

Change in Family Structure and Rates of Violent Juvenile Delinquency

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(Abstract)

This paper addresses the question: Have the changes in family structure in the U.S. become a catalyst for juvenile delinquency? For this research, I use existing statistics for my three independent variables: divorce rates, rate of working mothers with children under age 18, percent female-headed households. My dependent variable, juvenile violent crime rates, is measured using data from the Office of Juvenile Justice and Delinquency Prevention. My control variables consist of the following: percent of population aged 15-25, unemployment rate, incarceration rates, drug rates, rates of gun ownership, police employment, percent of those with weekly religious service attendance, percent of persons who have a “great deal” of confidence in the Executive branch of the United States, and percent of people who can trust others. I examine Gottfredson and Hirschi’s self-control theory (1990) as a possible theoretical explanation of the correlation between changes in family structure and juvenile delinquency. Previous research has shown with less supervision, monitoring and punishing the child, low self-control results leading to delinquency. My population includes all individuals in these statistics. I use a time series analysis, spanning from 1980 to 2006, to show the changes in rates over time and the correlations between family variables and juvenile delinquency.

Contents

I. Statement of the Problem.....	1
II. Review of Literature.....	2
A. Juvenile Delinquency.....	2
B. Review of Literature on Family Structure and Delinquency.....	4
C. Divorce.....	7
D. Single Parent Families.....	7
E. Women in the Workforce.....	8
F. Theory of Self-Control.....	9
G. The Link between Family Structure and Self-Control.....	14
H. Other Plausible Causes of Variation in Crime Rates.....	16
I. Police Presence.....	17
J. Incarceration Rates.....	17
K. Drugs.....	19
L. Guns.....	20
M. Age.....	21
N. Changing Institutions.....	22
III. Model.....	25
IV. Methods.....	26
A. Control Variables.....	28
V. Data and Results.....	32
VI. Discussion.....	36
VII. Conclusion.....	39

References.....	42
Data Sources.....	49
Appendix.....	52
A. Appendix A. List of Variables.....	52

List of Tables and Figures

Figure 1: Juvenile Crime Index by Year (1960-2005).....	3
Figure 2: Theoretical Model.....	14
Table 1: Descriptive Statistics.....	34
Table 2: Time Series of Annual Changes in Juvenile Violent Crime Rates.....	35

I. Statement of the Problem

The purpose of this study is to test the hypothesis that changes in the family structure in the United States from 1980 to 2006 were catalysts for juvenile delinquency. This is an important research project because we must first understand the underlying reasons for delinquency before we can begin to look for solutions to the problem and ultimately find alternative support for juveniles to deter delinquency. To test this hypothesis, I use secondary statistics collected from the U.S. Census Bureau, the General Social Survey (GSS), National Institute on Drug Abuse and the National Center for Health and Human Services.

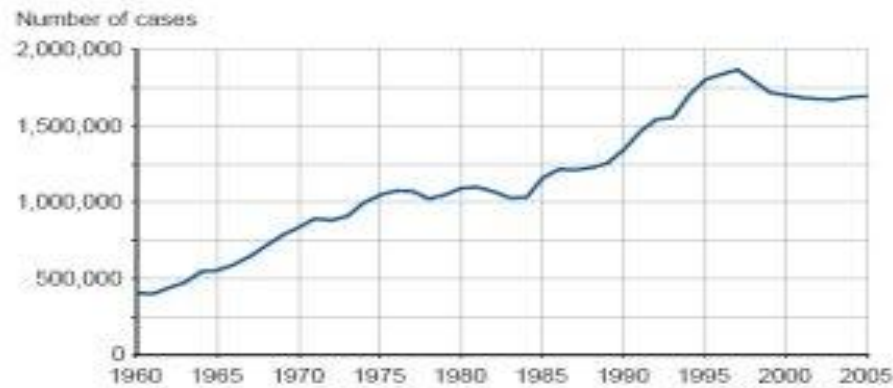
I argue that changes in the family can influence delinquency through the mechanisms a well-known and well-tested theory of crime argues lead to delinquency. The theory of low self-control (Gottfredson and Hirschi, 1990) posits that ineffective child rearing can lead to low self-control, and low self control increases the risk of delinquency in an individual. Effective child-rearing, according to Gottfredson and Hirschi, includes supervision, monitoring behavior and punishing delinquent behavior. In this paper, I argue that the structural changes within the family, such as divorce, single-parent homes, and more mothers working outside the home, have adversely affected child-rearing practices, thereby leading to juvenile delinquency.

II. Review of Literature

A. Juvenile Delinquency

More than one fourth of Americans are under age 18. This age group is normally referred to as juveniles (OJJDP, 1999a). The court system in the United States distinguishes juvenile delinquents from adult criminals in that “the courts assume that juveniles are less culpable and more responsive to positive behavioral change than adult offenders” (Yablonsky, 2000:4). The first juvenile justice system was established in 1899 in Illinois under the philosophy of *parens patriae* which means “in place of the parent” (Yablonsky, 2000:4). Juveniles were treated and dealt with separate from adult offenders. Criminal acts committed by juveniles are commonly referred to as status offenses. As defined by Shoemaker (2010), juvenile delinquency refers to “illegal acts, whether criminal or status, which are committed by youth under the age of 18” (Shoemaker, 2010:3). Juvenile crime rates have varied over time. Figure 1 illustrates this variation since 1960. Although rates dropped in the 1990’s, they did not drop nearly as low as they were before 1970. They have remained fairly stable over the past decade. Specifically, “serious violent victimizations in the U.S. peaked in 1993 at 4.2 million...Between 1993 and 1997, the number of these victimizations dropped by 27%—to 3 million” (OJJDP, 1999b). Robberies by juveniles increased between 1981 and 1993, but dropped by 1997, lower than rates in the 1970's (OJJDP, 1999b). This paper focuses on juvenile delinquency, specifically looking at juvenile violent crime.

Figure 1. Juvenile Crime Index by Year (1960-2005)



Source: US Dept of Justice, office of justice programs (2007), (<http://ojjdp.ncjrs.gov/ojstatbb/default.asp>). Retrieved on January 17, 2010.

My research attempts to account for the fluctuations in rates of violent juvenile delinquency. Specifically, I investigate if changes in the structure of the “typical” American family can account for the variations in violent delinquency over time.

One limitation of official statistics is the under-reporting or lack of reporting crimes. Another limitation is that official statistics are based on arrest rates that can be influenced by many factors, specifically the discretion of police and, to a lesser extent, victims. For example, if a juvenile is arrested for shoplifting, this depends in part on the discretion of the storeowner and the discretion of the police. The opinions of such persons could be biased by racism, sexism, classism or other factors, and thus affect the arrest statistics. Therefore, I use juvenile violent crime for my dependent variable since there is less discretion at the time of arrest for most violent crimes as compared to property crimes.

B. *Review of Literature on Family Structure and Delinquency*

The family structure has experienced dramatic changes in the past 40 or so years, specifically divorce rates, of the number of single-headed households (focusing on female-headed households), and the percent of working mothers.. Before the 1960's, women depended more on marriage for a livelihood which helped create the family structure of a husband, wife and kids (Sweeny, 2002). In the 1970's divorce laws change from a legal contest to the courts granting it simply because the couple desired to end their marriage. By 1985, every state had adopted some policy of "no-fault" divorce (Berry, 2007). Because of more lenient divorce laws, between 1975 and 1981 the divorce rate increased at an alarming rate. Divorce rates were at a high in 1980 reaching 5.2 per 1,000 population and have since then decreased to 3.7 in 2006, although they have not returned to the low rates prior to the 1980's (U.S. National Center for Health Statistics, 2009). In addition, with changing divorce laws, alimony awards reflecting the modern view that women can be self-sufficient and independent after divorce (Berry, 2007) has led to an increase in the number of single-parent families. According to the U.S. Census Bureau, in 1980 the number of female-headed households was 8,540,000 and has increased over the years to over 14 million in 2006 (US Census Bureau, 2009). Thus, according to Demuth and Brown (2004), now more than 50% of children will live in a single-parent home at some point in their lives. Most parents that divorce will remarry. Children are spending less time in traditional family settings and can expect many transitions in living arrangements (Demuth and Brown, 2004). "In 1970, almost 90% of children resided with either both biological or adopted parents...Thirty years later, only 64% of children resided in such households with an increasing number of children living in single-parent and stepfamilies" (Crawford and Novak, 2008:155). Between 1970 and 1990, the number of single-parent households rose from 3.8 million in 1970

to 9.7 million in 1990 (Miller, 1992). As Conklin (2003: 189) states when discussing the decline in the perceived legitimacy of the family since the 1980s, “out-of-wedlock births increased, unmarried-couple households with children under 15 became more common, the proportion of married women with young children who worked in the paid labor force increased, the proportion of children living with both parents dropped, and the percentage of 3- and 4-year-olds enrolled in school grew” (Conklin, 2003:189). Wells and Rankin’s (1991) meta-analysis of “broken homes” research discussed methodological variations in family structure research, concluding that inconsistencies render conclusions about delinquency problematic. Across 44 studies, most studies showed that family structure had a “consistent and reliable association with juvenile delinquency, ranging between .05 and .15” (phi coefficient) (Wells and Rankin, 1991:79). This indicates that there is a 15% difference in delinquency for broken and non-broken homes. In concurrence with other researchers (Nye 1958; Wilkinson 1980; Rankin 1983), Wells and Rankin’s meta-analysis revealed that family structure is only a significant predictor in less serious offenses (status offenses and drug use), and the lowest correlations are found with serious violent crimes. Wells and Rankin controlled for sex, race and age. Race was found to be insignificant, sex was slightly more significant among boys than girls, and no evidence was found that age at time of separation had an effect on delinquency. Most importantly, “coefficients based on official record data are substantially higher than those based on self-reports” (Wells and Rankin, 1991:85). They posit this to possible bias processing of juveniles from broken homes or possibly to the uniform distribution of delinquency (50/50) which increases the “...phi coefficient relative to its value in natural samples with very disproportionate distributions of delinquents” (Wells and Rankin, 1991:85). Consequently, it is not clear whether family structure is a major predictor of delinquency. While some studies have

found that the quality of parent–child relationship mediates a fair amount of the link between residing in a divorced single-mother household and the development of antisocial behavior or substance use” (Breivik, Olweus and Endersen, 2009:401, see also Carlson, 2006; Hoffmann, 1995; Mcleod, Kruttschnitt, & Dornfeld, 1994; Wood, Repetti, & Roesch, 2004), other research found little or no evidence to support this claim (Hetherington et al., 1992; Hilton & Desrochers, 2002; Kirby, 2002; Morrison & Cherlin, 1995). These inconsistencies may be due to using different methodological approaches or different measures for mediators. (Breivik, Olweus and Endersen, 2009).

I assert that these changing family characteristics affect juvenile delinquency because they affect the parent-child relationship, which “has emerged as one of the most important areas of inquiry for understanding delinquency, especially among younger adolescents” (Booth, Farrell and Varano, 2008:428). Research generally supports the argument that family structure can influence delinquency. “Such family measures as the percentage of the population divorced, the percentage of households headed by women, and the percentage of unattached individuals in the community are among the most powerful predictors of crime rates” (Gottfredson and Hirschi, 1990:103; see also Sampson, 1987). Much of the previous research done on family structure and delinquency shows that the “...family generally encourages conformity of youth by monitoring behavior, applying consistent discipline, and developing parent-child attachments” (Mack, Leiber, Featherstone and Monserud, 2006:54). Thus, any structural changes that negatively affect the parent-child attachment will likely result in delinquency. I will now consider the changes in family structure and how each of these changes relates to delinquency.

C. Divorce

The research findings on divorce and delinquency have been mixed. Overall, however, there is general support for the argument that children of divorce are more likely to be delinquent (Shaw, 1991; Furstenberg and Teitler, 1994; Price and Kunz, 2003; Glueck and Glueck, 1950; Chilton and Markle, 1972; Wells and Rankin, 1991; Needle, Su and Doherty, 1990). For example, a study by Furstenberg and Teitler (1994) looks at the effects of marital disruption before and after the actual act of separation through divorce that may influence a child's development. They found that in marriages that are disrupted, parents may have higher levels of conflict, be more prone to economic stress and meager parenting practices (Furstenberg and Teitler, 1994). The study suggests that exposure to these effects of divorce may compromise the child's social, economic and psychological well-being (Furstenberg and Teitler, 1994). A recent study by Beaulieu and Messner (2010) on effects of divorce on homicide rates revealed that the effects of divorce rates on homicide tend to be considerably stable over the last couple decades in the 20th century, although the significance of these effects are not strong. "In general, children whose parents divorce have moderately poorer outcomes (i.e., emotional well-being, a variety of conduct related difficulties, academic achievement, physical health, teen- age childbearing, and labor force participation) than children living in continuously intact two- parent families" (Videon, 2002:489).

D. Single Parent Families

Living in a single-parent family is a major predictor of delinquency. Research has consistently shown that children in single-parent homes are more likely to be delinquent (Breivik, Olweus, Endersen, 2009; Mandara and Murray, 2006; Astone and McLanahan, 1991,

1994; Downey and Powell, 1993; Wu, 1996). According to Simons, Simons and Wallace (2004) there is evidence to suggest that single-parent families, especially single-mothers, expect less of their children, spend less time monitoring them and use less effective techniques to discipline them. Furthermore, children in single-parent homes are more likely to participate in delinquency. In addition, it is harder for a sole parent to find the time to monitor, supervise, and discipline because they find it hard to “prioritize their children’s needs above other life demands” (Mack et al., 2006:53). Overall, this means that children have greater opportunities and motivation to participate in delinquent acts than do those living in a two-parent family. Hence, the absence of one parent is a major predictor for juvenile delinquency (Mack et al., 2006).

E. *Women in the Workforce*

Another family structural change is the increasing presence of women in the workforce that may draw them away from their “mother” responsibilities. Seventy percent of mothers are employed today including the majority of mothers with children less than one year old (Vander Ven, 2003). Women’s labor force involvement increased their economic independence and decreased their dependence upon marriage for income (Sweeny, 2002). Many women began to enter the labor force during the 1970’s due to economic strains associated with low paying manufacturing and service jobs, “...resulted in a decline in real family income from 1973 to 1988” (Vander Ven, 2003:11). Divorce and the women’s liberation movement also contributed to the greater presence of women in the workforce (Vander Ven, 2003). The traditional role of the mother as a full-time housewife has decreased significantly. While this may be a huge step for women and their careers, what implications does this have for their children? There is much debate over whether or not maternal employment has an effect on juvenile delinquency. Early

research found that children with working mothers had higher rates of delinquency, and researchers attributed this delinquency to reduced supervision in children with working mothers (Hirschi, 1969; Nye, 1963; Sampson and Laub, 1993). Other studies, however, found no evidence of a relationship between a mother's employment and the delinquency of her children (Broidy, 1995; VanderVen, Cullen, Carrozza, and Wright, 2001; Farnworth, 1984). Still other research suggests that only secondary labor market employment had a negative effect on child development. Colvin and Pauly (1983) argue that individuals that work in coercively controlled environments will be likely to have harsh or inconsistent parenting styles that include lax punishments and supervision. Children in these environments form alienated bonds with their parents creating possible behavior problems. There has also been research that shows that working mothers had a negative effect in urban, but not rural areas (Vander Ven et al., 2001). Finally, children that have working mothers, spend more time interacting with peers. Peer relationships can lead to delinquent associations (Vander Ven et al, 2001).

Yet, what can account for this co-variation? Why would changes in family structure affect rates of juvenile delinquency? One possible link between family structure and delinquency is through the effect changing families could have on levels of self-control among juveniles.

F. Theory of Self-Control

To relate changes in family structure to juvenile delinquency, it is critical to understand the processes through which delinquency occurs. Although several theoretical perspectives explain these processes, I focus on one possible explanation of crime: the theory of self-control.

Understanding the central mechanisms discussed by the theory of self-control can provide insights concerning how changes in the family can result in changing delinquency rates.

Gottfredson and Hirschi (1990) propose a theory of crime in “A General Theory of Crime.” This theory posits “high self-control effectively reduces the possibility of crime- that is, those possessing it will be substantially less likely at all periods of life to engage in criminal acts” (Gottfredson and Hirschi, 1990:89). Although Gottfredson and Hirschi (1990) recognize that a lack of self-control is not a necessary cause of crime, and that low self-control “can be counteracted by situational conditions or other properties of the individual,” Gottfredson and Hirschi suggest that low-self control is the primary cause of criminal and delinquent behavior.

The first element of self-control theory states: “Criminal acts provide immediate gratification of desires” (Gottfredson and Hirschi, 1990:89). This means that those with low self-control will have a tendency to live for the moment, the “here and now.” Individuals with high self-control will most likely defer this gratification. Gottfredson and Hirschi point out that those who lack self-control pursue immediate pleasures, which may or may not be criminal. Therefore, those with low self-control also tend to “smoke, drink, use drugs, gamble have children out of wedlock, and engage in illicit sex” (Gottfredson and Hirschi, 1990:90). In addition, some criminal acts are not necessarily committed for pleasure, but for “relief from momentary irritation” (Gottfredson and Hirschi, 1990:90). Thus, those with low self-control have little patience for a crying baby or a domestic dispute; therefore, those with low self-control often respond to these situations with physical assault rather than verbally. The immediate gratification desired by those with low-self control can be fulfilled by crime because, “Criminal acts provide easy or simple gratification of desires” (Gottfredson and Hirschi, 1990:89).

Therefore, individuals with low self-control tend to try to find the “easy way out” in situations. For example, they are more likely than others to seek monetary gains without legitimate work.

Those without self-control “also tend to lack diligence, tenacity, or persistence in a course of action” (Gottfredson and Hirschi, 1990:89). The lack of diligence is related to criminality because, “crimes provide little skill or planning” (Gottfredson and Hirschi, 1990:89). According to Gottfredson and Hirschi, the fact that most crimes require little skill to accomplish implies that those with low self-control need little or no cognitive or academic skills. Moreover, they do not value these skills. Criminal acts do not require a lot of planning or manual skills, thus individuals with low self-control do not need any kind of training or extensive manual skills (Gottfredson and Hirschi, 1990).

The next element of self-control states: “Criminal acts are exciting, risky, or thrilling” (Gottfredson and Hirschi, 1990:89). Criminal acts can be dangerous and can require speed, agility, deception or power. Therefore, individuals with low self-control tend to be “adventuresome, active, and physical,” and those with high self-control tend to be “cautious, cognitive, and verbal” (Gottfredson and Hirschi, 1990:89). In addition, “Crimes provide few or meager long-term benefits” (Gottfredson and Hirschi, 1990:89). The gains attained from criminal acts tend to be short-lived and may actually interfere with long-term commitments such as family and careers. Consequently, individuals who have low self-control also tend to have unstable families, careers, and friendships (Gottfredson and Hirschi, 1990).

Finally, “crimes often result in pain or discomfort for the victim” (Gottfredson and Hirschi, 1990:89). Usually the victim is harmed or property is stolen or damaged. Individuals with low self-control tend to be insensitive or apathetic to others’ needs and feelings. Although this tends to be the case, those with low self-control are not usually unkind or antisocial; rather,

they tend to recognize possible immediate rewards from charm and generosity (Gottfredson and Hirschi, 1990). All this being said, those individuals with low self-control tend to be “impulsive, insensitive, physical (as opposed to mental), risk-taking, short-sighted, and nonverbal, and they will tend therefore to engage in criminal and analogous acts” (Gottfredson and Hirschi, 1990:90).

According to Gottfredson and Hirschi (1990), the major cause of low self-control is ineffective childrearing. They refer to previous research on the family and delinquency that indicates that “discipline, supervision, and affection tend to be missing in the homes of delinquents, that the behavior of the parents is often ‘poor’” (Gottfredson and Hirschi, 1990:97; also see Glueck and Glueck, 1950; McCord and McCord, 1959). Gottfredson and Hirschi further explain the conditions necessary for the “proper” upbringing of a child. “...in order to teach the child self-control, someone must (1) monitor the child’s behavior; (2) recognize deviant behavior when it occurs; and (3) punish such behavior” (Gottfredson and Hirschi, 1990:97).

This system requires affection for or investment in the child. Indeed, “parental concern for the welfare or behavior of the child is a necessary condition for successful child-rearing” (Gottfredson and Hirschi, 1990:98). Previous research on the parent-child attachment has shown that those who are less attached are more likely to be delinquent. Glueck and Glueck (1959) found that fathers of nondelinquents were 50% more likely to be “warmly disposed toward their sons and one-fifth as likely to be hostile toward them” compared to fathers of delinquents (Gottfredson and Hirschi, 1990:98).

The next necessary condition for effectively teaching children self-control is parental supervision. Social control and self-control’s relationship is direct in the case of parental supervision. Social control teaches children to control themselves and avoid engaging in criminality. This is a major predictor of delinquency, thus there is a “stronger tendency of those

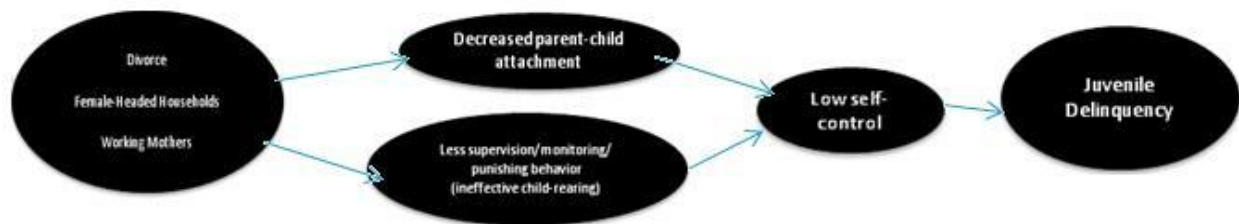
poorly supervised when young to commit crimes as adults” (Gottfredson and Hirschi, 1990). Indeed, monitoring of behavior was found to be the most important aspect of the parent-child relationship by M.H. Miller et al. (1999). This is mainly due to how well the child has internalized conventional values (ie self-control) (Booth et al., 2008).

Not only do parents need to supervise their children, they must also recognize deviant behavior. Parents differ in how they conceive of deviant behavior; some parents allow their children to do as they please without interference while others tolerate any divergence from traditional norms. Gottfredson and Hirschi state that although the research on this is not as good as it should be, “evidence of ‘poor conduct standards’ in the homes of delinquents is common” (Gottfredson and Hirschi, 1990:99).

Finally, parents must punish their children when the children act in ways that demonstrate low levels of self-control. Punishing deviant acts usually consists of the explicit disapproval by someone that the child cares about most. If done effectively, the child will likely develop high levels of self-control. Yet, some parents punish too harshly and some too leniently. The model states that good behavior, however, cannot compensate for failure to punish deviant behavior (Gottfredson and Hirschi, 1990:100).

Therefore, Gottfredson and Hirschi explain that family is the most important institution when instilling self-control in children. Furthermore, a lack of attachment between the child and parent creates a lack of social and self-control in the child, therefore creating an atmosphere for delinquency (see Figure 2).

Figure 2. Theoretical Model



Researchers have found much support for the self-control theory. DeLisi and Vaughn (2008) found that self-control was the strongest predictor of career criminality, and that compared to nonoffenders, career criminals had lower levels of self-control. Gibbs, Giever and Higgins (2003) used a structural equation model based on self-reports of over 400 university students to test Gottfredson and Hirschi's general theory and found overall support for it. Pratt and Cullen (2000) found support for this theory in their meta-analysis. Several other researchers (e.g. Gibbs, Giever and Martin, 1998; Polakowski, 1994; Gibbs, Giever and Higgins, 2003) have also found strong support for self-control theory. Thus, self-control theory could ultimately explain how changes in the family structure, like increasing rates of divorce, female-headed households, and mothers engaging in full-time labor, influence delinquency: if the child is not properly supervised, monitored, or disciplined, they will be more likely to commit delinquent acts.

G. The Link between Family Structure and Self-Control

Since child-rearing practices are so central to the development of self-control, and child rearing typically occurs in families, it logically follows that changes in the family can affect the levels of self-control in children. If enough families change how they organize family life, the

way we monitor and discipline our children are also likely to change. If these changes are widespread, the resulting change in individuals' levels of self-control will likely influence the overall rates of crime and delinquency. Therefore, I argue that changes in family structure can result in changes in rates of delinquency.

First, divorce and single parent families can influence the level to which their children are supervised, monitored, their problem behavior punished. As Gottfredson and Hirschi (1990: 103) state, "all else being equal, one parent is sufficient," and there is no loss in child-rearing ability; however, all else is rarely equal. One parent is less likely to be able to devote the time needed to monitor and effectively punish behavior. Sampson (1987) states that "two-parent households provide increased supervision and guardianship not only for their own children and household property . . . but also for public activities in the community" (Sampson, 1987:353; also see Sampson and Groves 1987; Beaulieu and Messner, 2010). In addition, research has suggested that single-parent families have a weaker attachment to their children because one-half of the parental unit is nonexistent making it more difficult to properly supervise and socialize the child.

Next, children of employed women are more likely to be delinquent. Much like single-parent homes, supervision, and monitoring behavior may be difficult if the parent is at work. Factors like mothers finding alternate supervision for the child and leaving the house unattended for hours during the day affect the possibility of delinquency (Gottfredson and Hirschi, 1990: 104-5). Removing the mother from the home to work provides the child with time and opportunity to commit delinquent acts because the mother is not there to supervise the youth, and "poorly supervised adolescents become more delinquent, and their poor behavior distances them from parents, further undermining affective ties to parents" (Jang and Smith, 1997:335).

Therefore, the changes in family structure that have occurred over the past forty years have likely made it more difficult for parents to supervise their children. Without adequate monitoring of a child's behavior, she or he will likely develop low levels of self-control, which will likely result in delinquency. For example, Breivik, Olweus and Endersen's 2009 study consisting of over 4,000 students, age 11-15, found that parent-child monitoring to be one of the strongest predictors of adolescent substance use and anti-social behavior (Breivik, Olweus and Endersen, 2009).

H. *Other Plausible Causes of Variation in Crime Rates*

Conklin (2003) examined why crime rates vary, specifically focusing on the declining crime rates in New York City in the 1990's. While Conklin focused on adult crime rates, the trends in crime and delinquency rates are overall very similar (see U.S. Department of Justice, 2001). Adult criminality mirrors juvenile delinquency. If Conklin and others are correct, I can assume the factors that are related to general crime trends can also account for variations in delinquency. Conklin argues that several factors were related to the decline in crime rates in the 1990's, including police presence and strategies, incarceration rates, drug usage, ownership and access to firearms, age, and changing institutions such as the economy, the political system, religion and community. Any analysis of how changes in the family structure influence rates of juvenile delinquency must account for these factors to protect against spurious findings. I will now briefly review each of these alternative factors.

I. *Police Presence:*

There is much debate over the first factor Conklin addresses, the police. Did the police reduce crime? Conklin refers to a critic, David Bayley, who sees this crime reduction strategy as dubious. He questions “whether the police actually reduce crime through deterrence and incapacitation, contending that they spend little time enforcing the law and that much of that time is devoted to minor offenses” (Conklin, 2003:57). Brown (1981), for example, found that police presence did not have significant effect on crime rates; however, crime did increase citizen demand for police presence (Brown, 1981). On the other hand, leaders and law enforcement officials that attributed the crime reduction to the police do so on the basis of the following factors: “(1) an increase in the size of the police force, (2) community policing, (3) more efficient deployment of resources, (4) aggressive action against specific targets, and (5) organizational reform” (Conklin, 2003:57). MacDonald (2002) found that “community policing had little effect on the control or the decline in violent crime. Proactive policing strategies related to arrest had an inverse effect on violent crime measures and were related to reductions in violent crime over time” (MacDonald, 2002:592). Conklin concluded, however, that there are other factors that contributed to crime reduction along with police efforts, but the police alone were not predictive of a variation in crime rates (Conklin, 2003).

J. *Incarceration Rates:*

The prison population grew tremendously after 1980 due to several factors, one being the increasing skepticism of rehabilitative methods (see Martinson, 1974). The overall opinion of the American public on harshness of criminal sentencing rose to 85% in 1978 and did not begin to drop until after 1994 (Conklin, 2003). In addition, there was an increase in the rate at which

convicted offenders were sent to prison and the length of their sentence. There is little doubt that incarceration rates had an effect on crime rates; yet, some researchers question the importance of this factor. For example, Useem and Piehl (2008) assess *what type of offenders* the prisons hold. Although there is no doubt that the “quintupling of the prison population” has brought great benefits to society in terms of crime reduction, they question of whether the “truly dangerous people” are behind bars or are we incarcerating low-level offenders (Useem and Piehl, 2008:52). Similarly, Blumstein (1998) argues that incarceration did not significantly affect crime rates; instead, he argues that “incapacitative effects could have been diminished because the marginal prisoners brought into prison during the expansion had lower values of offending frequency than might have been anticipated” (Blumstein, 1998:132). In addition, there are possible disadvantages of high incarceration rates. For instance, although the “growth in prison population alone resulted in 10,800 fewer murders, 2,176,000 fewer robberies, 738,000 fewer burglaries, and 748,000 fewer motor vehicle thefts over the course of the decade,” the prisons had to be built, more officers were needed and more funds were needed for the care of the prisoners (Conklin, 2003:97). Further, drug arrest rates were concentrated on young, African American males in poor neighborhoods. These tactics created disorganization throughout the families and community. Nevertheless, Conklin concludes that the expansion of the prison population contributed significantly to the reduction of crime rates in the 1990’s (Conklin, 2003). In fact, incarceration may have been the most influential variable affecting crime rates in the 1990s since it is “changed in the expected direction before the downward trend in crime rates began, and the only one that a substantial body of research has shown to influence crime rates” (Conklin, 2003:200).

K. *Drugs:*

According to Goldstein (1985), drugs can lead to crime in the following ways: psychopharmacological effects (e.g. low self-control, irrationality), economic-compulsive need for money to pay for drugs, and the systemic nature of the drug trade. Psychopharmacological effects can lead to violent crimes, economic-compulsive needs can lead to robberies and burglaries, and the systemic nature of the drug trade may lead to violence (Conklin, 2003). Much research has been done on the drugs-crime relationship, asserting that drug use is common among offender populations (Bennett & Holloway, 2005; Taylor, Fitzgerald, Hunt, Reardon, & Brownstein, 2001; Valdez, Kaplan, Curtis, & Yin, 1995). “While ‘the reality of the drugs-crime nexus is indisputable’ (Brownstein, 2002:1), ‘the paths into crime and drug abuse are numerous and varied’ (White & Gorman, 2000:152). Despite the ambiguities surrounding the drugs-crime connection, the assumption of a straightforward causal relationship between the two seems to retain its foothold in the media and in the minds of much of the public” (Ford and Beveridge, 2006:395; see also Hawdon, 2001). While drugs may not cause crime, the use of drugs is certainly correlated with the increase in all four indicator crimes of murder, robbery, burglary and motor vehicle theft. Yet, it is unknown if changes in rates of drug use caused the decline of crime rates. Changes in crack usage could explain the decrease in violent crimes, but do not explain the decreases in burglaries or motor vehicle theft. In addition, it is possible that the emergence of a subculture of a “softer” drug like marijuana in the 1990s could have contributed to decreases in violent crime (Conklin, 2003).

L. *Guns:*

Gun control measures contributed to the decline in crime rates, especially the decline in murders and robberies. During the Clinton administration, two programs were implemented: “1994 ban on some semiautomatic assault weapons and the Brady Act’s imposition of a waiting period for handgun purchases” (Conklin, 2003:122). According to former NYPD Commissioner William Bratton, the ease of access to firearms is a major factor in violent crime. Yablonsky (2000) supports this claim stating, “The availability of handguns is clearly related to the increase in juvenile violent crime, especially murder and robbery” (Yablonsky, 2000:148). A possible reason for access to guns being related to murder is that crimes committed with guns are more likely to end in death than crimes committed with other weapons or no weapon (Zimring and Hawkins 1997; Zimring, 1968). Because guns are very ruinous, can be used multiple times to assault the victim, and have long range, gun violence is particularly deadly. In addition to the sheer number of guns leading to crime, “firearms could increase assaults and murders if the presence of guns somehow causes individuals who are otherwise unlikely to engage in violence to do so,” (Conklin, 2003:124). Although debated (see Kleck, 1997), it is possible that the widespread presence of guns in some neighborhoods led to “posturing” and elevated rates of violence. Nevertheless, the changes in the policy on firearms in the 1990’s likely contributed to a decline in murder and robbery rates; however, these policies were not the sole cause of the declining murder and burglary rates because these rates declined in areas where anti-gun measures were and were not used (Conklin, 2003). Moreover, gun policy changes cannot explain the decline in burglaries and motor vehicle thefts (Conklin, 2003).

M. *Age:*

Looking at arrest rates, it appears that age is highly related to crime. However, because of inconsistent reports to the police and most crimes not leading to arrest, data are unreliable for the actual number of crimes that are committed in each age group. Still, people between the ages of 15 and 24 are especially likely to be arrested for murder, burglary, robbery, and motor vehicle theft (Conklin, 2003:144; Laub and Sampson 2003). However, the peak age of arrest rates vary from crime to crime (see Laub and Sampson 2003). Moreover, previous studies have likely overstated the link between juvenile delinquency and criminal careers, as many delinquent juveniles “do not become career offenders” (Laub and Sampson, 2003:17). Therefore, crime rates can increase or decrease with the changes in the age structure in a society (see Laub and Sampson, 2003:85, Figure 5.1).

The low birth rates during the 1970’s, which produces less people in the “crime-prone” age group in the 1990’s, could affect the crime rates. This relationship assumes that crime rates fell due to less people in the crime-prone age group rather than a decrease in the rates at which the group was committing crime (Conklin, 2003). In addition, the legality of abortion in 1973 may have decreased the number of those in the crime-prone age group during the 1990’s, thereby contributing to the decrease in crime; however, the estimates of the amount of reduction strictly due to abortion may have been exaggerated. A study on the age structure and decline in crime rates in the 1990’s by Steffensmeier and Harer (1999) found that the age composition change dramatically from 1980 to 1996, and these changes accounted for a large share of any decrease in crime rates and weakened any upward trend in the 1990s (Steffensmeier and Harer, 1999). Overall, Conklin states that the age structure had a “modest effect on the decline in crime rates in

the 1990's accounting for 7.9 to 19.9 percent of the decrease in the four crime indicators” (Conklin, 2003:155).

N. *Changing Institutions:*

Changes in a number of institutions, include family, economy, the political system, religion, and the community, could possibly affect crime rates. LaFree's (1998) theory of institutional legitimacy posits that institutions produce behavior that is in accordance with its laws and norms when they are perceived as legitimate. However, when they do not appear legitimate, they are unable to control behavior and therefore contribute to high crime rates. LaFree, echoing Gottfredson and Hirschi, explains that the inclination or motivation to break the law is low when institutions such as the economy or political system are perceived as legitimate and measures of social control are strong (ex. when parents, teachers, etc. teach their children right from wrong).

Substantial research has investigated the relationship between economic factors and crime. Indeed, some of the most influential theories of crime focus on the economic-crime relationship. For example, Shaw and McKay's (1969) study on juvenile delinquency in urban areas that found that the physical structure and social organization of a city has a significant impact on the distribution of juvenile delinquents. Specifically, “juvenile delinquency of the type serious enough to appear in juvenile courts is concentrated in certain parts of the American city and then thins out until it almost vanishes in the better residential districts” (Shaw and McKay, 1969:XXV). Shaw and McKay concluded delinquency rates were always higher in the zone of transition, no matter which ethnic groups lived there. Therefore, delinquency is correlated with the ecological environment in which it occurs (see also Park and Burgess, 1925).

Similarly, Robert Merton's (1938) strain theory explained the relationship between economic factors and crime by arguing that crime and delinquency will occur when there is a gap between culturally defined goals and institutionally defined means. He argues that not all individuals have equal means to achieve these goals. The main goal in American culture is monetary success ("the American Dream," see also Messner and Rosenfeld, 1994; Hochschild, 1995), thus lower class individuals are institutionally prevented from achieving the same level of success as middle and upper classes through legitimate means, and they turn to illegitimate means instead (Merton 1938).

Given the relationship between delinquency and economic factors such as poverty and inequality, it is possible that economic changes can influence delinquency rates. Yet, Conklin is doubtful that crime rates fell due to changes in our economic institution. For example, although unemployment rates fell a year after the reduction in crime rates began in 1993, there are other periods where unemployment rates were low and there was no reduction in crime rates. Also during the 1990s, poverty rates fell and big business and organized labor grew; however, these changes did not occur until after the initial decrease in crime rates. Income inequality also rose in the 1990's. These factors are contrary to LaFree's theory (Conklin, 2003). Nevertheless, there are strong theoretical arguments for including economic factors in models predicting crime rates.

However, changes in religion, community, and the political system may have affected crime rates. Religiosity increased after 1993 according to the Gallup Index of Leading Religious Indicators. This increase in religiosity may have strengthened the falling crime rates that began in 1991. With respect to changes in the community, programs like community policing and neighborhood watch had little effect on crime; yet, considerable research has demonstrated that

strong community ties are associated with lower levels of delinquency. Sampson, Raudenbush, and Earl (1997) termed these strong communal ties *collective efficacy*, which is a “shared vision, if you will, a fusion of a shared willingness of residents to intervene and social trust, a sense of engagement and ownership of public space” (Sampson, Raudenbush, and Earl, 1997:27). While there is little evidence of any increase in community organization that could account for the decrease in crime rates witnessed in the 1990s, it is possible that changes in the community contributed to the decrease. This line of research warrants further investigation (Conklin, 2003).

Similarly, changes in the political system may have also influenced juvenile delinquency rates. “Legitimacy is a property of an authority or institution that leads people to feel that that authority or institution is entitled to be deferred to and obeyed. It represents an ‘acceptance by people of the need to bring their behavior into line with the dictates of an external authority’” (Sunshine and Tyler, 2003:514). Sunshine and Tyler’s (2003) study found that community feelings of legitimacy had a significant amount of impact on willingness to comply and cooperate with police, and that over time legitimacy can help regulate behavior. “If the public generally view the police as legitimate, much of their everyday behavior will conform to the law” (Sunshine and Tyler, 2003:535) (see also Hawdon, Ryan, and Griffin, 2003). Political legitimacy will be included in my analysis due to its potential effects on juvenile crime rates.

Most, if not all, of these factors contributed to the decrease in crime enjoyed in most of the 1990s. As many of these factors change direction, the direction of crime and delinquency trends also change. While the factors discussed by Conklin (2003) and others undoubtedly contribute to variations in delinquency over time, I propose that changes in family structure, specifically divorce rates, female-headed households, and working mothers, since the 1980’s can

account for at least some of the variation in juvenile crime rates, even after controlling for several other possible causes of changes in delinquency.

III. Model

For my research, I use a positivist approach. The positivist approach to social science research is best known for its connection with structural-functional, rational choice and exchange-theory frameworks. The positivist approach searches for patterns or order that can be discovered. The human nature of the subjects are self-interested and rational individuals that are shaped by outside forces where outside forces shape people's actions (Neuman, 2006). This research is descriptive in that it provides a detailed picture of the research problem. I document a correlational relationship between changes in family structure and delinquency. I also report on the background context of the situation such as a short description of changes that have taken place in the family over the past 25 years.

One of the major changes in the family structure in the past 25 years has been the increase in divorce. Research has shown that divorce can influence the development of a child in many ways. Divorce can affect the amount of supervision and quality of control, which, can result in delinquency. A second major change has been an increase single-parent homes, specifically female-headed households. Due to the parent's lack of time and the difficulty of prioritizing the child's needs over certain life demands, single-parent homes may also provide less supervision of the child. Researchers have also questioned the single-parents' effectiveness in providing proper discipline for the child. In many cases like these, delinquency is a feasible outcome. The third major change discussed in this paper is women's integration into the labor force, which could significantly affect their time and commitment to their children. When

mothers are devoted to their work, the children have more time alone and thus more time and opportunity to commit delinquent acts.

The purpose of this research is to possibly find a link between the changes in family structure and juvenile delinquency. The more the family structure changes so that the parent-child attachment becomes weaker and less supervision, monitoring and punishing deviant behavior occurs, the more likely juveniles will be delinquent. I study changes in family structure and delinquency between 1980 and 2006. My research addresses if changes like divorce rates, instances of single-parent families, and more mothers in the work place have an effect on juvenile delinquency.

IV. Methods

This research is used to answer my question: Does the change in family structure have an effect on juvenile delinquency? My dependent variable is juvenile delinquency, and my independent variable is change in family structure. I propose that changes in the family structure like divorce, increase in female-headed households, and working mothers increase juvenile delinquency.

I collected data from 1980 to 2006 from several existing services with “year” as the unit of analysis. I constructed a data set consisting of the following variables: juvenile violent crime rates, divorce rates, rate of working mothers with children under age 18, percent female-headed households, percent of population aged 15-25, unemployment rate, incarceration rates, drug rates, rates of gun ownership, police employment, percent of those with weekly religious service attendance, percent of persons who have a “great deal” of confidence in the Executive branch of the United States, and percent of people who say they can trust others. The data represents the

entire U.S. and will accurately illustrate the link between family structure and delinquency eliminating most threats to external validity.

My dependent variable in this study is juvenile delinquency rates. Juvenile delinquency is the amount of criminal or deviant behavior engaged in by an individual under age 18. Specifically, in this paper, the type of delinquency I include in my analysis is juvenile violent crime. Therefore, juvenile delinquency is measured by the juvenile violent crime index that includes offenses such as murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault. The juvenile violent crime index is the rate of juvenile arrests per 100,000 population between persons age 10 and 17. The juvenile violent crime data are from the National Center for Juvenile Justice from the Office of Juvenile Justice and Delinquency Prevention website (<http://www.ojjdp.ncjrs.gov/>).

My independent variable, change in family structure, is the extent to which the structure of families in the U.S. depart from the traditional nuclear family of father, mother and children. To measure change in the family structure, I include three variables: divorce, female-headed households, and mothers in the workforce. I explored if these factors co-varied sufficiently to allow combining them into a composite measure, but they did not. Therefore, they are analyzed separately. Divorce rates from the years 1980 to 2006 are gathered from the U.S. Census Bureau in “Statistical Abstract of the United States: 2009.” Divorces are measured by rate per 1,000 population. To measure percent of female-headed households, I use the U.S. Census Bureau’s Current Population Survey data which includes family households where females are the head of the household. The percent of female-headed households was obtained by dividing the number of female households by total number of households. To measure percent of families with

working mothers, data was taken from the U.S. Department of Labor Statistics. This variable is measured by percentage of women with own children under age 18 who are employed.

A. *Control Variables*

I also examine other potential causes of fluctuations in juvenile delinquency rates such as age structure, police presence, gun ownership, drug rates, incarceration rates, and other changing institutions (the economy, religion, the political system, and community) that could render the relationship between family structure and juvenile delinquency spurious. These variables were included in Conklin's analysis of why crime rates fell, and are important to include in this study. The analysis of these variables ranges from 1980-2006 as well.

For age structure I use data from U.S. Census Bureau's Current Population Reports. Age structure is measured by the percent of the population from age 15-24 from the estimates taken in July of each year. These data (in all cases) were split into two groups (15-19 and 20-24), added together and divided by the total population. For years, 1980, 1990, 2000, 2002-2006, I used the U.S. Census Bureau's Current Population Reports. These years were the only ones included in this table. For years 1981-1989, I used U.S. Census data from the Population Estimates Branch. These data were only available by state. For these data, I used the same formula as before, but I added the two age groups together for each state and divided by the total U.S. population. For the year 2001, I used National population estimates from the U.S. Census Bureau. Again, I summed the 15-19 and 20-24 age group and then divided by the total population for July 2001.

For police presence, I use employment data from the U.S. Department of Justice's Bureau of Justice Statistics. These data, collected from the "Sourcebook of Criminal Justice Statistics Online" (<http://www.albany.edu/sourcebook/pdf/t1252006.pdf>), measure police employment by

the total number of state and local sworn police full-time equivalent employment. Police employment is measured in raw numbers of police employed each year. For the missing data in years 1996 and 2001, I extrapolate the data for 1996 police employment using this formula:

$$(\text{Data for 1997}-\text{Data for 1995})/2 + \text{Data for 1995} = \text{Data for 1996}.$$

The General Social Survey is conducted by face-to-face interviews each year starting in 1972 (excluding years where funding was limited). Whenever face-to-face interviews could not be conducted, alternative methods were used such as telephone interviews and computer-assisted personal interviewing. For gun ownership, the data were collected from the General Social Survey (GSS) Online (<http://www.norc.org/GSS+Website/>). The variable I use from the GSS is “have gun in home.” Gun ownership is defined as the percentage of persons that responded “yes” to having a gun in their home. For the missing data in years 1981, 1983, 1986, 1992, 1995, 1997, 1999, 2001, 2003 and 2005, I extrapolate the data using the same formula as for the police employment missing data.

For drug rates, I use data from *Monitoring the Future* Survey. Drug rates are measured as the percentage of 12th graders who have used drugs in the last 12 months. These rates included all illicit drugs.

For incarceration rates, I use data from the U.S. Census Bureau’s Bureau of Justice Statistics. Incarceration rates are defined as adults in prison and represent the total number of adults in prison in the United States. The data for years 1980-2003 were collected from *Sourcebook of Criminal Justice Statistics, 2003*. The data for years 2004-2006 were collected from Statistical Abstract of the United States (2010).

To measure changes in the economy, I use unemployment data from the U.S. Department of Labor’s Bureau of Labor Statistics. The unemployment rate is the number of persons

unemployed per 1,000 population. The rates were presented monthly for every year between 1980 and 2006. To get the annual unemployment rate for each year, I added all monthly rates together for each year and divided by 12.

Religion, political system, and community data were collected from the General Social Survey (GSS). I measured religion by the variable “how often r attends religious services” in the GSS. The data represents those who attend religious services every week. For the missing data for years 1981, 1992, 1995, 1997, 1999, 2001, 2003 and 2005, I extrapolate the data as I did before with police employment and gun ownership. The political system variable, which refers to the political legitimacy of the government, is defined as the amount of confidence a person has in the Executive Branch of the U.S. government. This variable, reported in the GSS, is the percentage of those who responded that they had a “great deal of confidence” in the government. For the missing years 1981, 1985, 1992, 1995, 1997, 1999, 2001, 2003 and 2005, I extrapolate the data using the same equation as for missing data in Religion. Lastly, the community variable refers to the collective efficacy in a community. Community is specifically defined as the amount of social trust that a person feels toward others. The GSS asks respondents, “can people be trusted.” I measure collective efficacy by the percentage of people who responded they can trust people. For the missing data years 1981, 1982, 1985, 1992, 1995, 1997, 1999, 2001, 2003 and 2005, I extrapolate the data using the same equation as previous missing data.

Using this data set, I conducted a time series analysis to examine the changes from 1980-2006. My variables are continuous and are measured at the ratio level. Time series uses multiple regression techniques with “year” as the case to show relationships between variables. This technique allowed me to separate the effects on the dependent variable so it is possible to

examine each variable's effect on juvenile delinquency (Allison, 1999). To do this, I uploaded my data set to SPSS.

Many of the control variables discussed by Conklin are not included in the analysis. Multicollinearity is often a problem when analyzing aggregated data using regression-based techniques (see, for example, Land, McCall and Cohen 1990). To render this, I checked for problems of multicollinearity in the models, and eliminated any variables that did not significantly contribute to the model or show problems with multicollinearity. I began by investigating the bivariate correlations between all of my control variables and my dependent variable. I also investigated the partial correlations among my control variables, my independent variables, and my dependent variable.

When addressing reliability in this study, the variables that are included in this study are common variables used on family and delinquency research. The conceptualization of these variables have been based on data from reliable sources such as the U.S. Census Bureau and the General Social Survey. The GSS questionnaire has been given nationally and consistently since 1972. In addition, many of my variables contain multiple indicators. My independent variable has three indicators: divorce, female-headed households, and working mothers. This allowed me to measure this variable from a wider range of content within my definition of "family structure." When addressing validity, according to my conceptual definitions for my variables, the measures are appropriate and fitting. My definition of my independent variable, change in the family structure, is defined as the extent to which the structure of families in the U.S. depart from the traditional nuclear family of father, mother and children (see above). My measures for "change in the family structure" like divorce, female-headed households and working mothers all demonstrate a deviation from this traditional image. My dependent variable, juvenile

delinquency, is measured by the juvenile violent crime index. Violent crime is a type of juvenile delinquency, and measuring this confirms its concurrent validity due to data collected nationally on arrest rates for violent crime each year.

V. Data and Results

For the trend analysis, there was a serious problem of autocorrelation (r at one year difference = .648; $p < .001$); therefore, I stabilized the data using a difference transformation. This transformation takes the difference in juvenile violent crime rates between years. Once this transformation is performed, the data were not autocorrelated (r at one year difference = -.346; $p = .072$). I am therefore modeling the annual changes in juvenile violent crime rates.

Since time series analyses with relative few cases can be extremely sensitive to the effect of outliers, I reanalyzed the data eliminating the most influential years based on the Dfbetas. Years, 1982, 1993, 1995, 1997, 2004, 2005 had high Dfbetas; therefore, I eliminated these from the analysis and re-ran the model. The results of the second model did not differ significantly from the model that included all years. That is, the variables that significantly predicted annual changes in juvenile violent crime rates in the full model were the same variables that significantly predicted the dependent variable in the trimmed model. Moreover, the slope coefficients of the significant variables were similar in both models. These results indicate that the overall effect of the outliers was not overly serious. I therefore report the complete model.

I ran bivariate correlations that included all the independent and control variables with the annual changes in juvenile violent crime variable. This analysis showed high correlations among almost all the variables, which indicates potential problems with multicollinearity. Regression models were run including all variables showing low tolerances and high VIF values

(Variance Inflation Factor), which also indicate possible multicollinearity issues. Therefore, many variables were removed from the model due to their high VIF values and insignificance (Community, Police, Guns, Incarceration Rates, Age, Unemployment, and Religion). Police presence, gun ownership, religion and community will also not be included in the model due to insignificant correlations with the dependent variable, juvenile violent crime. Also, theoretical justifications for including some variables are more valid than others, and since there are issues of multicollinearity, those variables that are not as theoretically justified were removed from the analysis. Incarceration rates are measured by adult prison populations, so this variable may have no influence on juvenile delinquency. I then ran linear regression models that only included a few variables at a time to avoid multicollinearity problems. Almost all of the variables were insignificant predictors of changes in juvenile violent crime rates with the exception of drug use ($p < .001$) which was consistently significant throughout the models. Percent of population ages 15-24 and unemployment rates will not be included because of problems with multicollinearity and not being correlated with the dependent variable.¹ The two control variables that will be included in the model are drugs and political legitimacy.

Separate models were run for each of my three indicator variables for my independent variable, family structure. When the variables working mothers and female-headed households were included in the models, they were insignificant. There were problems with multicollinearity, and female-headed households was basically a constant (being at 11 for the first 4 years, and then basically 12 for the rest of the time, with twice going to 13). The lack of variation between years indicates that this variable could not possibly be a cause of the variation in the dependent variable. In addition, when added, betas of other control variables such as

¹ I checked the variables incarceration, police, guns, religion, community, age, and unemployment by running regressions, and they were not significantly correlated with the dependent variable.

religion switched signs (from negative to positive and vice versa), contained some beta values above 1.0, and rendered some variables insignificant or significant. These are classic signs of multicollinearity (see Dillon and Goldstein, 1984). Therefore, the only indicator of my independent variable included in the final model was divorce. In the final model, annual changes in the juvenile violent crime rate were regressed on divorce, political legitimacy, and drug use.

TABLE 1. Descriptive Statistics

	Number of Cases	Mean	Standard Deviation
Divorce	27	4.492593	.4999430
Drug Use	27	40.414815	6.3304942
Political Legitimacy	27	17.829630	5.1041322
Juvenile Violent Crime (lagged)	26	361.4154	84.48043
Valid N (listwise)	26		

Table 1 reports the descriptive statistics for the variables included in the final model. Divorce rates has a mean of 4.49, indicating that the average divorce rate for the years 1980-2006 was about 4.49 per 1,000 population. The standard deviation for divorce was approximately 0.5, which means that most (about 68%) of the years had a divorce rate within 0.5 of the mean. The variable, drugs, has a mean of 40.4, indicating that on average 40% of high school seniors used any illicit drug in the 12 months prior to being interview. The standard deviation of drug use was approximately 6.3. The variable political legitimacy has a mean of 17.8; therefore, on average between the years 1980 and 2006, 17.8% of the respondents had a

“great deal of confidence in the executive government.” The standard deviation for political legitimacy is 5.1.

Table 2. Time Series of Annual Changes in Juvenile Violent Crime Rates

Model 1	Coefficient	Standard error	<i>Standardized Coefficients</i>
Divorce	84.28 ***	13.15	.482
Political Legitimacy	-6.60 ***	1.19	-.406
Drug Use	-12.70 ***	1.01	-.963
Constant	613.48 ***	67.62	
R ²			.889

*** $p < .001$

Table 2 represents the final model. The r-squared value of .889 indicates that 89% of the variation in juvenile violent crime can be explained by this model. When looking at the relationship between divorce and juvenile violent crime, there is a moderate, positive relationship (Beta = .482; $p < .001$). Thus, as divorce rates increase, the juvenile violent crime rate also increases. Although, looking at the partial correlation coefficient for divorce (partial R = .807), independent of the other controls, this variable would have a stronger, positive correlation with juvenile violent crime. Political legitimacy has a moderate, negative relationship (Beta = -.406; $p < .001$) with annual changes in the juvenile violent crime rate. Therefore, as people become more confident in the executive branch of the government, violent juvenile crime decreases. Whether or not the respondent has used any illicit drug within the past 12 months has a strong, negative correlation with violent juvenile crime (Beta = -.963; $p < .001$); therefore, as more

respondents claim they have used an illicit drug in the past year, the juvenile violent crime rate is likely to decrease in the subsequent year.

VI. Discussion

Despite the large extent of research, the relationship between family structure and juvenile delinquency remains ambiguous. In fact, the literature has revealed that this relationship is far from straightforward or direct. In this paper, I have examined the effect of changes in the family structure on juvenile violent crime. In my analysis, the most remarkable finding is the association between divorce and juvenile violent crime. Although research findings have varied, divorce was the only change in family structure that significantly predicted changes in rates of juvenile violent crime. Removing the effects of the two remaining control variables, political legitimacy and drug use, divorce has an even stronger, positive correlation with juvenile violent crime (partial correlation = .807). Still after adding controls to the model, divorce is significant and has a strong, positive correlation. This finding supports my hypothesis that divorce affects the variation in juvenile delinquency rates. This relationship could be explained by divorce disrupting a family's ability to effectively monitor and discipline their children, thereby leading to a lack of self-control in the child. Research has shown that missing formal and/or informal social control can mediate self-control in a child (Gottfredson and Hirschi, 1990; DeLisi and Vaughn, 2008; Gibbs, Giever and Martin, 1998; Polakowski, 1994). The correlation between divorce and juvenile violent crime rates could be explained using the self-control theory in that it claims the family institution is most critical when instilling self-control in children. Furthermore, a lack of attachment between the child and parent, caused by factors such as divorce, engenders a lack of social and self-control in the child, and increases the likelihood for

delinquency. Thus, it is plausible to suggest that higher rates of divorce can lead to an increase in juvenile delinquency.

As stated earlier, there are many limitations to relying on official statistics. Discretion can vary based on many factors. Sometimes bias can become a problem at the time of arrest. Labeling theory (Lemert, 1967) illustrates that bias may affect the likelihood of an individual being arrested. . For instance, compared to an adolescent from a two-parent family, an adolescent from a one-parent family is likely to be viewed by the community as well as officials as delinquent. Eventually, this individual may be stigmatized with this delinquent label, which could ultimately influence the decision of police to make an arrest, knowing of this label. Moreover, “law varies inversely with other social control” (Black, 1976:107). This means that when other forms of social control are strong like family, school, religious institutions, etc., law is less likely to be used and vice versa. Thus, if the family structure is weakened due to divorce, law is more likely to be used. Therefore, official sentencing is more likely to be used on children from broken homes than it is on children from two-parent homes, all else being equal. Given that the majority of violent crimes committed by juveniles are crimes such as assault where police officers have a tremendous amount of discretion when deciding to make an arrest or not, it is possible that the relationship between divorce and juvenile violent crime observed in this study is partially due to using official data as the measure of juvenile violence.

The two control variables included in the model, political legitimacy and drug use, were also highly significant when predicting crime rates. Political legitimacy, measured by the amount of confidence a person has in the Executive branch of the government, had a strong, negative correlation with the dependent variable. This indicates that as people gain more confidence in the government, the less likely they will be to engage in juvenile violent crime.

According to Sunshine and Taylor (2003), those who have greater confidence in an authority or institution will be more inclined to behave in accordance with the laws and expectations of that authority. This can explain the relationship between political legitimacy and juvenile delinquency.

Drug use, measured by the percentage of 12th graders who have used illegal drugs in the 12 months preceding the survey, had a very strong, negative correlation with the juvenile violent crime rate (-.963). This coefficient indicates that the lower the drug usage, the higher the violent crime rate among juveniles. This relationship may seem contradictory knowing that crime and drug use are usually positively correlated (Thio, 2004). Although, the make-up of the violent crime relationship with drug use may have to do with the type of drugs used by juveniles.

According to the *Monitoring the Future* data used in the analysis, the use of marijuana was the highest among 12th graders from 1980 to 2006 out of all illicit drugs. The percent of 12th graders who used marijuana ranged from approximately 22% to 49% during this time. Much research has shown that using drugs such as marijuana usually does not lead to violent crime, but remain more of a “softer” drug of choice. According to King and Mauer (2006), few marijuana arrests are due to serious offenses. Likewise, Wei, Loeber and White (2004) found that among frequent marijuana users, most did not engage in violence (see also Conklin, 2003). My measure of drug usage is largely based on marijuana usage because this illegal drug is, by far, the most likely to be used. . Marijuana use appears to reduce violent crime from the data. The inverse relationship between drug use and crime indicates that the higher the drug usage, the lower the violent crime rate and vice versa.

Although Gottfredson and Hirschi’s (1990) theory of self-control is used to make sense of these findings, I do not directly test their theory. Moreover, there are other possible

theoretical explanations for the relationship between change in family structure and juvenile delinquency. An alternative explanation for this relationship could be taken from Shaw and McKay's (1942; 1969) social disorganization theory. The general argument of this theory is that delinquency is a result of the breakdown of institutional social controls. The instability of institutions leads to a breakdown of social norms where acceptable behavior is not concisely defined. Ultimately, the breakdown of institutions and norms result in delinquency. Shaw and McKay originally applied their theory to urban areas, including Chicago and other cities, where rapid changes in industrialization, urbanization and social mobility led to the breakdown of institutional controls and the development of delinquent areas. Therefore, if the family, a major institution and source of social control, breaks down by changes such as divorce, the juvenile's definitions of delinquent behavior can be skewed due to the lack of stability and social control. According to social disorganization theory, this would lead to delinquency² (Shaw and McKay, 1942; 1969).

VII. Conclusion

The purpose of this study was to examine the effects over time of changes in the family structure and juvenile delinquency. Although mixed, research has shown that increase in divorce, female-headed households, and working mothers can increase the likelihood of juvenile delinquency. Specifically, this paper looked at the annual variation in juvenile violent crime rates and its relationship with changes in the family structure.

² Although the theory of social disorganization itself can be used to connect juvenile delinquency to the family structure, it must be noted that Shaw and McKay's (1932) research found this relationship to be insignificant when using official measures of delinquency.

Female-headed households showed little to no variation, thus this variable was removed from the model. Working mothers was found to be insignificant and was also removed. These variables are major factors in Gottfredson and Hirschi's self-control research, yet are not significant in this study. Divorce was highly significant when predicting the variation in juvenile violent crime. These findings show a positive relationship between divorce and violent juvenile crime which support previous research showing that divorce can lead to crime (see Shaw, 1991; Furstenberg and Teitler, 1994; Price and Kunz, 2003; Glueck and Glueck, 1950; Chilton and Markle, 1972; Wells and Rankin, 1991; Needle, Su and Doherty, 1990). The findings are also consistent with Gottfredson and Hirschi's (1990) self-control argument that divorce adversely affects the abilities of parents to properly monitor and discipline their children, which leads to low self-control and ultimately crime.

Yet, a major limitation with this study is that the data does not directly test the self-control theory. Although the relationship between divorce and crime could be influenced through self-control due to ineffective child rearing, individual-level data is needed to directly test this theory. The theory provides only a possible explanation for the link between changes in family structure and juvenile delinquency. In future studies, multi-level data that includes macro data, such as divorce rates, and individual-level data should be used in a hierarchical model to address this hypothesis.

Another limitation to this study is the inability to establish a causal relationship among the variables. When attempting to propose a causal relationship between two variables, it is necessary to eliminate all other possible variables that could also be a cause. That is, one must demonstrate a lack of spuriousness. To address this issue in my study, I controlled for a few variables that could have an effect on juvenile delinquency. I controlled for police employment,

incarceration rates, drug rates, ownership of firearms, age, and changing institutions such as the economy, the political system, religion and community. This reduces the chance of experiencing a spurious relationship between variables; however, I recognize that controlling for these factors does not eliminate all possible spurious influences. Another limitation of this study is the missing data. Data were missing for certain years when collecting data from the General Social Survey. To remedy this, I have extrapolated the data with an equation that finds the mean of the value of the variable for the year immediately before the missing value and the variable for the year immediately after the missing value. This extrapolation technique assumes a linear change across the years. Finally, as always, self-report data may be somewhat unreliable. Precise data relies on respondents answering survey questions truthfully. This may be less reliable for variables like using drugs. For this project, there is no significant threat to subjects. I use secondary data that does not contain any information on the specific individuals included in these statistics.

Despite these limitations, this research contributes to our understanding of the possible causes of juvenile delinquency. The theory of self-control is just one, among many explanations of delinquency and its origins. Although we may never be able to pinpoint the exact reason why delinquency occurs, research such as this may bring us closer to understanding how institutions of control can influence this process.

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Appendix

Appendix A. List of Variables

Variable	Measure	Data Source
Juvenile Violent Crime	the rate of juvenile arrests per 100,000 population between persons age 10 and 17 (juvenile violent crime index that includes offenses such as murder and non-negligent manslaughter, forcible rape, robbery, and aggravated assault)	National Center for Juvenile Justice from the Office of Juvenile Justice and Delinquency Prevention
Divorce	divorce rate per 1,000 population	U.S. Census Bureau
Female-Headed Households	family households where females are the head of the household	U.S. Census Bureau's Current Population Survey
% Working Mothers	percentage of women with own children under age 18 who are employed	U.S. Department of Labor Statistics
Incarceration Rates	the total number of adults in prison in the United States	U.S. Census Bureau's Bureau of Justice Statistics
% Population Ages 15-24	percent of the population from age 15-24 from the estimates taken in July of each year.	U.S. Census Bureau's Current Population Reports
Police Presence	the total number of state and local sworn police full-time equivalent employment.	U.S. Department of Justice's Bureau of Justice Statistics.
Gun Ownership	percentage of persons that responded "yes" to having a gun in their home	General Social Survey Online
Drugs	percentage of 12 th graders who have used drugs in the last 12 months	<i>Monitoring the Future</i> Survey
Economy	number of persons unemployed per 1,000 population	U.S. Department of Labor's Bureau of Labor Statistics
Religion	represents percentage of respondents who attend religious services every week	General Social Survey Online
Community	percentage of people who responded they can trust people	General Social Survey Online
Political System	percentage of those who responded that they had a "great deal of confidence" in the government	General Social Survey Online