	16.8%	14.9%	25.2%	18.8%	27.8%
Stable high	15.0%	16.5%	16.9%	6.0%	18.0%
Severe increase	33.3%	25.0%	16.7%	8.3%	33.3%
Severe decrease	33.3%	11.1%	22.2%	11.1%	22.2%
<b>Indirect parental control</b>					
Minor changes	17.5%	14.2%	20.0%	11.0%	24.1%
Stable low	19.2%	12.0%	22.2%	12.7%	27.9%
Stable high	12.9%	10.1%	16.5%	7.1%	19.8%
Severe increase	22.2%	13.0%	16.7%	13.0%	16.7%
Severe decrease	16.0%	13.33%	18.7%	13.3%	24.0%

*Note.* % means valid percent. All tested variables are dichotomous.

Table 52 presents the associations between long-term behavioral outcomes across parental control consistency groups. We see that these associations seem to fade overtime, although the general patterns of associations between the stability of parental control and delinquency were similar for the most part. Generally, stable high parental control (both direct and indirect) was associated with low levels of deviant measures. Respondents in stable low parental control groups had higher levels of police contact and illegal drug use.

At the same time, parental control stability did not have clear associations with early adulthood property and violent delinquency. Youths who experienced stable high and severe increase in direct parental control during adolescence reported more adult violent behaviors; those who had a severe increase in both direct and indirect parental control reported highest levels of adulthood property delinquency. It is possible that extremely high levels of parental control prevented delinquent activities concurrently but backfired a few years later when youths grew up and became independent from original families. It is also possible that youths with more behavioral problems experienced higher W1 levels of direct parental control while their parents tried to control their offspring. It is also possible that parents who initially tried to control their problematic kids gave up their efforts (severe decrease group) because these efforts were not effective.

In order to examine whether or not the observed relationships between parental control consistency and youth behavioral outcomes still remain when controlling for other important factors, hierarchical logistic regression models were adopted. The models contained three steps: the first level included demographic variables and initial delinquency; the second level added direct parental control consistency; the last level included indirect parental control consistency types. The group of minor changes in parental control was the most common one for both direct and indirect parental control, thus, this group was used as the reference group. Tables 53 through 56 present the regression results. As usual, only statistically significant coefficients are shown.

**Table 53.** *Hierarchical logistic regression: Parental control consistency and property delinquency*

Independent variables	Exp B					
	Property delinquency					
	Wave 2 (1996)			Wave 3 (2001-2002)		
Age	.90***	.90***	.91***	.81***	.80***	.79***
Gender (male)	1.20**	1.21**	1.23**	2.61***	2.63***	2.70***
Mother's educational level	—	—	—	1.07**	1.07**	1.07**
Public assistance	—	—	—	1.37*	1.34*	1.33*
W1 property delinquency	1.49***	1.49***	1.49***	1.17***	1.17***	1.16***
<b>Direct parental control</b>						
Minor changes (R)						
Stable low		—	—		—	—
Stable high		—	—		—	—
Severe increase		—	—		—	—
Severe decrease		—	—		—	—
<b>Indirect parental control</b>						
Minor changes (R)						
Stable low			1.40**			—
Stable high			.65***			.67**
Severe increase			—			—
Severe decrease			2.08**			—

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

When assessing the effects of parenting consistency on property delinquency from adolescence to early adulthood, the following results merged (see Table 53). Demographic variables and initial deviance were found to have similar effects to the ones found in the previous models. Direct parental control stability was not significantly associated with property delinquency during either adolescence period or early adulthood. Among indirect parental

control consistency groups, youths with stable low parental warmth were about 40% more likely and those with severe decrease in parental warmth were 2.1 times more likely to engage in property delinquency during adolescence. But low level and severe decrease in parental warmth did not have a persistently significant impact on adult property delinquency. Respondents in stable high control group were about 35% less likely to engage in property delinquent acts both concurrently and subsequently than those who were from the minor changes group.

Table 54 shown below presents the effects of parental control stability on violent delinquency over time from Wave 2 to Wave 3. All demographic variables and initial violence were significantly associated with later violent delinquency. Between direct and indirect parental control, only indirect parental control consistency produced significant findings. Participants from stable high indirect parental control group were persistently less likely to engage in violent delinquency over time than those from minor changes group. Youths with stable low parental warmth were 30% more likely than those with minor changes in parental warmth to commit violent delinquency during adolescence.

**Table 54.** Hierarchical logistic regression: Parental control consistency and violent delinquency

Independent variables	Exp B					
	Violent delinquency					
	Wave 2 (1996)			Wave 3 (2001-2002)		
Age	.92**	.92***	.91**	.86***	.86***	.85***
Gender (male)	1.53***	1.53***	1.58***	3.87***	3.88***	3.91***
Mother's educational level	.95**	.95**	.95**	—	—	—
Public assistance	1.25*	1.25*	1.24*	1.47**	1.46*	1.46*
W1 violent delinquency	1.67***	1.67***	1.65***	1.28***	1.28***	1.28***
<b>Direct parental control</b>						
Minor changes (R)						
Stable low		—	—		—	—
Stable high		—	—		—	—
Severe increase		—	—		—	—
Severe decrease		—	—		—	—
<b>Indirect parental control</b>						
Minor changes (R)						
Stable low			1.30*			—
Stable high			.73**			.69*
Severe increase			—			—
Severe decrease			—			—

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

**Table 55.** *Hierarchical logistic regression: Parental control consistency and W2 substance use*

Independent variables	Exp B								
	Wave 2 (1996)								
	Alcohol use			Tobacco use			Drug use		
Age	1.12***	1.11***	1.11***	1.05*	—	—	—	—	—
Gender (male)	—	—	—	—	—	—	—	—	—
Mother's educational level	—	—	—	.96*	.96*	.96*	—	—	—
Public assistance	.75**	.75**	.74*	—	—	—	—	—	—
W1 alcohol use	8.80***	8.70***	8.59***						
W1 tobacco use				12.45***	12.38***	12.26***			
W1 drug use							11.96***	11.90***	11.25***
<b>Direct parental control</b>									
Minor changes (R)									
Stable low		—	—		—	—	1.38*	1.33*	
Stable high		.65**	.66**		—	—	.52**	.54**	
Severe increase		—	—		—	—	—	—	—
Severe decrease		—	—		—	—	—	—	—
<b>Indirect parental control</b>									
Minor changes (R)									
Stable low			—			—			1.43**
Stable high			.82*			.71**			.68**
Severe increase			—			—			—
Severe decrease			—			—			2.61***

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

Table 55 demonstrates regression results in testing the effects of parenting stability on juvenile substance use (W2). Findings indicate that stable high levels of both direct and indirect parental control had a preventive effect on juvenile substance use. Youths with stable high direct

parental control were 34% less likely to use alcohol and 45% less likely to use drugs than those who were from minor changes group. Respondents experienced stable low direct parental control during adolescence were 33% more prone to drug use.

The effect power of direct parental control on youth alcohol and drug use decreased slightly after adding indirect parental control consistency into the regression models. In terms of indirect parental control stability, stable high parental warmth was negatively associated with all three substance use measures. Youths with stable high parental warmth were 17% less likely to engage in alcohol use, 29% less likely to engage in tobacco use, and 32% less likely to use illegal drugs than those who were from the minor changes group.

The results also indicate positive relationships between drug use and low level or severe decrease in indirect parental control. Compared to participants in minor changes group, youths who had stable low parental warmth were 43% more vulnerable to drug use; youths who had severe decrease in parental warmth were 1.6 times more likely to report adolescent drug use. The differences between parental control groups seemed to be more apparent in serious types of substance use like alcohol and drug use.



**Table 56.** *Hierarchical logistic regression: Parental control consistency and Wave 3 criminality*

Independent variables	Exp B								
	Wave 3 (2001-2002)								
	Police stop/ detention			Arrests			Drug use		
Age	.89***	.88***	.87***	—	.90**	.89**	.84***	.83***	.82***
Gender (male)	3.53***	3.57***	3.61***	5.93***	6.07***	6.15***	1.78***	1.80***	1.81***
Mother's educational level	1.04*	1.04*	1.04*	—	—	—	1.04*	1.04*	1.04*
Public assistance	—	—	—	1.45*	1.44*	1.44*	—	—	—
W1 property delinquency	1.19***	1.18***	1.18***						
W1 drug use				4.65***	4.49***	4.35***	4.56***	4.54***	4.48***
<b>Direct parental control</b>									
Minor changes (R)									
Stable low		1.37*	—		1.88***	1.83**		—	—
Stable high		—	—		.50*	.51*		.63**	.65*
Severe increase		—	—		—	—		—	—
Severe decrease		—	—		—	—		—	—
<b>Indirect parental control</b>									
Minor changes (R)									
Stable low			—			—			—
Stable high			—		.72 (p=.056)			.81 (p=.055)	
Severe increase			—			—			—
Severe decrease			—			—			—

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

When assessing the long-term effects of parental control consistency on early adulthood criminality, the results are merged and presented in Table 56. Male gender and initial deviant activities consistently appeared to be strongest risk factors. Surprisingly, stability of indirect parental control did not have a significant impact on adult drug use and police contact, while

consistency of direct parental control appeared to have a long-term effect. Different than expected, stable high level of parental warmth was not associated with lower levels of police contact nor drug use compared to the minor changes group that mostly represented medium levels of indirect parental control.

Respondents who reported stable high direct parental control were found 49% less likely to have an arrest and 35% less likely to use illegal drugs during their early twenties than those who were from the minor parenting changes group. Also, results indicated that stable low direct parental control was related to 1.8 times more arrests.

These findings provide a supplement to hypothesis RQ1c, which looked at parenting cross-sectionally and revealed consistently negative relationships between parental warmth and most juvenile deviant measures both concurrently and subsequently. Therefore, a reasonable assumption can be made that indirect parental control may have a lasting effect on youth behavior. That is, high parental warmth kept children out from most deviant activities, while changes in perceived parental warmth may not significantly affect children's more remote types of misconduct, such as police contact and drug use in their early adulthood.

Summary RQ2a: On the whole, the tests of hypothesis RQ2a confirmed that, in general, stable and effective parenting was associated with the better youth behavioral outcomes. Stable high indirect parental control had preventive effects on all adolescence deviance measures and

young adult delinquent activities, but it had limited long-term influence on arrests and adulthood drug use. On the other hand, stable high direct parental control was not significantly related to either property or violent delinquency, but it appeared to significantly reduce the likelihood of respondents experiencing police stop/detention, arrests, and drug use. Although the findings are not statistically significant, descriptive statistics shown in Tables 51 and 52 pictured a possible “backfiring” effect of high level and, especially, severe increase in direct parental control on some adult deviant behaviors (i.e., property/violent delinquency and drug use). However, it implies that, sometimes, parenting may be a reaction to children’s performance rather than a cause of such behaviors. The following hypothesis is to address the potential reciprocal effect between parenting and delinquency.

***RQ2b: Besides the impact of parenting practices on adolescents, does youth behavior influence their parents’ approach, i.e., get reflected in parenting practice changes from W1 to W2?***

Add Health research project has collected the same parenting-related information and youth delinquency measures at both Wave 1 and Wave 2, which allows this study to track changes of these factors over a one-year adolescence period. Thus, a cross-lagged panel design was used to assess the possible reciprocal relationships between parenting and youth behavioral outcomes (Gault-Sherman, 2012). The analytic plan was composed of two stages. Logistic regressions were used to first test for the effects of W1 parental controls (direct/indirect) on W2 delinquency measures while controlling for W1 delinquency (see Tables 57 and 58). Then, the

impact of W1 delinquent acts on W2 parental control was examined using multiple linear regression models while controlling for W1 parenting (see Tables 59 and 60).

By comparing the significant findings of both stages, the study can identify whether significant correlations exist in both directions between parenting and juvenile delinquent activities. For instance, if W1 parenting is significantly related to W2 violence, and W1 violence is also significantly related to W2 parenting, then it is reasonable to conclude a reciprocal effect between parental control and youth violent behaviors. On the other hand, if W1 parenting is significantly affecting W2 violence, but W1 violence does not significantly impact W2 parenting, then there is no reciprocal effect.

The first stage of the cross-lagged panel design used hierarchical logistic regressions to estimate the relationships between W1 parenting and W2 delinquent acts while controlling for W1 deviance. In order to produce reliable test results, necessary assumption tests and variable re-coding has taken place. W1 parenting includes ratio level direct and indirect parental control variables. The assumption of distributional normality was tested and found tenable for the scale of direct parental control which is a sum of the standardized scores of parent presence and reverse-coded youth autonomy. The detailed data transformation procedure is discussed earlier in this chapter under QR2a. Indirect parental control data was excessively skewed negatively, so a transformation was done in two steps: 1) Parental warmth was first reverse-coded, where each original value of the variable is subtracted from a constant (the constant is calculated by adding 1

to the largest value in the original variable); 2) Next, inversely transformation ( $1/x$ ) was applied to the reverse-coded scale of parental warmth (Seth, 2008). After the data transformation, the variable distribution shape is close to normal, and the greater values still represent higher parental warmth. Then, the stage one cross-lagged panel design was conducted and produced the following results that are shown in Tables 57 and 58.

**Table 57.** *Hierarchical logistic regression: W1 parental control and W2 delinquency*

Independent variables	Exp B					
	Wave 2 (1996)					
	Property delinquency			Violent delinquency		
Age	.92***	.91***	.90***	.94**	.93**	.92***
Gender (male)	1.46***	1.20**	1.22**	2.08***	1.54***	1.57***
Mother's educational level	—	—	—	.93***	.95**	.95**
Public assistance	—	—	—	1.46***	—	—
W1 property delinquency		1.48***	1.47***			
W1 violent delinquency					1.67***	1.66***
<b>W1 Parental control</b>						
Direct parental control			—			—
Indirect parental control			.75**			.75**

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

**Table 58.** Hierarchical logistic regression: W1 parental control and W2 substance use

Independent variables	Exp B								
	Wave 2 (1996)								
	Alcohol use			Tobacco use			Drug use		
Age	1.28***	1.12***	1.10***	1.16***	—	—	1.15***	—	—
Gender (male)	—	—	—	1.20**	—	—	—	—	—
Mother's educational level	—	—	—	.95***	.97*	.97*	—	—	—
Public assistance	.80*	.74**	.72**	—	—	—	—	—	—
W1 alcohol use		8.88***	8.57***						
W1 tobacco use					12.32***	12.03***			
W1 drug use								11.63***	10.82***
<b>W1 Parental control</b>									
Direct parental control			.93**			.95*			.90**
Indirect parental control			—			—			.74*

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

As shown in Tables 57 and 58, after controlling for demographic variables and W1 initial delinquent acts, the findings indicate that W1 direct parental control was not significantly impacting juvenile property nor violent delinquency at Wave 2, but it does have a significant suppressing impact on all W2 substance use measures. Indirect parental control was significantly negatively associated with property/violent delinquency and drug use. There were not significant relationships discovered between W1 indirect parental control and W2 youth alcohol or tobacco use. In general, higher levels of direct parental control seem to prevent youth from substance use, and higher levels of indirect parental control tend to keep youth from engaging in more serious deviance, such as property/violent delinquency and drug use.

The second stage of the cross-lagged panel design adopted hierarchical multiple linear regressions to assess the relationships between W1 juvenile delinquent acts and W2 parental control while considering the impact of W1 initial parenting. Both Wave 1 and Wave 2 parenting variables were re-coded for the purpose of normalizing the distribution, using the same approach as described in stage one. Table 59 exhibits the test results in predicting W2 direct parental control. The study found that parenting tends to be consistent overtime; youth who reported higher levels of direct parental control at Wave 1 were more likely to receive high supervision at Wave 2 as well.

**Table 59.** *Hierarchical multiple regression: W1 delinquency and W2 direct parental control*

Independent variables	Unstandardized coefficients (standardized coefficients)		
	W2 Direct parental control (Adjusted R <sup>2</sup> =.37)		
Constant	7.88	3.24	3.27
Age	-.23*** (-.25)	-.09*** (-.10)	-.09*** (-.09)
Gender (male)	—	—	—
Mother's educational level	-.05*** (-.08)	-.03*** (-.05)	-.03*** (-.05)
Public assistance	-.22*** (-.05)	—	—
W1 Direct parental control		.57*** (.56)	.56*** (.56)
W1 Indirect parental control		.17** (.04)	.14** (.03)
<b>W1 Delinquency</b>			
Property delinquency			—
Violent delinquency			—
Alcohol use			-.09* (-.03)
Tobacco use			—
Drug use			—

*Note.* Unstandardized coefficients and standardized in parentheses. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

After controlling for demographic variables and initial parenting practices, this study found that only W1 alcohol use was significantly negatively associated with W2 direct parental control. That is, if a child reported using alcohol at Wave 1, such a child would have a reduced direct parental control Wave 2. The regression results indicate no significant impacts of other initial deviance on the later parental supervision.

**Table 60.** *Hierarchical multiple regression: W1 delinquency and W2 indirect parental control*

Independent variables	Unstandardized coefficients (standardized coefficients)		
	W2 Indirect parental control (Adjusted R <sup>2</sup> =.23)		
Constant	.81	.29	.31
Age	-.02*** (-.10)	—	—
Gender (male)	—	—	—
Mother's educational level	—	—	—
Public assistance	—	—	—
W1 Direct parental control		.01* (.03)	—
W1 Indirect parental control		.45*** (.47)	.43*** (.45)
<b>W1 Delinquency</b>			
Property delinquency			-.04*** (-.06)
Violent delinquency			—
Alcohol use			-.02* (-.03)
Tobacco use			—
Drug use			—

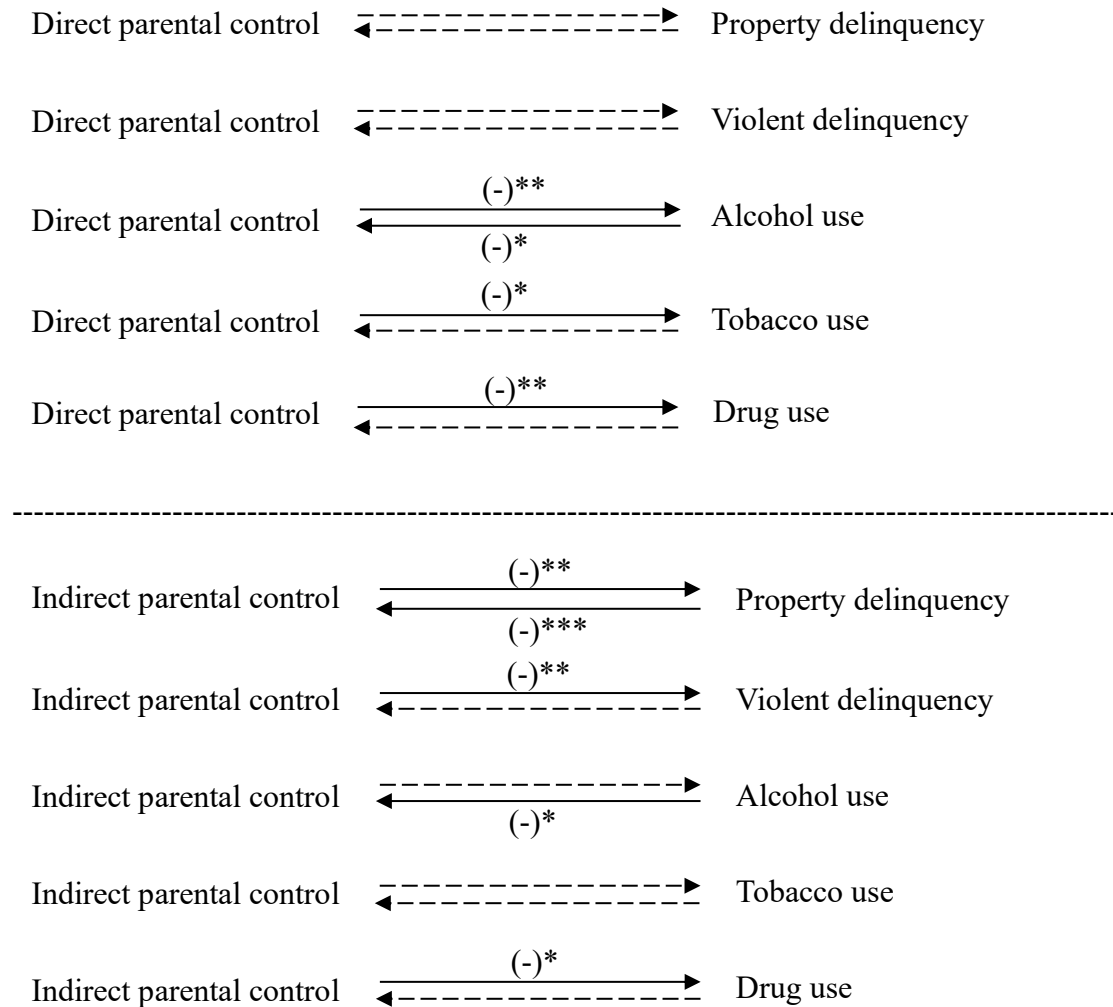
*Note.* Unstandardized coefficients and standardized in parentheses. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

When assessing the effects of W1 initial deviance on W2 indirect parental control, the results are displayed in Table 60. W1 property delinquency and alcohol use were found to be



significantly reducing W2 indirect parental control. That is, involvement in initial property delinquency likely damaged the later child-parent attachment (indirect parental control). Also, respondents who reported using alcohol at Wave 1 were more likely to report decreased parental warmth at Wave 2. According to both Tables 59 and 60, alcohol use appeared to be a major factor that affected parenting practices.

Overall, the findings of both stages indicate that initial parenting was related to all types of youth deviant behavior subsequently, but only adolescent alcohol use and property delinquency were associated with changes in parenting. The regression results revealed that higher levels of direct parental control protected youth from all types of substance use, and effective indirect parental control tends to prevent more serious youth deviance, such as property/violent delinquency and drug use. When looking at the reciprocal effects of youth deviance on parenting practices, respondents who initially used alcohol later reported decreases in both direct and indirect parental control, and those who reported property delinquency involvement at Wave 1 reported decreased parental warmth at Wave 2. Figure 1 represents the reciprocal correlations between parenting practices and youth delinquent activities.

**Figure 1.** *Reciprocal relationships between parenting and delinquency*

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash line arrow means a non-significant effect.

Summary RQ2b: In Add Health project, parenting and youth deviance variables were collected at two points in time (Wave 1 was in 1994/95 and Wave 2 was in 1996). In order to see how these variables were interacting with each other over time, a cross-lagged panel design was used. When comparing the two stages in this design, the results revealed that parenting shaped children's behavioral outcomes more consistently than the reciprocal effects of youth behaviors

on parenting practices. As shown in the above Figure 1 on the results of all seven models, the only models that exhibit evidence of reciprocal relationships between parental controls and youth deviance were 1) the association between direct parental control and juvenile use of alcohol, and 2) the relationships between indirect parental control and property delinquency. More specifically, direct parental control significantly reduced the chance of juvenile alcohol use, and underage alcohol use also weakened direct parental supervision. Indirect parental control was significantly negatively associated with adolescent property delinquency, at the same time, property delinquent activities undermined child-parent attachment.

***RQ2c: Does direct parental control have a U-shaped relationship with adolescents' concurrent and subsequent delinquency? That is, are both low and high direct parental control poles associated with higher levels of youth misbehavior, as opposed to the mid-range of parental control scale?***

Direct parental control may not always play an optimistic role in shaping youth behavioral development. As suggested by Nye (1958), besides low levels, very high levels of direct parental control are also likely to be associated with greater youth misconducts. The descriptive statistics listed early in this dissertation also point out such a possibility (see Table 52). Thus, hypothesis RQ2c focuses on the possible U-shaped relationship between parental supervision and juvenile delinquency, as well as adult criminality measures.

Ideally, to test for a U-shaped curvilinear pattern, scatterplots would be used to separate direct parental control into two variables (moderate control and over-supervised) using the inflection point as a cutoff. Then both resulting variables would be included in the multiple linear regression models separately. However, scatterplots did not produce clear patterns of the correlations, since parenting variables are ordinal-like interval measurements and deviance measures are highly positively skewed. Therefore, exploratory data analysis was used instead to compare the central tendency measures of delinquent acts across direct parental control groups.

Because of the infrequent nature of delinquency and crime, the majority of respondents reported no engagement in any antisocial behaviors. Therefore, exploratory data analysis only compared average delinquency acts among low, median, and high parental control groups. Also, one-way ANOVA tests were used to identify whether or not the observed group differences were significant. Although all delinquency variables were inversely coded,  $1/(x+1)$ , for the purpose of ensuring the distribution's normality before running ANOVA tests, it is important to check if all delinquency measures are normally distributed after the transformation. W1 deviance measures were normally distributed, but W2 and W3 were still slightly skewed although they were better than before the transformation.

Exploratory data analysis first looked at the relationships between initial (W1) direct parental control groups and youth delinquency involvement over time from Wave 1 to Wave 3.

Tables 61 and 62 present the results of exploratory data analysis and one-way ANOVA tests.

Figure 2 shows the line charts that reflect the statistics listed in Table 61.

**Table 61.** *Exploratory data analysis: W1 to W3 Delinquency by W1 direct parental control*

	<b>W1 Direct Parental Control</b>	<b>N</b>	<b>Percent</b>	<b>Mean</b>	<b>SD</b>
<b>W1 Property delinquency (1994-95)</b>	Low	603	72.1%	1.56	6.653
	Medium	2545	79.5%	1.15	5.217
	High	586	80.9%	.97	4.591
<b>W1 Violent delinquency (1994-95)</b>	Low	603	72.1%	1.25	3.990
	Medium	2545	79.5%	.92	1.569
	High	586	80.9%	.93	2.366
<b>W2 Property delinquency (1996)</b>	Low	603	72.1%	1.06	4.798
	Medium	2545	79.5%	.90	2.063
	High	586	80.9%	.96	4.414
<b>W2 Violent delinquency (1996)</b>	Low	603	72.1%	.79	2.783
	Medium	2545	79.5%	.56	1.499
	High	586	80.9%	.56	1.388
<b>W3 Property delinquency (2001-02)</b>	Low	603	72.1%	.36	1.338
	Medium	2545	79.5%	.33	1.473
	High	586	80.9%	.39	1.603
<b>W3 Violent delinquency (2001-02)</b>	Low	603	72.1%	.24	.580
	Medium	2545	79.5%	.23	.643
	High	586	80.9%	.32	1.011

*Note.* N means valid sample size; % means valid percent.

**Table 62.** *One-way ANOVA: W1 to W3 Delinquency by W1 direct parental control group*

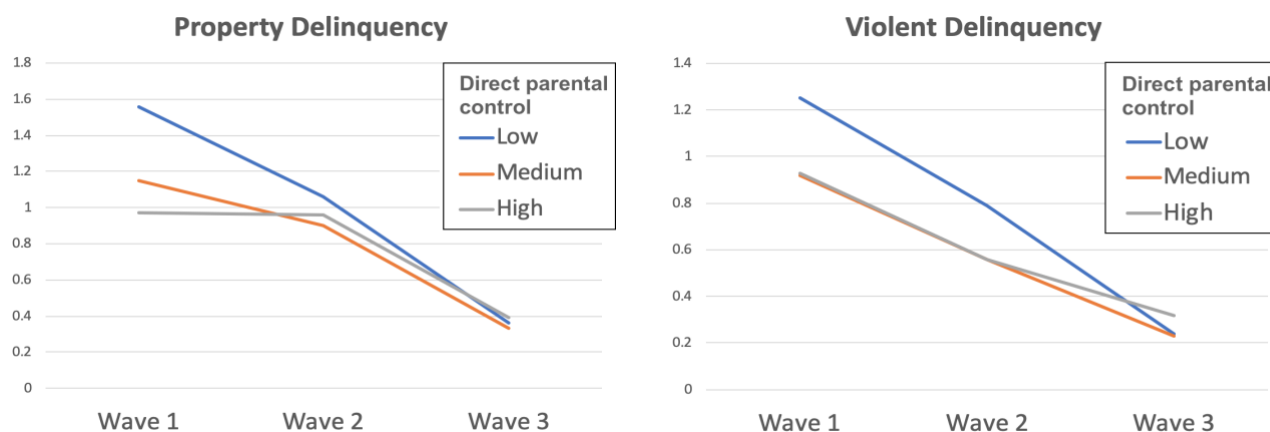
	<b>W1 Direct Parental Control</b>	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>Sig.</b>
<b>W1 Property delinquency</b>	Between Groups	4.314	2	18.649***	.000
<b>W1 Violent delinquency</b>	Between Groups	1.805	2	8.370***	.000
<b>W2 Property delinquency</b>	Between Groups	.689	2	3.367*	.035
<b>W2 Violent delinquency</b>	Between Groups	1.127	2	6.533**	.001
<b>W3 Property delinquency</b>	Between Groups	.015	2	.137	.872
<b>W3 Violent delinquency</b>	Between Groups	.329	2	3.869*	.021

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Sig. means p value.

Based on the descriptive information of adolescent deviant acts (Wave 1 to Wave 3) among initial direct parental control groups, the study indicates no U-shaped relationships between direct parental control and youth concurrent property/violent delinquent behaviors (See Table 61 and Figure 2). Instead, the higher direct parental control is consistently associated with lower involvement in property and violent delinquent behaviors in Wave 1 and Wave 2. The mean differences turn out to be smaller between medium and high parental control groups compared to the mean differences between medium and low control groups. Also, the comparison indicated that the concurrent effect of parental control is stronger than the subsequent effect on youth behaviors.

At the same time, early high levels of direct parental control seem to have an adverse impact on property and violent delinquency at Wave 3. Youths who had high direct parental control at Wave 1 were later involved in both more property and violent delinquency than those from other groups at Wave 3. Based on the test of one-way ANOVA (see Table 62), youths who initially experienced high levels of direct parental control committed significantly more violent delinquency at W3 compared to youth with medium level of parental control.

**Figure 2.** *Possible backfiring effect of direct parental control on delinquency and crime*



*Note.* The line charts are created based on the statistics shown in Table 61.

In general, as shown in Figure 2, direct parental control worked better in preventing property delinquency compared to violent delinquent acts. The higher the parental control, the lower the concurrent property delinquency involvement. But youths with a medium level of direct parental control turn out to do as well as youths with high parental supervision at W1 and W2 generally. While youth with high initial control tend to engage in more deviance later on in early adulthood (W3). Therefore, the medium level of direct parental control had more positive and more consistent effects on youth behavioral outcomes. Although we do not see a clear U-shaped relationship between direct parental supervision and delinquency, over time, youths with low or high control turn out to do worse than the youths with medium level parental control.

The current study also tested the relationships between W2 direct parental control groups and youth delinquency involvement over time. Since Wave 1 and Wave 2 were only one year apart, repetitively testing the correlations should provide a more reliable conclusion. Tables 63 and 64 contain the test results.

**Table 63.** *Exploratory data analysis: W1 to W3 Delinquency by W2 direct parental control level*

	<b>W2 Direct Parental Control</b>	<b>N</b>	<b>Percent</b>	<b>Mean</b>	<b>SD</b>
<b>W1 Property delinquency (1994-95)</b>	Low	549	72.3%	1.60	7.625
	Medium	2536	79.4%	1.14	4.992
	High	577	79.7%	.94	4.550
<b>W1 Violent delinquency (1994-95)</b>	Low	549	72.3%	1.30	4.153
	Medium	2536	79.4%	.90	2.357
	High	577	79.7%	.92	2.574
<b>W2 Property delinquency (1996)</b>	Low	549	72.3%	1.04	4.515
	Medium	2536	79.4%	.95	4.418
	High	577	79.7%	.80	3.645
<b>W2 Violent delinquency (1996)</b>	Low	549	72.3%	.71	1.437
	Medium	2536	79.4%	.58	1.685
	High	577	79.7%	.52	1.143
<b>W3 Property delinquency (2001-02)</b>	Low	549	72.3%	.36	1.211
	Medium	2536	79.4%	.38	1.380
	High	577	79.7%	.42	2.223
<b>W3 Violent delinquency (2001-02)</b>	Low	549	72.3%	.23	.505
	Medium	2536	79.4%	.24	.700
	High	577	79.7%	.28	.829

*Notes.* N means valid sample size; % means valid percent.

**Table 64.** *One-way ANOVA: W1 to W3 Delinquency by W2 direct parental control group*

	<b>W2 Direct Parental Control</b>	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>Sig.</b>
<b>W1 Property delinquency</b>	Between Groups	3.951	2	17.097***	.000
<b>W1 Violent delinquency</b>	Between Groups	2.253	2	10.482***	.000
<b>W2 Property delinquency</b>	Between Groups	.826	2	4.033*	.018
<b>W2 Violent delinquency</b>	Between Groups	.971	2	5.668**	.003
<b>W3 Property delinquency</b>	Between Groups	.023	2	.203	.816
<b>W3 Violent delinquency</b>	Between Groups	.166	2	1.951	.142

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Sig. means p value.

According to Table 63, based on the mean differences of youth deviant acts (Wave 1 to Wave 3) among W2 direct parental control groups, the tests again indicated no U-shaped



relationships between direct parental control and youth property/violent delinquent behaviors at any single wave. It is consistent with the fact that the higher direct parental control at Wave 2 was associated with the lower involvement in property and violent delinquent behaviors at Wave 1 and Wave 2. The mean differences turn out to be smaller between medium and high parental control groups comparing to the means for the low control group, especially for violent delinquency.

When looking at the long-term effects of direct parental control, the levels of engagement in early adulthood delinquent acts between low and medium parental supervision were similar. Like initial parenting, Wave 2 high levels of direct parental control appeared to have an adverse impact on property and violent delinquency at Wave 3 (see Table 63). Youths who reported high direct parental control were involved in most property and violent delinquent behaviors at Wave 3 compared to youths with low or medium levels of parental supervision, although the differences were not significant, likely due to wide variations around the mean (see Table 64).

Summary RQ2c: The findings from testing this hypothesis highlight that youths with low levels of direct parental control had a higher level of engagement in both concurrent property and violent delinquency at Wave 1 and Wave 2; youths with a high level of direct parental control had higher level of engagement in both subsequent property and violent delinquency at Wave 3. That is, at earlier steps, youths with a high direct parental control seem to act obediently, but when these youths grow up and reach their early twenties, they are more likely to engage in

delinquency when parental supervision is no longer holding them. Consequently, instead of the U-shaped relationship, there seems to be a ‘backfiring’ effect of high levels of direct parental control on subsequent youth deviance (see Figure 2). In general, youths with medium level of direct parental control had more positive and more consistent effects in preventing them from antisocial behaviors. Therefore, although we do not see a clear U-shaped relationship between direct parental control and delinquency at the static time frame, youths with low or high control turn out to do worse over time when compared to youths with medium level of parental supervision.

### **Section 3: Immigrant Generational Status and Language Used at Home**

The hypotheses in the earlier sections estimate the effects of family structure and parenting practices on juvenile behavioral development over a seven-year period. Parents with non-US cultural backgrounds may also influence the ways they educate their children. By a wide margin, the United States has the most immigrants than any other country in the world. As of 2019, there were 50.7 million immigrants (foreign-born individuals) comprised 15.4% of the national population (United Nations, 2019). This immigrant share of the U.S. population has reached a historic high. According to the studies done by the Pew Research Center (2020), immigrants and their descendants are projected to account for 88% of the national population growth through 2065 if current immigration trends continue.

In addition to new arrivals, U.S. births to immigrant parents will be critical to future growth in the country's population. However, mass media and U.S. foreign policies often picture immigrants as undocumented, poor, uneducated, and the kind of people who could potentially create social problems. Contemporary empirical studies, on the opposite side, consistently find immigrants to be more law-abiding and less violent than the native Americans even confronting with life obstacles (Adelman et al., 2017; Bersani, 2014; Ousey & Kubrin, 2009). In reality, social issues, such as racial discrimination and racial conflicts, have become more serious under the COVID-19 epidemic during 2020-21. This section in the present study takes the national

sample of Add Health project to address the consideration of cultural influences on adolescent delinquency and early adulthood criminality under the family framework.

***RQ3a: Will immigrant generational status have a stable independent impact on adolescent's concurrent (W2) and subsequent (W3) deviant behaviors, taking into account the adolescent's demographics (gender and age) and family socioeconomic status? Does English used at home as a primary language have an impact on outcome variables among the first-generation youths?***

This hypothesis assesses the effects of immigrant generational status and household English adaptation on youth deviant activities. Prior to 1990, family reunification-based immigration was the only preferential category. President George W. Bush signed Immigration Act of 1990, which expands the 1965 act to also include priority of high-skilled and educated workers. The present study uses Add Health sample, which has been collected in 1994. Therefore, the participants in the project could be children of both categories of immigrants, which makes for a more diverse sample in terms of immigrant roots. In order to see whether immigrant families were different from US-born families in terms of demographic characteristics, such as child age and socioeconomic status, this study first explored these sociodemographic characteristics across immigrant generations (see Table 65).

**Table 65.** *Descriptive statistics: Demographic characteristics by immigrant generation*

<b>Immigrant generations</b>	<b>Mean (SD) or Percentage</b>			
	<b>Age at W1</b>	<b>Gender (Male)</b>	<b>Mother's educational level</b>	<b>Public assistance</b>
1st generation (n=220)	16.14 (1.57)	45.3%	4.38 (3.04)	14.2%
2nd generation (n=347)	15.48 (1.57)	46.9%	5.01 (2.88)	11.1%
3rd+ generation (n=3982)	15.59 (1.57)	48.2%	5.66 (2.24)	13.5%

*Note.* n means valid sample size; % means valid percent.

As shown in Table 65, majority of youths (about 88%) in Add Health sample were the third and higher generation immigrants, which can be considered being raised under the dominant U.S. cultural traditions. Among 220 first-generation immigrant respondents, the average age was 16.14. They were about 6 months older on average than the later generation youths. There were more female respondents in the first generation than the second and later generations, although the difference was not substantial. As for the socioeconomic status measures, the first-generation immigrant mothers reported the lowest educational levels, and these immigrant households reported the highest proportion of receiving public assistance during Wave 1 and Wave 2 study period than the families of later generations. Yet the second-generation families reported the lowest proportion of receiving public assistance. On the whole, it is consistent with the previous empirical work, the first-generation immigrant families appear to face more socioeconomic difficulties (Ousey & Kubrin, 2009; MacDonald & Saunders, 2012). Tables 66 to 68 reveal youth involvement in deviance over the time from Wave 1 to Wave 3 across immigrant generational groups.

**Table 66.** *Descriptive statistics: Wave 1 delinquency by immigrant generation*

Immigrant generations	Percentage of youths involved					
	W1 (1994-1995)					
	Property delinquency	Violent delinquency	Alcohol use	Tobacco use	Drug use	Violence exposure
1 <sup>st</sup> generation (n=220)	31.8%	37.7%	32.3%	15.5%	5.5%	19.1%
2 <sup>nd</sup> generation (n=353)	45.9%	41.6%	45.6%	14.7%	9.9%	24.1%
3 <sup>rd</sup> + generation (n=4037)	37.0%	42.3%	43.7%	28.6%	14.0%	23.7%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

**Table 67.** *Descriptive statistics: Wave 2 delinquency by immigrant generation*

Immigrant generations	Percentage of youths involved				
	W2 (1996)				
	Property delinquency	Violent delinquency	Alcohol use	Tobacco use	Drug use
1 <sup>st</sup> generation (n=219)	26.0%	26.0%	34.2%	21.0%	9.1%
2 <sup>nd</sup> generation (n=343)	35.9%	33.8%	45.2%	27.4%	13.1%
3 <sup>rd</sup> + generation (n=3991)	30.8%	28.4%	44.1%	36.6%	16.5%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

**Table 68.** *Descriptive statistics: Wave 3 criminality by immigrant generation*

Immigrant generations	Percentage of youths involved				
	W3 (2001-2002)				
	Property delinquency	Violent delinquency	Police stop/detention	Arrests	Drug use
1 <sup>st</sup> generation (n=153)	16.3%	9.2%	16.3%	5.9%	7.8%
2 <sup>nd</sup> generation (n=290)	15.9%	13.4%	17.2%	6.6%	19.0%
3 <sup>rd</sup> + generation (n=3235)	16.9%	13.4%	19.7%	11.2%	24.7%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

According to the above descriptive statistics of deviant behaviors across three immigrant generational groups, the first-generation immigrant youths reported the least involvement in all

types of deviant behaviors consistently from adolescence to early adulthood compared to the second and later generation youths, especially in substance use. The second-generation youths were at similar or higher risk for delinquent activities than the third-plus generation youths during adolescence (W1 and W2); they were at lower risk of delinquency than the third-plus generation youths during early adulthood at Wave 3.

Generally, the descriptive statistics indicate that the first-generation immigrant youths consistently reported less delinquency overtime than the respondents of the later generations. The second-generation youths and the later-generation ones had similar levels of engagement in the most types of deviance. During the adolescent period, the second-generation youths were at higher risk for delinquency than the ones of the later generation, except for substance use. In the long run, the third-plus generation youths engaged in more delinquent activities at Wave 3 compared to youths from both first- and second-generation immigrant families.

Foreign culture or social alienation may have produced a family setting that makes children less susceptible to delinquent behavior. On the other hand, immigrant status may also create disconnection and conflict between the family culture and peer influence, which makes the second-generation youths more likely to engage in delinquent activities when they start getting exposed to more outside-of-family activities during adolescence years. Also, when comparing the magnitude of engagements in deviance across generations, the impact of immigrant family

status on lower-level delinquent activities appears to gradually decline over time, but its impact became stronger on other criminality measures: arrests and drug use.

With the aim of assessing the immigrant generational impact on juvenile delinquent activities and adult criminality, hierarchical logistic regression models were estimated, while controlling for respondents' demographic characteristics. Initial deviance (W1) was not included in the model, since immigrant generation status is a more stable characteristic and cultural influence that cannot be changed easily. It is reasonable to assume that immigrant status affects initial delinquency but then does not add extra on the later deviant measures (which is exactly what was evident from additional analyses, not included into the manuscript due to tangential nature and space limitations). Tables 69 to 72 present the findings of the regression models.

**Table 69.** *Hierarchical logistic regression: Immigrant generation and property delinquency*

Independent variables	Exp B			
	Property delinquency			
	Wave 2 (1996)		Wave 3 (2001-2002)	
Age	.92***	.92***	.82***	.82***
Gender (male)	1.44***	1.44***	2.81***	2.81***
Mother's educational level	—	—	1.07**	1.07**
Public assistance	—	—	1.37*	1.38*
<b>Immigrant generations</b>				
1 <sup>st</sup> generation				—
2 <sup>nd</sup> generation			1.29*	—
3 <sup>rd</sup> + generation (R)				

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.



**Table 70.** *Hierarchical logistic regression: Immigrant generation and violent delinquency*

Independent variables	Exp B			
	Violent delinquency			
	Wave 2 (1996)		Wave 3 (2001-2002)	
Age	.93***	.93**	.87***	.87***
Gender (male)	2.08***	2.08***	4.53***	4.54***
Mother's educational level	.93***	.93***	—	—
Public assistance	1.43***	1.44***	1.60**	1.59**
<b>Immigrant generations</b>				
1 <sup>st</sup> generation	—		—	
2 <sup>nd</sup> generation	1.30*		—	
3 <sup>rd</sup> + generation (R)				

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

Based on the descriptive statistics listed in Tables 67 and 68, youths from first-generation immigrant families reported less involvement in both property and violent delinquency. But, after controlling for demographic characteristic, first-generation immigrant status was not found significant (see Tables 69 and 70). Instead, the regression results revealed that the second-generation youths were 30% more likely than the third-plus generation youths to commit property and violent delinquency during adolescence (W2). In addition, immigrant generational status did not significantly predict adulthood property nor violent offending (W3).

**Table 71.** *Hierarchical logistic regression: Immigrant generations and Wave 2 substance use*

Independent variables	Exp B					
	Wave 2 (1996)					
	Alcohol use		Tobacco use		Drug use	
Age	1.28***	1.29***	1.16***	1.16***	1.15***	1.15***
Gender (male)	—	—	1.21**	1.21**	—	—
Mother's educational level	—	—	.95***	.94***	—	—
Public assistance	.78**	.78**	—	—	—	—
<b>Immigrant generations</b>						
1 <sup>st</sup> generation		.59***		.45***		.47**
2 <sup>nd</sup> generation		—		.63***		—
3 <sup>rd</sup> + generation (R)						

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

When assessing underage use of substances, the tests found a protective effect of immigrant status (see above Table 71). At wave 2, when comparing to the third-plus generation youths, respondents from the first-generation immigrant families were 41% less likely to report alcohol use, 55% less likely to use tobacco, and 53% less likely to use any illegal drugs. The second-generation youths were also found 37% less likely to report tobacco use during adolescence than the later-generation youths while controlling for youth's gender, age, and family socioeconomic factors.

**Table 72.** Hierarchical logistic regression: Immigrant generations and Wave 3 criminality

Independent variables	Exp B					
	Wave 3 (2001-2002)					
	Police stop/detention		Arrests		Drug use	
Age	.90***	.90***	—	—	.89***	.90***
Gender (male)	3.77***	3.78***	5.26***	5.29***	1.73***	1.74***
Mother's educational level	1.05*	1.05*	—	—	1.05**	1.04*
Public assistance	—	—	1.58**	1.56**	—	—
<b>Immigrant generations</b>						
1 <sup>st</sup> generation		—	.51 (p=.059)			.32***
2 <sup>nd</sup> generation		—	.55*			.74 (p=.054)
3 <sup>rd</sup> + generation (R)						

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

Tables 72 demonstrates the impact of immigrant generational status on youths' subsequent criminal activities. There was no significant finding of immigrant status on police stop or detention. The results revealed that the second-generation youths were 45% less likely to report arrests at Wave 3 than the later-generation youths. Although first generation youths reported the lowest proportion of arrests among all generational groups (see Table 68), the difference was close to significant but not quite ( $p=.059$ ). The insignificant findings could be a result of the small group size, since only 4% of respondents in the sample are first-generation immigrants. The test results also indicated that the first-generation youths were 68% less likely to report drug use when compared to the respondents of the third-plus generation.

Typically, youths from the first-generation immigrant families reported less involvement in all types of deviant activities. The difference was significant for all substance use measures compared to the third-plus generation youths. To assess the culture influence among the first-generation families, the current study also included English-speaking household as a measure of linguistic isolation. There were 160 households that use languages other than English and 65 English-speaking families among the 225 first-generation families. That is, over 70% of first-generation families use languages other than English in homes. Due to the small group size, regression models were not adopted though. Instead, descriptive statistics were used in comparing the first-generation immigrant youths who speak English at home to those who do not. The test results are summarized in Tables 73 to 75.

**Table 73.** *Descriptive statistics: Wave 1 delinquency by English-speaking family status*

First-generation youth, English-speaking family status	Percentage of youths involved					
	W1 (1994-1995)					
	Property delinquency	Violent delinquency	Alcohol use	Tobacco use	Drug use	Violence exposure
Yes (n=65)	38.5%	30.8%	33.8%	21.5%	9.2%	9.2%
No (n=155)	29.0%	40.6%	31.6%	12.9%	3.9%	23.6%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

**Table 74.** *Descriptive statistics: Wave 2 delinquency by English-speaking family status*

First-generation youth, English-speaking family status	Percentage of youths involved				
	W2 (1996)				
	Property delinquency	Violent delinquency	Alcohol use	Tobacco use	Drug use
Yes (n=62)	27.4%	21.0%	38.7%	19.4%	14.5%
No (n=157)	25.5%	28.0%	32.5%	21.7%	7.0%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

**Table 75.** *Descriptive statistics: Wave 3 criminality by English-speaking family status*

First-generation youth, English-speaking family status	Percentage of youths involved				
	W3 (2001-2002)				
	Property delinquency	Violent delinquency	Police stop/detention	Arrests	Drug use
Yes (n=42)	38.1%	14.3%	26.2%	11.9%	14.3%
No (n=111)	8.1%	7.2%	12.6%	3.6%	5.4%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

According to the descriptive statistics shown in Tables 73 to 75, the first-generation youths from English-speaking homes reported more non-violent deviant behaviors than those from non-English-speaking homes. But the first-generation youths reported higher levels of violent delinquency at Wave 1 and Wave 2. They also reported much higher levels of initial violence exposure than those who from non-English-speaking families. It is possible that linguistic isolation may create misunderstanding and conflict between the family of origin and peer interactions, which also explains the earlier finding that the second-generation youths reported more violent behaviors than the third-plus generation ones during adolescence years (see Table 70).

At Wave 3 (youths were between 19 and 28 years old), the first-generation youths who were from English-speaking families reported higher involvement in all types of deviant acts (including violence) and more formal contact with police (stop/detention and arrests). Speaking a language, of course, could not cause delinquency/crime. But there may be some other risk factors, such as deviant peer influence and conflict with the culture of origin, associated with English speaking at home, that also make youths from immigrant families more vulnerable to deviant behaviors.

Summary RQ3a: In general, this hypothesis found the first-generation immigrant youths, as expected, engaged in less delinquency and crime, especially in substance use, compared to the later generational groups. The second-generation youths reported more violent behaviors during adolescence, which is likely related to residence in high-crime poor neighborhoods and thus higher exposure to violence. Foreign culture may also have created disconnection and conflict between the family culture and peer influence. But, in the long-term, the first- and the second-generation youths were more law-abiding than other Americans of the same age, in line with previous studies. English as the dominant language used at home might refer to the higher levels of Americanization, which appeared to be a risk factor in youth behavioral development among the first-generation youths, although it lowered violent conflicts during adolescence.

Perhaps immigrant status or foreign culture does not have a direct impact on child-behavioral development; other factors related to immigrant families may indeed regulate youths'

behavior. There is previous research showing that immigrant families are more likely to be intact families and produce higher levels of parental supervision that protect children from delinquent activities (Brown et al., 2008; Glick, 2010). Therefore, it is possible that parental factors, rather than immigrant status, were associated with youth behavioral outcomes. To address this possibility, the following hypothesis aims at assessing the effects of family structure stability and parenting practices on deviant activities from adolescence to young adulthood across immigrant generations.

***RQ3b: Does family structure stability and parenting practices weaken the impact of immigrant generational status on adolescents' concurrent and subsequent deviant behaviors (W2 and W3) and police contact and arrests (W3)?***

According to the findings of the analyses for hypothesis RQ3a, the first-generation youth consistently reported the least involvement in all types of deviant activities. Youths of the second-generation were more susceptible to delinquency than the first-generation youths and appeared to be similar to the third-plus generation ones in term of their behavioral outcomes. However, the first-generation immigrant youths did not seem to have much different family structures than the third-plus generation youths had.

As shown in Table 76 below, over 59% of the first-generation youths were living with two biological parents (stable family) compared to 78% of the second-generation youths and

51% of the third-plus generation youths. In addition, about 88% of the first-generation youths were living in stable households during Wave 1 and Wave 2. The percentages are 91% for the second-generation youths and 86% for the third-plus generation youths. Thus, there is no clear relationship among family structure stability, immigrant generational status, and youth behavioral outcomes based on the descriptive statistics.

**Table 76.** *Descriptive statistics: Family structure stability type by immigrant generation*

Immigrant generational status	Family structure stability types								
	Stable two-bio-parent	Stable single-bio-mother	Stable single-bio-father	Stable other	Reunion	Unstable breakup	Unstable formation	Unstable other	Total
1 <sup>st</sup> generation	132 (59.5%)	36 (16.2%)	3 (1.4%)	24 (10.8%)	7 (3.2%)	10 (4.5%)	6 (2.7%)	4 (1.8%)	222 (100%)
2 <sup>nd</sup> generation	273 (78.2%)	0 (0.0%)	6 (1.7%)	40 (11.5%)	3 (0.9%)	20 (5.7%)	0 (0.0%)	7 (2.0%)	349 (100%)
3 <sup>rd</sup> + generation	2019 (50.6%)	728 (18.2%)	76 (1.9%)	593 (14.9%)	42 (1.1%)	240 (6.0%)	184 (4.6%)	111 (2.8%)	3993 (100%)
<b>Total</b>	2424 (53.1%)	764 (16.7%)	85 (1.9%)	657 (14.4%)	52 (1.1%)	270 (5.9%)	190 (4.2%)	122 (2.7%)	<b>4564</b> (100%)

*Note.* n means valid sample size; % means valid percent.

When looking at the levels of parental control, the results are consistent with earlier studies that indicated a delayed decrease in both direct and indirect parental control over time (see Table 77 below). It is also consistent with previous literature, as youth from the first-generation immigrant families tend to report lower parental warmth but higher direct parental control compared to those from the third-plus generation families (Schroeder et al., 2010a; Spano et al., 2012). More specifically, the first-generation youths reported the lowest level of indirect



parental control among three immigrant generational groups at both Wave 1 and Wave 2. The second-generation youths reported the highest level of direct parental control at both Wave 1 and Wave 2, and about the same level of parental warmth as the third-plus generation youths had.

The respondents from the third-plus generation families reported the lowest level of direct parental control among three groups but highest levels of parental warmth (indirect parental control). Recalling previous results on the relationship between immigrant generations and youths' delinquent behaviors and connecting them to the current study, if parental control explains the relationship between the first-generation immigrant status and deviant activities, we would expect direct parental control, rather than parental warmth, to be negatively related to youth misbehaviors.

**Table 77.** *Descriptive statistics: Wave 1 and Wave 2 parental control by immigrant generation*

Immigrant generations	Mean (SD)			
	Direct parental control		Indirect parental control	
	Wave 1	Wave 2	Wave 1	Wave 2
1 <sup>st</sup> generation (n=220)	4.38 (1.55)	4.37 (1.50)	.50 (.37)	.44 (.34)
2 <sup>nd</sup> generation (n=347)	4.69 (1.35)	4.63 (1.44)	.54 (.36)	.48 (.36)
3 <sup>rd</sup> + generation (n=3982)	3.96 (1.55)	3.89 (1.46)	.55 (.36)	.48 (.35)

*Note.* Parental control variables are recoded for the normality purpose. The higher scores mean higher control.

Overall, based on the descriptive statistics, the patterns of delinquency and criminality in relation to family structure stability across immigrant generations were not clear. Besides, less than 13% of the Add Health sample were the first- and second-generation youths. The majority

of these youths were from intact families, and very few were from broken homes. For instance, there were no respondents of the second-generation who reported living in a stable single-mother family nor in an unstable formation family. The limited group size does not support more advanced analytic tests for further analysis. The present study, then, estimated the relationships between immigrant generational status and delinquency/criminality controlling for parenting factors using hierarchical binary logistic regression models. The tests' results are presented in the following Tables 78 to 81.

**Table 78.** *Hierarchical logistic regression: Wave 2 parental control and property delinquency (controlling for immigrant generational status)*

Independent variables	Exp B					
	Property delinquency					
	Wave 2 (1996)			Wave 3 (2001-2002)		
Age	.92***	.92***	.89***	.82***	.82***	.80***
Gender (male)	1.45***	1.45***	1.48***	2.84***	2.83***	2.88***
Mother's educational level	—	—	—	1.07**	1.07**	1.07**
Public assistance	—	—	—	1.35*	1.35*	1.32*
<b>Immigrant generations</b>						
1 <sup>st</sup> generation		—	—		—	—
2 <sup>nd</sup> generation		1.27*	1.33*		—	—
3 <sup>rd</sup> + generation (R)						
<b>W2 Direct parental control</b>			.94**			—
<b>W2 Indirect parental control</b>			.40***			.53***

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

**Table 79.** Hierarchical logistic regression: Wave 2 parental control and violent delinquency (controlling for immigrant generational status)

Independent variables	Exp B					
	Violent delinquency					
	Wave 2 (1996)			Wave 3 (2001-2002)		
Age	.92***	.92***	.90***	.87***	.87***	.86***
Gender (male)	2.08***	2.08***	2.11***	4.46***	4.47***	4.51***
Mother's educational level	.93***	.93***	.93***	—	—	—
Public assistance	1.46***	1.47***	1.44***	1.58**	1.58**	1.56**
<b>Immigrant generations</b>						
1 <sup>st</sup> generation		—	—		—	—
2 <sup>nd</sup> generation		1.30*	1.36*		—	—
3 <sup>rd</sup> + generation (R)						
<b>W2 Direct parental control</b>			.94**			—
<b>W2 Indirect parental control</b>			.60***			.66**

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

As shown in Tables 78 and 79, after adding parental control variables into the regression models, immigrant generational status had no effect or an enhanced effect on juvenile delinquency at Wave 2 (Exp B of the second-generation changed from 1.27\* to 1.33\* for property delinquency and from 1.30\* to 1.36\* for violent delinquency after adding parental control variables). In the meantime, both direct and indirect parental control were found significant, which indicated that youths who experienced higher parental warmth and/or higher parental supervision were less likely to report property/violent delinquency behaviors during adolescence (W2). In the long-term, immigrant status and parental control variables, except for parental warmth, had limited impact on adulthood delinquency activities. Therefore, parenting

practices do not seem to moderate the relationships between immigrant generational status and property/violent delinquency at both Wave 2 and Wave 3.

**Table 80.** *Hierarchical logistic regression: Wave 2 parental control and Wave 2 substance use (controlling for immigrant generational status)*

Independent variables	Exp B								
	Wave 2 (1996)								
	Alcohol use			Tobacco use			Drug use		
Age	1.28***	1.29***	1.23***	1.16***	1.17***	1.14***	1.14***	1.15***	1.08**
Gender (male)	—	—	—	1.21**	1.21**	1.22**	1.19*	1.18*	1.21*
Mother's educational level	—	—	—	.95***	.93***	.93***	—	—	—
Public assistance	.79*	.79*	.75**	—	—	—	—	—	—
<b>Immigrant generations</b>									
1 <sup>st</sup> generation		.60**	.64**		.46***	.47***		.49**	.53*
2 <sup>nd</sup> generation		—	—		.64**	.67**		—	—
3 <sup>rd</sup> + generation (R)									
<b>Direct parental control</b>			.85***			.93**			.83***
<b>Indirect parental control</b>			.57***			.55***			.39***

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

In Table 80, when predicting juvenile substance use at Wave 2, the odds ratios (Exp B statistics) of immigrant generations were still significant but slightly changed after adding parental control variables into the regression models. In the meantime, both direct and indirect parental control were found to significantly reduce the chance of underage substance use of all types. Again, parenting does not seem to weaken the impact of immigrant generational status on underage substance use. Instead, both immigrant generational status and parental control

appeared to prevent youths from using alcohol, tobacco, and illegal drugs during adolescence.

Thus, the protective effects of first-generation immigrant status and effects of parenting on underage substance use could be independent from each other.

**Table 81.** *Hierarchical logistic regression: Wave 2 parental control and Wave 3 criminality (controlling for immigrant generational status)*

Independent variables	Exp B								
	Wave 3 (2001-2002)								
	Police stop/detention			Arrests			Drug use		
Age	.89***	.90***	.87***	—	—	—	.89***	.89***	.87***
Gender (male)	3.83***	3.83***	3.90***	5.53***	5.55***	5.72***	1.71***	1.72***	1.74***
Mother's educational level	1.05*	1.05*	1.05*	—	—	—	1.05*	—	—
Public assistance	—	—	—	1.46*	1.43*	—	—	—	—
<b>Immigrant generations</b>									
1 <sup>st</sup> generation		—	—		—	—	.33***	.34***	
2 <sup>nd</sup> generation		—	—		.57*	—	—	—	
3 <sup>rd</sup> + generation (R)									
<b>Direct parental control</b>			.92*			.87**			.93*
<b>Indirect parental control</b>			.67**			.51***			.64***

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

When assessing the impact of immigrant generational status and parental control on young adulthood criminality measures, the following results have merged (see Table 81). The first-generation immigrant status was persistently associated with lower chances of drug use. Both direct and indirect parental control were significantly associated with all criminality measures while controlling for immigrant generational status. That is, the higher levels of

parental supervision and parental warmth, the lower involvement with police stop/detention, arrests, and illegal drug use in youths' early 20s. Immigrant generational status appeared to have only an indirect effect on youth-reported arrests at Wave 3, through parenting. After adding parental control variables, the second-generation youths were no longer found to be significantly less likely to report arrests than the third-plus generation respondents.

Summary RQ3b: Overall, the results indicated that the first-generation immigrant youths were consistently less likely to engage in deviance, especially in substance use. The second-generation youths reported more delinquent acts than the third-plus generation ones did during adolescent years. Immigrant generational status does not appear to have a long-term impact on young adulthood criminal behaviors, except for drug use. The findings also revealed that parental control did not influence the effect of immigrant generational status on juvenile delinquency and substance use during adolescence years, but it seemed to play a role in adulthood arrests among youth of different immigrant generational status. Derived from these findings, both immigrant generational status and parenting practices influenced youths' behaviors independently during adolescent years. With the passing of time, the influence of immigrant generational status gradually weakened, while the influence of parenting continued into adulthood.

This section of hypotheses found support for the independent effects of parenting on youth behavioral development with the consideration of youths' immigrant background. The tests also revealed the positive aspect of immigrant generational status that gives rise to the more

law-abiding first-generation youths. It also revealed its adverse aspect, which produces more delinquent juveniles of the second-generation during adolescence period. Foreign culture of different origin may play its role in a child's growth. Thus, the next section of research questions focuses on racial and ethnic disparities in family structure, parenting, and delinquency/crime.

#### **Section 4: Racial/Ethnic Disparity**

Based on the findings on the earlier hypotheses, immigrant generational status appeared to have an independent impact on youth behavioral development. The foreign background keeps juveniles away from substance use, and its protective effect lasts. Race/ethnicity is also an aspect of cultural background. It is found to be a moderator of the association between family-related factors and youth behavioral development. The previous research indicated that the intact family structure is the most beneficial family composition for child well-being. It is especially true for the White population, while weaker positive effects are found for non-Whites (Apel & Kaukinen, 2008; McKee, 2012). In most cases, growing up in single-parent families is associated with adverse effects, which often applies to European American children, but not always to African Americans (Dunifon & Kowaleski-Jones, 2002; Paxton et al., 2007; Schroeder et al., 2010c).

Hypotheses in this section focus on racial/ethnic disparity in family structure, parenting, and delinquency/crime. The present study also wants to explore whether race/ethnicity affect the relationship between family structure stability and delinquency/crime, as well as the relationship between parental control and delinquency/crime. Before assessing the correlations, descriptive statistics of youth involvement in delinquency/criminality measures from Wave 1 to Wave 3 across racial/ethnic groups were estimated using cross tabulates. Youth involvement in delinquency/crime is summarized in Tables 82 to 84. In Table 85, the racial/ethnic differences in sociodemographic characteristics are presented.



**Table 82.** *Descriptive statistics: Wave 1 delinquency by race/ethnicity*

Race/Ethnicity	Percentage of youths involved					
	Wave 1 (1994-95)					
	Property delinquency	Violent delinquency	Alcohol use	Tobacco use	Drug use	Violence exposure
Non-Hispanic White (n=2798)	36.3%	37.5%	47.6%	32.9%	14.3%	18.5%
Non-Hispanic Black (n=1000)	34.6%	50.1%	29.9%	14.9%	10.0%	34.8%
Hispanic or Latino origin (n=550)	45.8%	52.2%	45.9%	23.1%	16.0%	34.1%
Asian or Pacific Islander (n=148)	40.3%	38.3%	39.9%	18.8%	8.1%	15.4%
Other races (n=249)	49.4%	49.8%	45.9%	26.6%	16.9%	28.9%
<b>Entire sample</b> (n=4745)	37.8 %	42.6%	43.3%	27.1%	13.5%	24.2%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

**Table 83.** *Descriptive statistics: Wave 2 delinquency by race/ethnicity*

Race/Ethnicity	Percentage of youths involved				
	Wave 2 (1996)				
	Property delinquency	Violent delinquency	Alcohol use	Tobacco use	Drug use
Non-Hispanic White (n=2764)	30.8%	26.0%	49.4%	43.1%	16.6%
Non-Hispanic Black (n=995)	28.8%	33.2%	30.5%	20.2%	13.0%
Hispanic or Latino origin (n=547)	35.4%	39.1%	46.3%	31.0%	19.5%
Asian or Pacific Islander (n=143)	35.1%	28.9%	38.3%	25.5%	10.4%
Other races (n=247)	35.7%	30.2%	43.6%	34.6%	19.3%
<b>Entire sample</b> (n=4696)	31.3%	29.4%	44.3%	35.8%	16.1%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

**Table 84.** *Descriptive statistics: Wave 3 criminality by race/ethnicity*

Race/Ethnicity	Percentage of youths involved				
	Wave 3 (2001-2002)				
	Property delinquency	Violent delinquency	Police stop/detention	Arrests	Drug use
Non-Hispanic White (n=2254)	16.6%	11.4%	19.9%	10.9%	26.2%
Non-Hispanic Black (n=793)	16.7%	17.0%	16.4%	10.3%	19.0%
Hispanic or Latino origin (n=413)	18.0%	16.8%	20.8%	10.8%	18.4%
Asian or Pacific Islander (n=118)	19.2%	10.0%	17.8%	9.2%	14.2%
Other races (n=210)	15.6%	15.1%	25.2%	11.8%	25.9%
<b>Entire sample (n=3788)</b>	16.8%	13.3%	19.5%	10.8%	23.5%

*Note.* n means valid sample size; % means valid percent. All tested variables are dichotomous.

**Table 85.** *Descriptive statistics: Sociodemographic characteristics by race/ethnicity*

Race/Ethnicity	Mean (SD) or Percentage			
	Age at W1	Gender (Male)	Mother with a high school diploma	Public assistance
Non-Hispanic White (n=2826)	15.6 (1.59)	48.1%	89.7%	10.1%
Non-Hispanic Black (n=1033)	15.7 (1.61)	47.0%	88.6%	19.9%
Hispanic or Latino origin (n=566)	15.7 (1.62)	48.8%	56.6%	21.6%
Asian or Pacific Islander (n=149)	15.7 (1.57)	49.0%	83.8%	14.2%
Other races (n=257)	15.6 (1.59)	45.9%	82.8%	19.9%
<b>Entire sample (n=4834)</b>	15.6 (1.60)	47.9%	85.2%	14.2%

*Note.* n means valid sample size; % means valid percent.

According to the descriptive statistics presented in the above tables, Asian American teenagers (at Wave 1 and Wave 2) were at similar if not higher risk for delinquent activities compared to non-Hispanic White youths, although reported less substance use. Both Asian and non-Hispanic White respondents reported low levels of violence exposure at Wave 1, and

consistently reported low involvement in violent delinquency from Wave 1 to Wave 3 compared to youths of other races/ethnicities. This may be a result of the better financial support in the White and Asian families. With the information provided in Table 85, it can be seen that the family's status of receiving public assistance is closely related to youth violent behaviors. When Asian youths reached their early twenties at Wave 3, they reported the least arrests, the lowest levels of violence, and the least involvement in illegal drug use, but the highest involvement in property delinquent behaviors among racial/ethnic groups. Although Asian children committed high levels property delinquency throughout adolescence to early adulthood, it may not have translated into higher arrest rates for this group. This finding partially supports the “model-minority” myth.

Non-Hispanic Black respondents consistently reported high involvement in violence but low involvement in property delinquency and substance use compared to their White counterparts throughout adolescence to young adulthood. Non-Hispanic White youths tend to report high levels of substance use, and youths of Hispanic or Latino origin tend to report high levels of property and violent delinquency. Arrests were reported at similar rates across races/ethnicities, with Asian respondents reporting the lowest and respondents of other races (American Indians/Native Americans and mixed-race) reporting the highest rates of arrest.

The following hypotheses in this section focus on the effect of race/ethnicity on the relationships between family-related factors and youths' developmental outcomes over a 7-year period during the first three waves of the Add Health project.

***RQ4a: Does the effect of family structure stability and parenting practices on adolescents' contemporaneous and subsequent deviant behaviors (W2 and W3) and later police contacts (W3) vary by race/ethnicity?***

The United States has the world largest incarcerated population, in which Black and Latino Americans are overrepresented. By the end of 2019, there were 1,096 sentenced Black prisoners in every 100,000 Black residents, 525 Hispanic prisoners per 100,000 Hispanic residents, and 214 White prisoners per 100,000 White residents in the U.S. Nearly half of the sentenced federal prisoners were serving time for drug offenses (Carson, 2020; Federal Bureau of Prisons, 2021). That is, Blacks are over 5 times more, and Hispanics are about 2.5 times more likely to be a sentenced prisoner than their White counterparts in the U.S. The descriptive statistics on young adulthood involvement in criminality measures in the present study cannot explain the racial/ethnic composition in the incarcerated population (refer to Table 84). Thus, race/ethnicity may have its own effects, but other factors associated with youth's race/ethnicity, such as family structure and parenting, may influence people's deviant behaviors as well.

To estimate the effect of race/ethnicity, the preliminary analysis based on the descriptive statistics of family structure stability and parental control across racial/ethnic groups is presented in Tables 86 and 87. Then, the in-depth analysis using hierarchical binary logistic regression was conducted to evaluate how the observed correlations behave in a model where their combined influences are tested. The regression results are shown in Tables 88 to 92.

**Table 86.** *Descriptive statistics: Family structure stability by race/ethnicity*

Race/Ethnicity	Family structure stability types								
	Stable two-bio-parent	Stable single-bio-mother	Stable single-bio-father	Stable other	Reunion	Unstable breakup	Unstable formation	Unstable other	Total
Non-Hispanic White	1626 (58.9%)	313 (11.3%)	58 (2.1%)	422 (15.3%)	26 (0.9%)	157 (5.7%)	104 (3.8%)	56 (2.0%)	2762 (100%)
Non-Hispanic Black	319 (33.2%)	330 (34.3%)	14 (1.5%)	121 (12.6%)	16 (1.7%)	57 (5.9%)	64 (6.7%)	41 (4.3%)	962 (100%)
Hispanic or Latino origin	268 (49.0%)	98 (17.9%)	7 (1.3%)	73 (13.3%)	17 (3.1%)	34 (6.2%)	30 (5.5%)	20 (3.7%)	547 (100%)
Asian or Pacific Islander	107 (72.8%)	13 (8.8%)	0 (0.0%)	11 (7.5%)	3 (2.0%)	9 (6.1%)	2 (1.4%)	2 (1.4%)	147 (100%)
Other races	108 (42.9%)	58 (23.0%)	7 (2.8%)	40 (15.9%)	1 (0.4%)	18 (7.1%)	14 (5.6%)	6 (2.4%)	252 (100%)
<b>Sample Total</b>	2428 (52.0%)	812 (17.4%)	86 (1.8%)	667 (14.3%)	63 (1.3%)	275 (5.9%)	214 (4.6%)	125 (100%)	4670 (100%)

*Note.* numbers are valid sample size; % means valid percent.

Table 86 lists the family structure stability across racial/ethnic groups. Stable two-biological-parent family (intact family) is the most common family structure type across races/ethnicities, except for non-Hispanic Black families. Over 34% of non-Hispanic Black

youths were from stable single-mother homes compared to 33% of them from intact families. At the other extreme, nearly 73% of Asian youths reported living with both parents in an intact family during Wave 1 and Wave 2. The stable intact family proportions of Black, Hispanic, American Indians/Native Americans and mixed-race youths were below the sample average of 52%. The majority of respondents in the sample were from a stable family type, with the highest proportion of Asian youths (89.1%) and the lowest proportion of Hispanic/Latino youths (81.5%) reporting living in a family that did not change its family structure between Wave 1 and Wave 2.

Although there are nearly 5,000 respondents in the Add Health Public-Use sample that is used in this study, the limited numbers of minority participants cannot support a meaningful regression analysis (see Table 86). Any predictive conclusion drawn from a subgroup that has fewer than 30 people can be very misleading. Thus, no further meaningful analysis can be drawn out between any family structure type and race/ethnicity.

At the same time, it is impossible for the present study to rule out the impact of family socioeconomic status variables on youth behavioral outcome, when looking at the relationships among race/ethnicity, family structure, and delinquency/criminality measurements. But the descriptive information clearly pictured the trends. Based on the descriptive statistics, Asian youths appeared to have the best behavioral outcome than youths of any other race/ethnicity; which may be partially explained by the influence of the large number of Asian stable intact families. But stable intact family structure may not have the same impact on minor property

offenses, since these Asian youths also reported high involvement in property delinquency throughout the study period.

The finding of the previous hypothesis RQ1c in the current study suggest that, compared to family structure, parenting is a more consistent and stronger predictor of youth behavioral outcomes. Therefore, it is also important to look at the variation of direct/indirect parental control across racial/ethnic groups, as well as to see whether race/ethnicity would weaken the associations between parenting and juvenile deviant behaviors over time. The averages of parental control scores at Wave 1 and Wave 2 are listed for each racial/ethnic group in Table 87. Although parental control variables were transformed, still the higher the average, the higher the parental control in that racial/ethnic group.

**Table 87.** *Descriptive statistics: Parental control variables by race/ethnicity*

Race/Ethnicity	Mean (SD)			
	Direct parental control		Indirect parental control	
	Wave 1	Wave 2	Wave 1	Wave 2
Non-Hispanic White (n=2826)	4.06 (1.41)	4.04 (1.42)	.54 (.36)	.48 (.35)
Non-Hispanic Black (n=1033)	3.79 (1.53)	3.74 (1.53)	.56 (.37)	.48 (.35)
Hispanic or Latino origin (n=566)	4.20 (1.60)	4.29 (1.54)	.52 (.36)	.48 (.35)
Asian or Pacific Islander (n=149)	4.34 (1.52)	4.37 (1.57)	.50 (.37)	.41 (.34)
Other races (n=257)	3.88 (1.47)	3.81 (1.40)	.52 (.36)	.47 (.34)
<b>Entire sample (n=4831)</b>	4.00 (1.48)	4.00 (1.48)	.53 (.36)	.48 (.35)

*Note.* Parental variables are recoded for the normality purpose. The higher scores mean the higher control.

In general, indirect parental control (parental warmth) has decreased over time from Wave 1 to Wave 2; direct parental control (supervision) kept relatively the same for all racial/ethnic groups. When comparing averages of parental control across racial/ethnic groups, Non-Hispanic Black youths reported the highest levels of parental warmth but the lowest levels of direct parental control during adolescent years. In contrast, youths from Asian families consistently reported the least parental warmth but the highest parental supervision compared to those from any other racial/ethnic families. Non-Hispanic White and Hispanic/Latino respondents reported both high levels of direct and indirect parental control during adolescence. However, these results do not explain why Asian youths were less violent and engaged in less substance use, since the findings of the previous hypothesis RQ1c indicated parental warmth was the key to better youth behavioral outcomes. It is possible that direct and indirect parental controls may work differently across races/ethnicities. Thus, hierarchical logistic regression tests were conducted to estimate the role of race/ethnicity in youth behavioral development from adolescence to young adulthood.

With the considerations of demographic and parenting factors, the test results indicate that Hispanic/Latino, native Americans and mix-race youths were associated with more property delinquency at Wave 1 (see Table 88 below). Hispanic youths were 1.3 times more likely to commit property delinquency than non-Hispanic White respondents at Wave 2. At Wave 3, race/ethnicity was no longer a significant factor in predicting adulthood property offenses. In



terms of parental control, both direct and indirect parental control were negatively correlated to property delinquency controlling for respondents' race/ethnicity. Although the influence of parenting weakened over time, higher levels of direct parental supervision significantly reduced juvenile property delinquency during adolescence (W1 and W2); youths with higher parental warmth were consistently less delinquent from adolescence to young adulthood (W1 to W3).

**Table 88.** *Hierarchical logistic regression: Parental control and property delinquency (controlling for race/ethnicity)*

Independent variables	Exp B								
	Property delinquency								
	Wave 1 (1994-95)			Wave 2 (1996)			Wave 3 (2001-02)		
Age	—	—	.96(p=.051)	.92***	.92***	.89***	.82***	.82***	.80***
Gender (male)	1.67***	1.67***	1.78***	1.45***	1.45***	1.48***	2.83***	2.82***	2.88***
Mother's educational level	—	—	—	—	—	—	1.07**	1.08**	1.08**
Public assistance	—	—	—	—	—	—	1.36*	1.35*	1.32*
<b>Race/Ethnicity</b>									
Non-Hispanic White (R)									
Non-Hispanic Black	—			—			—		
Hispanic/Latino origin	1.53***			1.26*			—		
Asian or Pacific Islander	—			—			—		
Other races	1.83***			—			—		
	<b>Wave 1 parental control</b>			<b>Wave 2 parental control</b>			<b>Wave 2 parental control</b>		
Direct control	.89***			.93**			—		
Indirect control	.35***			.40***			.53***		

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

**Table 89.** Hierarchical logistic regression: Parental control and violent delinquency (controlling for race/ethnicity)

Independent variables	Exp B								
	Violent delinquency								
	Wave 1 (1994-95)			Wave 2 (1996)			Wave 3 (2001-02)		
Age	.95*	.95**	.92***	.93***	.92***	.90***	.87***	.87***	.86***
Gender (male)	2.29***	2.33***	2.42***	2.08***	2.10***	2.13***	4.52***	4.61***	4.67***
Mother's educational level	.92***	.93***	.93***	.93***	.94***	.94***	—	—	—
Public assistance	1.55***	1.43***	1.38**	1.50***	1.41***	1.37**	1.62**	1.49**	1.48**
<b>Race/Ethnicity</b>									
Non-Hispanic White (R)									
Non-Hispanic Black		1.75***	1.77***		1.44***	1.43***		1.67***	1.70***
Hispanic or Latino origin		1.59***	1.61***		1.63***	1.67***		1.44*	1.46*
Asian or Pacific Islander		—	—		—	—		—	—
Other races		1.65***	1.63**		—	—		—	—
	<b>Wave 1 parental control</b>			<b>Wave 2 parental control</b>			<b>Wave 2 parental control</b>		
Direct control			.96*			.95*			—
Indirect control			.52***			.59***			.62**

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

Table 89 represents the results of the regression models predicting violent delinquency from Wave 1 to Wave 3. The results reveal that, compared to non-Hispanic White, non-Hispanic Black youths were 1.4 to 1.7 times more likely and Hispanic/Latino youths were 1.5 to 1.7 times more likely to engage in violent delinquency from adolescence to early adulthood, controlling for sociodemographic and parental control variables. Native Americans and mixed-race youths (“Other races” category) were 1.8 times more likely to commit violent delinquency than non-Hispanic White youths only at Wave 1. The difference between Hispanics and Whites was not

significant at later waves. In addition, the effects of parental control are consistent: direct parental supervision had a protective effect on violent delinquency during adolescence; the protective effect of parental warmth (indirect parental control) lasted from adolescence to young adulthood.

**Table 90.** *Hierarchical logistic regression: Wave 1 parental control and Wave 1 substance use (controlling for race/ethnicity)*

Independent variables	Exp B								
	Wave 1 (1994-95)								
	Alcohol use			Tobacco use			Drug use		
Age	1.40***	1.42***	1.34***	1.28***	1.30***	1.23***	1.28***	1.28***	1.19***
Gender (male)	—	—	—	1.32***	1.32***	1.36***	—	—	1.22*
Mother's educational level	—	—	—	.95**	.95***	.94***	—	—	—
Public assistance	—	—	—	1.28*	1.53***	1.46***	1.32*	1.40**	1.29*
<b>Race/Ethnicity</b>									
Non-Hispanic White (R)									
Non-Hispanic Black		.43***	.41***		.33***	.31***		.63***	.59***
Hispanic or Latino origin		—	—		.50***	.51***		—	—
Asian or Pacific Islander		.70*	—		.46***	.48**		.53*	—
Other races		—	—		.73*	.69*		—	—
<b>Wave 1 parental control</b>									
Direct parental control			.81***			.84***			.78***
Indirect parental control			.53***			.61***			.43***

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

When using juvenile initial use of substances at Wave 1, the results are presented in

Table 90. The findings indicate that high levels of parental control (both direct supervision and

parental warmth) significantly reduced the chance of underage use of any type of substance regardless of respondent's race/ethnicity. But non-Hispanic Whites were 59% more likely to use alcohol and 41% more likely to use illegal drugs than non-Hispanic Blacks in the sample. Asian youths were also significantly less likely to use alcohol and illegal drugs than the non-Hispanic White respondents. But after parental control is included in the models, Asian race became non-significant. Therefore, instead of finding race/ethnicity as a moderator in the relationship between parenting and substance use in earlier studies, parenting could be in fact the mediator. That is, Asian race appeared to have an indirect effect on adolescent use of alcohol and drugs through parental control. Of course, future studies with bigger samples would be needed to confirm the mediating effect of parenting practices for Asian group. In terms of teenage tobacco use, non-Hispanic White youths were again found to be significantly more likely to use tobacco than youths of any other race/ethnicity, even after taking parental control variables into account.

**Table 91.** Hierarchical logistic regression: Wave 2 parental control and Wave 2 substance use (controlling for race/ethnicity)

Independent variables	Exp B								
	Wave 2 (1996)								
	Alcohol use			Tobacco use			Drug use		
Age	1.28***	1.30***	1.24***	1.16***	1.18***	1.14***	1.14***	1.15***	1.08**
Gender (male)	—	—	—	1.20**	1.20**	1.21**	1.19*	1.19*	1.21*
Mother's educational level	—	—	—	.95***	.95***	.94***	—	—	—
Public assistance	.82*	—	—	—	1.32**	1.28*	1.27*	1.30*	—
<b>Race/Ethnicity</b>									
Non-Hispanic White (R)									
Non-Hispanic Black		.44***	.41***		.32***	.31***		.75**	.70**
Hispanic or Latino origin		—	—		.50***	.52***		—	1.34*
Asian or Pacific Islander		.64*	.65*		.48***	.47***		—	—
Other races		—	—		.67**	.65**		—	—
<b>Wave 2 parental control</b>									
Direct parental control			.83***			.90***			.82***
Indirect parental control			.58***			.56***			.41***

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

In predicting substance use at Wave 2 (survey conducted one year after Wave 1; see Table 91), parental control variables were still the significant protective factors that prevented youths from any type of substance use. By comparing the odds ratios of parenting variables between Wave 1 and Wave 2 (see Tables 90 and 91), the influence of direct parental supervision on underage substance use decreased over time, while the influence of indirect parental control (parental warmth) increased. At the same time, race/ethnicity seemed to play a moderating role

in the relationship between parenting and juvenile substance use at Wave 2. The interaction between race/ethnicity and parental control possibly made certain racial/ethnic groups to be more vulnerable to substance use. Overall, similar results are found to the previous ones: after controlling for sociodemographic and parenting variables, non-Hispanic White youths were consistently more likely to use tobacco than youths of any other racial/ethnic category. Non-Hispanic Black youths were 59% less likely to use alcohol and 30% less likely to use illegal drugs; Asian youths were 35% less likely to use alcohol than non-Hispanic Whites. However, Hispanic/Latino youths were found to be 34% more likely to use drugs after adding parental control variables into the regression model.

When assessing the long-term relationships among race/ethnicity, parenting, and young adulthood criminality, the following findings emerge (results are presented below in Table 92). The beneficial effects of high parental control during adolescence persisted while controlling for respondents' race/ethnicity and other demographic variables. Both direct and indirect parental controls were negatively associated with police stop/detention, arrests, and drug use in the early adulthood.

**Table 92.** Hierarchical logistic regression: Wave 2 parental control and Wave 3 criminality (controlling for race/ethnicity)

Independent variables	Exp B								
	Wave 3 (2001-2002)								
	Police stop/detention			Arrests			Drug use		
Age	.90***	.90***	.87***	—	—	—	.89***	.90***	.87***
Gender (male)	3.86***	3.85***	3.93***	5.56***	5.56***	5.75***	1.73***	1.74***	1.76***
Mother's educational level	1.05*	1.06**	1.06**	—	—	—	1.04*	1.04*	1.04*
Public assistance	—	—	—	1.52**	1.54**	1.47*	—	1.28*	—
<b>Race/Ethnicity</b>									
Non-Hispanic White (R)									
Non-Hispanic Black		.77*	.75*		—	—		.66***	.64***
Hispanic or Latino origin		—	—		—	—		.65**	.67**
Asian or Pacific Islander		—	—		—	—		.46**	.47**
Other races		1.56*	1.51*		—	—		—	—
<b>Wave 2 parental control</b>									
Direct parental control			.91**			.85***			.92**
Indirect parental control			.68**			.52***			.65***

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

As for the racial/ethnic disparity, Non-Hispanic White youths were consistently found to be more likely to use illegal drugs than non-Hispanic Black youths. In addition, unlike the results on Wave 2 data, Non-Hispanic White youths were also found to use more drugs than their Hispanic/Latino counterparts at early adulthood (at W3). This finding is unexpected. According to the BJS' report on U.S. prisoners in 2019 (Carson, 2020), over 43% of all Black federal prisoners and nearly 60% of Hispanic prisoners versus only 38% of White federal prisoners were incarcerated for a drug-related crime (about 99% for drug trafficking). Thus, two questions raise

as a result: 1) Are Black and Latino people less likely to use drugs but more likely to sell drugs than the White counterparts are? 2) Does the U.S. criminal justice system have harder penalties on certain types of drugs that Black and Latino people use/involve more?

In terms of formal police contact measurements, no significant result is found for race/ethnicity in predicting arrests during young adulthood. But the models reveal that, compared to non-Hispanic White, Black youths were 25% less likely to be stopped or detained by police, while Native Americans and mixed-race youths were 51% more likely to report police stop and detention. The correlations appeared to be independent from parental control variables.

Summary RQ4a: Hypothesis RQ4a aims to examine the racial/ethnic disparities in family structure stability types, parenting practices, and youth deviant activities from adolescence to young adulthood, as well as the role of race/ethnicity in the relationships between these family-related factors and youth behavioral outcomes. Although no inferential statistics on race/ethnicity can be drawn from the correlations between family structure stability and youths' concurrent and subsequent delinquency/criminality (due to insufficient numbers of respondents from minority groups), the descriptive statistics point in the following directions: 1) Stable single-mother family type (34%) was the most common family type for non-Hispanic Black youths, which may explain why Black youths had high levels of violence. This finding is consistent with the results of hypothesis RQ1a, where a consistently significant relationship was found between stable single-biological-mother family and violent delinquency. 2) Compared to the youths of other



racial/ethnic groups, Asian youths appeared to have the best behavioral outcomes, except for property delinquency. At the same time, the present study found that nearly 73% of Asian youths in the sample were from stable intact families, compared to the sample average of 52%. The descriptive information is in line with the results of hypothesis RQ1a, which reveals that stable two-biological-parents family appear to facilitate favorable outcomes in youth behavioral development, and the only non-significant association was found between family structure and property delinquency.

When further analyzing the effect of race/ethnicity on the relationships between parenting practices and youth behavioral outcomes, the results of regression models show that indirect parental control (parental warmth) significantly prevented youths from all contemporaneous and subsequent measures of deviance regardless of respondent's age, gender, family SES, and race/ethnicity. Direct parental control also produced favorable outcomes in youth behavioral development rather consistently, the exceptions being young adulthood property and violent delinquent activities (likely when the respondents were not under the parent's direct control anymore). Thus, in most cases, race/ethnicity did not appear to have a moderating effect on the relationships between parenting practices and youth behavioral outcomes. The results indicate that, after taking parental control into consideration, non-Hispanic White youths were vulnerable to substance use. Black youths were found to be significantly less likely to use any type of substance. Also, they were less likely to be stopped or detained by police than Whites. However,

non-Hispanic Black and Hispanic/Latino youths were consistently and significantly more likely to engage in violent behaviors than their White counterparts from adolescence to early adulthood. Asian race appeared to have an indirect effect on adolescent use of alcohol and drugs through parenting. After adding parental control variables into the models, being Asian was no longer a significant protective factor.

***RQ4b: Does race/ethnicity affect immigrant generations in terms of adolescent's concurrent and subsequent deviant behavior, taking into account the adolescent's gender, age, and family socioeconomic status variables?***

In hypothesis RQ4a, Asian youths were found with lower parental warmth and higher direct parental supervision compared to youth from other racial/ethnic families (refer to Table 87). However, the findings of hypothesis RQ1c indicate that parental warmth was a more consistent significant factor that relates to the better youth behavioral outcomes. Although Asian race was not found significantly associated with less delinquency activities compared to the White respondents, Asian youths did report the least involvement in many concurrent and subsequent deviance measurements than youths of other races/ethnicities. It is likely that other race-related factors, such as immigrant generational status, play a more important role in affecting youth behavioral development. Thus, as the supplement to hypothesis RQ3a, this hypothesis takes race/ethnicity into account to further examine the associations between immigrant generational status and youths' deviant activities from Wave 1 to Wave 3.

**Table 93.** *Descriptive statistics: Immigrant generational status by race/ethnicity*

Race/Ethnicity	Immigrant Generational Status			
	1 <sup>st</sup> generation	2 <sup>nd</sup> generation	3 <sup>rd</sup> + generation	Total
Non-Hispanic White	14 (0.5%)	90 (3.2%)	2671 (96.3%)	2775 (100%)
Non-Hispanic Black	8 (0.8%)	28 (2.8%)	970 (96.4%)	1006 (100%)
Hispanic or Latino origin	130 (25.5%)	151 (29.7%)	228 (44.8%)	509 (100%)
Asian or Pacific Islander	62 (43.4%)	54 (37.8%)	27 (18.9%)	143 (100%)
Other races	11 (4.4%)	31 (12.4%)	208 (83.2%)	250 (100%)
<b>Total</b>	225 (4.8%)	354 (7.6%)	4104 (87.6%)	4683 (100%)

*Note.* Numbers are valid sample size; % means valid percent.

The cross tabulate of immigrant generations and racial/ethnic groups was presented in Table 93. Based on the descriptive statistics, there were very limited numbers of non-Hispanic Whites (0.5%), non-Hispanic Blacks (0.8%), and other race (Native Americans and mixed-race, 4.4%) first-generation youths in the Add Health sample. On the other hand, over 43% of Asian and Pacific Islander youths were first generation immigrants, followed by 26% of Hispanic/Latino youths. Over 96% of non-Hispanic White/Black and 83% native American and mix-race youths were the third-plus generation, compared to only 19% of Asian and 45% of Hispanic/Latino youths. Therefore, racial/ethnic disparity cannot be taken independently from people's immigrant status, especially when studying Hispanic and Asian groups. Race/ethnicity, compared to immigrant generational status, would be a more powerful cultural factor on youth behavioral development for non-Hispanic Whites, Blacks, and Native American/mixed-race youths, but it may be less influential for Hispanic and least important for Asian youths, compared to the importance of immigrant status.

To further estimate the relationships among race/ethnicity, immigrant generational status, juvenile delinquent activities (W1 and W2) and adult criminality (W3), hierarchical binary logistic regression models were estimated. Based on Table 93, there was a limited number of first-generation youths in the sample. Thus, findings based on inferential statistics of these small subgroups can provide information that may or may not be representative. Future studies that focus on immigrant populations are needed. Tables 94 to 98 present the findings of the regression models.

**Table 94.** *Hierarchical logistic regression: Immigrant generational status and property delinquency (controlling for race/ethnicity)*

Independent variables	Exp B								
	Property delinquency								
	Wave 1 (1994-95)			Wave 2 (1996)			Wave 3 (2001-02)		
Age	—	—		.92***	.92***	.92***	.82***	.82***	.82***
Gender (male)	1.67***	1.68***	1.67***	1.44***	1.44***	1.43***	2.81***	2.79***	2.79***
Mother's educational level	—	—	—	—	—	—	1.07**	1.08**	1.08***
Public assistance	—	—	—	—	—	—	1.37*	1.37*	1.35*
<b>Race/Ethnicity</b>									
Non-Hispanic White (R)									
Non-Hispanic Black		—	—		—	—		—	—
Hispanic or Latino origin		1.48***	1.66***		1.26*	1.38*		—	—
Asian or Pacific Islander		—	—		—	1.54*		—	—
Other races		1.88***	1.90***		—	—		—	—
<b>Immigrant generations</b>									
1 <sup>st</sup> generation			.53***			.63*			—
2 <sup>nd</sup> generation			—			—			—
3 <sup>rd</sup> + generation (R)									

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group.

When assessing property delinquent activities (see Table 94), the tests reveal that Hispanic/Latino youths were 66% more likely and Native Americans and mixed-race youths were 90% more likely to commit property delinquency than the non-Hispanic White respondents at Wave 1. One year after, at Wave 2, Hispanic youths were found still more prone to property delinquent activities by 40%. In addition, after adding immigrant generational status in the models, Asian race became a significant indicator. The odds ratio indicates that Asian youths were 1.5 times more likely to commit property delinquency than the non-Hispanic White respondents. Race/ethnicity impacted youth property delinquent activities during adolescence, but it does not predict adult property offenses.

After controlling for respondent's race/ethnicity, the first-generation immigrant youths were found to be 37% - 47% less likely to commit property delinquency than the third-plus generation youths during adolescence. Unlike the findings of RQ3a (refer back to Table 69), the second-generation youths were no longer at increased risk for delinquent behavior than the born Americans. Thus, the higher proportion of the second-generation youths who reported property delinquency is possibly due to the higher proportion of such activities that Hispanic and Asian respondents were involved in (refer to the descriptive statistics in Tables 82 and 83). Lastly, like race/ethnicity, immigrant generational status appeared to make a difference in property delinquency during Wave 1 and Wave 2, but no significant long-term effect was found on property offenses during early adulthood.

**Table 95.** *Hierarchical logistic regression: Immigrant generational status and violent delinquency (controlling for race/ethnicity)*

Independent variables	Exp B								
	Violent delinquency								
	Wave 1 (1994-95)			Wave 2 (1996)			Wave 3 (2001-02)		
Age	.95**	.95**	.95*	.93***	.93***	.93**	.87***	.87***	.87***
Gender (male)	2.30***	2.34***	2.33***	2.08***	2.09***	2.09***	4.53***	4.63***	4.63***
Mother's educational level	.93***	.93***	.92***	.93***	.94***	.94***	—	—	—
Public assistance	1.52***	1.40***	1.37**	1.43***	1.36**	1.35**	1.59**	1.45*	1.42*
<b>Race/Ethnicity</b>									
Non-Hispanic White (R)									
Non-Hispanic Black		1.75***	1.75***		1.45***	1.45***		1.74***	1.75***
Hispanic or Latino origin		1.47***	1.80***		1.64***	1.82***		1.45*	1.70**
Asian or Pacific Islander		—	—		—	—		—	—
Other races		1.70***	1.78***		—	—		—	—
<b>Immigrant generations</b>									
1 <sup>st</sup> generation			.56**			.59**			—
2 <sup>nd</sup> generation			.77 (p=.054)			—			—
3 <sup>rd</sup> + generation (R)									

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

Table 95 presents the results of regression models that predict violent delinquency over time from Wave 1 to Wave 3. While controlling for immigrant generational status and other sociodemographic variables, non-Hispanic Black and Hispanic/Latino youths were consistently at higher risk for violent delinquency than their non-Hispanic White counterparts from adolescence to young adulthood. Being a non-Hispanic Black was 1.5 to 1.8 times more likely to commit a violent delinquency, and Hispanic/Latino youths were 1.7 to 1.8 times more likely than

the non-Hispanic Whites to engage in violence. Native Americans and mixed-race youths were only greater likely to engage in violent behaviors than White youths at the initial wave. The effect of being a Native Americans or mixed-race youth does not seem to last for violent delinquency.

In terms of immigrant generational status, similar findings emerged. The first-generation youths were found to be 41% - 44% less likely to engage in violent behavior than the third-plus generation youths only during adolescence. Race/ethnicity is likely to have a moderating effect on the relationship between immigrant status and juvenile violent delinquency. The second-generation youths were found at higher risk for violence (in research question RQ3a testing) mainly due to respondent's race/ethnicity. Still, the limited number of immigrants in certain racial/ethnic groups poses some uncertainty in this conclusion.

**Table 96.** *Hierarchical logistic regression: Immigrant generation and Wave 1 substance use (controlling for race/ethnicity)*

Independent variables	Exp B								
	Wave 1 (1994-95)								
	Alcohol use			Tobacco use			Drug use		
Age	1.39***	1.41***	1.43***	1.27***	1.29***	1.30***	1.27***	1.27***	1.29***
Gender (male)	—	—	—	1.35***	1.35***	1.34***	—	—	—
Mother's educational level	—	—	—	.95**	.95***	.94***	—	—	—
Public assistance	—	—	—	1.29*	1.53***	1.47***	—	1.36*	1.30*
<b>Race/Ethnicity</b>									
Non-Hispanic White (R)									
Non-Hispanic Black		.43***	.43***		.32***	.32***		.62***	.63***
Hispanic or Latino origin		—	—		.48***	—		—	1.67**
Asian or Pacific Islander		.67*	—		.43***	—		.45*	—
Other races		—	—		—	—		—	—
<b>Immigrant generations</b>									
1 <sup>st</sup> generation			.40***			.33***			.21***
2 <sup>nd</sup> generation			—			.39***			.54**
3 <sup>rd</sup> + generation (R)									

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.



**Table 97.** *Hierarchical logistic regression: Immigrant generation and Wave 2 substance use (controlling for race/ethnicity)*

Independent variables	Exp B								
	Wave 2 (1996)								
	Alcohol use			Tobacco use			Drug use		
Age	1.28***	1.29***	1.30***	1.16***	1.17***	1.18***	1.15***	1.15***	1.16***
Gender (male)	—	—	—	1.21**	1.21**	1.21**	—	—	—
Mother's educational level	—	—	—	.95***	.95***	.94***	—	—	—
Public assistance	.78**	—	—	—	1.32**	1.29**	—	—	—
<b>Race/Ethnicity</b>									
Non-Hispanic White (R)									
Non-Hispanic Black		.44***	.48***		.32***	.32***		.72**	.73**
Hispanic or Latino origin		—	—		.51***	.66**		—	1.66**
Asian or Pacific Islander		.60**	—		.46***	—		.52*	—
Other races		—	—		.67**	.71*		—	—
<b>Immigrant generations</b>									
1 <sup>st</sup> generation			.51***			.50***			.35***
2 <sup>nd</sup> generation			—			.68**			.60**
3 <sup>rd</sup> + generation (R)									

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

When looking at substance use during adolescent years (W1 and W2 - Tables 96 and 97, correspondingly), the following results emerged. Non-Hispanic White youths were found consistently more likely to use all types of substances than youths of other racial/ethnic groups. This finding is particularly true when comparing to the non-Hispanic Black respondents. Black youths were consistently 27% - 68% less likely to use all types of substances compared to the non-Hispanic Whites regardless of one's gender, age, family SES, and immigrant status. The

regression models also indicated the possible mediating effects of immigrant generational status on the relationship between Asian race and substance use. Asian race appeared to have indirect effects on adolescent use of any substance through respondent's immigrant status. After immigrant generational status was included in the models, Asian youths were no longer found to be significantly less likely than Whites to use alcohol, tobacco, and illegal drugs. Additionally, the tests also revealed the likely moderating effects of Hispanic/Latino ethnicity on the association between immigrant status and illegal drug use. Being of Hispanic/Latino origin became a significant risk factor for drug use after controlling for one's immigrant generational status.

As for the effect of immigrant generational status on juvenile underage substance use, the first-generation immigrant status significantly reduced the chance that a youth uses any type of substance. Second-generation youths were found to be less likely to use tobacco and illegal drugs than the born Americans consistently during Wave 1 and Wave 2. When comparing the effect power (odds ratios of immigrant generations) between the two waves, the impact of immigrant status seems to be decreasing.

**Table 98.** *Hierarchical logistic regression: Immigrant generation and Wave 3 criminality (controlling for race/ethnicity)*

Independent variables	Exp B								
	Wave 3 (2001-2002)								
	Police stop/detention			Arrests			Drug use		
Age	.90***	.90***	.87***	—	—	—	.89***	.90***	.90***
Gender (male)	3.78***	3.78***	3.93***	5.26***	5.27***	5.28***	1.74***	1.75***	1.74***
Mother's educational level	1.05*	1.06**	1.06**	—	—	—	1.05**	1.05*	1.04*
Public assistance	—	—	—	1.58**	1.60**	1.53**	—	—	—
<b>Race/Ethnicity</b>									
Non-Hispanic White (R)									
Non-Hispanic Black		—	—		—	—	.66***	.66***	
Hispanic or Latino origin		—	—		—	—	.63**		—
Asian or Pacific Islander		—	—		—	—	.48**		—
Other races		1.54*	1.61**		—	—	—	—	—
<b>Immigrant generations</b>									
1 <sup>st</sup> generation			—			.41*			.37**
2 <sup>nd</sup> generation			—			.46**			—
3 <sup>rd</sup> + generation (R)									

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

When the regression models included both race/ethnicity and immigrant generational status in analyzing early adulthood police contact and Wave 3 drug use (refer to Table 98), the results indicated no significant impact of immigrant generational status on police stops and detention. Compared to the third- and later generation youths, first-generation immigrants were 59% less likely to report any arrest and 63% less likely to report use of illegal drugs. The second-

generation youths were also found to be 54% less likely to be arrested by police during early adulthood.

When looking at the effects of race/ethnicity, the tests found no significant results in predicting adulthood arrests, while it was significantly related to police stop/detention and adulthood drug use. More specifically, Native Americans and mixed-race youths were found to be 1.6 times more likely to be stopped or detained by police than non-Hispanic Whites. Without having parental control variables in the models, non-Hispanic Black youths were no longer reporting significantly fewer police stops and detentions than Whites. Thus, the protective effect of being non-Hispanic Black on police stops/detention may exist only when it is interacting with parenting. Non-Hispanic White youths were still significantly more likely to use drugs during young adulthood than non-Hispanic Black, Hispanic/Latino, and Asian youths, while the racial/ethnic influence of Hispanic ethnicity and Asian race were indirect and mainly expressed through their immigrant status.

Summary RQ4b: Taken together, race/ethnicity was found to be associated with youth behavioral outcomes. Non-Hispanic White youths were more likely to use substances than youths of other races/ethnicities in general; non-Hispanic Blacks were at greater risk for violent delinquency than Whites; Hispanic/Latino youths also reported more delinquent behaviors (both property and violent) than non-Hispanic White youths. Asian youths were law-abiding in most aspects, but they did report higher property delinquency than White youths, during adolescence.

Also, the tests confirmed that immigrant status, particularly for first-generation immigrants, was correlated to more favorable youth behavioral outcomes both concurrently and subsequently, while controlling for respondent's age, sex, family SES, and race/ethnicity. The suppressing impact of being a first-generation immigrant on property and violent delinquency was significant during adolescent years (W1 and W2), but its effects did not seem to last into early adulthood (W3). It is possible that, as children get older (more Americanized), immigrant youths become essentially indistinguishable from born Americans in their behavioral patterns with regard to delinquency. Nevertheless, the effects of immigrant status on substance use do last. Immigrant youths, especially the first-generation ones, were consistently less likely than the born Americans to use substances illegally.

Additionally, the results reveal a possible moderating effect of race/ethnicity on the relationships between immigrant generational status and property/violent delinquency for Hispanic/Latino and Asian youths. After immigrant generational status was included in the regression models, being Asian and Latino youths became a stronger risk factor of committing property or violent delinquency during adolescence.

The same conclusions can be drawn, when comparing these results to the regression model results of hypothesis RQ3a. After race/ethnicity was included into the regression models, immigrant generational status seems to have a stronger impact on juvenile delinquent behaviors.

It is very likely that race/ethnicity does not affect delinquency and crime in the first-generation but does impact youths of later generations, especially for Hispanics and Asians.

When predicting substance use, immigrant generational status appeared to weaken the associations between race/ethnicity and youth behavioral outcomes for Asian youths. After immigrant generational status was added into the regression models, being Asian was no longer associated with less use of substance than non-Hispanic White youths. To better understand Hispanic/Latino youths' and Asian youths' behavioral patterns across immigrant generations, descriptive analyses were conducted for selected deviance measures within these racial/ethnic groups. The results are presented in Tables 99 and 100.

**Table 99.** *Deviance involvement by immigrant generation (Hispanic/Latino sample)*

Immigrant generations	Hispanic/Latino Respondents						
	Percentage of youths involved						
	W1 property delinquency	W2 property delinquency	W1 Violent delinquency	W2 Violent delinquency	W1 Drug use	W2 Drug use	W3 Drug use
1 <sup>st</sup> generation (n=130)	31.0%	26.2%	41.7%	28.5%	4.7%	9.3%	4.7%
2 <sup>nd</sup> generation (n=151)	53.3%	37.6%	46.7%	41.6%	12.7%	12.8%	16.0%
3 <sup>rd</sup> + generation (n=228)	47.6%	38.9%	56.9%	42.9%	23.5%	28.2%	24.7%

*Note.* All tested variables are dichotomous variables.

**Table 100.** *Deviance involvement by immigrant generation (Asian/Pacific Islander sample)*

Immigrant generations	Asian/Pacific Islander Respondents						
	Percentage of youths involved						
	W1 property delinquency	W2 property delinquency	W1 Violent delinquency	W2 Violent delinquency	W1 Drug use	W2 Drug use	W3 Drug use
1 <sup>st</sup> generation (n=62)	37.1%	34.4%	29.0%	21.0%	8.2%	6.8%	11.4%
2 <sup>nd</sup> generation (n=54)	44.4%	37.0%	38.9%	31.5%	3.7%	9.4%	14.9%
3 <sup>rd</sup> + generation (n=27)	44.4%	40.7%	48.1%	37.0%	11.1%	14.8%	20.0%

*Note.* All tested variables are dichotomous variables.

Although there are only 509 Hispanic and 143 Asian youths in the Add Health sample, compared to the rest of the sample, the higher portions of Hispanics and Asians are from the first and the second generations (see Table 93). Thus, racial/ethnic disparity in delinquency and crime cannot be taken independently from people's immigrant status when studying these groups. In addition, the effects of Americanization may be better observed in these more immigrant-representative racial/ethnic groups. According to the statistics shown in the above Tables 99 and 100, as the immigrant generational status increases, involvement in any deviant activities also increases. Similar results are found for Hispanic and Asian youths: the first-generation youths reported the least involvement in delinquency and illegal drug use. The second-generation ones reported fewer delinquent behaviors than the third-plus generation youths. Therefore, being a new immigrant in the U.S. appears to be a protective factor. However, more analyses of this type may need to be conducted with larger Hispanic and Asian populations.

***RQ4c:** Among African American families, do family structure stability and parenting practices have a strong impact on adolescent's concurrent and subsequent deviant behavior (W2 and W3), taking into account the adolescent's gender, age, family socioeconomic status, initial delinquency, and violence exposure?*

Based on the descriptive statistics presented earlier in this section, majority of non-Hispanic Black youths did not live in a stable intact family. There were more than one third of non-Hispanic Black youths who reported living in a single-biological-mother family from Wave 1 to Wave 2. Another one third of them were from stable two-biological-parent families, compared to 52% stable intact families in the entire Add Health sample (refer back to Table 86). Besides, some previous studies have pointed out that different levels of parenting may be produced by the same family structure type when comparing Black and White families, as well as the difference between Caucasian youths and African American youths in reacting to the family-related factors, such as family structure and parenting (Amey & Albrecht, 1998; McKee, 2012; Paxton, 2007).

Thus, this hypothesis aims to investigate whether non-Hispanic Black respondents in assorted family structure types had similar behavioral outcomes compared to youths of other races/ethnicities, and whether direct and indirect parental control impacts African American youths differently in terms of delinquency/criminality. This hypothesis takes non-Hispanic Black youths as the focal study group and further estimates the effects of these family-related factors



on deviance. First, descriptive statistics are reported for non-Hispanic Blacks in terms of their engagement in deviance over time. Further analysis uses hierarchical binary logistic regression models to determine whether direct and indirect parental control significantly impact on non-Hispanic Blacks in a similar way that have seen for all youths in the Add Health sample.

Tables 101 to 102 present the descriptive statistics of non-Hispanic Black youths' involvement in delinquency/criminality from Wave 2 to Wave 3 across family structure stability types. The engagement percentages for the full Add Health sample were also included at the end of each table for comparison.

**Table 101.** *Non-Hispanic Black sample: Wave 2 deviance by family structure stability type*

Family structure stability	Percentage of youths involved				
	Wave 2 (1996)				
	Property delinquency	Violent delinquency	Alcohol use	Tobacco use	Drug use
Stable two-bio-parent (n=314)	26.6%	27.8%	24.8%	16.9%	9.2%
Stable single-bio-mother (n=322)	26.2%	31.3%	30.0%	20.1%	14.8%
Stable single-bio-father (n=13)	28.6%	42.9%	50.0%	7.1%	23.1%
Stable other (n=117)	31.7%	41.7%	35.5%	25.0%	16.0%
Reunion family (n=16)	31.3%	50.0%	37.5%	37.5%	12.5%
Unstable breakup (n=53)	26.3%	31.6%	36.4%	17.5%	9.1%
Unstable formation (n=61)	32.3%	37.1%	27.0%	28.6%	15.6%
Unstable other (n=37)	45.0%	40.0%	41.5%	29.3%	21.1%
<b>Black sample total (n=933)</b>	<b>28.3%</b>	<b>32.7%</b>	<b>30.0%</b>	<b>20.5%</b>	<b>13.1%</b>
<b>Full Add Health sample (n=4551)</b>	<b>31.2%</b>	<b>29.1%</b>	<b>44.2%</b>	<b>35.8%</b>	<b>16.0%</b>

*Note.* Numbers are valid sample size; % means valid percent. All tested variables are dichotomous.

**Table 102.** *Non-Hispanic Black sample: Wave 3 criminality by family structure stability type*

Family structure stability	Percentage of youths involved				
	Wave 3 (2001-2002)				
	Property delinquency	Violent delinquency	Police stop/ detention	Arrests	Drug use
Stable two-bio-parent (n=268)	14.6%	11.9%	8.9%	1.9%	15.9%
Stable single-bio-mother (n=251)	14.9%	19.6%	18.3%	12.1%	20.2%
Stable single-bio-father (n=11)	18.2%	33.3%	36.4%	27.3%	25.0%
Stable other (n=90)	18.7%	19.8%	17.8%	13.0%	15.2%
Reunion family (n=15)	20.0%	13.3%	40.0%	33.3%	26.7%
Unstable breakup (n=35)	11.1%	8.3%	28.6%	19.4%	19.4%
Unstable formation (n=50)	17.6%	19.6%	16.0%	14.0%	19.2%
Unstable other (n=25)	34.6%	23.1%	23.1%	16.0%	34.6%
<b>Black sample total (n=745)</b>	<b>16.1%</b>	<b>16.6%</b>	<b>16.0%</b>	<b>9.8%</b>	<b>18.7%</b>
<b>Full Add Health sample (n=3714)</b>	<b>16.6%</b>	<b>13.1%</b>	<b>19.4%</b>	<b>10.6%</b>	<b>23.4%</b>

*Note.* Numbers are valid sample size; % means valid percent. All tested variables are dichotomous.

Based on the results in Tables 101 and 102, non-Hispanic Black youths reported higher involvement in violent delinquency during both adolescence and young adulthood compared to the rest of the sample. At the same time, in all other deviance measures (including property delinquency, substance use, police stop/detention, and arrests) at both Wave 2 and Wave 3, Black youths' involvement was below the averages for the rest of the sample.

When looking at family structure types within the non-Hispanic Black group alone, results indicate that youths from stable intact families tend to report the least problematic behaviors than those from other family structure types persistently over time. Among 268 non-Hispanic Black youths from stable intact families, there were less than 2% of them reported

arrests, compared to the Black sample average of 9.8% and the full sample average of 10.6%.

This finding does not support the results of Amey and Albrecht's study (1998), which revealed a protective role of Black single-biological-mother households in comparison to intact families, especially in preventing substance use. Therefore, like for all other youths in the Add Health sample, the current study found that the intact family is the most beneficial family structure type that better protects youths from misbehaviors. Among non-Hispanic Black youths, those from stable single-biological-father and unstable other families faced a higher risk of all deviance types measured at both Wave 2 and Wave 3. Youths from stable families, except for those from single-father homes, were involved in less deviance than those from unstable families generally. Among unstable families, formation families seemed to have a harmful effect on African American youths' behavioral development, regardless if whether the entered parent is a biological parent or not. Family breakup did not seem to affect Black youths much during adolescence, but the single-parent family status hurts them in the long run.

In general, family structure impacts on non-Hispanic Black youths do not seem to be much different from the effects on other youths in the sample (full Add Health sample statistics are listed in Tables 15 and 16) in terms of delinquency, substance use, and police contact measures. But due to very limited numbers of non-Hispanic Black respondents in certain family structure types (i.e., stable single-bio-father and reunion families), regression models cannot be conducted to discover more details.

**Table 103.** *Non-Hispanic Black sample: Parental control by family structure stability type*

Family structure stability	Mean (SD)			
	Direct parental control		Indirect parental control	
	Wave 1	Wave 2	Wave 1	Wave 2
Stable two-bio-parent (n=317)	4.77 (1.16)	4.64 (1.26)	.63 (.37)	.53 (.36)
Stable single-bio-mother (n=325)	2.97 (1.20)	2.82 (1.11)	.54 (.36)	.46 (.34)
Stable single-bio-father (n=14)	2.66 (1.46)	2.49 (1.01)	.45 (.38)	.24 (.11)
Stable other (n=121)	4.01 (1.56)	4.10 (1.49)	.53 (.37)	.46 (.34)
Reunion family (n=15)	3.31 (1.62)	4.63 (0.97)	.44 (.32)	.54 (.35)
Unstable breakup (n=49)	4.44 (1.72)	2.74 (1.07)	.61 (.38)	.53 (.38)
Unstable formation (n=58)	2.90 (1.39)	3.49 (1.55)	.44 (.34)	.42 (.35)
Unstable other (n=34)	3.06 (1.31)	3.62 (1.76)	.48 (.35)	.47 (.33)
<b>Black sample total (n=933)</b>	<b>3.78 (1.55)</b>	<b>3.74 (1.54)</b>	<b>.55 (.37)</b>	<b>.48 (.35)</b>

*Note.* Numbers are valid sample size. Parental control variables are recoded for the normality purpose. The higher scores mean higher control.

**Table 104.** *Non-Hispanic Black excluded sample: Parental control by family structure stability*

Family structure stability	Mean (SD)			
	Direct parental control		Indirect parental control	
	Wave 1	Wave 2	Wave 1	Wave 2
Stable two-bio-parent (n=2100)	4.58 (1.20)	4.52 (1.24)	.58 (.36)	.51 (.35)
Stable single-bio-mother (n=473)	2.72 (1.11)	2.62 (1.09)	.47 (.36)	.43 (.34)
Stable single-bio-father (n=71)	2.33 (1.10)	2.27 (1.11)	.35 (.30)	.32 (.31)
Stable other (n=544)	3.92 (1.45)	4.27 (1.30)	.52 (.36)	.45 (.35)
Reunion family (n=39)	3.82 (1.67)	4.44 (1.31)	.47 (.34)	.43 (.31)
Unstable breakup (n=174)	4.03 (1.40)	2.88 (1.23)	.44 (.34)	.35 (.30)
Unstable formation (n=138)	2.78 (1.12)	3.82 (1.36)	.48 (.36)	.48 (.36)
Unstable other (n=58)	3.81 (1.92)	3.74 (1.86)	.45 (.37)	.43 (.34)
<b>Black-excluded sample total (n=3597)</b>	<b>4.06 (1.45)</b>	<b>4.07 (1.45)</b>	<b>.53 (.36)</b>	<b>.47 (.35)</b>

*Note.* Numbers are valid sample size. Parental control variables are recoded for the normality purpose. The higher scores mean higher control.

To see how family structure was related to parental control in non-Hispanic Black families in comparison to the rest, Tables 103 and 104 provide descriptive statistics separately on Black sample and the rest of the Add Health sample for baseline parental control levels during adolescence years by family structure stability type. A mean and standard deviation for each family structure stability type are included.

Based on the findings in the above Table 103, among non-Hispanic Black families, stable two-bio-parent family produced highest levels of direct and indirect parental control over time compared to other family types. On the opposite side, youths from stable single-bio-father homes reported the lowest levels of direct parental supervision and emotional warmth. Youths who experienced family breakup also reported 38% decrease in direct parental control from Wave 1 to Wave 2, while parental warmth does not seem to be impacted much compared to those from stable intact families. Direct parental control was composed of parent presence and youth autonomy measures. Thus, it is not surprising to see the decrease in direct parental control, since these youths transitioned from a two-parent home into a single-parent family. In general, families with both parent figures tend to report higher or increased direct parental control than the families with a single caregiver.

When comparing non-Hispanic Black families to the rest of the Add Health sample (see Table 104), the trends of parenting across assorted family structure types are similar. Although the overall African American families had a lower average of direct parental control, it was due

to the large proportion of single-mother families in the Black sample. In fact, non-Hispanic Black families tend to produce both higher direct and indirect control over their children compared to the same family structure type in the rest of the sample, with the exception of a small number of single-biological-father homes ( $n=14$ ) and unstable other families ( $n=34$ ) that reported low parental controls. Also, it is interesting to note that the entry of a biological father into a Black family (family reunion) led to an increase in parental warmth between W1 and W2, but the entry of a social father appeared to reduce parental warmth.

Taken together, the results picture the non-Hispanic Black group was at higher risk for only violent behavior than others in the full sample. At the same time, non-Hispanic Black families tend to produce slightly higher direct and indirect control compared to the same family structure type in the full sample. Other than that, non-Hispanic Black families were not much different from the others in the full sample in terms of parental controls. Therefore, to further estimate how parental control (at Wave 2) affects non-Hispanic Black youths in terms of their behavioral outcomes (Wave 2 and Wave 3), the present study used hierarchical binary logistic regressions. The models only analyzed non-Hispanic Black sample ( $n=933$ ) and controlled for respondents' age, gender, family SES, and initial deviance. Family structure stability type is not included in the models due to the limited group size. The following Tables 105 to 108 present the results of the regression models.

**Table 105.** Hierarchical logistic regression: The effects of W2 parental control on property delinquency (non-Hispanic Black sample)

Independent variables	Exp B					
	Property delinquency					
	Wave 2 (1996)			Wave 3 (2001-02)		
Age	—	—	—	—	—	—
Gender (male)	—	—	—	2.32***	2.16***	2.24***
Mother's educational level	—	—	—	—	—	—
Public assistance	—	—	—	2.76***	2.75***	2.76***
W1 property delinquency	1.44***	1.43***		1.13**	1.12**	
<b>W2 Parental control</b>						
Direct parental control			—			—
Indirect parental control		.51**				—

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

**Table 106.** Hierarchical logistic regression: The effects of W2 parental control on violent delinquency (non-Hispanic Black sample)

Independent variables	Exp B					
	Violent delinquency					
	Wave 2 (1996)			Wave 3 (2001-02)		
Age	—	—	—	—	—	—
Gender (male)	1.77***	—	—	3.80***	3.32***	3.47***
Mother's educational level	—	—	—	—	—	—
Public assistance	1.46*	—	—	—	—	—
W1 violent delinquency	1.54***	1.54***		1.29***	1.29***	
<b>W2 Parental control</b>						
Direct parental control			—			—
Indirect parental control		.64*				.51*

Note. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . Dash means the variable was included into the model, but the coefficient was not statistically significant.

Based on the findings in Tables 105 and 106, among non-Hispanic Black youths, higher levels of indirect parental control were found to be significantly associated with fewer involvement in property delinquency during adolescence and violent delinquency both during adolescence and early adulthood, which is similar to the finding on the full sample. But at the same time, standard demographic factors (i.e., gender and age) were not significant in predicting delinquency among Black sample during adolescence. At Wave 3, unlike the full sample (refer back to Tables 37 to 40), only being male and receiving public assistance were significantly related to more violent misbehaviors. Thus, among non-Hispanic Black youths, sociodemographic factors had little impact on juvenile delinquent activities (or it could be the result of small subgroups, which precluded discerning enough variation in the independent variables to have an impact on the dependent ones); being male is a risk factor for adult delinquency and low family SES during adolescence increases adulthood property delinquency.

Like the full sample, initial delinquency was also found to be positively correlated to later deviance, while parental warmth significantly reduced the involvement in both property and violent delinquency over time for non-Hispanic Black youths, although the impact on property delinquency was limited only during adolescence. It is very likely that financial difficulties were the main driving force of property offenses during adulthood for non-Hispanic Black population.



**Table 107.** *Hierarchical logistic regression: The effects of W2 parental control on W2 substance use (non-Hispanic Black sample)*

Independent variables	Exp B								
	Wave 2 (1996)								
	Alcohol use			Tobacco use			Drug use		
Age	1.38***	1.26***	1.21***	1.15*	—	—	1.25**	1.22**	—
Gender (male)	—	—	—	2.06***	1.88**	1.92***	1.78**	1.54*	1.61*
Mother's educational level	1.08*	—	—	.91*	.92*	.92*	—	—	—
Public assistance	—	—	—	—	—	—	—	—	—
W1 alcohol use		6.50***	5.85***						
W1 tobacco use					7.66***	7.29***			
W1 drug use								8.52***	7.83***
<b>W2 Parental control</b>									
Direct parental control			.82***			—			.76**
Indirect parental control			—			.52*			.36**

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

Table 107 presents the results of Wave 2 parenting effects on underage use of substances among non-Hispanic Black respondents. Again, the findings are similar to the findings on the full sample. Generally, the higher parental control, the fewer involvement in substance use. But compared to the full sample (see Tables 42 to 43), non-Hispanic Black boys were found to be at higher risk of tobacco and illegal drug use than Black girls.

**Table 108.** *Hierarchical logistic regression: The effects of W2 parental control on Wave 3 criminality (non-Hispanic Black sample)*

Independent variables	Exp B								
	Wave 3 (2001-2002)								
	Police stop/detention			Arrests			Drug use		
Age	—	—	—	—	—	—	—	—	.88*
Gender (male)	7.83***	7.36***	7.41***	15.56***	14.51***	14.81***	2.14***	2.03***	2.08***
Mother's educational level	—	—	—	—	—	—	—	—	—
Public assistance	—	—	—	—	—	—	—	—	—
W1 property delinquency		1.19***	1.18***		1.15**	1.14**			
W1 drug use							5.33***	4.97***	
<b>W2 Parental control</b>									
Direct parental control			—			.82*			—
Indirect parental control			—			—			.55*

*Note.* \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ . R means reference group. Dash means the variable was included into the model, but the coefficient was not statistically significant.

As shown in Table 108, when predicting young adulthood police contact and drug use among non-Hispanic Black youths, unlike the findings on the full sample (refer back to Tables 44 to 46), standard demographic factors were not that important, except for being a Black male was found to be an extreme risk factor of early adulthood police contact and drug use. As for parental control factors, their effects were relatively limited on non-Hispanic Black youths' behaviors compared to the full sample's models. Direct parental monitoring was only associated with fewer arrests reported by non-Hispanic Black youths; parental warmth was found to have a persistent preventive impact on drug use, but not on police contact measures.

Summary RQ4c: This hypothesis focuses on the non-Hispanic Black population in the Add Health sample. The sample statistics do not seem to explain the over representation of African Americans in the U.S. criminal justice system. Compared to their White counterparts, non-Hispanic Black youths were at greater risk for violence, but they reported less substance use and fewer arrests. At the same time, among the same family structure types, non-Hispanic Black youths appeared to have higher levels of parental control than the others in the Add Health sample. However, a large proportion of single-mother households among non-Hispanic Black families did appear to create hardships for African American youths' behavioral outcomes.

The findings in this hypothesis also indicate that, among standard demographic variables, being male is the riskiest factor of antisocial behaviors, especially for adulthood offenses. Public assistance, an indicator of the financial hardship in childhood, was found to be the key driving force of adulthood property offenses for non-Hispanic Black population.

When looking at direct parental supervision and parental warmth, the findings on the non-Hispanic Black population are similar to the full sample findings, although the impacts of parental control were somewhat limited on African American youths. In general, the higher the parental control, the better the youth's behavioral outcomes. Again, a lot of these conclusions need to be taken a substantial amount of caution due to the low numbers of respondents in the subgroups of many of the independent variables, which limits our ability to find statistically significant effects and potentially biases the results.

## **CHAPTER VI: DISCUSSION**

To extend prior research on the relationships among family structure, parenting, and youth behavioral outcomes, the present dissertation uses the public-use data from the National Longitudinal Study of Adolescent to Adult Health project. This dissertation aims to answer research questions regarding family structure stability, parental control, cultural background, and their influence on youth behavioral development from adolescence to early adulthood. This chapter discusses the key findings of the study in the context of the broader body of literature on juvenile behavioral development. The chapter also presents theoretical and policy implications based on the study's results. Finally, study limitations and future research directions are discussed.

### **Key Findings**

The present study provides a comprehensive picture of relationships among family structure types, family stability, parenting practice dimensions, immigrant generational status, race/ethnicity, and delinquent behaviors while controlling for sociodemographic factors, and evaluating the impact of these variables on youth's concurrent and subsequent deviant behaviors longitudinally. Returning to the four research aspects posed earlier concerning various family-related and culture-related factors, there are some enlightening findings that emerged:

***How do the family structure and its stability affect juvenile delinquency and subsequent crime?***

This study indicates that family structure stability and grandparent co-residence had no impact on property delinquency over time from adolescence to young adulthood in the sample of Add Health (and, presumably, this finding can be generalized to US youth in general). Among various types of family composition, living in a stable two-biological-parent family was associated with less violence and reported less police contacts and drug use relative to other family structure forms, which is consistent with previous empirical research (Apel & Kaukinen, 2008; McKee, 2012; McLanahan et al., 2015; Peguero et al., 2011). Although findings are based on the limited number of youths from reunion families, where any type of “broken homes” at W1 became two-biological-parent families at W2 (n=63), these youths did not seem to have better behavioral outcomes, except for drug use, compared to other types of “broken homes.” Therefore, a nurturing family is beyond just having two biological parents in the household; family stability is also critical. This finding is consistent with Manning and Bulanda’s study (2007), which shows that the negative effect of living in a cohabiting parent family is related to family stability rather than marriage.

The present study also indicates that grandparent co-residence appeared to be associated with delayed adverse outcomes in terms of early adulthood arrests and illegal drug use. Living with grandparents is likely a result of financial hardship rather than childcare-assistance needs

from grandparents. Thus, it is possible that multi-generational families live in higher-poverty areas, with fewer opportunities for young adults in terms of jobs. On the other hand, it is possible that grandparent co-residence may increase family conflicts and thus eventually lead to crime for kids growing up in such families.

The present study also finds that initial deviance largely absorbs the effects of sociodemographic variables and family structure stability on adolescent deviance measures, although the long-term effects of initial deviance on adulthood delinquency appear to be limited, as can be expected from the classic age-crime curve. In addition, grandparent co-residence seems to interact with or impact youth initial deviant acts that increase the likelihood of youth engaging in adolescent violence and adult police contact. After controlling for youth's initial deviance, grandparent co-residence became a significant risk factor of juvenile violent delinquency and later police stop/detention. This finding again suggests the possible increase in family conflicts that may be due to grandparent co-residence.

***Does direct and indirect parental control affect the relationships between family structure and youth behavioral outcomes?***

Unfortunately, this question could not be fully answered with the current study design and sample. Due to the high correlations between family structure and parenting practices, these two family-related factors cannot be included into the same regression model. In order to see

how parenting practices worked in different family structure forms, the sample was split by family structure stability type and then, how sociodemographic and prenatal control variables influence youth delinquent behaviors was tested across various family structure forms using logistic regressions.

In general, this study reveals that parenting variables had a more persistent impact on youths from stable intact families compared to those from other family types. Particularly, parental warmth was consistently negatively associated with most deviant behaviors during adolescence, but this impact was not sufficient for youths who experienced family formation during adolescence. In terms of direct parental control components, physical presence of parents was the more effective factor than parental involvement and youth autonomy in lowering delinquency, while sociodemographic factors were controlled.

Parent presence at home was found to lower juvenile property delinquency for youths from stable intact families, stable single-mother, and stable single-father families but not for those from unstable families. It was also found negatively related to juvenile violent delinquency for youths from stable intact, stable single-mother, and reunion families. The higher the level of parent presence, the less likely the respondents from stable intact families are to report later police stops and detention. However, with the insufficient sample size, some subgroups (e.g., reunion family) have very limited numbers of participants, which creates issues with generalizability.

When comparing family structure and parenting practices in terms of their effects on delinquency and crime, the results show that parenting practices had a slightly greater predictive power on youth behavioral outcomes. Therefore, parenting seemed to play a similar if not more important role in youth behavioral development than family structure did, which partially supports the finding of some earlier studies that show the importance of parental control in reducing unwanted youth behaviors (Barfield-Cottledge, 2015; Schroeder et al., 2010b). In addition, this may also point out to the interactive correlations between family forms and parenting, like Nye (1958) suggested.

When focusing on dynamic measures of parental control, the study finds that stable and high parental control was associated with better youth behavioral outcomes. Some prior empirical evidence also emphasizes the importance of consistent parental discipline (Benson et al., 2008; Halgunseth et al., 2013; Hoeve et al., 2009; Pardini et al., 2015). More specifically, the current study finds that stable high indirect parental control (parental warmth) had preventive effects on all adolescent deviance measures and young adult delinquent activities, but it had limited long-term influence on arrests and adult drug use, possibly due to the lasting effects of initial parental warmth. On the other hand, stable high direct parental control (parental supervision) was not significantly related to either property or violent delinquency, but it appeared to significantly reduce the likelihood of respondents experiencing police stops/detention, arrests, and drug use in early adulthood.



In addition, descriptive statistics reveal a possible “backfiring” effect of high level and severe increase in direct parental control on adult property and violent delinquency. That is, youths with a high direct parental supervision during adolescence seem to act obediently. But when these youths reach their early twenties, they become more likely to engage in delinquency when parental supervision is no longer holding them back. Therefore, instead of a U-shaped relationship as Harris-Mckoy’s study (2016) indicated, there seems to be a ‘backfiring’ effect of high level of direct parental control on subsequent deviance. Overall, youths with medium level of direct parental control (parental supervision) had more optimistic and more consistent effects in terms of low antisocial behaviors, especially in the long run.

To answer the concern of whether parents affect their children’s behavior or children affect their parents’ behavior (Huh et al., 2006), the results of the cross-lagged panel design reveal that parenting shaped children’s behavioral outcomes more consistently than the reciprocal effects of youth behaviors on parenting practices. The only significantly interactive relationships were a) the association between direct parental supervision and juvenile use of alcohol, and b) the relationships between parental warmth and property delinquency. The present study finds that direct parental control significantly reduced the chance of juvenile alcohol use, and underage alcohol use also weakened direct parental supervision. Parental warmth protected adolescents from property delinquency, at the same time, property delinquent activities undermined child-parent attachment.

***How does the immigrant generational status affect delinquency and subsequent crime?***

Americanization starts once people first arrive in the United States. The longer a person lives in the US, the higher levels of Americanization would be, on average. The present study finds that, as the immigrant generational status increases, involvement in deviant activities also increases. This finding is consistent with previous literature (Adelman et al., 2017; Bersani, 2014; Bui, 2009; Le & Stockdale, 2011; Jiang & Peguero, 2017). In the Add Health sample, the first-generation immigrant youths reported lower family socioeconomic status but engaged in less delinquency and crime, especially in substance use, compared to the later-generation ones. The second-generation youths reported more violent activities during adolescence, which is likely related to residence in disadvantaged neighborhoods and thus higher exposure to violence. But, in the long term, the first- and the second-generation youths were more law-abiding than other Americans of the same age. Furthermore, English as the dominant language used at home might refer to the higher levels of Americanization (Glick, 2010; Perez, 1994), which was found to be a risk factor in youth behavioral outcomes among the first-generation youths, although it lowered violent conflicts during adolescence (Le & Stockdale, 2011).

The patterns of delinquency and criminality in relation to family structure stability across immigrant generations are still not clear due to the limited numbers of immigrants in the Add Health sample (see Table 76). Among 13% first- and second-generation youths in the sample, the majority of these youths (71%, compared to 50.6% of third-plus-generation youths) were from

stable intact families. Thus, the low engagement in deviance among immigrant youths may be related to the high prevalence of stable intact family structure (Ousey & Kubrin, 2009). As for parenting practices, youth from the first-generation immigrant families tend to report lower parental warmth but higher direct parental supervision compared to those from the third-plus-generation families. Parenting was not found to weaken the effect of immigrant generational status on juvenile delinquency and substance use during adolescent years, but it seemed to reduce the impact of immigrant generational status on early adulthood arrests. Derived from these findings, both immigrant generational status and parenting practices influenced youths' behaviors independently during adolescent years. With the passing of time, the influence of immigrant generational status gradually weakened, while the influence of parenting continued into adulthood.

***Does the race/ethnicity affect the relationships among family-related factors, immigrant generational status, and youth behavioral outcomes?***

Race/ethnicity was generally found to be associated with youth behavioral outcomes. The present study indicates that, in the Add Health sample, non-Hispanic White youths were more likely to use substances than youths of other races/ethnicities; non-Hispanic Blacks reported more violent delinquency than White youths; Hispanic/Latino youths also reported more delinquent activities (both property and violent) than non-Hispanic Whites. Asian youths were

more law-abiding in most aspects, but they reported higher adolescent property delinquency than non-Hispanic Whites.

When looking at family structure, some notable differences were found among races/ethnicities. For example, stable single-mother family was the most common family type (34.3%) for non-Hispanic Black youths, unlike the situation for youths from other racial/ethnic groups where the most common type was stable intact families. The high prevalence of Black single-mother households was also found in prior empirical studies (Gibson-Davis & Gassman-Pines, 2010; Hummer & Hamilyton, 2010). At the other extreme, nearly 73% of Asian youths were from stable intact families, compared to the sample average of 52%. Asian youths also reported better behavioral outcomes, except for property delinquency, compared to youths of other races. This finding is in line with the results of hypothesis RQ1a: stable two-biological-parents family facilitates favorable outcomes in youth's behavioral development, except for engagement in property delinquency.

In most cases, race/ethnicity did not affect the relationships between parenting practices and youth behavioral outcomes. Indirect parental control (parental warmth) is found to be negatively related to all contemporaneous and subsequent deviance measures regardless of respondent's age, gender, family SES, and race/ethnicity. Direct parental control (parental supervision) also produced favorable outcomes contemporaneously, but it is associated with higher property and violent delinquent activities subsequently in young adulthood.

More specifically in terms of race/ethnicity, after taking parental control into consideration, non-Hispanic White youths were vulnerable to substance use, while Black youths were found to be significantly less likely to use any type of substances. Also, non-Hispanic Blacks were less likely to be stopped or detained by police than Whites. These findings are contrary to public perception and official statistics that indicate Blacks' higher engagement in deviant activities and higher involvement in criminal justice system (Carson, 2020; Federal Bureau of Prison, 2021). Keep in mind, Add Health project studied middle and high school students and has oversampled Black youths with higher educated parents. Peguero and colleagues' study in 2011 has also shown non-significant differences in school misbehavior among Black, Latino, and White Americans. Still, in line with most research, the current study indicates that non-Hispanic Black and Hispanic/Latino youths consistently engaged in significantly more violent behaviors than their White counterparts from adolescence to early adulthood. Asian race appeared to have an indirect effect on a lower rate of adolescent use of alcohol and drugs through stricter parenting. After adding parental control variables into the models, being Asian was no longer a significant protective factor.

Racial/ethnic disparities cannot be taken independently from people's immigrant status, especially when studying Hispanic and Asian groups (only 19% of Asian youths and 45% of Hispanic/Latino youths were the third-plus generation). The results reveal a possible moderating effect of race/ethnicity on the relationships between immigrant generational status and

property/violent delinquency for Hispanic/Latino and Asian youths. When immigrant generational status was included in the regression models, being Asian and Latino youths became a stronger risk factor of committing property and violent delinquency (correspondingly) during adolescence. In addition, after race/ethnicity was added into the analytic models, immigrant generational status seems to have a stronger impact on juvenile delinquent behaviors. It is very likely that race/ethnicity does not affect delinquency and crime among the first-generation youths, but it does impact youths of later generations, especially for Hispanics and Asians. When predicting illegal substance use, immigrant generational status appeared to weaken the associations between race/ethnicity and youth behavioral outcomes for Asian youths. After generational status was added into the regression models, being Asian was no longer associated with less substance use compared to their White counterparts.

When focusing on non-Hispanic Black participants in the Add Health sample, among standard sociodemographic variables, being male is the riskiest factor for antisocial behaviors, especially for offending in adulthood. Public assistance, an indicator of the financial hardship in childhood, was found to be the key driving force of adulthood property offenses for the Black population. Unlike other youths in the Add Health sample, age is a less important factor for Black youths, as many of them did not seem to “age out” of deviant activities as they got older.

Within the same family structure types, non-Hispanic Black youths appeared to have higher levels of parental control than other races/ethnicities in the sample. At the same time, they

reported greater engagement in violent delinquency, but they reported less substance use and fewer arrests than their White counterparts. This finding stands in contrast to overrepresentation of African Americans in the U.S. criminal justice system. However, a large proportion of single-mother households among non-Hispanic Black families did appear to create hardships for African American youths' behavioral outcomes. When looking at the descriptive statistics by family structure and deviance measures, Black participants from stable intact families reported the best behavioral outcomes compared to other family forms. Non-Hispanic Blacks from stable families, except for those from single-father homes, were involved in less deviance than those from unstable families generally.

Among unstable families, formation families seemed to have an adverse effect on African American youths' behavioral development, regardless of whether the entered parent is a biological one or not. Family breakup did not seem to affect Black youths much during adolescence, but the single-parent status seemed to hurt in the long run. When looking at direct parental supervision and parental warmth, the findings for the non-Hispanic Black population are similar to the full sample's findings, although the impact of parental control was somewhat limited on African American youths, in line with studies conducted by Apel & Kaukinen (2008) and McKee (2012). In general, the higher the indirect parental control (warmth), the better the youth's behavioral outcomes still applies to African American youths.

## **Theoretical Implications**

Nye's (1958) and Hirschi's (1969) social control theories explain how some relevant structural and process-related dimensions of families facilitate social control, which accounts for observed differences in youth delinquent activities. Within the control theories' framework, the present study aims to identify different trajectories of offending in relationship to family structure and parental control across immigrant generations and races/ethnicities.

**Effects of Family Structure and its Stability.** Nye (1958) asserted that family structure does not exert a direct effect on juvenile delinquency, but rather an indirect effect through the social controls stemming from family-related dimensions. Nye also argued that children from single-parent homes would exhibit higher delinquency, which results primarily from a lack of parental control. Although Hirschi (1969) did not specify the impact of family structure on youth behavioral outcomes, family transitions certainly interrupt existing child-parent bonds, which eventually relate to delinquency.

The results of the current study provide support for social control theories. The study finds that youths from stable two-biological-parent families reported higher levels of parental warmth and direct parental supervision; they also reported lower levels of contemporaneous property and violent delinquency, substance use, and subsequent police contacts and arrests. Youths who lived with a single biological father or in unstable formation families reported



higher levels of deviant acts, formal police contact (stops/detentions and arrests), and especially of drug use. In addition, this study indicates that living without a co-resident grandparent in the household during adolescence produced the best behavioral outcomes, especially in the long run. Living with grandparents seemed to be a result of financial hardship; grandparent co-residence may increase family conflicts and eventually lead to involvement in crime. This finding partially supports Nye's assertion that family conflicts are significantly and positively related to juvenile delinquency.

When comparing family structure and parenting practices in terms of their effects on youth behavioral outcomes, the results of the current study reveal modestly stronger predictive power of parenting practices on youth behavioral outcomes. Therefore, parenting seemed to play a similar if not more important role in youth behavioral development than family structure did. This finding indicates the interactive associations between family structure and parenting as Nye suggested.

**Effects of Parenting Practices.** From the control theories' point of view, social control is believed to be more effective in preventing delinquency when child-parent respect and mutual attachment are present. According to Hirschi (1969), indirect parental control – parental attachment/warmth – would have a stronger effect than direct control on delinquency since opportunities for delinquency are plentiful and cannot always be regulated by parental supervision. This assertion is supported by the current study. The results of this study indicate

that parental warmth (indirect parental control) consistently played a protective role in most delinquency and criminality measures, including juvenile property and violent delinquency, substance use, and early adulthood formal police contact measures. At the same time, direct parental control (physical presence of parents, parental involvement, and youth autonomy) had limited and mixed influence on youth deviant behaviors.

Although direct parental control was not directly emphasized by Hirschi, it is believed to perform a protective role in reducing peer influence and preventing delinquency (Mrug & Windle, 2009; Trucco et al., 2011). Hirschi (1969) wrote about the importance of involvement in conventional activities, and he believed that youths would not be delinquent if their leisure time is occupied by prosocial activities. Very likely, if activities are approved or directly supervised by parents, they should be considered conventional in most cases. This study provides partial support and finds that among direct parental control variables, physical presence of parents was the more effective factor compared to parental involvement and youth autonomy. Higher levels of parent physical presence at home were associated with better youth behavioral outcomes, including fewer police stops/detention and arrests in early adulthood. Unexpectedly, parental involvement in youth's daily activities had little impact on or, in some cases, was positively associated with juvenile misbehaviors, such as substance use, which raises a question as to what role highly involved parents play in the children's lives. Of course, this question is

outside of the scope of the current study but should be certainly investigated further in future studies.

Furthermore, Nye's study (1958) pointed out a U-shaped relationship between parent's generosity with money and children's antisocial behavior. Harris-McKoy's study (2016) also indicated that extreme pervasive or restrictive direct parental control was related to more delinquent behaviors. The present study does not reveal a U-shaped relationship between direct parental control and delinquency within a fairly static time frame. However, a possible "backfiring" effect of consistently high parental control and, especially, severe increase in direct parental control on subsequent deviant behaviors in adulthood is uncovered. That is, adolescents with a high level of direct parental control seem to act obediently concurrently, but, when they reach their early twenties, they become more likely to engage in certain antisocial behaviors when direct parental supervision is no longer holding them back. Therefore, just like Nye (1958) and Harris-McKoy (2016) would suggest, this study also finds that youths with stable medium level of direct parental control have more optimistic and more consistent prospects in terms of lower antisocial behaviors.

**Differences by Immigrant Generation and Race/Ethnicity.** Studies on immigrants mostly do not find support for social control theories. Immigrant households and immigrant-concentrated neighborhoods are often found to be associated with low social control (i.e., financial disadvantage, weak family-school-neighborhood bonds, and neighborhood disorder),

but also link to significant reductions in crime (MacDonald & Saunders, 2012; MacDonald et al., 2013; Ousey & Kubrin, 2018). In line with many empirical works, the present study produces similar results. The first-generation immigrant families in the Add Health sample were associated with more socioeconomic difficulties (i.e., lower parent educational levels and higher public assistance needs) and provided lower parental warmth, but youths from these families were less likely to engage in delinquent activities in both the short and long term than the respondents of the later generations. Although more 1<sup>st</sup>- and 2<sup>nd</sup>-generation respondents were from stable families than the American-born ones, the differences were minor. Additionally, English as the dominant language used at home, which refers to the higher levels of Americanization and closer social bonds outside the family, appeared to be a risk factor for delinquent behaviors among the first-generation youths, except for violence during adolescence. Thus, the current study does not find evidence that much support for social control theories when assessing the relationship between immigrant families and youth behavioral outcomes. Immigrant families appeared to have lower social control but were consistently associated with less delinquency and crime.

Hirschi's social control theory (1969) considered race and ethnicity in the study on delinquency. His study found that Black participants were more likely to have a higher rate of delinquency, more likely to have negative attitudes towards authorities, and less likely to be concerned about the consequences of law violation than Whites. Hirschi also concluded that the

causes of delinquency are the same regardless of race/ethnicity. The present study, first of all, does not find Black youths to be involved in more delinquent activities than Whites in the Add Health sample, except that Blacks reported more violent activities. At the same time, non-Hispanic Black youths reported significantly less substance use and fewer arrests than their White counterparts.

When assessing the predictors of deviance across races/ethnicities, social control theories are partially supported by the current study. Parental warmth was found to decrease over time from Wave 1 to Wave 2 (one year apart); direct parental supervision kept relatively steady for all racial/ethnic groups. Also, parenting practices were found to work similarly for youths of different races/ethnicities. However, when comparing parental control level averages among racial/ethnic groups, there is not a clear pattern of how parental control would impact juvenile delinquency. Non-Hispanic Black youths reported the highest levels of parental warmth but the lowest levels of direct parental control during adolescent years. In contrast, youths from Asian families reported the least parental warmth but the highest parental supervision compared to those from any other racial/ethnic families. White and Hispanic/Latino respondents reported high levels of both direct and indirect parental control during adolescence. Although parental control was found to be negatively related to deviant activities in general, it is possible that different levels of parental control are required in order to influence youth behavior of different races/ethnicities. It is also possible that interactions among predictor variables, such as parenting

and family structure, make a difference in youth behavioral outcomes differentially by race/ethnicity. As an example, non-Hispanic Black youths reported the highest levels of parental warmth but the lowest levels of direct parental control, which may be due to the large proportion of them being from single-parent families.

Like with parenting practices, youths of different races/ethnicities may also be more or less sensitive to certain sociodemographic factors. When studying non-Hispanic Black youths in the Add Health sample, the results indicate that, among standard demographic variables, being male is the riskiest factor of antisocial behaviors, especially for adulthood offenses. Public assistance, an indicator of the childhood financial hardship, was found to be the key driving force of adulthood property offenses for non-Hispanic Blacks. Unlike youths of other races/ethnicities, age was not a significant factor in delinquency/crime. Non-Hispanic Black youths did not seem to grow out of deviant activities as they got older. It is possible that the disadvantaged living arrangements, lower educational achievement, and other sociodemographic factors offset the favorable influence of age on delinquency and crime in Black youth (Peeples & Loeder, 1994; Peguero et al., 2011). Taken together, there are common causes of delinquency across races/ethnicities, but there are also factors that only impact or have stronger impacts on youths of certain race/ethnicity but not others.

## **Policy Implications**

On the public policy side, there has been a growing attention paid to evidence-based policymaking. Scientific research helps to form and to evaluate policies and programs, which often lead to more effective strategies of addressing social problems. The findings of the present study highlight the diversity of families and adolescents' behavioral development trajectories in the United States and can be used to inform policymakers' understanding of factors that are related to the formation of delinquency and crime. Suggestions for policy implications resulting from the current study are divided into the following categories: 1) facilitating and strengthening stable two-biological-parent families, 2) increasing resources to support single-parent families and diverse families, 3) supporting reproductive rights, and 4) viewing policies through the family impact lens.

**Facilitating and Strengthening Stable Two-biological-parent Families.** Since the middle of the 20th century, a series of family changes have occurred in the United States and many other countries, including decline and delay of marriage, increase in divorce, rise of cohabitation, and climb in nonmarital births (CDC, 2017; Furstenberg, 2014). However, most changes resulting in family instability are found to be harmful for children. Those who grow up in a single-parent family tend to have more health and behavioral problems than those who grow up with both parents, especially with both biological parents. The present study confirms that

youths from stable two-biological-parent families had the best behavioral outcomes in terms of delinquency compared to those from any other family structure type.

This study also finds that stable two-biological-parent families were associated with a higher socioeconomic status (less likely to receive public assistance and higher levels of parental education). As for parenting, although single-parent families and unstable households were not too different from stable two-biological-parent families in parental warmth, these families, especially single-parent families, appeared to have much lower levels of parent's physical presence at home, which was a powerful direct parental control factor in preventing unwanted youth behaviors. Obviously, stable two-parent family form expresses its positive effects on youth behavioral development from various aspects. Therefore, policies and programs that would facilitate two-biological-parent family type and enhance family stability should be supported.

Marriage is generally found to be associated with family structure stability, positive health outcomes, and financial security for both parents and their children (Hummer & Hamilton, 2010). Thus, policymakers may want to consider supporting healthy marriages. A similar idea - Healthy Marriages Initiative - was carried out during the Bush administration in 2002. Millions of dollars were distributed to the government marriage promotion programs, which were designed as a tool to address poverty. However, many federal marriage programs did not appear to be effective or even showed negative effects on participating lower-class couples (Fisher, 2005). Marriage of two low-income parents does not magically raise the family out of poverty.



Instead, when the parents have no skills, no jobs, and disadvantaged housing, these parents are likely to experience depression, substance abuse, family conflicts, even domestic violence. Marriage counseling and relationship training, which are often provided in marriage promotion programs, are not enough for these families to solve their problems (Fisher, 2005). Thus, it is important for policymakers to address the essential needs of the target population when developing programs. It is not a government's role to sell marriage, but it is definitely possible to create policies that could reduce external difficulties for people who want to get married and to have a sustainable marriage life by addressing their economic needs.

There are some social programs that have shown success in impacting the marriage rates of low-income people by strengthening family financial security. For example, the Minnesota Family Investment Program (MFIP) that began in 1994 provides financial incentives to work, long-term participation requirement, and combined services with simplified procedures. According to an official evaluation that compared families in MFIP to those in Aid to Families with Dependent Children (FADC), the families in MFIP were more likely to work, have higher incomes, and more likely to receive welfare benefits but were less likely to rely solely on welfare (Miller et al., 2000). In addition, the long-term MFIP recipients were more likely to get married and stay in a marriage, less likely to experience domestic violence, and their children were better off. As for another example, the Earned Income Tax Credit program (EITC) is designed to increase the earnings of low-income workers by offsetting some of the taxes they pay. The policy

provides the opportunities for the struggling working-parents to escape poverty and enhance financial security. Bastian (2017) used a longitudinal household-level data and studied the EITC. In Bastian's study, the EITC was found to encourage fertility, marriage, and may facilitate married couples to stay married, since this helps determine eligibility to maximize the EITC benefits. These successful policies and programs commonly include enhanced financial incentives to work, work training, placement, cash assistance and Food Stamps, and other combined services with simplified rules and produces. On one hand, welfare benefits could feed a family in a timely matter. On the other hand, by moving recipients into workforce, it can increase their family incomes and reduce the likelihood that they will rely on welfare. A financially secure family will naturally become the basis for a stable family.

Learning from the effective policies that facilitate family stability and two-biological-parent family form, incentives to work and work supports, such as tax credits for working families, in conjunction with other government-supported welfare and training likely to work together to provide vulnerable families the support they need to thrive and, eventually, to benefit children of these families in both the short and long term.

**Increasing Resources to Support Single-parent families and Diverse families.** People, such as liberal activists, feminists, and sympathetic social scientists who support diversity may argue with the idea that a government should favor one model of family life above all others. They often argue that policies like marriage promotion funds would stigmatize unmarried people

and institutionalize discrimination against single-parent and diverse families (Cherlin, 2003). I agree that policies should not simply promote a certain type of family structure. However, if two-parent family form is more beneficial to all family members, the government should provide convenience and create conditions so that those who wish can enter such family life.

Indeed, with the national trend of decreasing marriage rates and increasing divorce rates, the adverse effects of family instability on youths' behavioral outcome may be inevitable. As a result, about half of all children are projected to experience a single-parent family in their lifetime (Cherlin, 2003; U.S. Census Bureau, 2017, 2018). Of course, growing up in a non-intact family is not the primary cause of unwanted outcomes for youth, but it creates difficulties and challenges that make youths to be more prone to delinquent behaviors and other health problems. The current study found that youths from single-parent families were at higher risk for delinquency, particularly violent delinquency, than those from stable two-biological-parent families (intact families). Also, single parents appeared to provide lower direct parental supervision on their children, likely due to financial burdens and busy work schedule of the only parent in the household.

Furthermore, racial/ethnic disparities in family composition are apparent. Stable intact family is the most common family combination across races/ethnicities, except for non-Hispanic Black families, with 34% of Black youths being raised in stable single-mother homes exceeding 33% from intact families. A high potential for family instability, low parental supervision,

poverty, and other issues that are associated with single-parent families make the children of Black families more vulnerable to crime. Financial disadvantage continues to be a vital concern for families that are headed by single mothers (Taylor & Conger, 2017; Richards & Schmiede, 1993). The current study finds that 27% of single-mother families in the Add Health sample reported having received public assistance during Wave 1 and Wave 2 compared to 7% of intact families and 9% of single-father families. Therefore, better wages and advancement opportunities are needed for women and minorities.

In addition, policies that continue reinforcing the financial responsibility of noncustodial parents should also help support children's needs by providing essential services. Research indicated that noncustodial parents are more likely to pay for child support consistently when they have stable jobs and when the parent-child relationship is close (Cancian & Meyer, 2018). In addition, services for single mothers should also focus on assisting them with joining the workforce, full time or part time. Besides, governments need to invest in improving the provision of formal childcare on full-time basis, such as affordable high-quality childcare, pre-K, and after-school arrangements, for the very youngest as well as older ones. These inclusive educational services are likely to diminish differences among children's skills independently of SES background and, at the same time, free parents from childrearing roles and help them return to work.

Although only 2% of youths were from a stable single-father family in the Add Health sample, according to U.S. Census report, the share of children living in a single-father home has increased rapidly in recent decades (U.S. Census Bureau, 2018). However, current policies and programs mostly do not specify the differences between single-father and single-mother families. Since single-father families generally have greater financial resources, they are less likely to be eligible for the means-tested program services or benefits (Berger & Carlson, 2020; Richards & Schmiede, 1993). Based on the findings of the present study, youths from single-father homes were at higher risk of engaging in delinquency and substance use. Obviously, besides financial needs, single-father families still need a lot of help to better assist their children's well-being. For that reason, it is important to identify the differences in needs between single-mother and single-father homes and to make public services to be more friendly to parents of both genders. Programs focusing on parental education, child-parent communication skills, and household work training may be more essential for men who carry out a single father's role.

Given the likelihood of sole parenting at some point during life, family life education at the public-school level should be considered (Richards & Schmiede, 1993). Developing various interpersonal skills does not only help adolescents in coping with future family complexity of their own but also improve the current family life with their parents. Besides, teenage boys and girls need to know that giving birth to a child is a short-term decision, while raising a child is a long-term commitment, which includes, but is not limited to, years of financial support,

childrearing roles, and housework responsibilities. Parents should put children's interests first when they divorce or separate. It is key to balance the freedom of parents to pursue individual happiness in their intimate relationships, while responding to the needs of children for their stable and secure family lives.

Another restriction of current policies and programs is that most of them are not designed to account for diverse families, such as homosexual couples, single parents and grandparents raising children, and family members with mixed immigrant status (Berger & Carlson, 2020). Therefore, policy development cannot be limited to facilitating and strengthening intact families, it should also be more inclusive to counter the challenges of all types of families in the current era. Besides providing recourses, public policies also need to identify and enhance the strengths of families, both non-intact families and diverse families.

**Supporting Reproductive Rights.** Abortion has long been a controversial policy concern. It is legal in the United States, but it is not easily accessible in every state. In 2020, public attitudes became more polarized; 29 states (58% of the total number) demonstrated hostility to abortion rights and 16 states were supportive (Nash, 2020). Between January 2017 and November 2020, state legislatures have enacted over 250 abortion-related laws in 45 states; over 88% of these laws restricted access to abortion services in 35 states (Gaj et al., 2021). When laws that restricted access to abortion services are enacted, they place a stigma on women who have abortions and on the facilities that provide abortion services.

On one hand, people like conservative Republicans often are against abortions for many reasons (Reingold, 2021). One of the reasons is that U.S. fertility rate has reached a historical low (59 births per 1,000 women aged 15-44 in 2018), which is often believed to spell problems for the nation's economy (Hamilton et al., 2019). On the other hand, the present study indicates that both family structure and parenting practices are significantly associated with youth's behavioral outcomes. How can we expect unprepared and unintended parents to provide effective parenting and to fulfill the material and emotional needs of their children? In the Add Health sample representative of US youth, over 17% of the families were stable single-mother families, which is the second largest family structure group after stable two-parent families. It is reasonable to conclude that mothers play the most important childrearing role in a family, especially after family transitions. If women carry the main responsibilities of child rearing, do they have a constitutional right and the means to decide whether and when to have a baby without being judged? The answer should be yes.

Although teenage pregnancy rates have greatly decreased over the last years, still, the US has a substantially higher rate than in other western industrialized countries. According to CDC reports (2019), nearly 19 in 1,000 American girls between age 15 and 19 were pregnant in 2017, and the majority of teenage pregnancies were not planned. Raising a baby is challenging for any parent. It is particularly difficult for teenage parents who are also children themselves. These teenagers may be uncertain about their upcoming new roles and responsibilities as parents and

thus, very likely to be frustrated by the constant demands of child rearing. With no doubt, parenthood is found to be the leading reason that teenage girls drop out of school.

At the same time, babies born to teenage mothers are also at risk for both short-term and long-term problems in many major areas of life, including risk for neglect and abuse, later having lower school achievement, dropping out of high school, having more health problems, incarceration during adolescence, becoming teenage parents themselves, and facing unemployment as a young adult (CDC, 2019).

In addition, racial/ethnic disparities in teenage pregnancy persist. The birth rates of American Indian/Alaska Native teens (32.9 per 1,000 teen females), Hispanic teens (28.9), and non-Hispanic Black teens (27.5) were over two times higher than the rate for non-Hispanic White teens (13.2). Non-Hispanic Asian teens had the lowest rate of 3.3 per 1,000 among all races/ethnicities (CDC, 2019). With oversampled Black adolescents with well-educated parents in the Add Health sample, the present study still found a disproportionately high rate of Black youths being from single-mother homes. Of course, it is important to prevent teenage pregnancy in the first place; with all these negative outcomes associated with teenage pregnancies, especially unplanned/unwanted ones, we should not blame or interfere with a young mother's decision regarding abortion. Enacting restrictions on abortion would only push these unprepared families into harder psychological and financial situations, which eventually are harmful for both parents and their children.



Encouraging fertility should not depend on abortion restrictions and Medicaid coverage. Children being born into prepared and loving families is in the best interests of both adults and children. Indeed, CDC research in 2019 indicated that birth rates have declined for women aged 15 to 34 from 2017 to 2018 but rose for women aged 35 to 44. Based on such changes, policy makers should pay more attention to the health protection of pregnant women of advanced age and their children before and after birth. Furthermore, policies that support reproductive rights increase people's ability to plan their childbearing and are linked to higher levels of their own educational attainment and aspirational life plans for both women and men (Everett et al., 2019; National Women's Law Center, 2016). Taken together, policies under consideration should aim at expanding Medicaid coverage, increasing easy and inexpensive access to safe birth control, and reducing barriers and supporting other reproductive health care services, which would help to strengthen families by enhancing family economic security and parents' ability to plan childbearing. As a result, children who grow up in a strong family with caring parents are less likely to express health issues and problematic behaviors.

**Viewing Policies Through the Family Impact Lens.** There is no one-size-fits-all solution to a social issue most of the time. Conflicting values, such as equality, public security and individual interests, often exist. It is important that policymakers consider how pending legislation and policies might affect families. Policies under consideration should avoid unnecessary conflicts and minimize potential harm to families. One should always remember

that family is the foundation of any society. Harm to families would eventually affect the whole social body.

When developing policies, it is necessary to take family units into consideration even if the policy is not designed as a family policy (a policy that is not meant to impact families). Many border security and immigrant policies appear to reflect some political purposes rather than be rooted in empirical evidence. As an example, the executive order 13769, often referred to as ‘Muslim ban’, was signed by former US President Trump on January 27, 2017. People from seven predominantly Muslim countries were banned from visiting the US for 90 days, at the same time, refugees were prohibited from coming for 90 to 120 days. There is no evidence to show that this order would help maintain public safety or deter terrorist activities, but this simple-cut policy clearly has foreseeable significant impacts on the immigrant families originally from these regions.

According to the National Council on Family Relationship policy brief, over 16 million people in the US live in mixed-status households, and about 2 million young children live with at least one undocumented parent. There are more people in the US with a non-immigrant visa (Vesely et al., 2019). The travel ban has inevitably created a range of consequences for both parents and children from these seven counties, such as child-parent separation and potential loss of household resources. Moreover, empirical research suggests that this policy may have exacerbated Islamophobia in the country and impacted youths’ mental health through identity

development among Muslim populations in the United States (Vesely et al., 2019). Are immigrants more violent and more criminal as some politicians have accused them of? The answer is no. The present study, as well as many other empirical studies (Adelman et al., 2017; Bersani, 2014; Light et al., 2020), found that immigrants and immigrant-concentrated communities are significantly more law-abiding.

It is the responsibility of the federal government to protect its people from outside attacks, but it is also the task of the nation to alleviate domestic conflicts caused by external disputes. After 9/11 terror attacks in 2001, hate crimes against Muslim-Americans skyrocketed over 17 times (Federal Bureau of Investigation, 2021). The number of anti-Muslim hate crime incidents soared from 28 incidents in 2000 to 481 in 2001. After that, anti-Muslim incidents have never gone down under 100 according to the Uniform Crime Report data (Federal Bureau of Investigation, 2021). It is extremely important to fight back, investigate, and prevent such tragedy from happening again, but it is also important to protect the innocent immigrants who have lived in the US for years from the secondary injury caused by a domestic anger attack.

With the national outbreak of the COVID-19 pandemic since 2019, hate crimes against Asian Americans are on the rise. Between March 19, 2020, and March 31, 2021, Stop AAPI Hate has received 6,603 reports of anti-Asian hate incidents (Jeung et al., 2021). Anti-Asian rhetoric would not only expose Asian Americans and their children to negative social stigma and hate crimes but also impede the healthy identity development.

A 31-year-old East Asian living in Austin, Texas was recently interviewed by BBC News and said that "the pandemic made me realize that because I am Asian, and because of how I look like or where I was born, I could never become one of them (Americans)." After her Korean friend was pushed and yelled at by several people in a grocery store, she decided to get her first gun (Cheung et al., 2020). It is shocking to see the situation had deteriorated so rapidly. However, in the process, the government not only failed to alleviate these contradictions, but the former president Trump's repeated use of prejudiced remarks, such as "China virus" and "Kung flu", made his supporters and the public even more hostile towards Asians. I do not think such political propaganda will be of any help to the international affairs of the United States, but it is undeniable that such remarks have greatly negatively affected the Asian community in the United States financially, physically, and psychologically (Saw et al., 2021).

America is an immigrant country, which has the most immigrants than any other country in the world. Also, the trend of having more immigrants coming into the US continues (United Nations, 2019). The U.S. government needs to identify and secure the strengths of immigrant families rather than create barriers for family reunion and stereotypes for discrimination. Building supplemental policies to travel bans may focus on keeping immigrant families together, especially as family members await immigration hearings or other legal proceedings. Anti-separation policies would have positive impacts on immigrant families and children's physical and mental health (Jeung et al., 2021; Vesely et al., 2019).

There is no doubt that freedom of speech is a constitutional right in the United States, but national and state leaders need to prioritize the interests of the American people over political purposes. Government officials should view their speech through family impact lens and avoid remarks that may cause domestic chaos. It is good to respond to hatred and hate crimes in time, but should not it be a better choice to prevent and avoid these contradictions in advance? In addition, the aftermath is also important, although these costs could have been avoided. In order to support healthy well-being of immigrant and minority families and their children, services for the affected adults and youth to develop a healthy sense of identity and focus on strengths and resilience become necessary.

In summary, even with the tremendous pressure on the federal budget, more effective and efficient policies and programs are urged. These public policies need to be developed based on scientific evidence rather than public opinions led by politicians and social media. Overall, the key policy implications for family and children based on this study's results are: 1) financial security through employment-related support is critical for a marriage and child support from the noncustodial parent; 2) more inclusive policies that provide services tailored to fulfill the needs of single-father/single-mother homes and diverse families; 3) extended Medicaid, easy access to safe birth control and other reproductive services; 4) policies under consideration need to be developed through the family impact lens.

## **Limitations and Future Research Directions**

This dissertation adopts a method of secondary data analysis. There are often limitations related to using a secondary analysis of existing datasets, since the datasets were not collected specifically for the purposes of later studies. As for the current study, some of the variables, like direct parental control and family economic status, are not very precisely measured due to the lack of direct questions that target these concepts. For instance, whether allowing youths to make some decisions in their daily lives, parent's physical presence at home, and parent's involvement in youths daily activities are relevant parenting aspects. But the Add Health data does not provide sufficient questions that target direct parental supervision received by youth, which is a key component of social control theories that this study aimed to test.

In addition, the Add Health sample used in the present study is the Public-Use version, which is a smaller randomized sample from the full dataset. The Public-Use data contains one-half of the core sample and one-half of the oversampled African American adolescents with a parent who has a college degree. The use of this dataset results in two limitations. One involves the limited sample size. Although there were over 4800 participants in the sample that is used in the present study, a lot of conclusions drawn from the sample still need to be taken with a substantial amount of caution due to the low numbers of respondents in the subgroups defined by a large number of independent variables. The differences observed from insufficient numbers of participants limit our ability to find statistically significant effects and potentially bias the results.

Another sample-selection-related limitation is that the data contains oversampled Black youths with well-educated parents, which could have affected the results in the current study. The present study found that Black youths in the sample were no more likely than Whites to be engaged in all deviance measures, except for violent delinquency. Black youths even showed significantly less involvement in substance use than their White counterparts. It is possible that more youths from overrepresented middle-class Black families obscure some differences between races.

Finally, this dissertation appears to have two methodological limitations. One is that the regression models used in the current study make it impossible to consider family structure and parenting separately from each other due to the high intercorrelations. Using other analytic models or other statistical tools rather than SPSS may have been feasible. Also, it may be possible to identify other variables that account for the differences between family structure types that facilitate certain parenting practices. The second methodological limitation involves the lack of peer-influence variables in the analytic models. The present study focuses on the impact of family-related factors on adolescents' behavioral development, but external factors, such as peer pressure, peer attitudes and peer acts, and neighborhood characteristics, are also likely to play an important role and greatly impact behaviors of respondents from similar family backgrounds. The current study models may have yielded a more robust set of conclusions if these additional variables could have been taken into account.

Despite these limitations, this dissertation lays the foundation for future research. Future studies can overcome these limitations to further investigate the issues this dissertation focuses on. Also, as listed below, there are a few concerns and questions that remain unanswered and later studies may want to seek answers to these.

A national sample of middle and high school students were surveyed in the Add Health project, which left out those who have dropped out of school from the analyses. The fact is that school dropouts are more likely to be delinquents from poor and disordered neighborhoods. Thus, future research may want to focus on community-based samples as a supplement to school-based studies when studying delinquency and crime. Also, I understand that these problematic youths are a hard-to-reach population. In-depth qualitative studies with fewer study participants may also be a valuable method to explore the causes of crime in these vulnerable populations.

In addition, the Add Health sample participants were first surveyed in 1995 and 1996, when technologies like portable devices and high-speed internet were not prevalent. It cannot be denied that technological progress and high-tech products have qualitatively changed the lives of contemporary people – whether it is a parent or a child. Technology and internet have made people's communication methods diverse and relatively hidden. In many cases, one can communicate with people without leaving their home. Parents can know where the child is without asking or being physically present, by using home security devices. Although Add



Health data provides fruitful longitudinal information about adolescent development over the years from adolescence to adulthood, the conclusions reached may not be applicable to the contemporary young people. Many of Add Health survey questions seem to be not adequate to measure certain behaviors, such as cybercrime, in today's society. Future research should consider the impact of technology and network information on youths in the current society.

Besides the broader concerns listed above, there are two questions that remain unanswered in the current study. The first question is how to differentiate proactive and reactive involvement of parents in their children's lives. Alternatively, the question may be: How to best measure the direct parental supervision? The current study uses self-reported parental involvement, parent's physical presence at home, and youth autonomy to measure the levels of direct parental supervision. Parental involvement in child's daily activities is found to be unexpectedly positively correlated to youth deviance, such as substance use. But parent's physical presence and regulation of youth's decision making appeared to prevent other antisocial behaviors. Due to these seemingly contradictory results, we have to suspect that these three aspects do not all measure the same thing. Again, with the rapid advancement of technology, more ways of direct parental supervision are likely to emerge. Future research needs to consider the impact of these factors.

Finally, due to the low numbers of immigrants and Asians in the Add Health sample, it is still unclear why the first- and second-generation youths, especially Asian immigrants, are less

likely to engage in delinquency, substance use, and crime. The present study discovers that Asian parents' educational level has a bi-polar distribution. There were 12% of Asian mothers who have an 8<sup>th</sup> grade degree or lower education compared to 1.4% of non-Hispanic White and 1.7% of non-Hispanic Black mothers. Over 52% of Asian mothers have college education or beyond compared to 31% of non-Hispanic White and 37% of non-Hispanic Black mothers. However, among first-generation youths, those who lived in an English-speaking home reported greater involvement in deviant activities than those from non-English speaking families did (refer to Table 75). These seemingly contradictory findings have made the problem more complicated. In order to provide a clearer picture of strengths of Asian youths and other immigrant families, further studies may want to take a closer look at these populations.

### **A Final Remark**

The primary goal of this dissertation is to contribute to and to bridge the gaps in previous literature on how family structure stability and parenting shape adolescents' developmental outcomes including delinquency, substance use, and formal contacts with police using a longitudinal approach. The present study starts with the assumption that parental control and stable intact family structure that both facilitate strong social control are crucial to adolescent delinquency and crime in young adulthood (Nye, 1958; Hirschi, 1969). Findings of the present study are consistent with control theories' predictions and many earlier studies that show the protective effects of stable family, intact family structure, and effective parental control on

deviant behaviors. In line with most studies of immigrant populations, this dissertation does not find support for social control theories when testing deviant behaviors among immigrant generational groups. Although first-generation youths tend to report lower parental warmth and lower SES, they were less likely to engage in delinquency and less likely to report substance use than the youths of later generations.

Besides contributing to the theoretical framework, the results of the current study also provide some enlightening findings. This dissertation indicates that family structure, family stability, and parenting are all important in youth behavioral development. Non-intact family forms and family transitions are associated with worse outcomes of youth's development. Compared to family formation, family dissolution seems to have a lighter impact on youths, which is rather unexpected. High parental warmth consistently protects youths from unwanted behaviors over time, while extreme high levels of direct parental control may lead to a "backfiring" effect that relates to more later deviant activities when parental supervision is no longer holding the youth back. Finally, reciprocal relationships between parenting and adolescent delinquency do exist, but not always for all deviant measures (see Figure 1). Parenting appears to have a more consistent impact on regulating children's behavior than children's behavior on parenting. Perhaps, having a child to live a life of purpose and meaning, the parent may just want to listen, to show love, to fill the child's basic needs, to pay attention to who their child is, and

not to impose who the parent wish they were. Once the child has a healthy self-awareness, such as kindness, empathy, gratitude, and manners, he/she would do what they should be doing.

Taken together, this dissertation extends our knowledge about the relationships between family-related factors and youth's deviant behaviors, but it leaves considerable room for conceptual and methodological advancement. More importantly, this dissertation emphasizes the importance of families as the basic building block that plays a crucial role in society, while children are the future of a nation. Families are the units that should be relied upon, protected, and nurtured. Any policy under consideration should not overlook its potential impact on families.

## REFERENCES

- Adalist-Estrin, A. (2014). Children and Families of the Incarcerated Fact Sheet. *National Resource Center on Children and Families of the Incarcerated*, Rutgers University. Retrieved from <https://nrccfi.camden.rutgers.edu/files/nrccfi-fact-sheet-2014.pdf>
- Adelman, R., Reid, L. W., Markle, G., Weiss, S., & Jaret, C. (2017). Urban Crime Rates and the Changing Face of Immigration: Evidence Across Four Decades. *Journal of Ethnicity in Criminal Justice*, 15(1), 52-77.
- Adelman, R., Kubrin, C., Ousey, G., & Reid, L. (2018). New Directions in Research on Immigration, Crime, Law, and Justice. *Migration Letters*, 15(2), 139-146.
- Agnew, R. (2001). *Juvenile delinquency: Causes and control*. Los Angeles, CA: Roxbury Publishing Company.
- Agnew, R. (2006). Why Is “Bad” Parenting Criminogenic? Implications from Rival Theories. *Youth Violence and Juvenile Justice*, 4(1), 3-33.
- Akers, R. L. & Sellers, C. S. (2013). *Criminological Theories: Introduction, Evaluation, and Application*. Six Ed. New York and Oxford: Oxford University Press.
- Amey, C. H., & Albrecht, S. L. (1998). Race and Ethnic Differences in Adolescent Drug Use: The Impact of Family Structure and The Quantity and Quality of Parental Interaction. *Journal of Drug Issues*, 28(2), 283-298.
- Apel, R., & Kaukinen, C. (2008). On the Relationship Between Family Structure and Antisocial Behavior: Parental Cohabitation and Blended Households. *Criminology*, 46(1), 35-70.
- Attar-Schwartz, S., & Khoury-Kassabri, M. (2016). The Moderating Role of Cultural Affiliation in the Link between Emotional Closeness to Grandparents and Adolescent Adjustment Difficulties and Prosocial Behavior. *American Journal of Orthopsychiatry*, 86(5), 564–572.
- Baldry, A. C., & Farrington, D. P. (1998). Parenting Influences on Bullying and Victimization. *Legal and Criminological Psychology*, 3(2), 237-254.
- Barfield-Cottledge, T. (2015). The Triangulation Effects of Family Structure and Attachment on Adolescent Substance Use. *Crime and Delinquency*, 61(2), 297.
- Barnes, G. M., Hoffman, J. H., Welte, J. W., Farrell, M. P., & Dintcheff, B. A. (2006). Effects of Parental Monitoring and Peer Deviance on Substance Use and Delinquency. *Journal of Marriage and Family*, 68(4), 1084–1104.
- Barrett, A. E., & Turner, R. J. (2006). Family Structure and Substance Use Problems in Adolescence and Early Adulthood: Examining Explanations for The Relationship. *Addiction*, 101(1), 109-120.

- Bastian, J. (2017). Unintended Consequences? More Marriage, More Children, and the EITC. Proceedings. *Annual Conference on Taxation and Minutes of the Annual Meeting of the National Tax Association*, 110, 1-56. Retrieved from <https://www.jstor.org/stable/26794405>
- Baumrind, D. (1968). Authoritarian vs. Authoritative Parental Control. *Adolescence*, 3(11), 255-272. Retrieved from <http://persweb.wabash.edu/facstaff/hortonr/articles%20for%20class/baumrind.pdf>
- Baumrind, D. (1971). Current Patterns of Parental Authority. *Developmental Psychology*, 4(1), 1-103.
- Bazyler, A. (2013). Race, Social Disorganization and Delinquency. East Tennessee State University. Electronic Theses and Dissertations, Paper 2283. Retrieved from <http://dc.etsu.edu/etd/2283>
- Bellair, P. E., McNulty, T. L., Roscigno, V. J., & Lei, M. K. (2021). Childhood Material Hardship and Externalizing Behavior. *Justice Quarterly*, 38(3), 454-478.
- Benson, M. J., Buehler, C., & Gerard, J. M. (2008). Interparental Hostility and Early Adolescent Problem Behavior: Spillover via Maternal Acceptance, Harshness, Inconsistency, and Intrusiveness. *Journal of Early Adolescence*, 28(3), 428-454.
- Berger, L. M., & Carlson, M. J. (2020). Family Policy and Complex Contemporary Families: A Decade in Review and Implications for the Next Decade of Research and Policy Practice. *Journal of Marriage and Family*, 82(1), 478-507.
- Bernard, T. J., Snipes, J. B., & Gerould, A. L. (2010). *Vold's theoretical criminology, sixth edition*. New York, NY: Oxford University Press.
- Bersani, B. E. (2014). An Examination of First and Second Generation Immigrant Offending Trajectories. *Justice Quarterly: JQ*, 31(2), 315-343.
- Boshier, H. P. (2011). Parenting and Crime: An Evidence-based Review with Implications for the New Zealand Family and Youth Court. *Family Court Review*, 49(1), 8-15.
- Braithwaite, J. (1981). The myth of social class and criminality reconsidered. *American Sociological Review*, 46(1), 36-57.
- Bramlett, M. D., & Mosher, W. D. (2002). Cohabitation, Marriage, Divorce, and Remarriage in the United States. *Vital health statistics*, 23(22), 1-32.
- Brauer, J. R., & De Coster, S. (2015). Social Relationships and Delinquency: Revisiting Parent and Peer Influence During Adolescence. *Youth & Society*, 47(3), 374-394.
- Brown, S. L. (2004). Family Structure and Child Well-Being: The Significance of Parental Cohabitation. *Journal of Marriage & Family*, 66(2), 351-367.
- Bui, H. N. (2009). Parent-Child Conflicts, School Troubles, and Differences in Delinquency across Immigration Generations. *Crime & Delinquency*, 55(3), 412-441.

- Bui, H. N., & Thongniramol, O. (2005). Immigration and self-reported delinquency: The interplay of immigration generations, gender, race, and ethnicity. *Journal of Crime and Justice*, 28(2), 71-99.
- Burton, D. L. (2000). Were Adolescent Sexual Offenders Children with Sexual Behavior Problems? *Sexual Abuse: A Journal of Research and Treatment*, 12(1), 37-48.
- Carson, E. A. (2018). Prisoners in 2016. U.S. Department of Justice, Bureau of Justice Statistics. Retrieved from <https://www.bjs.gov/content/pub/pdf/p16.pdf>
- Carson, E. A. (2020). Prisoners in 2019. U.S. Department of Justice, Bureau of Justice Statistics. Retrieved from <https://www.bjs.gov/content/pub/pdf/p19.pdf>
- Cavanagh, S. E., & Huston, A. C. (2008). The Timing of Family Instability and Children's Social Development. *Journal of Marriage and Family*, 70(5), 1258-1270.
- Centers for Disease Control and Prevention (CDC, 2017). *National Marriage and Divorce Rate Trends*. National Center for Health Statistics. Retrieved from [https://www.cdc.gov/nchs/nvss/marriage\\_divorce\\_tables.htm](https://www.cdc.gov/nchs/nvss/marriage_divorce_tables.htm)
- Centers for Disease Control and Prevention (CDC, 2019). *Reproductive Health: Teen Pregnancy*. Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion. Retrieved from <https://www.cdc.gov/teenpregnancy/about/index.htm>
- Chao, R. K. (2001). Extending Research on The Consequences of Parenting Style for Chinese American and European American. *Child Development*, 72(6), 1832-1843.
- Cherlin, A. J. (2003). Should the government promote marriage?. *Contexts*, 2(4), 22-29.
- Cheung, H., Feng, Z., & Deng, B. (2020, May 27). Coronavirus: What attacks on Asians reveal about American identity. *BBC News*. Retrieved from <https://www.bbc.com/news/world-us-canada-52714804>
- Cobb-Clark, D., & Tekin, E. (2014). Fathers and Youths' Delinquent Behavior. *Review of Economics of the Household*, 12(2), 327-358.
- Cooper, C. E., McLanahan, S. S., Meadows, S. O., & Brooks-Gunn, J. (2009). Family Structure Transitions and Maternal Parenting Stress. *Journal of Marriage and Family*, 71(3), 558-574.
- Cundiff, P. R. (2013). Ordered Delinquency The "Effects" of Birth Order on Delinquency. *Personality and social psychology bulletin*, 39(8), 1017-1029.
- Darling, N., & Steinberg, L. (1993). Parenting Style as Context: An Integrative Model. *Psychological Bulletin*, 113, 187-496.
- Demuth, S., & Brown, S.L. (2004). Family Structure, Family Processes, and Adolescent Delinquency: The Significance of Parental Absence Versus Parental Gender. *Journal of Research in Crime and Delinquency*, 41(1), 58-81.

- Dunifon, R., & Kowaleski-Jones, L. (2002). Who's in The House? Race Differences in Cohabitation, Single Parenthood, and Child Development. *Child Development*, 73(4), 1249-1264.
- Eitle, D. (2006). Parental Gender, Single-parent Families, and Delinquency: Exploring the Moderating Influence of Race/Ethnicity. *Social Science Research*, 35(3), 727-748.
- Farrington, D. P. (2010). *Family Influences on Delinquency*. In D. W. Springer, & A. R. Roberts (Eds.), *Juvenile Justice and Delinquency* (pp. 203–222). Mass, Jones and Bartlett: Sudbury.
- Farrington, D. P., Barnes, G. C., & Lambert, S. (1996). The concentration of offending in families. *Legal and Criminological Psychology*, 1(1), 47–63.
- Farrington, D. P., Jolliffe, D., Loeber, R., Stouthamer-Loeber, M., Larry, M. K. (2001). The Concentration of Offenders in Families, and Family Criminality in the Prediction of Boys' Delinquency. *Journal of Adolescence*, 24(5), 579–596.
- Federal Bureau of Investigation. (2021). *Hate Crime Statistics, 2000-2019*. Uniform Crime Report. Retrieved from <https://www.fbi.gov/services/cjis/ucr/publications#Hate-Crime%20Statistics>
- Federal Bureau of Prisons. (2021). *Inmate Statistics: Race & Ethnicity*. Retrieved from [https://www.bop.gov/about/statistics/statistics\\_inmate\\_race.jsp](https://www.bop.gov/about/statistics/statistics_inmate_race.jsp)
- Feldmeyer, B., & Cui, W. (2015). Assessing the sources of Asian versus non-Asian disparities in delinquency. *Journal of Ethnicity in Criminal Justice*, 13(1), 30-58.
- Fisher, J. M. (2005). Marriage promotion policies and the working poor: A match made in heaven. *Boston College Third World Law Journal*, 25(2), 475-497. Retrieved from <https://lawdigitalcommons.bc.edu/cgi/viewcontent.cgi?article=1102&context=twlj>
- Flouri, E., Buchanan, A., Tan, J. P., Griggs, J., & Attar-Schwartz, S. (2010). Adverse Life Events, Area Socio-economic Disadvantage, and Adolescent Psychopathology: The Role of Closeness to Grandparents in Moderating the Effect of Contextual Stress. *Stress: The International Journal on the Biology of Stress*, 13(5), 402–412.
- Fomby, P., & Sennott, C. A. (2013). Family Structure Instability and Mobility: The Consequences for Adolescents' Problem Behavior. *Social Science Research*, 42(1), 186-201.
- Frisell, T., Lichtenstein, P., & Långström, N. (2011). Violent crime runs in families: a total population study of 12.5 million individuals. *Psychological medicine*, 41(1), 97-105.
- Furstenberg, F. F. (2014). Fifty years of family change: From consensus to complexity. *The Annals of the American Academy of Political and Social Science*, 654(1), 12–30.
- Gaj, E. B., Sanders, J. N., & Singer, P. M. (2021). State legislation related to abortion services, January 2017 to November 2020. *JAMA Internal Medicine*, 181(5), 711-713.



- Gallup Polls. (2017). Immigration. *Gallup Polls*. Retrieved from <https://news.gallup.com/poll/1660/immigration.aspx>
- Gault-Sherman, M. (2012). It's a Two-Way Street: The Bidirectional Relationship Between Parenting and Delinquency. *Journal of Youth Adolescence*, 41(2), 121-145.
- Gibson-Davis, C. M., & Gassman-Pines, A. (2010). Early Childhood Family Structure and Mother-Child Interactions: Variation by Race and Ethnicity. *Developmental Psychology*, 46(1), 151-164.
- Glaze, L. E., & Maruschak, L. M. (2008). Parents in Prison and Their Minor Children. *Bureau of Justice Statistics, Special Report*. Retrieved from <https://www.bjs.gov/content/pub/pdf/pptmc.pdf>
- Gordon, R. A. (1968). Issues in multiple regression. *American Journal of Sociology*, 73(5), 592-616.
- Gottfredson, M., & Hirschi, T. (1987). The Methodological Adequacy of Longitudinal Research on Crime. *Criminology*, 25 (3), 581-614.
- Gottfredson, M. R., & Hirschi, T. (1990). *A General Theory of Crime*. Stanford University Press.
- Griggs, J., Tan, J.-P., Buchanan, A., Attar-Schwartz, S., & Flouri, E. (2010). 'They've Always Been There for Me': Grandparental Involvement and Child Well-Being. *Children & Society*, 24(3), 200–214.
- Haapasalo, J. (2001). How Do Young Offenders Describe Their Parents? *Legal and Criminological Psychology*, 6(1), 103-120.
- Haas, H., Farrington, D. P., Killias, M., & Sattar, G. (2004). The Impact of Different Family Configurations on Delinquency. *British Journal of Criminology*, 44(4), 520-532.
- Halgunseth, L. C., Perkins, D. F., Lippold, M. A., & Nix, R. L. (2013). Delinquent-Oriented Attitudes Mediate the Relation Between Parental Inconsistent Discipline and Early Adolescent Behavior. *Journal of Family Psychology*, 27(2), 293-302.
- Hamilton, B. E., Martin, J. A., Osterman, M. J.K., & Rossen, L. M. (2019, May). *Births: Provisional Data for 2018*. NVSS: Vital Statistics Rapid Release. National Center for Health Statistics. Retrieved from <https://www.cdc.gov/nchs/data/vsrr/vsrr-007-508.pdf>
- Harris-McKoy, D. (2016). Adolescent Delinquency: Is Too Much or Too Little Parental Control a Problem?. *Journal of Child and Family Studies*, 25(7), 2079-2088.
- Harris, K. M. (2013). *The Add Health Study: Design and Accomplishments*. Carolina Population Center, University of North Carolina at Chapel Hill [WWW document]. Retrieved from [https://addhealth.cpc.unc.edu/wp-content/uploads/docs/user\\_guides/DesignPaperWave\\_I-IV.pdf](https://addhealth.cpc.unc.edu/wp-content/uploads/docs/user_guides/DesignPaperWave_I-IV.pdf)
- Harris, K. M., Halpern, C. T., Whitsel, E. A., Hussey, J. M., Killeya-Jones, L. A., Tabor, J., & Dean, S. C. (2019). Cohort profile: The national longitudinal study of adolescent to adult health (Add health). *International Journal of Epidemiology*, 48(5), 1415-1415k.

- Harris, K. M., Halpern, C., Whitsel, E., Hussey, J., Tabor, J., Entzel, P., & Udry, J. R. (2009). *The National Longitudinal Study of Adolescent to Adult Health: Research Design*. [WWW document]. Retrieved from <http://www.cpc.unc.edu/projects/addhealth/design>
- Haynie, D. L., & Osgood, D. W. (2005). Reconsidering Peers and Delinquency: How Do Peers Matter?. *Social Forces*, 84(2), 1109-1130.
- Heinrichs, N., Bertram, H., Kuschel, A., & Hahlweg, K. (2005). Parent Recruitment and Retention in a Universal Prevention Program for Child Behavior and Emotional Problems: Barriers to Research and Program Participation. *Prevention Science*, 6(4), 275-286.
- Heinrichs, N. (2006). The Effects of Two Different Incentives on Recruitment Rates of Families into a Prevention Program. *Journal of Primary Prevention*, 27(4), 345-365.
- Henneberger, A. K., Tolan, P. H., Hipwell, A. E., & Keenan, K. (2014). Delinquency in Adolescent Girls: Using A Confluence Approach to Understand the Influences of Parents and Peers. *Criminal justice and behavior*, 41(11), 1327-1337.
- Henry, B., Caspi, A., Moffitt, T. E., & Silva, P. A. (1996). Temperamental and Familial Predictors of Violent and Nonviolent Criminal Convictions: Age 3 to Age 18. *Developmental Psychology*, 32(4), 614-623.
- Hindelang, M. J. (1973). Causes of delinquency: A Partial Replication and Extension. *Social problems*, 20(4), 471-487.
- Hirschi, T. (1969, 2001). *Causes of Delinquency*. Berkeley, CA: University of California Press.
- Hjalmarsson, R., & Lindquist, M. J. (2013). The origins of intergenerational associations in crime: lessons from Swedish adoption data. *Labour Economics*, 20, 68-81.
- Ho, C., Bluestein, D. N., & Jenkins, J. M. (2008). Cultural Differences in The Relationship Between Parenting and Children's Behavior. *Developmental Psychology*, 44(2), 507-522.
- Hoeve, M., Blokland, A., Dubas, J. S., Loeber, R., Gerris, J. R. M., & van der Laan, P. H. (2008). Trajectories of Delinquency and Parenting Styles. *Journal of Abnormal Child Psychology*, 36(2), 223-235.
- Hoeve, M., Smeenk, W., Loeber, R., Stouthamer-Loeber, M., van der Laan, P. H., Gerris, J. R., & Dubas, J. S. (2007). Long-Term Effects of Parenting and Family Characteristics on Delinquency of Male Young Adults. *European Journal of Criminology*, 4(2), 161-194.
- Hoeve, M., Dubas, J. S., Eichelsheim, V. I., Van Der Laan, P. H., Smeenk, W., & Gerris, J. R. (2009). The Relationship Between Parenting and Delinquency: A Meta-analysis. *Journal of Abnormal Child Psychology*, 37(6), 749-775.
- Hoeve, M., Stams, G. J. J., van der Put, C. E., Dubas, J. S., van der Laan, P. H., & Gerris, J. R. (2012). A Meta-Analysis of Attachment to Parents and Delinquency. *Journal of Abnormal Child Psychology*, 40(5), 771-785.

- Huh, D., Tristan, J., Wade, E., & Stice, E. (2006). Does Problem Behavior Elicit Poor Parenting? A Prospective Study of Adolescent Girls. *Journal of Adolescent Research*, 21(2), 185-204.
- Hummer, R. A., & Hamilton, E. R. (2010). Race and Ethnicity in Fragile Families. *The Future of Children*, 20(2), 113-131.
- Ingoldsby, E. M., Shaw, D. S., Winslow, E., Schonberg, M., Gilliom, M., & Criss, M. M. (2006). Neighborhood Disadvantage, Parent-Child Conflict, Neighborhood Peer Relationships, and Early Antisocial Behavior Problem Trajectories. *Journal of abnormal child psychology*, 34(3), 303-319.
- Jeung, R., Yellow Horse, A. J., & Cayan, C. (2021). *Stop AAPI Hate national Report*. Stop AAPI Hate. Retrieved from <https://stopaapihate.org/wp-content/uploads/2021/05/Stop-AAPI-Hate-Report-National-210506.pdf>
- Jiang, X., & Peguero, A. A. (2017). Immigrant Generations and Delinquency: Assessing the Relative Effects of Family, School, and Delinquent Friends. *Race and Justice*, 7(3), 199-225.
- Jo, Y., & Zhang, Y. (2014). Parenting, Self-Control, and Delinquency Examining the Applicability of Gottfredson and Hirschi's General Theory of Crime to South Korean Youth. *International Journal of Offender Therapy and Comparative Criminology*, 58(11), 1340-1363.
- Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2017). Demographic Subgroup Trends among Adolescents in the Use of Various Licit and Illicit Drugs, 1975-2016. *Monitoring the Future Occasional Paper Series*. Institute for Social Research. Retrieved from <https://files.eric.ed.gov/fulltext/ED578738.pdf>
- Jones, D. C. (1992). Parental Divorce, Family Conflict and Friendship Networks. *Journal of Social and Personal Relationships*, 9(2), 219-235.
- Juby, H., & Farrington, D. P. (2001). Disentangling the Link between Disrupted Families and Delinquency: Sociodemography, Ethnicity and Risk Behaviours. *British Journal of Criminology*, 41(1), 22-40.
- Kann, L., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Queen, B., Lowry, R., Chyen, D., Whittle, L., Thornton, J., Lim, C., Bradford, D., Yamakawa, Y., Leon, M., Brener, N., Ethier, K. A. (2018). Youth Risk Behavior Surveillance – United States, 2017. *MMWR Surveillance Summaries*, 67(8), 1–114. Retrieved from <https://www.cdc.gov/mmwr/volumes/67/ss/ss6708a1.htm>
- Keijsers, L., Branje, S. J. T., VanderValk, I. E., & Meeus, W. (2010). Reciprocal Effects Between Parental Solicitation, Parental Control, Adolescent Disclosure, and Adolescent Delinquency. *Journal of Research on Adolescence*, 20(1), 88-113.

- Kerr, M., Stattin, H., & Özdemir, M. (2012). Perceived Parenting Style and Adolescent Adjustment: Revisiting Directions of Effects and the Role of Parental Knowledge. *Developmental psychology*, 48(6), 1540.
- Kierkus, C. A., & Baer, D. (2002). A Social Control Explanation of the Relationship Between Family Structure and Delinquent Behaviour. *Canadian Journal of Criminology*, 44(4), 425-458.
- Klevens, J., & Hall, J. (2014). The Importance of Parental Warmth, Support, and Control in Preventing Adolescent Misbehavior. *Journal of Child and Adolescent Behavior*, 2(1), 121.
- Kubrin, C. E., Stucky, T. D., & Krohn, M. D. (2009). *Researching Theories of Crime and Deviance*. New York, NY: Oxford University Press.
- Krohn, M. D., Hall, G. P., & Lizotte, A. J. (2009). Family Transitions and Later Delinquency and Drug Use. *Journal of Youth and Adolescence*, 38(3), 466-480.
- Lareau, A. (2002). Invisible Inequality: Social Class and Childrearing in Black Families and White Families. *American Sociological Review*, 67(5), 747-776.
- Larzelere, R. E., & Patterson, G. R. (1990). Parental management: Mediator of the effect of socioeconomic status on early delinquency. *Criminology*, 28(2), 301-324.
- Le, T. N., & Stockdale, G. D. (2011). Influence of Generational Status on Developmental Trajectories of Delinquency for Asian, African American, Hispanic, and White youth. *Asian American Journal of Psychology*, 2(4), 306-315.
- Leiber, M. J., Mack, K. Y., & Featherstone, R. A. (2008). Family Structure, Family Processes, Economic factors, and Delinquency: Similarities and Differences by Race and Ethnicity. *Youth Violence and Juvenile Justice*, 7(2), 79-99.
- Lewis, J. M., & Kreider, R. M. (2015). Remarriage in the United States. *American Community Survey Reports*, U.S. Department of Commerce. Retrieved from <https://census.gov/content/dam/Census/library/publications/2015/acs/acs-30.pdf>
- Light, M. T., He, J., & Robey, J. P. (2020). Comparing crime rates between undocumented immigrants, legal immigrants, and native-born US citizens in Texas. *Proceedings of the National Academy of Sciences*, 117(51), 32340-32347.
- Lipari, R., Palen, L., Ashley, O. S., Penne, M., Kan, M., & Pemberton, M. (2017). Examination of Veteran Fathers' Parenting and Their Adolescent Children's Substance Use in the United States. *Substance Use & Misuse*, 52(6), 698-708.
- Lombroso, C. (1876). *Criminal Man*. Translated by Mary Gibson and Nicole Hahn Rafter. 2006. Durham, NC: Duke University Press.
- MacDonald, J. M., Hipp, J. R., & Gill, C. (2013). The Effects of Immigrant Concentration on Changes in Neighborhood Crime Rates. *Journal of Quantitative Criminology*, 29(2), 191-215.

- MacDonald, J. M., & Saunders, J. (2012). Are Immigrant Youth Less Violent? Specifying the Reasons and Mechanisms. *Annals of the American Academy of Political and Social Science*, 641(1), 125-147.
- Mack, K. Y., Leiber, M. J., Featherstone, R. A., & Monserud, M. A. (2007). Reassessing the Family-Delinquency Association: Do Family Type, Family Processes, and Economic Factors Make A Difference?. *Journal of Criminal Justice*, 35(1), 51-67.
- Manning, W. D., & Bulanda, R. E. (2007). Cohabitation and Measurement of Family Trajectories. *Handbook of Measurement Issues in Family Research*, 199-219. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.523.9943&rep=rep1&type=pdf>
- Manning, W. D., & Lamb, K. A. (2003). Adolescent Well-being in Cohabiting, Married, and Single-parent Families. *Journal of Marriage and Family*, 65(4), 876-893.
- Matsueda, R. L., & Heimer, K. (1987). Race, Family Structure, and Delinquency: A Test of Differential Association and Social Control Theories. *American Sociological Review*, 52(6), 826-840.
- Martinez, R. & Valenzuela, A. (2006). *Immigration and Crime: Race, Ethnicity, and Violence*. New York, NY, USA: NYU Press.
- Meldrum, R. C. (2008). Beyond Parenting: An Examination of the Etiology of Self-Control. *Journal of Criminal Justice*, 36(3), 244-251.
- Menting, B., Van Lier, P. A., Koot, H. M., Pardini, D., & Loeber, R. (2016). Cognitive Impulsivity and the Development of Delinquency from Late Childhood to Early Adulthood: Moderating Effects of Parenting Behavior and Peer Relationships. *Development and psychopathology*, 28(1), 167-183.
- McGloin, J. M., & O'Neill Shermer, L. (2009). Self-control and Deviant Peer Network Structure. *Journal of Research in Crime and Delinquency*, 46(1), 35-72.
- McKee, J. R. (2012). The Moderation Effects of Family Structure and Low Self-Control. *American Journal of Criminal Justice*, 37(3), 356-377.
- Mclaughlin, M., Pettus-Davis, C., Brown, D., Veeh, C., & Renn, T. (2016). The Economic Burden of Incarceration in the U.S. *Concordance Institute for Advancing Social Justice*, Washington University in St. Louis. Working Paper #CI072016. Retrieved from <https://joinnia.com/wp-content/uploads/2017/02/The-Economic-Burden-of-Incarceration-in-the-US-2016.pdf>
- Mitchell, C., McLanahan, S., Notterman, D., Hobcraft, J., Brooks-Gunn, J., & Garfinkel, I. (2015). Family Structure Instability, Genetic Sensitivity, and Child Well-Being. *American Journal of Sociology*, 120(4), 1195-1225.
- Moffitt, T. E. (1993). The Neuropsychology of Conduct Disorder. *Development and Psychopathology*, 5(1-2), 135-151.

- Moffitt, T. E. (2005). The new look of behavioral genetics in developmental psychopathology: Gene-environment interplay in antisocial behaviors. *Psychological Bulletin*, 131(4), 533-554.
- Moffitt, T. E., Caspi, A., Harrington, H., & Milne, B. J. (2002). Males on The Life-Course-Persistent and Adolescence-Limited Antisocial Pathways: Follow-up at age 26 years. *Development and psychopathology*, 14(1), 179-207.
- Moitra, T., & Mukherjee, I. (2010). Does Parenting Behaviour Impacts Delinquency? A Comparative Study of Delinquents and Non-delinquents. *International Journal of Criminal Justice Sciences*, 5(2), 274.
- Moran, P., & Ghate, D. (2005). The Effectiveness of Parenting Support. *Children & Society*, 19(4), 329-336.
- Morgan, R. E., & Kena, G. (2017). *Criminal Victimization, 2016*. Bureau of Justice Statistics, U.S. Department of Justice, NCJ 252121. Retrieved from <https://www.bjs.gov/content/pub/pdf/cv16.pdf>
- Morgan, R. E., & Truman, J. L. (2018). *Criminal Victimization, 2017*. Bureau of Justice Statistics, NCJ 252472. Retrieved from <https://www.bjs.gov/content/pub/pdf/cv17.pdf>
- Mrug, S., & Windle, M. (2009). Moderators of Negative Peer Influence on Early Adolescent Externalizing Behaviors: Individual Behavior, Parenting, and School Connectedness. *The Journal of Early Adolescence*, 29(4), 518-540.
- Nash, E. (2020, December 30). *State Abortion Policy Landscape: From Hostile to Supportive*. Guttmacher Institute. Retrieved from <https://www.guttmacher.org/article/2019/08/state-abortion-policy-landscape-hostile-supportive>
- National Women's Law Center (2016, February). *Reproductive Health Is Part of the Economic Health of Women and Their Families*. National Women's law Center, Fact sheet. Retrieved from <https://nwlc.org/wp-content/uploads/2017/02/Reproductive-Health-is-Part-of-the-Economic-Health-of-Women-2.19.166.pdf>
- Nguyen, H., & Reuter, P. (2012). How Risky is Marijuana Possession? Considering the Role of Age, Race, and Gender. *Crime & Delinquency*, 58(6), 879-910.
- Nilsson, E. L. (2017). Analyzing Gender Differences in the Relationship between Family Influences and Adolescent Offending among Boys and Girls. *Child indicators research*, 10(4), 1079-1094.
- Nye, F. I. (1958). *Family Relationships and Delinquent Behavior*. New York: John Wiley and Sons.
- Office of Juvenile Justice and Delinquency Prevention. (OJJDP, 2014). *Statistical Briefing Book*. Retrieved from <https://www.ojjdp.gov/ojstatbb/crime/qa05308.asp?qaDate=2012>



- Office of Juvenile Justice and Delinquency Prevention. (OJJDP, 2017a). *Statistical Briefing Book*. Retrieved from <https://www.ojjdp.gov/ojstatbb/offenders/qa03202.asp?qaDate=2015>
- Office of Juvenile Justice and Delinquency Prevention. (OJJDP, 2017b). *Statistical Briefing Book*. Retrieved from [http://www.ojjdp.gov/ojstatbb/crime/JAR\\_Display.asp?ID=qa05200](http://www.ojjdp.gov/ojstatbb/crime/JAR_Display.asp?ID=qa05200)
- Office of Juvenile Justice and Delinquency Prevention. (OJJDP, 2017c). *Statistical Briefing Book*. Retrieved from <https://www.ojjdp.gov/ojstatbb/crime/qa05101.asp?qaDate=2015>
- Office of Juvenile Justice and Delinquency Prevention. (OJJDP, 2018). *Statistical Briefing Book*. Retrieved from <https://www.ojjdp.gov/ojstatbb/court/qa06201.asp?qaDate=2015>
- Ousey, G C., & Kubrin, C. E. (2009). Exploring the Connection between Immigration and Violent Crime Rates in U.S. Cities, 1980–2000. *Social Problems*, 56(3), 447-473.
- Palmer, E. J., & Gough, K. (2007). Childhood Experiences of Parenting and Causal Attributions for Criminal Behavior Among Young Offenders and Non-Offenders. *Journal of Applied Social Psychology*, 37(4), 790-806.
- Palmer, E. J., & Hollin, C. R. (2001). Sociomoral Reasoning, Perceptions of Parenting, and Self-Reported Delinquency in Adolescents. *Applied Cognitive Psychology, Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition*, 15(1), 85-100.
- Pardini, D. A., Loeber, R., & Stouthamer-Loeber, M. (2005). Developmental Shifts in Parent and Peer Influences on Boys' Beliefs about Delinquent Behavior. *Journal of Research on Adolescence*, 15(3), 299-323.
- Pardini, D. A., Waller, R., & Hawes, S. W. (2015). Familial Influences on the Development of Serious Conduct Problems and Delinquency. In *The Development of Criminal and Antisocial Behavior*. Morizot, J. and Kazemian, L. eds., Chapter 13, pp. 201-220. Switzerland: Springer International Publishing.
- Parke, M. (2003). Are Married Parents Really Better for Children? What Research Says About the Effects of Family Structure on Child Well-Being. *CLASP Policy Brief, Couples and Married Series*, 3: 1-8. Retrieved from <https://files.eric.ed.gov/fulltext/ED476114.pdf>
- Parks, A. B. (2013). *The Effects of Family Structure on Juvenile Delinquency*. Electronic Theses and Dissertations, East Tennessee State University. Retrieved from [https://dc.etsu.edu/cgi/viewcontent.cgi?article=3380&context=etd&seir=1&referer=https%253A%252F%252Fscholar.google.com%252Fscholar%253Fhl%253Den%2526as\\_sdt%253D0%25252C7%2526q%253DThe%252BEffects%252Bot%252BFamily%252BStructure%252Bon%252BJuvenile%252BDelinquency%2526btnG%253D#search=%22Effects%20Family%20Structure%20Juvenile%20Delinquency%22](https://dc.etsu.edu/cgi/viewcontent.cgi?article=3380&context=etd&seir=1&referer=https%253A%252F%252Fscholar.google.com%252Fscholar%253Fhl%253Den%2526as_sdt%253D0%25252C7%2526q%253DThe%252BEffects%252Bot%252BFamily%252BStructure%252Bon%252BJuvenile%252BDelinquency%2526btnG%253D#search=%22Effects%20Family%20Structure%20Juvenile%20Delinquency%22)

- Paxton, R. J., Valois, R. F., & Drane, J. W. (2007). Is There a Relationship Between Family Structure and Substance Use Among Public Middle School Students? *Journal of Child and Family Studies*, 16(5), 593-605.
- Peeples, F., & Loeber, R. (1994). Do Individual Factors and Neighborhood Context Explain Ethnic Differences in Juvenile Delinquency?. *Journal of Quantitative Criminology*, 10(2), 141-157.
- Peguro, A. A. (2011). Immigration, Schools, and Violence: Assimilation and Student Misbehavior. *Sociological Spectrum*, 31(6), 695-717.
- Peguro, A. A., Popp, A. M., & Koo, D. J. (2015). Race, ethnicity, and school-based adolescent victimization. *Crime & Delinquency*, 61(3), 323-349.
- Peguro, A. A., Popp, A. M., Latimore, T. L., Shekarkhar, Z., & Koo, D. J. (2011). Social Control Theory and School Misbehavior: Examining the Role of Race and Ethnicity. *Youth violence and juvenile justice*, 9(3), 259-275.
- Peña, L., Lorenzo-Blanco, E. I., Pérez, A., Morello, P., Santillan, E. A., Kollath-Cattano, C., Thrasher, J. F., Sargent, J., & Mejia, R. (2017). Parental Style and Its Association with Substance Use in Argentinean Youth. *Substance Use & Misuse*, 52(4), 518–526.
- Petts, R. J. (2009). Family and Religious Characteristics' Influence on Delinquency Trajectories from Adolescence to Young Adulthood. *American Sociological Review*, 74(3), 465-483.
- Pew Research Center (2020). *U.S. foreign-born population reached 45 million in 2015, projected to reach 78 million by 2065*. Retrieved from [https://www.pewresearch.org/fact-tank/2020/08/20/key-findings-about-u-s-immigrants/ft\\_2020-08-20\\_immigrants\\_05/](https://www.pewresearch.org/fact-tank/2020/08/20/key-findings-about-u-s-immigrants/ft_2020-08-20_immigrants_05/)
- Phillips, T. M. (2012). The Influence of Family Structure Vs. Family Climate on Adolescent Well-Being. *Child and Adolescent Social Work Journal*, 29(2), 103-110.
- Puzzanchera, C., Sladky, A., & Kang, W. (2017). "Easy Access to Juvenile Populations: 1990-2016." Online. Retrieved from <http://www.ojjdp.gov/ojstatbb/ezapop/>
- Public Act No. 16-147. (2016). *Substitute House Bill No. 5642*. Connecticut General Assembly. Retrieved from <https://www.cga.ct.gov/2016/ACT/pa/2016PA-00147-R00HB-05642-PA.htm>
- Public Act No. 17-2. (2018). *An Act Concerning the State Budget for the Biennium Ending June 30, 2019, Making Appropriations Therefor, Authorizing and Adjusting Bonds of the State and Implementing Provisions of the Budget*. Retrieved from <https://www.cga.ct.gov/2017/act/pa/pdf/2017PA-00002-R00SB-01502SS1-PA.pdf>
- Reingold, B., Kreitzer, R. J., Osborn, T., & Swers, M. L. (2021). Anti-abortion Policymaking and Women's Representation. *Political Research Quarterly*, 74(2), 403–420.
- Rekker, R., Pardini, D., Keijsers, L., Branje, S., Loeber, R., & Meeus, W. (2015). Moving in and out of Poverty: The Within- Individual Association between Socioeconomic Status and Juvenile Delinquency. *Plos ONE*, 10(11), 1-17.



- Richards, L., & Schmiede, C. (1993). Problems and Strengths of Single-Parent Families: Implications for Practice and Policy. *Family Relations*, 42(3), 277-285.
- Rodriguez, C. M. (2010). Parent-Child Aggression: Association with Child Abuse Potential and Parenting Styles. *Violence and Victims*, 25(6), 728-741.
- Rossman, B. R., & Rea, J. G. (2005). The Relation of Parenting Styles and Inconsistencies to Adaptive Functioning for Children in Conflictual and Violent Families. *Journal of family violence*, 20(5), 261-277.
- Rothrauff, T. C., Cooney, T. M., & An, S. J. (2009). Remembered Parenting Styles and Adjustment in Middle and Late Adulthood. *Journal of Gerontology: Social Sciences*, 64B(1), 137-146.
- Ryan, J. P., Williams, A. B., & Courtney, M. E. (2013). Adolescent Neglect, Juvenile Delinquency and The Risk of Recidivism. *Journal of Youth and Adolescence*, 42(3), 454-465.
- Salvador, R. (2017). Trump's Claim that Immigrants Bring 'Tremendous Crime' Is Still Wrong. *The Washington Post*. Retrieved from [https://www.washingtonpost.com/news/fact-checker/wp/2018/01/18/trumps-claim-that-immigrants-bring-tremendous-crime-is-still-wrong/?noredirect=on&utm\\_term=.80e0c71f7995](https://www.washingtonpost.com/news/fact-checker/wp/2018/01/18/trumps-claim-that-immigrants-bring-tremendous-crime-is-still-wrong/?noredirect=on&utm_term=.80e0c71f7995)
- Saw, A., Yellow Horse, A. J., & Jeung, R. (2021). *Stop AAPI Hate Mental Health Report*. Stop AAPI Hate. Retrieved from <https://stopaapihate.org/wp-content/uploads/2021/05/Stop-AAPI-Hate-Mental-Health-Report-210527.pdf>
- Schroeder, R. D., Bulanda, R. E., Giordano, P. C., & Cernkovich, S. A. (2010a). Parenting and Adult Criminality: An Examination of Direct and Indirect Effects by Race. *Journal of Adolescent Research*, 25(1), 64-98.
- Schroeder, R. D., Osgood, A. K., & Oghia, M. J. (2010b). Family Transitions and Juvenile Delinquency. *Sociological Inquiry*, 80(4), 579-604.
- Schroeder, R. D., Bulanda, R. E., Giordano, P. C., & Cernkovich, S. A. (2010c). Parenting and Adult Criminality: An Examination of Direct and Indirect Effects by Race. *Journal of Adolescent Research*, 25(1), 64-98.
- Seth, R. (2008). Transform Your Data. *Nutrition*, 24(5), 492-494.
- Shaw, C. R. & McKay, H. (1969). *Juvenile Delinquency and Urban Areas*, rev. ed. Chicago: University of Chicago Press.
- Sheely-Moore, A. I., & Bratton, S. C. (2010). A Strengths-based Parenting Intervention with Low-income African American Families. *Professional School Counseling*, 13(3), 175-183.
- Sickmund, M., & Puzzanchera, C. (eds.). (2014). *Juvenile Offenders and Victims: 2014 National Report*. Pittsburgh, PA: National Center for Juvenile Justice. Retrieved from <https://www.ojjdp.gov/ojstatbb/nr2014/downloads/NR2014.pdf>

- Skolnick, A. S., & Skolnick, J. H. (2014). *Family in Transition, 17<sup>th</sup> Edition*. Pearson Education.
- Spano, R., Rivera, C., & Bolland, J. M. (2011). Does Parenting Shield Youth from Exposure to Violence During Adolescence? A 5-year Longitudinal Test in a High-Poverty Sample of Minority Youth. *Journal of Interpersonal Violence, 26*(5), 930-949.
- Spano, R., Rivera, C., Vazsonyi, A. T., & Bolland, J. M. (2012). Specifying the Interrelationship Between Exposure to Violence and Parental Monitoring for Younger Versus Older Adolescents: A Five Year Longitudinal Test. *American Journal of Community Psychology, 49*(1-2), 127-141.
- Sun, Y., & Li, Y. (2009). Postdivorce Family Stability and Changes in Adolescents' Academic Performance: A Growth-curve Model. *Journal of Family Issues, 30*(11), 1527-1555.
- Sutherland, E. H. (1947). *Principles of Criminology*. 4<sup>th</sup> edition. Philadelphia, PA: J. B. Lippincott.
- Taylor, Z. E., & Conger, R. D. (2017). Promoting strengths and resilience in single-mother families. *Child development, 88*(2), 350-358.
- Tielbeek, J. J., Johansson, A., Polderman, T. J., Rautiainen, M. R., Jansen, P., Taylor, M., ... & Viding, E. (2017). Genome-wide association studies of a broad spectrum of antisocial behavior. *JAMA psychiatry, 74*(12), 1242-1250.
- Trucco, E. M., Colder, C. R., & Wieczorek, W. F. (2011). Vulnerability to Peer Influence: A Moderated Mediation Study of Early Adolescent Alcohol Use Initiation. *Addictive Behaviors, 36*(7), 729-736.
- United Nations. (2019). Population Facts: International migrants numbered 272 million in 2019, continuing an upward trend in all major world regions. Retrieved from [https://www.un.org/en/development/desa/population/migration/publications/populationfacts/docs/MigrationStock2019\\_PopFacts\\_2019-04.pdf](https://www.un.org/en/development/desa/population/migration/publications/populationfacts/docs/MigrationStock2019_PopFacts_2019-04.pdf)
- U.S. Census Bureau. (2010). *Census of Population, 1850 to 2000, and the American Community Survey, 2010*. Retrieved from [https://www.census.gov/newsroom/pdf/cspan\\_fb\\_slides.pdf](https://www.census.gov/newsroom/pdf/cspan_fb_slides.pdf)
- U.S. Census Bureau. (2017). *QuickFacts, Population Estimates, July 1, 2017*. Retrieved from: <https://www.census.gov/quickfacts/fact/table/US/PST045217>
- U.S. Census Bureau. (2018). *U.S. Census Bureau Releases 2018 Families and Living Arrangements Tables*. Retrieved from: <https://www.census.gov/newsroom/press-releases/2018/families.html>
- U.S. Census Bureau. (2019a). *2013-2017 American Community Survey 5-Year Estimates*. American FactFinder. Retrieved from: [https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_17\\_5YR\\_S0501&prodType=table](https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_17_5YR_S0501&prodType=table)
- U.S. Census Bureau. (2019b). *Percent of Children under 18 Who Live with Their Mother Only*. U.S. Census Bureau, Decennial Census 1960, and Current Population Survey, Annual

- Social and Economic Supplements 1968 to 2018. Retrieved from:  
<https://www.census.gov/content/dam/Census/library/visualizations/time-series/demo/families-and-households/ch-2-3-4.pdf>
- U.S. Census Bureau. (2020). *America's Families and Living Arrangements: 2020*. Retrieved from: <https://www.census.gov/data/tables/2020/demo/families/cps-2020.html>
- Van Hook, J., & Glick, J. E. (2007). Immigration and living arrangements: Moving beyond economic need versus acculturation. *Demography*, 44(2), 225-249.
- Vesely, C. K., Bravo, D. Y., & Guzzardo, M. T. (2019). *Immigrant Families Across the Life Course: Policy Impacts on Physical and Mental Health*. Policy Brief. National Council on Family Relations. Retrieved from [https://www.ncfr.org/system/files/2019-07/Immigrant\\_Families\\_Policy\\_Brief\\_July\\_23\\_2019.pdf](https://www.ncfr.org/system/files/2019-07/Immigrant_Families_Policy_Brief_July_23_2019.pdf)
- Walters, G. D. (1992). A meta-analysis of the gene-crime relationship. *Criminology*, 30(4), 595-614.
- Willgerodt, M. A. (2008). Family and Peer Influences on Adjustment Among Chinese, Filipino and White Youth. *Nursing Research*, 57(6), 395.
- Wu, C. X., & Chao, R. K. (2005). Intergenerational Cultural Conflicts for Chinese American Youth with Immigrant Parents: Norms of Parental Warmth and the Consequences. *International Journal of Behavioral Development*, 29(6), 516-523.
- Wu, H. (2017). *Trends in Births to Single and Cohabiting Mothers, 1980–2014*. Family Profiles, FP-17-04. Bowling Green, OH: National Center for Family & Marriage Research. Retrieved from <https://www.bgsu.edu/content/dam/BGSU/college-of-arts-and-sciences/NCFMR/documents/FP/wu-trends-births-single-cohab-mothers-fp-17-04.pdf>
- Yun, H. J., Cui, M., & Blair, B. L. (2016). The mediating roles of adolescent disclosure and parental knowledge in the association between parental warmth and delinquency among Korean adolescents. *Journal of Child and Family Studies*, 25(8), 2395-2404.

### APPENDIX: Definition of Terminology

Terminology	Description	Reference
Intact family	Intact homes are ... often including such arrangements as two married biological parents and unmarried but cohabiting (biological) parents.	Apel & Kaukinen, 2008, p. 37
Broken homes	Nonintact or “broken” homes are extremely heterogeneous and include such arrangements as living with a single parent, stepparents, grandparents, other relatives, adoptive or foster parents, or other nonrelatives.	Apel & Kaukinen, 2008, p. 37-38
Social father	Non-biological father (Although the authors did not give a definition of social father, they have been using social father relative to biological father in their article.)	Mitchell et al., 2015
Unconventional parents	Parents (largely in the lower class), while not explicitly criminal, are at least conducive to criminality.	Hirschi, 2001, p. 94