RUNNING HEAD: CHARACTERISTICS OF PERSISTANT OFFENDERS

Predicting Persistent Offending Using Family and Neighborhood Characteristics

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Abstract

The current study addresses the differences in family processes and neighborhood characteristics between persistent offenders, adolescent offenders, adult-onset offenders and non-offenders (N=13,722) using Waves I and III of the *National Longitudinal Study of Adolescent Health (Add Health)*. Measures of parental closeness, child maltreatment, parental criminality, neighborhood poverty, and neighborhood violent crime rate were compared to offender status, while controlling for age, gender, race, family structure and parental education. Persistent offenders experienced the most family risk and overall risk, followed by adult-onset offenders, and then adolescent offenders. Non-offenders experienced the least amount of family risk. Adolescent offenders experienced the least amount of neighborhood risk compared to the other three groups who seemed to experience equal amounts of neighborhood risk.

Introduction

In 2002, law enforcement agencies in the United States arrested 2.9 million individuals between the ages 18-24 (FBI, 2002). According to the Federal Bureau of Investigation (2002) this group accounted for 30% of all arrests and 29% of all violent crimes. Considering that this age group comprises only 10% of the population, 18-24 year olds commit a disproportionate number of crimes. Particularly problematic are chronic or persistent offenders, or those offenders that commit repeated crimes. For example, the Office of Juvenile Justice and Delinquency Prevention (1998) reported that chronic offenders account for more than half of all serious crimes committed by juveniles. Similarly, Blumstein, Cohen, Roth, and Visher (1986) estimated that about 6% of boys accounted for more than half of all arrests. These "career criminals" will offend for between 5-15 years, commit an average of 2-4 serious assaults and 5-10 robbery and property crimes per year during their years of active offending, and spend 8 years in prison. Calculating only tangible loses: victim costs, lost quality of life, criminal justice costs, and offender productivity loses, Cohen (1998) estimates that the total external costs of a life of crime are estimated to range from 1.3 to 1.5 million dollars per offender. Taking into consideration that 6% of boys are "career criminals," 49% of the population is male (U.S. Census, 2004a), and that the estimated population of the United States is 290,809,777 (U.S. Census, 2004b) and using Cohen's conservative estimate of the cost of chronic offenders (1.3 million), the "career criminals" alive today will cost this country over 111 trillion dollars. Because of the prevalence of offending in young adulthood and its exorbitant costs this paper will focus on persistent offending.

Categories of Offenders: Who are Persistent Offenders?

The literature discusses two primary types of offenders: adolescent-limited and life-course persistent (Moffitt, 1997; Patterson, DeBaryshe, & Ramsey, 1989; Loeber & Leblanc, 1990). These two groups of offenders are differentiated by the age of first offense, the nature of their crimes, violent or non-violent, whether their offending is chronic or transient, and their long-term developmental trajectories.

Life course persistent offenders (LCPOs), also known as early starters, chronic offenders, "career criminals," or early onset-persistent offenders are characterized by the violent and drug related crimes they commit, including violence against women and children (Moffitt, Caspi, Harrington, & Milne, 2002). LCPOs begin offending in childhood and their antisocial behavior is stable across age and situation (Huesmann, Eron, Lefkowitz, & Walder, 1984; Moffitt & Caspi, 2001). They are characteristically male; the ratio of male to female life-course-persistent offenders is 10:1 (Moffitt & Caspi, 2001). Typically, LCPOs offend alone and exhibit neuropsychological deficits such as poor verbal and executive functions, impulsivity, inattentiveness, hyperactivity, low intellectual ability, the inability to delay gratification, callousness, psychopathic personality traits, and violent behavior early in life, and these deficits remain throughout their life; while, substance dependence, financial problems, and work problems are exhibited later in life by LCPOs (Donnellan, Ge, & Wenk, 2000; Piquero, 2001; Jeglum-Bartusch, Lynam, Moffitt, & Silva 1997; Moffitt 1990; Moffitt & Caspi, 2001; Moffitt, Caspi, Dickson, Silva, & Stanton, 1996; Moffitt, Lynam, & Silva, 1994; Moffitt et al., 2002). Moffitt (1997) theorized that these neuropsychological deficits interact with individuals' environments to reinforce and worsen anti-social behavior. In contrast, Patterson (1996) states that early-onset delinquency is influenced by inept parental discipline and poor parental

monitoring and other disordered family processes, which socialize children to learn that coercive and antisocial behaviors are adaptive. Generally, LCPOs have weak bonds with family and friends and drop out of school at higher rates (Moffitt et al., 1996). They continue offending into adulthood because they fail to learn prosocial alternatives to antisocial behavior, have reputations as criminals, and because the poor decisions they made earlier have closed positive life pathways (Moffitt, 1997).

Adolescent limited offenders (ALOs), also known as late starters and transitory delinquents, are likely to commit nonviolent offenses, such as property offenses and substance abuse (Moffitt et al., 2002; Jeglum-Bartusch et al., 1997). This type of offending is discontinuous across time and situations, and typically increases as the adolescent approaches puberty and begins to decrease in late adolescence and early adulthood (Moffitt 1997; Loeber & Schmaling, 1985; Loeber, Green, Lahey, and Stouthamer-Loeber 1990). In contrast to LCPO's, the ratio of male to female adolescent-limited offenders is 1.5:1 (Moffitt & Caspi, 2001). ALOs tend to engage in delinquent behaviors with their peers (Jeglum-Bartush et al., 1997), but may at the same time obey school and family rules (Moffitt, 1997). When these adolescents reach adulthood, they cease offending because the costs of continued offending, such as arrests, fines, and disapproval of family, outweigh the benefits, which were to prove maturity and gain autonomy (Moffitt, 1997). In general, by age 26 the ALOs have completed typically completed high school but not post-secondary education, but are also exhibiting mental health problems, and financial problems (Moffitt et al. 2002; Moffitt & Caspi, 2001).

Abstainers, also called non-offenders, tend to be over-controlled, timid, socially awkward, socially isolated, good students, and latecomers to heterosexual relationships, as teenagers. As adults, abstainers commit virtually no crimes, have no mental disorders, or

adjustment disorders. They are the most likely to be happily married and to have graduated from college; they have the highest status jobs, and are more financially responsible; finally they are the least likely to have problems in their work lives (Moffitt et al., 2002).

The work on offender types has led to important insights on who offends and why. Knowing that there are qualitatively different groups of offenders, enables us better able to target policies and programs to prevent crime. However, there are large gaps in the literature. Much of the research on offending patterns discussed above has been conducted with nonrepresentative samples and many studies use a New Zealand sample. A study using a nationally representative sample is necessary to determine if these offending patterns exist in the United States. In order to add to the literature, more work needs to be done comparing non-offenders to varying types of offenders so differences between offender types and non-offenders can be more accurately determined within a nationally representative, longitudinal sample of adolescence and young adults.

There are also discrepancies in the literature about female offending. While Moffitt and Caspi (2001) found that there were many more male LCPOs than female LCPOs, but also that male and female adolescents had similar characteristics and patterns of offending. Kratzer and Hodgins (1999) found that female adult starters, or offenders who display delinquent behavior for the first time in adulthood, and not early starters, or offenders who display delinquent behaviors starting early in life, were responsible for the largest proportion of crimes committed by females.

In sum, there seems to be at least two qualitatively different groups of offenders. One group seems to be strongly connected to institutions, such as schools, has bonds to families and friends, and primarily engages in non-violent offenses with their peers during the teen years. In

contrast, another group of offenders start offending younger, have a history of mental health and behavioral problems, tend to be impulsive, and engage in serious violent offenses. Because of the limitations of previous research this study will focus on these two groups using a nationally representative sample. Additionally, because previous research had found that rates of offending vary among neighborhoods and offender types experience different family environments, the study will focus on family and neighborhood in relation to offender type.

An Ecological-Transactional Approach

Adolescents do not exist in a vacuum, in order to accurately predict their behavior their lives must be examined in context. These surrounding contexts influence individuals' development. Two of the most important contexts for adolescent development are the family and the neighborhood. Because these contexts are important the current study will provide an ecological-transactional analysis of offending and family and neighborhood characteristics. Cicchetti and Lynch (1993), drawing on Bronfenbrenner's (1977) work, conceptualized ecological contexts as consisting of nested levels varying in proximity to the individual. The macrosystem includes cultural beliefs and societal values. The exosystem consists of the individual's community and neighborhood and the microsystem includes their family. At the center is the developing individual— the level of ontogenic development. Cicchetti and Lynch (1993) hypothesized that these levels interact over time to influence the individual's development and that systems that are more proximal to the individual will be more influential to their development than systems that are more distal. Three characteristics of families or microsystems: parental criminality, parental closeness, and child maltreatment, and two characteristics of neighborhoods or exosystems: neighborhood poverty and violent crime, were

chosen to examine in relation to offending because these aspects are theoretically salient for gaining an understanding of persistent offending.

Family Characteristics Predicting Offending

Using a sample of 936 adolescents between the ages of 12 and 18 residing in New Zealand, Fergusson, Horwood, and Nagin (2000) found that having a history of parental criminality increases as the severity of adolescent offending increases, such that chronic offenders were the most likely to have a criminal parents, followed by adolescent offenders, then moderate offenders and non-offenders were the least likely to have a history of parental criminality. In addition, Hutching and Mednick (1974) found adopted children who had criminal biological fathers were at an increased risk for displaying criminal behavior. Jafee, Moffitt, Caspi, and Taylor (2003) found that when fathers are present in the household and are highly anti-social their presence increases the likelihood that their children will develop conduct disorder. Hence, it is important to include parental criminal history as a family variable predicting adolescent and young adult offending

The warm emotional climate of the family provides an environment of emotional safety and security for children and adolescents. Low levels of emotional warmth and cohesion are characteristics of the family related to adolescent delinquency (Gorman-Smith, Tolan, & Henry, 2000). Using 288 African American and Latino, fifth- seventh grade boys and their caregivers from the Chicago Youth Development study, a four wave longitudinal study, Gorman-Smith, Tolan, and Henry (2000) found that cohesion was related to delinquency. Cohesion captured the extent of emotional closeness and dependability, support and clear communication within families. Using a sample of 65 individuals between 18 and 27 years of age, Palmer & Holling (1997) found that individuals' perceptions of their parents emotional warmth, measured using 23

items from the Own Perceptions of Parenting (EMBU) was related to self-reported delinquency. Emotional warmth was measured using questions that assessed parental warmth and loving attention, giving help without being intrusive, respect for the child's standpoints, and intellectual stimulation. Thus, some measure of emotional warmth and cohesion is necessary in understanding the family antecedents of adolescent and young adult offending.

Parenting styles are typically defined by how warm and demanding parents are with their children (Baumrind, 1971). Many studies have shown that parenting that is both warm and demanding, called authoritative parenting, has the most favorable developmental outcomes for children (Steinberg, 2001). Harsh parenting practices, such as physical abuse, sexual abuse, emotional abuse and neglect, are not included in these normative parenting styles and are fairly uniformly considered to bedetrimental to children's development. In addition, these harsh parenting practices have been related to the probability that adolescents will offend. (Aguilar, Sroufe, Egeland, & Carlson, 2000; Patterson, Forgatch, Yoerger, & Stoolmiller, 1998; Widom 1989). For example, in a high-risk sample of 206 families with 4th grade boys, boys whose families are characterized by ineffective parental discipline, a construct which composed of observations of parents directing negative behavior toward children and observations of abusive parenting or verbal attacks, coercion, and physical aggression towards children are at significant risk for antisocial behavior in childhood, arrest before 14, and chronic offending by 18 (Patterson et al., 1998). In addition, in a 20-year longitudinal study of 180 high-risk urban firstborn children and their mothers, Aguilar et al. (2000) found that adolescents who displayed early-onset/persistent anti-social behavior (EOPs) were significantly more likely to experience neglectful, and emotionally and physically abusive parenting across early and late childhood compared to adolescents who displayed adolescent onset anti-social behavior (AOs). This

suggests that the direction influence is from parenting to adolescent anti-social behavior because the data about parenting was collected prior to the onset of anti-social behavior. Furthermore, adults with anti-social personality disorder often experienced harsh and inconsistent parenting as children (Dishion & Paterson, 1997). In addition, using official records and controlling for race, age, and sex, Widom (1989) found that abused and neglected children have a higher likelihood of arrests for delinquency, adult criminality, and violent criminal behavior than matched controls.

Neighborhood Characteristics Predicting Offending

Neighborhoods are a second important context for adolescent and young adult development. Characteristics of neighborhoods have been related to several aspects of child development including, but not limited to school dropout, educational attainment, academic achievement, teenage pregnancy, employment opportunities, and delinquency (Brooks-Gunn, Duncan, & Aber, 1997). In particular, both neighborhood poverty and neighborhood violent crime rates have been related to delinquency and therefore have been included in this examination of offending. Poverty has been consistently positively related to crime (Gephart, 1997). Coulton and Pandey (1992) found that delinquency rates were significantly higher in all high-poverty areas, those census tracts where more than 40% of the population was classified as living in household below the poverty threshold using the official census definition of poverty, or $12,100 for a family of four in 1989, than low-poverty areas, using city and county agency data for census tracts in Cleveland. Using a sub-sample from the Pittsburgh Youth Study, which comprised of 219 Caucasian and 290 African American boys ages 12 to 16, Peeoples and Loeber (1994) found that after controlling for hyperactivity and parental monitoring living in an underclass area was associated with both the frequency and the seriousness of delinquent

behavior. Neighborhoods were classified as underclass using summed standardized factor scores constructed with 6 items from the 1980 census data: family poverty, public assistance, female-headed families, families with no one employed, nonmarital births, and male joblessness.

Several researchers have documented the relationship between community violence and delinquency (Overstreet, 2001; Hill et al., 1996; Lynch & Cicchetti, 1998). In an ethnically diverse sample of 322 children from economically disadvantaged backgrounds Lynch & Cicchetti (1998) found that increased exposure to community violence was related to clinical level externalizing scores on Teacher Report Form of the Child Behavior Checklist (Achenbach, 1991). Additionally, Gorman-Smith and Tolan (1998) with a sample of 245 adolescent males found that exposure to violence was related to increased aggressive behavior a year later, even after controlling for previous behavior.

However, most studies have not taken an ecological-transactional approach to examining the relationship between offender types and family and neighborhood characteristics. For example, many studies have looked at structural aspects of the family such as maternal age, parental education, and family structure and have not adequately focused on family process variables such as family connectedness relation to offending. This is disadvantageous because in general these structural aspects of the family tend to be proxies for other more process-oriented variables. For example, to say that children who live with two parents or have mothers who were older then 25 when they were born or have parents who are college educated are less likely to offend then those without these qualities is true, but it does not tell the whole story. There is something different about how parents with college degrees interact with their children compared to those parents without. These differences in underlying processes are more interesting because they offer the opportunity for intervention because interventions can more easily intervene to

alter an individual's family processes than change more structural of the environment. There is also evidence that processes mediate the relationship between structural characteristics and developmental outcomes, so from this perspective one could also argue that it is only necessary to change the processes to influence the developmental outcome. Additionally, even if both neighborhood and family variables are considered in the same model, which the majority of the times they are not, the interaction between the two contexts is usually not considered, therefore the transaction between contexts is ignored. Something else to consider is that, while some studies have looked at these family variables differentiate between various groups of offenders the majority do not simply consider offending rates.

The Current Study

Because of these gaps, the current study addresses the differences in family processes an neighborhood characteristics between persistent offenders (similar to life-course persistent), adolescent offenders (similar to adolescent-limited), adult-onset offenders and non-offenders using two waves of the *National Longitudinal Study of Adolescent Health (Add Health),* a large, nationally-representative sample of adolescents and their families. The study seeks to answer the following questions: 1. Can family processes or neighborhood characteristics differentiate between various types of offenders? 2. Do family processes and neighborhood characteristics interact to differentiate between offender types? Measures of parental closeness, child maltreatment, parental criminality, neighborhood poverty, and neighborhood violent crime rate were compared to offender status, while controlling for age, gender, race, family structure and parental education. In addition, the interactions between neighborhood poverty and child maltreatment and between neighborhood poverty and parental closeness were considered. Both

positive and negative family variables were chosen to see if they would mitigate and exacerbate, respectively, the influence of negative neighborhood characteristics on adolescent offending.

Method

Sample

This study utilized data from the *National Longitudinal Study of Adolescent Health* (Add Health). Add Health (Bearman, Jones, & Udry, 1997) is a large, school-based study of adolescents, their families, and their schools focusing on the effects of the multiple social and physical contexts and environments in which they live. For the purposes of this study, Waves I and III of Add Health including the adolescent in-home, and the parent surveys, along with the contextual database was used to investigate the relationship between family processes, neighborhood characteristics, and offending patterns in adolescence and young adulthood.

The Add Health study is longitudinal, representative of schools in the United States with respect to region of country, urbanicity, school type, ethnicity, and school size. Between April and December 1995, over 20,000 students in grades 7 through 12, completed surveys during an in-home interview that covered a range of topics including health status, peer networks, decision-making processes, family composition and dynamics, educational aspirations, sexual relationships, substance use, and criminal activities. Nearly 18,000 of their parents also completed surveys regarding parent-child relations, family income, and spouses and romantic partners. Additionally, the contextual database linked data measured at the state, county, census tract, and census block group level with individual respondents. Together, these data collection periods comprise Wave I of Add Health.

Between August 2001 and April 2002, over 15,000 of the original Wave I adolescents were re-interviewed, creating Wave III when the respondents were between 18 and 28 years of

age. This wave was designed to collect data helpful in analyzing the transition between adolescence and young adulthood. To better understand this transition, the emphasis in Wave III was on the multiple domains of young adult life that individuals enter during the transition to adulthood, and their well-being in these domains: labor market, higher education, relationships, parenting, and community involvement.

The sample for this study included the 13,722 young adults that participated in both Waves I and III, had valid sampling weights to correct for the oversampling of some groups (Chantala & Tabor, 1999), and had non-missing data on both the outcome variable and at least eight of the ten predictor variables. Table 1 presents statistics for each stage of the selection process. The study sample does not differ substantially across the sample selection process. However, the study sample was significantly younger at Wave I, than those missing at Wave III (16.11 years old at Wave I for those included in the study versus 16.24 years old at Wave I for those missing at Wave III). The study sample also included significantly more minorities than were missing at Wave III (39% minority versus 37% minority). Thus, it appears that the study sample was biased as a result of the selection process, although not as much as one might expect. When a respondent was missing data on two items or less then the missing data for those items was imputed using multiple imputation (StataCorp, 2003). Data for 1302 cases was imputed, which is less then 10% of the overall sample. Neighborhood violent crime had the highest number of imputed cases with 380 observations imputed, which is 2.77% of the sample. Additionally, regressions excluding the imputed data were run, and as expected these findings showed very similar results to those with the regressions run with the whole sample with imputed data. However, in one regression poverty was significant ($p=.047$) when the cases with missing values were dropped and was only a statistical trend when the imputed data was used

(p=.055). Looking at the bivariate results, when those missing data were dropped non-offenders were significantly more likely to live in poverty than adult-onset offenders, which was not the case when the imputed data was used. Considering these results, using the imputed data is likely to give more conservative estimates of the influence of poverty then dropping the cases with missing values, however in order to maximize the sample size imputed data was used.

Measures

Offending . A categorical variable was created, where 0=non-offenders, 1=adolescent offenders, 2=persistent offenders, 3=adult-onset offenders.

Persistent Offenders. Individuals were categorized as persistent offenders if on BOTH the Wave I and the Wave III in-home questionnaires they responded they had committed one of the offenses listed below. Individuals were asked, "in the past 12 months how often did you: deliberately damage property that didn't belong to you, steal something worth less than $50, steal something worth more than $50, go into a house or building to steal something, use or threaten to use a weapon to get something from someone, or sell marijuana." Responses ranged from "0" (never) to 3 (five or more times). Other items asked: "during the past 12 months, how often did each of the following things happen: you pulled a knife or gun on someone, you shot or stabbed someone." Responses ranged from "0" (never) to "2" (more than once). 4.45% of the sample was categorized as persistent offenders.

Adolescent Offenders. Individuals were categorized as adolescent offenders if on the Wave I in-home questionnaire they responded they had committed any one of the eight offenses listed above and on the Wave III in-home questionnaire they responded they had not committed any of the eight offenses. 21.16% of the sample was categorized as adolescent offenders.

Adult-Onset Offenders. Individuals were categorized as young adult offenders if on the Wave I in-home questionnaire they responded they had not committed any one of the offenses listed above and on the Wave III in-home questionnaire they responded they had committed one or more of the eight offenses. 10.63% of the sample was categorized as adult-onset offenders.

Non-Offenders. Non-Offenders were those who reported that they had not committed any offenses at either Wave I or Wave III. 63.76% of the sample was categorized as non-offenders.

Family-Level Variables.

Parent-Adolescent Closeness. To gauge parent-adolescent relationships a scale was created, which consisted of four composite measures from the Wave I in-home questionnaire assessing family connectedness, parental warmth, and communication and shared activities with parents (all coded so that higher values represent more positive relationships). This scale is similar to the parent-adolescent emotional distance scale created by Crosnoe & Elder (In Press). See Appendix 1 for a complete description of these four composites. These composites were positively related ($p<.001$) and the correlations were moderate to strong. After standardizing all four measures, their mean was taken for the final scale ($M=0.01$; $SD=0.73$; $\alpha=.72$).

Child Maltreatment. In order to measure child maltreatment a categorical variable was created from three questions from the Wave III questionnaire. Young Adults where coded as maltreated if they reported that by the time they were in 6th grade their parents: had not taken care of their basic needs, such as keeping them clean or providing them with food or clothing; slapped, hit, or kicked them; or touched them in a sexual way, forced them to touch either parent in a sexual way, or forced them to have sexual relations (1=maltreated; 0=no; 36.44% report maltreatment).

Paternal Criminality. A categorical variable was created from one item Wave III in-home questionnaire. Young Adults were coded as having a criminal father if they indicated that their biological father had ever been incarcerated (1=paternal criminality, 0=no; 13.44% report paternal criminality).

Neighborhood-Level Variables

Poverty Rate. A continuous variable from the Wave I contextual database measuring the proportion of children under 18 in families with incomes below the 1989 poverty level in the adolescent's census block group (M=0.19; SD=0.19).

Violent Crimes. A continuous variable from Wave I contextual database assessing the number of violent crimes per 100,000 residents in the adolescent's county measured in 1993 (M=878.49; SD=663.01).

Control Variables.

Five variables were controlled for in all analysis. Gender (1=female; 0=male; 50.65% female), age at Wave III (in years), and adolescent reported race (1=Minority; 0=Causasian; 38.51% Minority) are self- explanatory. Parental education (M=2.74, SD=1.08) was based on the adolescent's report in the Wave I in-home questionnaire of their most highly educated resident parent. Reponses where recoded into a 6 point scale (0=no schooling; 5=post collegiate education). If the adolescent's report of their parents' educations was not available then their parent's report from the parent survey was used if available (for 5.9% of respondents responses from the parent survey were used). Family Structure was created by examining adolescent-reported household rosters from the Wave I in-home questionnaire, with responses recoded into a binary variable (1=adolescent living with two biological parents; 0=other family arrangement; 49.61% of individuals in the first category).

Analysis

The first part of the analysis addressed whether the four offender groups—(1) non-offenders, (2) persistent offenders, (3) adolescent offenders, and (4) adult-onset offenders—significantly differed from each other on the key family, neighborhood, or demographic characteristics. Therefore, weighted t-tests were used to gauge mean differences on parental closeness, child maltreatment, neighborhood poverty, neighborhood violent crime, family structure, parental education, age, gender, and race.

The second part of the analysis assessed whether key family process or neighborhood variables distinguished between offender group membership, controlling for important demographic characteristics. Because offender group membership is an unordered categorical dependent variable, the effects of family processes and neighborhood characteristics were estimated using multinomial logistic (or polytomous logistic) regression. There are a total of four possible outcomes (non-offender, persistent offender, adolescent offender, and adult offenders). In multinomial logistic regression models, one of the offender groups is used as the reference category. Because the current study was primarily focused on the family processes and neighborhood variables that distinguished persistent offenders from other offenders, they served as the omitted group in the analyses. Therefore, the coefficients represent the log-odds of group membership associated with a particular independent variable relative to the persistent offender group.

To gain an understanding of the magnitude of the relationships between all the variables in the regression model, the conditional probabilities were calculated for each of the four categories of the dependent variable: offending. Then using marginal effects, which estimate how the independent variable changes on average as a particular dependent variable changes,

probability graphs for each variable significant in the regression were plotted to illustrate how each variable in the regression effects the conditional probability of each offender group membership controlling for other individual, family, and neighborhood characteristics.

The last part of the analysis was to determine whether neighborhood variables moderated the relationship between family variables and offending. To do this, interactions terms were created for child maltreatment and neighborhood poverty and parental closeness and neighborhood poverty and the regression model described above was run twice including each interaction term separately. Thus the last models included the role of family and neighborhood variable in predicting offending, as well as the degree to which neighborhood factors altered the relationship between family variables and offending.

Results

Bivariate Results

Table 2 presents the weighted means and standard errors on the family process and demographic variables for the full sample, non-offenders, adolescent offenders, adult offenders and persistent offenders respectively. Weighted t-tests were performed in order to determine whether there were significant mean differences by offender status for each variable. In general, persistent offenders experienced the most family risk and overall risk, followed by adult-onset offenders, then adolescent offenders, and non-offenders experienced the least amount of family risk. Adolescent offenders experienced the least amount of neighborhood risk compared to the other three groups who seemed to experience equal amount of neighborhood risk.

Parental criminality and violent neighborhood crime violent were the only variables that did not significantly differ by offender group. The results in Table 2 show that non-offenders and adolescent offenders reported significantly less child maltreatment and were significantly

older then persistent offenders and adult-onset offenders. Furthermore, non-offenders were significantly less likely to be Caucasian in comparison to all other groups. Non-offenders and adult-onset offenders were significantly more likely to be female than adolescent offenders and persistent offenders. Adolescent offenders reported their parents had significantly higher levels of education then non-offenders. Persistent offenders were significantly less likely to have lived with both biological parents at Wave I. Adult-onset offenders reported significantly higher levels of parent-adolescent closeness at Wave I then any of the other three groups and persistent and adolescent offenders reported significantly lower parent adolescent closeness then either of the other two groups. The mean level of parental closeness for the non-offenders was significantly lower than the adult-onset offenders, but significantly higher then the persistent and adolescent offender groups.

[Table 2 About Here]

Multivariate Results

Given that several family and neighborhood variables distinguished between offender groups, I then examined whether they were significantly related to offender group membership controlling for other family process and demographic variables. Table 3 presents the results of the multinomial logistic regression model in which offender group membership was modeled as a function of family, neighborhood, and control variables. In a binominal logistic regression equation, the regression coefficients are used to estimate or predict the log odds that the dependent variable equals 1, but in multinomial logistic regression, the regression coefficient predicts the log odds that the dependent variable equals the value of omitted reference group of the dependent variable. For the dichotomous case, if the regression coefficient for a given independent variable is b_1, then a unit increase in the independent variable is associated with a b_1

change in the log odds of the dependent variable. In multinomial logistic analysis, where the dependent may have more than the usual 0-or-1 values, the comparison is always to the omitted reference group of the dependent variable. All of the coefficients presented in table 3, are relative to the omitted offender group: the persistent offenders. In analyses reported in Table 4, I ran a second multinomial logistic regression model in which the non-offender group was the omitted category in order to understand how non-offenders significantly differed from adolescent and adult-onset offenders. Consistent with the bivariate results, the persistent offenders generally experienced the most family risk and overall risk, followed by adult-onset offenders, then adolescent offenders, and non-offenders experienced the least amount of family risk. Adolescent offenders experienced the least amount of neighborhood risk compared to the other three groups who seemed to experience equal amount of neighborhood risk.

Non-Offenders & Persistent Offenders. Comparing the non-offender group to the persistent offender group, those who did not offend at either wave reported more parental closeness and less maltreatment than those who offended at both waves. As parental closeness increased from –2.68 (the minimum value reported) to 2.24 (the maximum value) the probability of being a non-offender increased from .45 to .72. Additionally, non-offenders were more likely to be older, female, and living with both biological parents in comparison to persistent offenders.

Adolescent Offenders & Persistent Offenders. Comparing the adolescent offender group to the persistent offender group, adolescent offenders, those who only offended at Wave I reported less child maltreatment than those who offended at both waves. Adolescent offenders were also more likely to be older and living with both biological parents when compared to persistent offenders.

Adult-Onset Offenders & Persistent Offenders. Comparing the adult-onset offender group to the persistent offender group, those who only offended at Wave III reported more parental closeness than those who reported offenses at both waves. As parental closeness increased from –2.68 (the minimum value reported) to 2.24 (the maximum value) the probability of being an adult-onset offender increased from .05 to .16. Additionally, adult-onset offenders were more likely to be female and living with both biological parents compared to persistent offenders. Hence, better family circumstance during adolescence differentiates this group from persistent offenders.

[Table 3 About Here]

Adolescent Offenders & Non- Offenders. In table 4, the non-offender group was the reference group. Compared to non-offenders, adolescent offenders reported significantly less parental closeness and lived in neighborhood with lower poverty rates. As parental closeness increased from –2.68 (the minimum value reported) to 2.24 (the maximum value) the probability of being an adolescent offender decreased from .39 to .10. As neighborhood poverty rates decreased from one (the maximum value reported) to zero (the minimum value reported) the probability of being an adolescent offender decreased from .23 to .10, in comparison to the non-offender group. Adolescent offenders were also more likely to be Caucasian and male.

Adult-Onset Offenders & Non-Offenders. Compared to non-offenders, adult-onset offenders reported significantly more parental closeness and more maltreatment. As parental closeness increased from –2.68 (the minimum value reported) to 2.24 (the maximum value) the probability of being an adult offender increased from .05 to .16. Experiencing child maltreatment increased the probability of adult offending from .09 to .23. Adult-onset offenders were also more likely to be Caucasian and younger in comparison to non-offenders.

[Table 4 About Here]

Interactions

In analyses reported in Table 5, I ran a third multinomial logistic regression model including the interaction term between poverty and abuse in the model. Using the non-offender group as the omitted category, the interaction term between poverty and abuse significantly predicted adult-onset offending in addition to the variables that had previously predicted adult-onset offending in the second model: parental closeness, race and age. To understand this relationship further two additional regression models were run, one including those with neighborhood poverty rates above the 3rd quartile, high poverty areas— census block groups where more than 28% of children under 18 had families with incomes below the 1989 poverty levels, and one including those with neighborhood poverty rates below the 1st quartile or low poverty areas— census block groups where less than 4% of children under 18 had families with incomes below the 1989 poverty levels. In high poverty areas (n=3483), adult-onset offenders were not more likely than non-offenders to experience child maltreatment (coefficient=.32; p =.056), however in low poverty areas (n=3398), adult-onset offenders were more likely than non-offenders to experience child maltreatment (coefficient=.59; $p < .001$).

[Table 5 About Here]

In analyses reported in Table 6, I ran a fourth multinomial logistic regression model including the interaction term between poverty and closeness in the model. Using the non-offender group as the omitted category, the interaction term between poverty and closeness significantly predicted adolescent offending, in addition to the variables that had previously predicted adolescent offending in the second model parental closeness, race and gender. Again, to understand this relationship further two additional regression models were run, one including

those in high poverty areas, and one including those living in low poverty areas. In high poverty areas, adolescent offenders were more likely than non-offenders to report less parent-adolescent closeness (coefficient=-.23; $p < .05$), in low poverty areas, adolescent offenders were also more likely than non-offenders report less parent-adolescent closeness (coefficient=-.53; $p < .001$). However, the magnitude of the coefficient is not as large for those living in high poverty areas as the coefficient for those living in low poverty areas, in fact the magnitude of the coefficient for those living in high poverty areas is more than twice the size of the coefficient for those living in high poverty areas. Therefore, in high poverty areas unit decrease in parental closeness is associated with a .23 increase in the log odds of being in the non-offender group (because they are the comparison group) but the same unit decrease in parental closeness in low poverty areas is associated with a .53 increase in the log odds of being in the non-offender group as compared to the adolescent-offender group.

[Table 6 About Here]

Discussion

Families and neighborhoods are two important contexts for individual development unfortunately they are many times studied in isolation of one another. Even when they are studied together the interaction between the two contexts is usually not considered within a distinct theoretical framework. The current study uses a nationally representative sample to consider the family context, the neighborhood context and how the two interact to predict offending patterns and overcomes many limitations of previous studies. A goal of the study was to capture differences in family processes and neighborhood characteristics and how the two ecological contexts transact to predict non-offenders, adolescent offenders, adult-onset offenders,

and persistent offenders. The offender categories were meant to capture adolescent-limited and life-course persistent offenders found in previous research (Moffitt, 1997).

The first major finding was that persistent offenders reported less parental closeness and more maltreatment than non-offenders. In addition they reported more child maltreatment than adolescent offenders and less parental closeness than adult-onset offenders. They were also the least likely to be living with both parents. That the persistent offending was predicted by deficits in a higher number of family variables then non-offenders or adolescent or adult-onset offenders was expected based on prior research. For example, (Aguilar et al., 2000, Fergusson et al., 2000; Moffitt et al., 2002; Moffitt & Caspi, 2001; Patterson et al., 1989; Patterson et al. 1998) have found that persistent offenders have higher levels of family distress than other offenders and non-offenders. However, it was important that these previous findings be replicated with a nationally representative same to ensure that the same mechanisms are at work at the population level, as those that are functioning in high risk sample or less diverse samples.

Adolescent offenders reported significantly less parental closeness. From Moffitt's original theory we would have expected these offenders to be just as close to their parents as non-offenders. However, more recent research has found that adolescent offending is not as normative and healthy as it originally appeared, for example Aguilar et al. (2000) found that adolescent offenders reported significantly lower scores on the risk composite, reported less internalizing symptoms, and had mothers' who reported less life stress, than the early-onset persistent antisocial group during childhood. Additionally, the adolescent offenders reported significantly higher scores on the grade 1 HOME, the Peabody Individual Achievement Test (PIAT) and both sections of Woodcock-Johnson Psycho-Educational Battery (WJ-R) than the early onset-persistent offenders. In fact on all variables except the risk composite the adolescent

offenders appeared to be functioning better then the never-antisocial or abstainers during childhood, although these findings are insignificant. But, during adolescence adolescent-onset offenders report the highest levels of life-stress and internalizing symptoms of any group: childhood limited offenders, early onset-persistent offenders and the never-antisocial. At age 26, Moffitt and Caspi (2001) reported that adolescent offenders were still not functioning as well as the abstainers. It is possible that these externalizing symptoms are related to changes in the stressful life circumstances during adolescence. Several important life transitions occur during adolescence, which may differentially stress adolescents: puberty, school transitions-from elementary school to middle school and middle school to high school, and negotiating increasing autonomy from parents. So, while at first I would have predicted that adolescent offenders to be as close to their parents as abstainers, considering more recent research it is not surprising that adolescent offenders experience deficits in at least some of the domains examined in this study.

Another interesting finding was that adult-onset offenders reported significantly more parental closeness and more maltreatment than non-offenders. What is interesting about this group is that they are reporting being close to the same people who are mistreating them. Perhaps during young adulthood this group models their parents' aggressive behavior when interacting with others, as the social learning theory (Bandura, 1978) would suggest. Considering that adolescents are still developing cognitively, it is also possible that these young adults are just beginning to gain an understanding of the mistreatment they experienced as younger children and are exhibiting externalizing behavior as a symptom of their emotional distress. Lastly, it is possible that with age, this group moves out of their parents' homes, giving them the freedom to act out. This group was also more likely then the persistent and adolescent

offenders to be female, which would support Kratzer and Hodgins (1999) argument that female offenders may begin criminal careers later in life then males.

One of the most important results of the study is that the interactions between neighborhood poverty and child maltreatment and neighborhood poverty and parental closeness predict offending, over and above the contributions of these variables individually. However, the interactions are in unexpected directions. Adolescent offenders were less close to their parents in low poverty areas than in high poverty areas. Adolescent offenders seem to be more advantaged then all the other groups considering the means on the variables in the model (see table 2). Beyers, Loeber, Wikstrom, and Stouthamer-Loeber (2001), compared high SES and low SES adolescents who had committed repeated violent offenses, in contrast to this study, which looked at repeated non-violent and violent offenders, and found that family variables were more likely to predict offending for low SES boys, however she did not look at parental closeness. Additionally, she found that peer delinquency was more likely to predict offending for high SES boys. It is possible that the same boys who are low in parental closeness are high in their relationship with deviant peers, so perhaps my measure of parental closeness is tapping a similar underlying construct as Beyers et al. (2001) measure of peer delinquency. Further analyses should be done to examine these hypotheses.

The interaction between maltreatment and poverty is harder to explain, why would maltreatment significantly to predict adult onset offending in low poverty neighborhoods but not higher poverty neighborhoods? Perhaps this is an issue with the measurement of child maltreatment, the measure used in this study did not distinguish different forms of maltreatment—someone who was sexual abused was given the same score as someone who was neglected, severity of maltreatment—someone who was hit, punched or kicked once was given

the same score as someone who was hit, punched or kicked multiple times, or those who experienced multiple forms of maltreatment—someone who experienced neglect was scored in the same way as someone who experienced both sexual and physical abuse. It is possible that one type of abuse is more prevalent in lower poverty areas and that these young adults experienced that form of abuse more often than other groups. For example, maybe these young adults were more likely to be victimized by sexual abuse and perhaps sexual abuse is more prevalent in lower poverty areas then other forms of abuse. Additionally, perhaps more frequent, persistent and severe abuse is more likely in higher poverty area, whereas, less frequent and less severe abuse is prevalent in lower poverty areas, with this group experiencing the later. In latter investigations it will be important to tease out the type and severity of maltreatment associated with each offender type. Another possibility is that the externalizing behavior is the result of some stress that had not yet manifested itself during adolescence in low poverty areas, and perhaps had already been manifested in high poverty areas. This seems plausible considering that there are typically more risks in high poverty areas, thus adolescence may reach some threshold of risk in high poverty areas earlier than in low poverty areas, and therefore manifest symptoms earlier in higher poverty rather than low poverty areas. However, the important point is that family environments do interact with neighborhoods to predict offending and by excluding interaction terms many studies underestimate the influence of neighborhood characteristics.

An unexpected finding was that neighborhood poverty and violent crimes did not differentiate the offender groups, except for the unexpected finding that adolescent offenders were less likely to live in poverty than non-offenders. And while according to prior research and theory we would expect that the more proximal family variables would be more predictive of

individual development, as was the case, we would also expect the distal contexts to contribute predictive power as well. However, one of the limitations of this study was that it used census block group and county level data to approximate neighborhood characteristics. These variables may not be precise enough to capture the variability in neighborhoods that may influence offending patterns. Additionally these neighborhood variables were measured once when the young adults were adolescents and while research does find that most families that move, move to similar neighborhoods, it may be that the young adults current neighborhoods or the characteristics of the neighborhoods they spent most of their childhood and adolescence in would be more influential in predicting offending. Lastly, these variables do not capture neighborhood processes, such as collective efficacy (Sampson, Raudenbush, & Earls., 1997)—the extent of social connection within the neighborhood combined with informal social control, which is monitoring the behavior of others in order to supervise and monitor children and maintain public order. Sampson et al. (1997) found that collective efficacy mediated the relationship between neighborhood structural characteristics and crime rates.

Another limitation of the study is that it does not get at the issue of causality or the direction of influence. We do not know whether persistent offenders behave in such a manner that their parents then pull away to protect their own emotional well-being and use harsh parenting styles in an attempt to control their child or whether children react to harsh and distant parenting by offending. Further prospective studies should be done following families from birth across the life span to begin to untangle these ideas from one another.

In the same regard it is important to note that although child maltreatment predicts life-course persistent offending and adult-onset offending from the results of this study we cannot draw the conclusion that maltreatment causes offending. Along the same lines, just because a

young adult experienced maltreatment does not mean that they will offend, in fact more of the young adults that were maltreated did not offend (n=3012, young adults that were maltreated and did not offend; n=1904, young adults who were maltreated and offended) and a majority of the offenders were not maltreated (n=2918, young adults that were not maltreated and offended; n=1904, young adults who were maltreated and offended). Thus these results should not be used to perpetuate the "cycle of violence" argument that all maltreated children go on to commit offenses against others.

Lastly these findings are important add to the existing knowledge about the differences between various offender types by identifying the different family processes and the neighborhood characteristics that differentially influence these processes to predict specific patterns of offending. The study replicates previous findings with a nationally representative sample, which is important because we can now more safely generalize these results to the population of the United States.

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Table 1

Unweighted Descriptive Statistics for Each Stage of the Sample Selection Process

Measures	Full Wave I	Waves I & III	Valid Sampling Weights	Valid Outcome Variable	Non-missing data on 8 of 10 Predictors
Gender (female)	.51	.51	.51	.51	.51
Age at Wave I (years)	16.16	16.15	16.14	16.14	16.12
Minority	.38	.39	.39	.38	.39
Parental Education	2.75	2.75	2.74	2.74	2.74
Family Structure (two parent)	.50	.50	.49	.50	.50
Parental Closeness	0	0	0	0	0
Neighborhood Poverty Rate	.18	.18	.18	.18	.18
Neighborhood Violent Crime	889.00	898.41	895.69	893.86	893.66
Wave I Offending	1.01	1.01	1.01	1.02	1.01
n	20,745	15,197	14,322	14, 177	13,722

Table 2

Weighted Means and Standard Errors on Key Family, Neighborhood, and Demographic Variables by Offender Status at Wave III[1]

	Full Sample (n=13,722)	**Non-Offenders (n= 8,749)**	**Adolescent Offenders (n= 2,904)**	**Adult-Onset Offenders (n= 1,459)**	**Persistent Offenders (n=610)**
Age	21.88 (.12)	21.95[a] (.12)	21.97[a] (.12)	21.48[b] (.14)	21.45[b] (.16)
Female	.50 (.01)	.53[a] (.01)	.42[b] (.01)	.56[a] (.02)	.42[b] (.03)
Minority Status	.39 (.01)	.41[a] (.01)	.34[b] (.01)	.36[b] (.02)	.36[b] (.03)
Parental Education	2.74 (.01)	2.72[a] (.02)	2.80[b] (.03)	2.75[a, b] (.04)	2.78[a, b] (.06)
Family Structure (two-parent)	.49 (.01)	.49[a] (.01)	.50[a] (.01)	.51[a] (.02)	.43[b] (.02)
Parent-Adolescent Closeness	.01 (.01)	.05[a] (.01)	-.15[b] (.02)	.12[c] (.03)	-.19[b] (.04)
Child Maltreatment	.36 (.01)	.35[a] (.01)	.33[a] (.01)	.45[b] (.02)	.49[b] (.02)
Parental Criminality	.13 (.01)	.13[a] (.01)	.12[a] (.01)	.15[a] (.02)	.14[a] (.01)
Neighborhood Violent Crime	878.49 (8.45)	890.20[a] (10.68)	855.96[a] (16.25)	878.30[a] (26.35)	819.39[a] (36.97)
Neighborhood Poverty	.19 (.00)	.20[a] (.00)	.16[b] (.00)	.18[a] (.01)	.18[a] (.01)

[1] Means sharing the same superscript do *not* significantly differ at the $p < .05$ level

Table 3

Multinomial Logistic Regression Model of Family Processes & Neighborhood Characteristics Predicting Offender Group Membership at Wave III[1]

Variables	**Non-Offenders (n=8749)**	**Adolescent Offenders (n=2904)**	**Adult Offenders (n=1459)**
	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
Age	.15***	.16***	.01
	(.03)	(.03)	(.03)
Female	.49***	.06	.63***
	(.11)	(.12)	(.13)
Minority Status	.18	-.07	-.07
	(.12)	(.14)	(.15)
Parental Education	-.09	-.04	-.09
	(.06)	(.06)	(.06)
Family Structure	.33**	.27*	.37**
(two-parent)	(.11)	(.11)	(.12)
Parent-Adolescent Closeness	.46***	.07	.58***
	(.08)	(.07)	(.08)
Child Maltreatment	-.60***	-.69***	-.18
	(.10)	(.12)	(.12)
Parental Criminality	-.07	-.19	-.04
	(.15)	(.16)	(.19)
Neighborhood Violent Crime	.00	.00	.00
	(.00)	(.00)	(.00)
Neighborhood Poverty	.28	-.78	-.03
	(.37)	(.40)	(.41)
Intercept	-.69	-1.64	.47
F-Statistic	11.09***		

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

[1] Persistent Offenders are the comparison group

Table 4

Multinomial Logistic Regression Model of Family Processes & Neighborhood Characteristics Predicting Offender Group Membership at Wave III[2]

Variables	**Adolescent Offenders (n=2904)**	**Adult Offenders (n=1459)**	**Persistent Offenders (n=610)**
	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
Age	.01	-.14***	-.15***
	(.02)	(.02)	(.03)
Female	-.42***	.14	-.49***
	(.06)	(.08)	(.11)
Minority Status	-.25**	-.25*	-.18
	(.08)	(.10)	(.12)
Parental Education	.05	-.01	.09
	(.03)	(.04)	(.06)
Family Structure	-.06	.03	-.33**
(two-parent)	(.07)	(.08)	(.11)
Parent-Adolescent Closeness	-.38***	.12*	-.46***
	(.04)	(.05)	(.08)
Child Maltreatment	-.09	.42***	.60***
	(.06)	(.08)	(.10)
Parental Criminality	-.12	.03	.07
	(.09)	(.12)	(.15)
Neighborhood Violent Crime	.00	.00	-.00
	(.00)	(.00)	(.00)
Neighborhood Poverty	-1.05***	-.31	-.28
	(.18)	(.24)	(.37)
Intercept	-.95	1.17	.69
	(.43)	(.44)	(.75)
F-Statistic	11.09***		

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

[2] Non-offenders are the comparison group

Table 5

Multinomial Logistic Regression Model of Family Processes, Neighborhood Characteristics, and the Interaction between Child Maltreatment and Neighborhood Poverty Predicting Offender Group Membership at Wave III[3]

Variables	**Adolescent Offenders (n=2904)**	**Adult Offenders (n=1459)**	**Persistent Offenders (n=610)**
	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
Age	.01	-.14***	-.15***
	(.02)	(.02)	(.03)
Female	-.42***	.14	-.49***
	(.06)	(.08)	(.11)
Minority Status	-.24**	-.25*	-.18
	(.08)	(.10)	(.12)
Parental Education	.05	-.01	.09
	(.03)	(.04)	(.06)
Family Structure	-.06	.03	-.33
(two-parent)	(.07)	(.08)	(.11)
Parent-Adolescent Closeness	-.38***	.12*	-.46***
	(.04)	(.05)	(.08)
Child Maltreatment	-.07	.42***	.60***
	(.06)	(.08)	(.10)
Parental Criminality	-.12	.03	.07
	(.09)	(.12)	(.15)
Neighborhood Violent Crime	.00	.00	-.00
	(.00)	(.00)	(.00)
Neighborhood Poverty	-1.04***	-.27	-.26
	(.18)	(.24)	(.37)
Neighborhood Poverty X Child	.70	-.80*	-.07
Maltreatment	(.36)	(.37)	(.64)
Intercept	-.95	1.16	.69
	(.43)	(.44)	(.75)
F-Statistic	10.46***		

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

[3] Non-offenders are the comparison group

Table 6

Multinomial Logistic Regression Model of Family Processes, Neighborhood Characteristics, and the Interaction between Neighborhood Poverty and Parent-Adolescent Closeness Predicting Offender Group Membership at Wave III[4]

Variables	**Adolescent Offenders (n=2904)**	**Adult Offenders (n=1459)**	**Persistent Offenders (n=610)**
	Coefficient (SE)	Coefficient (SE)	Coefficient (SE)
Age	.01 (.02)	-.14*** (.02)	-.15*** (.03)
Female	-.42*** (.06)	.14 (.08)	-.49*** (.11)
Minority Status	-.25*** (.08)	-.26* (.10)	-.19 (.12)
Parental Education	.05 (.03)	-.01 (.04)	.09 (.05)
Family Structure (two-parent)	-.06 (.07)	.04 (.08)	-.33** (.11)
Parent-Adolescent Closeness	-.37*** (.04)	.12* (.05)	-.46*** (.08)
Child Maltreatment	-.09 (.06)	.42*** (.08)	.60*** (.10)
Parental Criminality	-.12 (.09)	.03 (.12)	.07 (.15)
Neighborhood Violent Crime	.00 (.00)	.00 (.00)	-.00 (.00)
Neighborhood Poverty	-1.01*** (.19)	-.32 (.24)	-.20 (.37)
Neighborhood Poverty X Parent-Adolescent Closeness	.58* (.23)	.20 (.27)	.70 (.37)
Intercept	-.96 (.43)	1.17 (.44)	.67 (.75)
F-Statistic	10.23***		

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

[4] Non-offenders are the comparison group

Appendix. Four Composite Measures used in Parent-Adolescent Closeness Scale

Four Composite Variables	Items
Adolescent-reported parental warmth (M = 4.33, SD =.64, α = .88)	For fathers, adolescents rated how close they felt to their fathers, how loving their fathers were, how satisfied they were with the communication with their fathers, and how satisfied they were with the relationship (α = .89). For mothers, adolescents answered these same items (α = 85). I took the mean for each parent, and then the mean across parents, if I had information for both (1 = *not at all*; 5 = *very much*).
Adolescent-reported parental communication (M = 1.61, SD =1.15 α = .71)	For each parent, adolescents rated how often they talked with parents, in the past month, about someone the adolescent was dating, a personal problem the adolescent was having, school or grades, and things that were going on at school. I took the sum for each parent, and then the mean across parents, if I had information for both (0 = *no*; 1 = *yes*).
Adolescent-reported parental involvement (M = 1.42, SD =1.04, α = .63)	For each parent, adolescents responded whether, in the last month, they had gone shopping, played a sport, gone to a religious event, gone to a movie or other cultural event, or worked on a project with their parents. I took the sum for each, and then the mean across parents, if I had information for both (0 = *no*; 1 = *yes*).
Adolescent-reported family connectedness (M = 3.72, SD =.84, α = .78)	Adolescents assessed the degree to which they felt that the people in their families understood them, their family had fun together, and their parents paid attention to them (1 = *not at all*; 5 =*very much*).