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Families, General Strain, Social Control and Adolescent Pain Killer Use

Melinda Sue Furtaw

A Thesis Submitted to the Graduate Faculty of

GRAND VALLEY STATE UNIVERSITY

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Abstract

This study determines whether family structure or transitions alone influence adolescent use of pain killers, as previous studies in delinquency and substance use would suggest, or if there are potentially mediating factors. The theories of general strain and social control are drawn upon to create mediating variables of abuse and failing grade (general strain) as well as attachment and school suspension (social control). The study will use data from the National Survey of Adolescents (1995).

Binary logistic regression was used to estimate if family structure leads to increased odds of being abused, having a failing grade, and being suspended from school. Youth from a "traditional" family structure received a protective benefit over all other family structures. The same results were found for youth who had experienced the divorce or separation of parents as well as the addition of a new stepparent.

Hierarchical logistic regression determined whether standard demographic variables, or those listed above that are based upon general strain and social control, mediate the effect of family structure and transitions on adolescent pain killer use. While initially it appeared as though youth from cohabiting homes and those who experienced parents divorcing or separating were significant predictors of adolescent pain killer use, once all other variables were controlled for, the experiences of being abused or suspended school, as well as age, were the only statistically significant indicators for youth using pain killers. This suggests that concepts from general strain and social control theory can help explain why family structure and change may be related to pain killer abuse. The implications and limitations of the findings are discussed.

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Chapter 1: Introduction

The importance of family factors influencing adolescent participation in a variety of delinquent or antisocial behaviors has been established in the extant literature. Included in these family factors are structure, transitions, maltreatment, attachment, commitment, and many others. However, few address a multitude of issues at the same time.

There are many studies produced to date that show the impact family structure has on involvement in delinquent behaviors or substance use (see Kierkus & Baer, 2002, for a review). Additionally, a great number of studies focusing on the impact of family structure on adolescent involvement in substance using behaviors have been completed (see Barrett & Turner, 2006, for a thorough discussion of these studies). Overall, there is overwhelming evidence that family structure does have a significant impact on whether or not a youth will begin to use substances, when initiation will occur, and the potential for lifetime use (Barrett & Turner, 2006). Youth from two parent families, as well as families with one biological parent and another adult relative, are consistently found to participate in less substance use. The greatest family structure risk is found in homes where neither biological parent is involved, followed by step-parent families, and single-parent families. Still other researchers have found even greater effects when a youth undergoes a number of family transitions (i.e. changes in person acting as mother or father) such that the more transitions a youth experiences, the higher the likelihood of engaging in substance use (Krohn, Hall, & Lizotte, 2009).

A variety of potential explanations for this phenomenon have been presented. Some researchers suggest that parents from two-parent homes express greater warmth and have higher levels of attachment to their children. This attachment decreases the likelihood of a youth

seeking peer associations, often delinquent peers of similar backgrounds, to fill that void in their lives (see Aquilino & Supple, 2001; Barrett & Turner, 2006).

Other researchers recognize that youth from nontraditional families are more likely to experience abuse. Nearly 9 in every 1,000 children are the victims of *reported* and dispositioned (enough evidence was found to substantiate a case) abuse (United States Department of Health and Human Services [USDHHS], 2011). Being a victim of childhood maltreatment leads to a great number of negative outcomes, as will be the focus of this literature review. As Brezina (1998) states: "In general, adolescent maltreatment gives rise to delinquency because it erodes important sources of social control, fosters deviant socialization, and generates deep-seated feelings of anger" (p. 90).

What has yet to be conclusively established is how or why the combination, or interrelationship, of family structure and abuse influence adolescent substance use. More specifically, in addressing the concerns for decreased attachment in nontraditional homes, how might family structure influence abuse or attachment, and therefore engagement in substance use? These ideas have been studied for years, yet no single study has attempted to look at the interrelationships between them. Agnew (2008) has suggested that in order to fully understand why strain causes delinquency, other theories such as social control, need to be considered.

The most comprehensive attempt identified to date is that of Spohn and Kurtz (2011). These researchers examined the interrelationship between family structure, abuse, and violent delinquency through the lens of general strain theory. This study will attempt to use the same dataset, the National Survey of Adolescents (NSA, 1995) that Spohn and Kurtz (2011) used, drawing upon variables based on general strain theory. However, in addition to abuse, receiving a failing grade course in school will be considered as a potential strain (as suggested by Agnew,

2008). Additionally, the interrelationship of family structure, family transitions, abuse, failing grades and substance use will be analyzed with variables based in social control theory, specifically the elements of attachment and commitment. This will answer the questions: How do family structure and transitions interrelate with these additional variables? Particularly, do certain strains (maltreatment or failing grades) or controls (attachment or school suspension) mediate the influence of family structure or transitions on adolescent use of pain killers?

Chapter 2: Literature Review

There are a variety biological, psychological, and sociological theories that to try and explain why youth abuse substances. However, what has been consistently noted in the literature is the importance that the family plays in shaping delinquent and substance abusing behaviors. While empirical research regarding the causes of adolescent substance use varies, this literature review will discuss select key factors in greater detail. It will begin by presenting information about the prevalence of substance use and child maltreatment, risk factors associated with each, explain the role that family structure has on delinquency and maltreatment, and finish by using empirically validated criminological theories to help explain how childhood maltreatment and adolescent substance use are interrelated.

Prevalence of Substance Use

"Adolescent substance use is a major public health problem in the United States that results in significant negative outcomes and long-term costs for individuals, families, and society" (McCart et al., 2011, p. 136). McCart et al. used data from the National Survey of Adolescents (NSA) 1995, and the replication study of the NSA from 2005, to assess trends in substance use. They identified that cigarette and alcohol use is declining, while the use of marijuana and hard drugs remains stable. Moreover, data from the Monitoring the Future (2002) survey was used to collect similar information, and it also showed that alcohol is the most widely used substance, with 80% of high school seniors reporting use. In addition, 45% of eighth graders reported using alcohol, 20% in the last 30 days (Burrow-Sanchez, 2006). Cigarettes were second to alcohol, with marijuana being the third most widely used substance.

Pain killers are a substance that is gaining popularity and is more frequently being used by adolescents. According to Drug Free World, in 2007 2.2 million Americans abused

prescription pain killers for the first time, with nearly one third of these new users being adolescents ages 12-17 (SAMHSA, 2007; Wu, Ringwalt, Mannelli, & Patkar, 2008). The annual Monitoring the Future survey found that lifetime, non-prescribed prescription pain reliever (PPR) use among 12th graders doubled from about 6% in the early 1990s to 13% in 2005 (Johnston., O'Malley, Bachman, & Schulenberg, 2005). Additionally, the number of overdoses and deaths attributed to prescription pain killers has increased, and now surpasses those of heroin and cocaine (Wu et al., 2008). Given the rising prevalence of opiate prescription drug abuse, and because such data is readily available within the NSA (1995), the focus of this study will be pain killer use. As the above briefly touched on, there are a number of factors that increase the likelihood that a youth will use substances. These factors will be described in greater detail, with an emphasis on their interaction with other factors, throughout the remainder of the literature review.

Risk Factors for Adolescent Substance Use

Risk factors are described as "anything that increases the probability of a person using drugs" (Burrow-Sanchez, 2006, p. 284). The risk factors mentioned include contextual factors such as legality (i.e. what are the legal ramifications of using drugs) and availability, along with individual factors. Individual risk factors include problem behaviors at an early age, learning disorder, family problems, family member use, association with peers who use, and coexisting mental health diagnosis (e.g. depression, ADHD). Many of the risk factors for adolescent substance use are shared with those experienced by victims of maltreatment, which is also influenced by family structure. As a result, throughout this literature review, while each risk factor is individually identified, connections will be made to show how risk factors interact with one another, touching on the interrelationships this thesis hopes to explore.

Youth Mental Health

The individual factor of depression has been linked repeatedly to adolescent substance use and abuse. In the 2005-2006 National Survey on Drug Use and Health (Substance Abuse and Mental Health Services Administration [SAMHSA], 2007) it was determined that youth who had experienced a major depressive episode in the last year were more likely to use cigarettes, alcohol, and illicit drugs than youth who had not experienced a major depressive episode. In fact, youth who had experienced a major depressive episode were more than twice as likely to begin using illicit drugs (12% as opposed to 5.8%). There also appears to be a difference in the types of mental health and behavioral issues faced by youth of different races. Male Caucasians are more likely to experience depression, anxiety and mental health disorder diagnoses (particularly ADHD), with earlier and more extensive use of substances than are their African American counterparts (Vaughn, Wallace, Davis, Fernandes, & Howard, 2008). Many studies (Herrera, 2001; McGee, 2005) have identified that depression is a potential consequence of victimization.

Victimization/Maltreatment

In 2011, an estimated 681,000 children were the victims of a dispositioned case of abuse or neglect in the United States (USDHHS, 2011). Essentially, 9 out of every 1,000 children were victims of verified abuse or neglect. Males accounted for just over 48% of this population, while females accounted for approximately 51%. African Americans accounted for 21.5%, Hispanics 22.1%, and Caucasians 43.9% (USDHHS, 2011). Of these victims, the greatest number were victims of neglect, while the remaining suffered physical or sexual abuse. Hawkins et al. (2010) used the data from the National Survey of Adolescents (1995) to determine racial difference in physical abuse and found similar results. They identified that African American youth were disproportionately more likely to experience abuse than Caucasian and Hispanic youth. A great

deal of research indicates that youth who suffer from victimization or maltreatment are at a higher risk of engaging in adolescent substance use and/or delinquency. Brezina (1998) stated that "in general, adolescent maltreatment gives rise to delinquency because it erodes important sources of social control, fosters deviant socialization, and generates deep-seated feelings of anger" (p. 90).

A meta-analysis by Haapasalo and Pokela (1999) identified corporal punishment, authoritarian parenting, power-assertive discipline, rejection, abuse, and neglect as important factors influencing adolescent delinquency. "Widom's (1989) widely acclaimed research found that 26% of abused and neglected children had at least one juvenile arrest versus 17% of a non-abused control group, that they had a larger mean number of arrests (2.4 vs. 1.4), and that they were more likely to have committed a violent crime (11% vs. 8%)" (as cited in Heck & Walsh, 2000, p. 178). Dembo et al. (1992) identified that youth who have been sexually or physically abused are more likely to use marijuana than those who have not, and start a pattern of behavior that continues over time.

Gender and Maltreatment

Research has identified that males and females respond to abuse and neglect differently. Males who experience abuse are more likely to offend; they are also more likely to be violent offenders (Haapasalo & Pokela, 1999). Females who experience abuse as children are more likely to experience suicidal thoughts and drug and alcohol dependency (Lewis, Yeager, Cobham-Portorreal, Klein, Showalter, & Anthony, 1991). McGee et al. (2005) also found that females are more likely to internalize victimization and show symptoms such as depression and anxiety, while males are more likely to demonstrate delinquent behavior. One study contradicts these findings in that even though females are more likely to internalize the effects of their

maltreatment, males have been identified as more likely to use drugs or alcohol as a result of their victimization (Danielson et al., 2009).

Sexual Abuse

Females who experience sexual abuse are more likely to exhibit behaviors that "range from psychological problems such as fear, anxiety, depression, anger, and hostility to behavior problems which include inappropriate sexual behavior, difficulty in school, alcohol and drug use, truancy, running away from home, and early marriage" (Herrera, 2001, p. 36). Males, however, are again more likely to externalize their behaviors as evidenced by greater levels of delinquency, sexual risk taking, and sexual victimizing others (Chandy, Blum, & Resnick, 1996; Weeks & Widom, 1998). In addition to gender differences, Carson, Sullivan, Cochran, and Lersch (2008) found that the earlier the age a child experienced sexual assault, the greater the likelihood of the youth experiencing depression, family problems, suicidal thoughts, and substance use in adolescence.

It is widely accepted that childhood maltreatment potentially leads to deviant behaviors. One key element for risk of abuse that has been identified is that children from "nontraditional families" are more likely to experience abuse and neglect (Lykken, 1995; Walsh, 1990). Whelan (1994) showed that children who live with their biological mother and another man are significantly more likely to be abused. Researchers such as Krohn, Hall, and Lizotte (2009) have suggested this link occurs because each family transition places more strain on the family, which thereby makes a youth more likely to engage in delinquent behavior.

Family Structure and Family Factors

The variety of homes a child may live in include homes with married biological parents, cohabiting parents, single parents, step-parents, grandparents, relatives, one biological parent and

another significant adult family member, adoptive parents, or other nonrelatives (Apel & Kaukinen, 2008). "Primarily a consequence of divorce rates and single-parenthood, the United States Census Bureau (2000) indicates that approximately 27% of children under the age of 18 live in a one-parent household and that 85% of single parents are mothers" (Spohn & Kurtz, 2011, p. 333).

Blau and van der Klaauw (2007) analyzed data from the National Longitudinal Survey of Youth to determine what percentage of a youth's life is spent living with both biological parents, stepparents, and single parenthood. They found that on average, African American youth only spend 34% of their childhood living with both biological parents, compared to 73% for Caucasian, and 64% for Hispanic youth. At the same time, all races are similar in the likelihood of spending time with a stepparent in the household. Blau and van der Klaauw (2007) noted, however, that youth in African American families were more likely to experience more change in who the stepfather was, resulting in more family transitions. These family structures are important because research shows that youth from two parent families, as well as families with one biological parent and another adult relative, are consistently found to participate in less substance using behaviors (Barrett & Turner, 2006; Kierkus, Johnson, & Hewitt, 2010; Turner, Irwin, & Millstein, 1991).

The most prevalent family structure risk is found in homes where neither biological parent is involved, followed by step-parent families, and single-parent families (Kierkus, Johnson, & Hewitt, 2010). Still other researchers have found even greater effects when a youth undergoes a number of family transitions (i.e. changes in the person acting as mother or father). The more transitions a youth experiences, the higher the likelihood of engaging in substance use (Krohn et al., 2009). This effect is seen with all forms of substance use ranging from tobacco to

illicit drugs, as well as patterns of use (e.g. age at initiation, life-time use, and use in the past month or year). It also persists when controlling for other factors such as family processes and demographic factors (Turner, Irwin, & Millstein, 1991). Youth facing the greatest risk are those from homes in which neither parent is present. Increased risk was next seen for youth who have been raised in stepfamilies or single-parent families. Interestingly, youth who come from single parent families, yet have one other adult relative living with them, receive many of the same protective benefits of two-parent families (Barrett & Turner, 2006).

The statement that another adult *relative* living in the home is beneficial, is significant. There is a difference identified in family structures that include cohabiting parents (even if biological), and stepparents, when compared to married, biological two parent homes. Kierkus, Johnson, and Hewitt (2010) examined a national sample of youth to assess whether or not cohabiting between parents increased the likelihood of a youth participating in delinquent and substance using behaviors. They determined that being from a cohabiting family did increase the likelihood of delinquency and substance use, but the effect was mediated, at least in part, by family stressors such as frequent moving, harsh punishment, and problem drinking within the family; as well as a cluster of community stressors. That said, overall it appears that a married, biological family provides the greatest protective influences. Apel and Kaukinen (2008) found similar results in their study; delinquency increases even with two biological parents cohabiting as opposed to being married. This effect becomes greater when considering cohabiting without two biological parents, particularly with a biological father, and a non-biological mother.

Family Transitions

While it is recognized that family structure plays an important role in delinquent behavior, the importance of how family transitions (i.e. the number of times the perceived person

playing the role of mother or father changed) impact youth is emerging. That is, research is beginning to establish that with family transitions, comes a greater likelihood of participation in delinquency. Potential explanations for this include the change in environment, changing social networks, and/or related school problems. Krohn, Hall, and Lizotte (2009) propose that boys are more likely to react negatively toward a change in family structure than are girls. It is hypothesized that family transitions lead to male children exhibiting externalizing behavior disorders such as delinquency and drug use. Keller, Catalano, Haggerty, & Flemming (2002), do not necessarily agree that males are more likely to engage in delinquent behavior in response to family change. These authors determined that although this variable influenced children of both genders, females were more likely than males to internalize their negative reactions, and experience detrimental substance abuse.

There is a great deal of debate in the literature regarding how, or to what extent, family structure alone influences the likelihood of participating in delinquent behavior. Many authors have determined that family structure influences family interaction. Without question, a youth's family inhibits, or exacerbates, the effects of genetic predisposition, socio-economic status, and it is often viewed as the primary predictor of whether or not a youth will engage in delinquency. Parents who provide inductive (i.e. parenting that explains why a behavior is unacceptable and provides alternative methods of coping) and warm parenting techniques are more likely to have children who abstain from delinquency, and exhibit fewer externalized behavior problems than families who resort to harsh, physical punishment, or yelling (Kerr, Lopez, Olson, & Sameroff, 2004). Moreover, family structure is often cited as a factor in family bonding and cohesiveness.

While early studies accepted the importance of family composition at face value, that is, it was taken for granted that single parent households, or divorce, caused delinquency, more

recent studies have found that the true indicator of participation in delinquency is the quality of the parent-child relationship (Kierkus & Baer, 2002). According to these researchers, youth from "broken homes" are more likely to experience a disruption in parental attachment, and this is what truly causes delinquency—not merely the fact that the child is from a "broken home". The quality of parent-child relationships is very important to the well-being of youth. Kim and Cicchetti (2004) even found that children who have been mistreated by their mothers, yet report having a generally positive relationship, have higher self-esteem than those who report having a poor relationship with their mothers.

Another area that has been addressed through research is how the family came to be "broken," and whether or not that influences participation in delinquency. Prince and Kunz (2003) found a positive correlation between divorce and both minor and serious delinquency. However, these authors argue that this may be a spurious relationship in that the family may have experienced dysfunction or violence prior to divorce. Additionally, the quality of the parent-child relationship can be hindered by divorce because divorce may cause stress to the custodial parent, loss of income, or depression, and therefore lower the levels of parental monitoring. Some mothers in divorced families also place fewer demands on their children, and use less effective discipline than married mothers (Simons et al., 1999). The effects of divorce can be moderated by the non-custodial parent maintaining a "parental role" (i.e. continuing as a parent rather than a friend). A parent can accomplish this by remaining involved in a child's schooling, participating in everyday discipline, and reinforcing prosocial behavioral standards (Simons et al., 1999). It is not enough for the non-custodial parent to take the child to the movies or a baseball game; parenting must be consistent, and perceived by the child as parental-type behavior.

Parental substance abuse is another key indicator of whether or not a youth becomes engaged in delinquent behavior. According to Zucker (1976) "the alcoholic is so ineffective in employing parenting skills that the preschool child is at grave risk for becoming antisocial, being rejected by peers, and failing in school" (as cited in Patterson et al., 1992, p. 108). Additional factors contributing to this are that children from homes with substance abusing parents face poor family management, high family conflict, low cohesion, high stress, poverty, family violence, physical and mental illness, lower education, and legal troubles (Keller, Catalano, Haggerty, & Flemming, 2002).

Children in these families are often more likely to face more parent figure transitions (i.e. a change in adult who is acting in the parent role) than children from non-substance abusing homes. The number of parent-figure transitions is also an indicator of participation in delinquency or substance abuse. In addition, children with parents who had criminal records were five times more likely to engage in delinquent behavior than youth whose parents had no criminal convictions (Keller et al., 2002).

In a study examining how parental figure transitions impacted the likelihood of a youth becoming involved with delinquency and substance abuse, the only predictive factor found for male substance abuse was age (Keller et al., 2002). That is, the older a participant became, the more likely he or she was to have tried drugs at some point. Females had a greater likelihood of engaging in substance use with more family transitions. Keller et al. (2002) also found that parental depression had a negative association with adolescent drug use. This finding is contradictory to what one might expect (given the negative influence on depression on parental effectiveness) and with what the studies discussed above have discovered. Peiponen, Laukkanen, Korhonen, Hintikka, and Lehtonen (2006) also found that maternal and paternal depression alone

did not increase likelihood of a youth engaging in substance use; however, when the parent also abused alcohol, the youth was more likely to engage in substance use him or herself. Given the influence of parental monitoring, the majority of the literature suggests that youth of parents who have substance abuse disorder are more likely to engage in substance use or abuse (Patterson, Reid, & Dishion, 1992; SAMHSA, 1998). One notable exception to the protective benefits of two-parent families is seen in African American youth.

Amey and Albrecht (1998) determined that "black adolescents appear to be protected from the initiation of alcohol and marijuana by more non-traditional family structures, at least as these are typically defined in the larger social context" (Amey & Albrecht, 1998). Those from two-parent families, including biological and adoptive parents, were actually more likely to use both substances. Amey and Albrecht (1998) propose that this influence may be seen as a result of the greater prevalence of single parent homes in African American families, which leads to lower levels of stigmatization associated with coming from a single parent home. In addition, black youth are also less likely to experience the remarriage of a parent, resulting in a stepparent home and/or a greater number of family transitions.

The Interplay Between Family Structure and Child Maltreatment

Spohn and Kurtz (2011) have conducted the only study to date that combines family structure and child maltreatment in an effort to assess the interrelationship between these two important factors associated with adolescent delinquency. They identify that "[our] theoretical approach views the structure of a family as a context in which youth and adolescents interpret the experience of abusive punishment and maltreatment" (Spohn & Kurtz, 2011, p. 333). They state previous research suggests abuse is more likely to occur in non-biological two parent families, specifically those with a boyfriend or stepparent within the home. With this information, they

hypothesize that children from families with a stepparent are more likely to experience abuse, and that abuse makes them more likely to engage in violent delinquent activity. The results of their research support that when a child is victimized in non-intact two-parent families (i.e. not biological mother and father), this victimization is more likely to result in a youth participating in serious delinquency when compared to intact two-parent families.

While recently a greater focus in research has been centered on family structure, historically, theories of delinquency have focused on other elements. By and large, it is believed that some element of the social environment influences delinquent behaviors. Two of the most prevalent, and frequently tested, theories in relation to delinquency and adolescent substance use are social control or bonding theory, and general strain theory. The theory of social control is recognized as fundamental in assessing how and why a youth begins to engage in delinquent activity.

Social Control Theory

Hirschi (1969) explained 0control theories posit that delinquent acts occur when an individual's ties to society are weakened or broken. He put forth that rather than attempting to explain delinquency as the abnormal behavior, one should try to explain conformity. That is, social control theory posits that people are inherently drawn to criminal, or delinquent, behavior because it is the quickest means of attaining goals. What inhibits individuals from following their natural inclinations to be delinquent and self-serving is developing a bond and, therefore, conforming to behaviors exhibited by those we have bonded with. As summarized by Lilly, Cullen, and Ball (2010) "much like a dam holding back floodwaters, social bonds keep individuals safe from crime. But if the dam cracks or breaks, then criminal motivations can flood these individuals and no barrier exists to prevent them from offending" (p. 115).

Conformity is defined as a bond achieved through socialization, between and individual and society. It is comprised of four major elements: attachment, commitment, involvement and belief (Hirschi, 1969). Together, attachment, commitment, involvement, and belief make up a social bond. Social bonds discourage one from engaging in non-conforming behaviors and therefore inhibit most individuals from committing crime or delinquent behavior. Most individuals do not want to risk hurting or breaking their social ties and bonds in order to quickly satisfy their desires.

Each of the four elements play a key role in understanding delinquency. Hirschi (1969) begins to explore attachment by comparing and contrasting how sociologists and psychologists view conformity. He states that while sociologists believe that man is sensitive to the opinions of others, and that contributes to conformity, psychologists believe that man is insensitive to the opinions of others, which results in deviant behavior. Hirschi (1969) believed that both of these fields were lacking in their assessment of the issue. He points to psychologists' assessment of a psychopath and their focus on grouping things together, thereby minimizing the effect of attachment. He explains that psychologists try to assign the person as a type, citing "deficient attachment to or affection for others, a failure to respond to the ordinary motivations founded in respect or regard for one's fellows" and "excessive aggressiveness" (Hirschi, 1969, p. 17) as the defining features of a psychopath. Hirschi (1969), however, believed that the characteristics of a psychopath could be attributed to their lack of attachment to others. There is no need to further complicate and conflate the issues, "it can be argued that all of the characteristics attributed to the psychopath follow from, are effects of, his lack of attachment to others" (Hirschi, 1969, p. 17). This lack of attachment leaves one free from moral restraints, a conscience, and a superego, and therefore, free from guilt. This same person would not hold him or herself to social norms. If

he does not care about the expectations of other people, then he is free to behave in deviant ways. Attachment recognizes the importance of factors such as family, friends, and community.

Children raised in homes with quality attachment to their parents do not want to disappoint them. This results in the parents having an indirect control over their children, even while they are not present and providing direct physical oversight. Hirschi (1969) provides a distinction between direct and indirect control:

> So-called 'direct control' is not, except as a limiting case, of much substantive or theoretical importance. The important consideration is whether the parent is psychologically present when temptation to commit crime appears. If, in the situation of temptation, no thought is given to parental reaction, the child is to this extent free to commit the act. (p. 88)

In regards to youth and delinquency, it can be ascertained that youth with limited parental attachment have nothing to lose by engaging in behaviors that may be viewed negatively by the parent; they just do not care. Further exacerbating this condition is that maltreated youth may begin to fear adults, which results in continued poor attachment with possible role models such as teachers, coaches and other adult mentors (Zingraff et al., 1994). If an individual does not develop these ties, due to abuse and subsequent lack of quality parental relationships, he or she does not have anything inhibiting them from engaging in criminal or delinquent behavior; there is no stake in conformity (Toby, 1957).

Rankin and Kern (1994) used the 1972 National Study of Youth to assess what effect attachment and family structure had on the likelihood of participation in delinquency. They found that being attached to one parent provided protective factors to participating in delinquency; however, there was not a cumulative effect to where having an additional strong tie

to the other parent continued to lessen likelihood of involvement in delinquency. At the same time, children living in single parent homes, who reported great attachment to their custodial parent, still did not receive the protective benefits of children who reported great attachment to both parents living in one home.

The next element Hirschi (1969) addresses is commitment. Commitment is the rational part of conformity. It is that which each individual recognizes and make decisions with. Hirschi (1969) provides the example of a man who has attended school to get an education, built a business, or has a history of virtuous behavior. As he has committed time, energy, and/or finances to this part of his life, he must weigh any deviant behavior against what he has achieved. He will weigh the potential consequences of behaving in a way that goes against the social norm. Whereas attachment was compared to the superego of psychology, Hirschi (1969) compares commitment to the ego. The committed person is able to recognize that the costs of a ten dollar "hold up" does not justify the end result of potentially 10 years in prison. This is not to say that someone may underestimate the risk involved and suffer a consequence for deviant behavior. Commitment also recognizes that individuals have ambition and while they may not have everything they want at the time, they are able to see how engaging in prosocial behaviors will help them to obtain what they need. In addition, from an early age, children may learn alternative values and norms. For example, if a child is raised in a home where drugs are bought and used, that child is more likely to engage in drug using behaviors. The key factors that may be identified through commitment are family, career, success, and future goals.

The third element of conformity that Hirschi (1969) examines is involvement. Essentially, involvement requires that people are so busy being involved in socially acceptable behaviors, they do not have time to be involved in deviant behaviors. This element is observed in

life as after school programs, sports, and being drafted into the army. Hirschi (1969) quotes Sutherland, "in the general area of juvenile delinquency it is probable that the most significant difference in juveniles who engage in delinquent activity and those who do not is that the latter are provided abundant opportunities of a conventional type for satisfying their recreational interests while the former lack those opportunities or facilities," (p. 22). While it is recognized that all adolescents have some degree of leisure, what they do with that leisure time is key to the types of values and beliefs they hold, and therefore, the behaviors in which they engage. To put this simply, people are too busy to engage in criminal behaviors. Factors to be taken into consideration for involvement include extracurricular activities such as sports, church, and social groups.

The fourth element Hirschi (1969) identifies is belief. According to social control theorists, man is guided by a personal set of beliefs. These beliefs are built upon values and behaviors respected within a group. Society, as a whole, holds similar values and beliefs: that is, social norms. Given this premise, Hirschi (1969) states "many persons do not have an attitude of respect toward the rules of society; many persons feel no moral obligation to conform regardless of personal advantage" (p. 25). Hirschi (1969) provides that this approach is different from theories such as strain because there is no neutralization process. That is, the individual does not attempt to justify his or her deviant behaviors. Those who engage in deviant behavior actually are less likely to adhere to a moral norm, this in turn causes them to have less respect for social norms, which makes them less likely to follow rules and, therefore, more likely to violate social norms. Hirschi clarifies that a deviant does not inherently have a different set of beliefs or values, he or she may very well know that the actions they are committing are wrong. The difference arises in the fact that the bond he or she has to social norms is lessened and contingent upon the

strength of other beliefs they hold. Some beliefs identified as key components are honesty, morality, patriotism, responsibility, and fairness.

Relationships between the four elements are evident, "the chain of causation is thus from attachment to parents, through concern for the approval of persons in positions of authority, to belief that the rules of society are binding on one's conduct" (Hirschi, 1969, p. 200). Hirschi (1969) identified three relationships between the elements as being of greater importance in explaining delinquency: attachment and commitment, commitment and involvement, and attachment and belief. Hirschi (1969) notes that previous research has identified an inverse relationship between attachment and commitment. That is, the more one feels strongly attached to those close to him or her, the harder it is to step outside of his or her belief system and engage in different types of behaviors. More specifically, he identifies that youth from lower socioeconomic status are more likely to be tied to their group. This results in them engaging in behaviors similar to those around them.

Commitment and involvement relates to the fact that when an individual feels committed to a particular group, those commitments encourage involvement in prosocial activities. Attachment and belief are linked in that the greater attachment, or respect (love and fear) a child has for his or her parents, and other adult authority figures, the more that child will engage in conventional behaviors; and the more likely that the child will follow rules set about by the authority figure. Conversely, the less respect the child has for authority, the more likely the child will engage in delinquent behaviors and ignore the rules.

Hirschi's theory of social control has been tested numerous times (Akers & Sellers, 2008; Pratt, Gau, & Franklin, 2008). The results have been consistent in that delinquent and non-delinquent youth share similar beliefs about society. At the same time, youth with a greater

attachment to their parents have been found to be less likely to engage in delinquent behavior. Youth involved in more conventional activities (e.g. homework and sports), with conventional values (e.g. obtaining a good education) were less likely to engage in delinquent behavior. Youth with lower levels of attachment and with weak relationships were more likely to engage in delinquency (Guang-zhen, 2006; Spohn & Kurtz, 2011; Hartwell, 1999).

In summary, Hirschi quotes Emile Durkheim, "the more weakened the groups to which the individual belongs, the less he depends on them, the more he consequently depends only on himself and recognizes no other rules of conduct other than what are founded on his private interests" (p. 16, 1969).

General Strain Theory

A second prominent criminological theory is Agnew's (1992) General Strain Theory; and, it differs greatly from Hirschi (1969). Whereas social control theory proposes that social bonds lead to individuals refraining from engaging in crime, strain theories suggest that crime occurs as a result of individuals being unable to meet societal expectations and goals. It is essentially a strain between the goals established by society, and societal or structural abilities to obtain those goals (Anderson & Taylor, 2009). In an early formulation of strain / anomie theory, Robert Merton (1938) explained that because American society places such a high value on material things, property crime is relatively high. Additionally, there would be more crime in lower classes because there is less opportunity to meet material goals through legitimate means (Anderson & Taylor, 2009).

Beginning in the 1960s and 1970s, theorists began to recognize that monetary attainment was not the only type of strain (Agnew, 2008). Agnew (2008) discusses the work of Greenberg (1977) and Elliott, Huizinga, and Ageton (1979) which suggested that juveniles pursue a broad

range of goals. These goals include popularity with peers, autonomy from adults, and pleasant relationships with their parents. An inability to obtain these goals will result in strain. Agnew (1992) drew on the stress literature of sociology and psychology to further develop Merton's strain, or anomie, theory.

According to Agnew (1992), strain refers to any situation that is disliked by the individual. Strains can involve both the presence of a negative stimuli or the loss of a positive stimuli, or an individual not being able to obtain what he or she wants. Agnew (2008) specifies that the types of strain most likely to lead to delinquent or criminal behavior "(a) are high in magnitude, (b) are perceived as unjust, (c) are associated with low social control (or with little to lose from crime), and (d) create some pressure or incentive for criminal coping," (p. 333). He also identifies specific strains most conducive to delinquency, including parental rejection (parents do not express love or affection for their children, show little interest in them, and provide little support to them); harsh, excessive, or unfair discipline (involving physical punishment, the use of humiliation and insults, screaming, and threats of injury); child abuse and neglect (including physical, sexual, emotional abuse, the failure to provide adequate food, shelter, or medical care), and negative school experiences (low grades, negative relations with teachers, viewing school as boring, abusive peer relations).

Research has supported that most of these types of strain do contribute to crime and delinquency, in particular parental rejection, harsh discipline, criminal victimization, and homelessness have all been found to have relatively large effects on crime (Agnew, 2008). Not only does Agnew (1992) provide that these types of strains do contribute to delinquency, but also why they contribute to delinquency.

The primary reason provided why strain increases delinquency is because it causes negative emotions, such as anger, frustration, fear, and depression. The person experiencing strain wants to do something to correct the way he or she is feeling. According to Agnew (2008), "anger occupies a special place in GST, because it energizes individuals for action, reduces inhibitions, and creates a strong desire for revenge" (p. 334). Strains that are perceived as unjust may be more likely to result in anger and violence. In addition, strains that are difficult to escape from are more likely result in depression, and subsequent drug use.

In recent years, Agnew (2008) has recognized the role that social control may play in why strains lead to delinquency. Agnew proposes that negative treatment of the individuals may decrease their bonds to conventional others, such as their parents. It can also lead to a reduction in adherence to conventional society; in a youth population this can be particularly true if the source of the strain is poor grades or suspension (Agnew, 2008).

Strains may also result in long term negative emotions, leading individuals to become upset and angry. Additionally, new strains are likely to overwhelm them, which leads to more negative coping and greater likelihood of participating in delinquent or criminal behavior (Agnew, 2008).

How an individual responds to strain also influences the likelihood of engaging in delinquency or criminal behavior. General strain theory identifies a number of characteristics more likely to result in criminal behaviors. These are that the individual will possess poor coping skills and resources, have low levels of conventional social support, have weak social bonds, associate with criminal others, hold beliefs favorable to criminal coping, and find themselves in situations where the costs of criminal coping are low and the benefits high (Agnew, 2008). To summarize, "individuals are most likely to engage in criminal coping when they (a) are unable to

engage in legal coping, (b) have little to lose by criminal coping, (c) are disposed to criminal coping because of the people with whom they associate and the beliefs they hold, and (d) encounter attractive opportunities for crime," (Agnew, 2008, p. 335).

Summary and the Present Study

Generally, this literature review has demonstrated interrelationships regarding the causes of adolescent substance use and involvement in delinquency. It seems as though with each study conducted, and factors influencing delinquency identified (i.e. family structure, to family conflict, to parenting styles, to sociodemographic variables), few studies actually examine the interrelationships between the variables. This results in little ongoing consensus as to how the factors relate, why variables are conducive to delinquency, and the best approach to providing services for prevention.

This study attempts to control for a large number of social variables and build upon the work of Spohn and Kurtz (2011), while looking specifically at adolescent use of pain killers. Considering that general delinquency and substance use are frequently separated in research, it is worth investigating the impact that family structure, strains, and bonds together have on adolescent substance use. Spohn and Kurtz (2011) have investigated the interrelationship between family structure and childhood maltreatment for externalizing behaviors. This study will consider what, if any, interrelationships there are between family structure, childhood maltreatment, and internalizing behaviors such as adolescent pain killer use. This study will also differ from the work of Spohn and Kurtz (2011) in that it will draw upon elements of social bonding theory in addition to general strain theory. It is hypothesized that the key tenant of attachment is likely to be disrupted in homes where children experience abuse and neglect. While Spohn and Kurtz (2011) used the same data set this study will employ, they did not

account for the level of attachment between youth and their parents, or commitment to school. Instead, they focused only on strain theory and how the strain of abuse may influence participation in violent delinquency, in combination with family structure. This study will attempt to see if the same results are identified in regards to adolescent pain killer use, as well as whether or not family structure is mediated by the quality (attachment) of the parent-child relationship or strains such as abuse or poor grades.

Chapter 3: Methodology

Data from the National Survey of Adolescents in the United States (NSA), 1995 (Kilpatrick & Saunders) were analyzed to determine the potential interrelationship between family structure, family transitions, abuse, failing grades, attachment, commitment, and pain killer use. The NSA interviewed adolescents, aged 12-17, and one of their residing parents, or guardians, via telephone. The researchers used a stratified random sample consisting of 4,023 adolescents. This consisted of 75% of eligible households, and 95% percent of households in which parents provided consent agreed to take part in the study.

The NSA (1995) sought to determine victimization experiences, the mental health effects of victimization, substance abuse/use, and delinquent behavior in adolescents (Kilpatrick & Saunders, 1995). Youth also answered questions pertaining to violence, drug abuse, school, stressful life events (e.g. death of a loved one, parent divorce), and assaults. The interviewed parents answered questions regarding demographic information such as gender, marital status, education and socioeconomic status (Kilpatrick & Saunders, 1995).

Given the information presented in the literature review, it is hypothesized that children from non-intact families will be more likely to experience abuse. Additionally, youth who have been abused (i.e. a strain), will report higher incidents of prescription pain killer use. It is also hypothesized that the effect of family structure will be mediated by the level of attachment the youth has to his or her parents, or commitment to society (i.e. school), in that greater levels of attachment and commitment, will result in a lower rate of painkiller use. As explained in the above literature review, previous research suggests the importance of family transitions in adolescent substance use. As a result, family transitions will also be considered in whether

family structure, or transitions, influence physical or sexual abuse, school involvement, attachment, and pain killer use. These hypotheses are presented in figure 1.

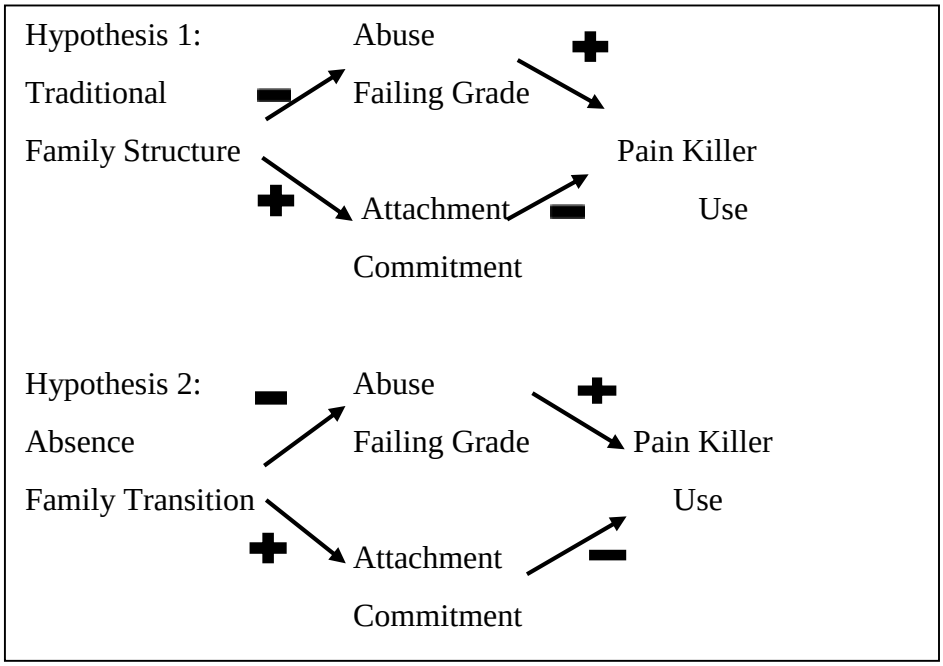


Figure 1. Overview of hypotheses.

Variables

Independent Variables.

To conceptualize the independent variable of family structure for this study, a similar analytic technique to Kierkus and Hewitt (2006) will be employed. This is because the same data set will be used, and one key purpose of this study is to determine whether or not cohabitating families exert a greater influence on a type of deviant behavior (although Kierkus and Hewitt (2006) examined a different set of dependent variables). The NSA (1995) data set measured marital status and allowed for the following categories "married", "living as a couple", "separated", "divorced", "widowed", and "single/never married." These responses allowed for the creation of the following independent variables for family structure (1) two parent married families, (2) two parent cohabitating families (i.e. living as a couple), (3) single parent families

(including separated, divorced, and widowed), and (4) families in which the parents have never been married. It is recognized that this method of conceptualizing the variables may be of some concern considering that youth raised in two parent biological cohabitating families may experience differences when compared with one biological parent cohabitating families, particularly because the past research indicates a negative impact of step-parent families. However, according to Kierkus and Hewitt (2006):

> [Family structure] was the primary independent variable of interest. Based on parental response, families were classified as two-parent married (biological or step), two-parent cohabitating (biological or step), single parent, separated (for any reason, including death or divorce) and single parent, never married. Although the authors are aware that this system of classification may mask some theoretically relevant variation (e.g. there may be important differences between families where two *biological* parents are cohabitating, and those where one, or both, of the cohabitating guardians is *not* a biological parent), this was the most comprehensive, and diverse, measure possible given the limitations of the data set. (p. 14)

A second pair of independent variables: family transitions, will be used in hypothesis two. This has been conceptualized as whether or not the youth has experienced family transitions within the past year. The NSA data set provides two variables: "parents separated or divorced" and "new stepmother or stepfather" having occurred within the last year. These two forms of family transitions will be analyzed separately, to determine whether a loss of a parent in a household provides different outcomes than the addition of a new parent in the household. This will allow for some insight and control as to whether or not recent family transitions influence

the outcomes of the dependent variables as suggested by Krohn et al. (2009) and Keller et al. (2002.)

In addition to family structure and transitions, a number of independent variables will be used as control variables to ensure that the relationship between family structure and substance use is not spurious. These control variables will include demographic information such as age, gender, socioeconomic status and race. The literature review above discussed the potential impact that gender and race may have on substance use, with white youth being more likely to experience substance use (Coley, Votruba-Drzal, & Schindler, 2008) and African American youth being less likely to experience substance use in single-family households. Race will be measured as white, African American, Asian, and other. While additional races were identified in the data set, a limited number of respondents from each race required that they be combined into the "other" category for statistical analysis.

Intervening Variables.

The first intervening variable will be whether or not the youth has experienced abuse. The NSA (1995) provided for a number of variables that represent abuse (i.e. that a youth has been injured or assaulted). Each variable representing violence initially allowed for whether or not abuse had occurred, and who had been the offender—mother, stepmother, father, stepfather, brother/stepbrother, sister/stepsister, grandparent, other adult relative, other child relative, teacher, coach, neighbor, adult leader youth group, minister/priest/rabbi, doctor/health professional, social worker, co-worker, friend, other child, other adult, don't know, refused, and unknown. Considering this research is looking at the influence of abuse by parents on youth, only those acts committed by a mother, stepmother, father, or stepfather were included in the abuse variable used for analysis. Given that a number of violent interactions fit within the

definition of abuse, this study will combine individual "violence" variables to create one variable for overall abuse.

For the purpose of this study, the concept of sexual abuse was operationalized as a dichotomous variable. The respondents answered the question of age when sexual abuse first occurred, this variable was then turned into a dichotomous variable for whether or not sexual abuse had occurred at all (i.e. any age response was coded as "yes," while all other responses were coded as "no.")

The next variable used to determine whether or not abuse had occurred was whether or not the youth had been a victim of physical assault by the parent. This variable was calculated as whether or not the youth reported that the parent was the perpetrator of a physical assault against the youth. This question began with the large number of responses provided above (i.e. who was the perpetrator of abuse) and was recoded into a response in which if any parent was identified as the perpetrator the answer was coded as "yes." If the perpetrator was not a parent, or the youth did not experience a physical assault, the answer was coded as "no."

Following this, traditional indicators such as whether the youth had experienced bruising or marks as a result of spanking or burns as a punishment were recoded into "yes" and "no" variables. For each of these counts of abuse, a variable for the person responsible was also created, as was described above. Lastly, a variable was created that counted all of the possible types of abuse (sexual, physical assault, or disciplinary) into one greater, collapsed variable of whether or not the youth experienced any abuse ("yes" or "no"). This final count for abuse is the analyzed abuse variable. This abuse variable is identified as a noxious stimuli and draws on the work of Agnew's general strain theory (1992).

Agnew (2008) provided a list of strains conducive to crime, including negative school experiences such as "low grades" (p. 333). Drawing upon this suggestion from Agnew (2008), a second mediating variable was identified within the NSA (1995) as a potential strain, whether or not a youth has received a failing grade. This failing grade is perceived to place a stress on the youth's ability to meet expected goals of society, such as passing classes and eventual school graduation. It was coded as a dichotomous variable for "yes" the youth has had a failing grade, or "no" the youth has not had a failing grade.

The first potentially mediating variable representing social control theory for this study will be attachment, as variables for assessing it are readily available through the NSA (1995.) According to Marganski (2013), while attachment has proven beneficial in understanding behaviors resulting from affectionate or emotional ties, studied from criminology to psychology, there has been little consistency in how it is operationalized. She proposes that attachment in criminology should be separate and different from that used in psychology. The primary difference she identifies is that in criminology, attachment is seen as fluid and able to change throughout the life course. In psychology, it is based on the initial bond between an infant and caregiver that provides security and trust throughout life. Marganski (2013) identifies that "emotional closeness, emotional involvement, admiration, and trust emerge as underlying Hirschi's (1969) notion of affectional attachment," (p. 5). Hirschi (1969) used questions such as whether or not youth shared feelings and thoughts with their parents as a measure of attachment and whether their parents seemed to understand these thoughts and feelings. Marganski (2013) identified that Hirschi's theory of social bonds finds attachment "was comprised of close supervision and proper discipline, intimacy of communication, and affectional identification in the form of respect and trust," (p. 5).

The NSA (1995) provides variables including whether or not a parent has talked about how his or her child can avoid being attacked, kidnapped, or sexually abused. While this is not a perfect variable to account for attachment (as it is the parent's view), it may provide insight into the openness of the relationship between the parent and child. Also, it addresses whether or not parents are talking about important safety issues with their children. This variable allows for differing levels of attachment, as each parent reports discussing a subject listed above with their child, the level of attachment increases. A scale for these variables was created because together they had a Cronbach's alpha of .65. Consequently, mindful of the limitations of the variable, it was the best measure provided by the dataset and does include factors similar to what Hirschi (1969) used.

The NSA (1995) additionally provides a set of variables for assessing commitment and, therefore, another key measure of from social control theory. Commitment, as described by Hirschi (1969) is the rational part of decision making. To be committed suggests that the youth will comply with social norms such as attending school. Hemphill, Herrenkohl, Plenty, Toumbourou, Catalano, and McMorris (2012) reviewed a number of studies that looked at outcomes for students who have been suspended. Students who have been suspended are at increased risk to drop out of school, be disengaged with school, receive poor grades, and use drugs or alcohol. One potential reason as to why this occurs is that suspension may lead to a lack of supervision, increased exposure to antisocial peers, and effect student attitudes towards antisocial behavior (Hemphill et al., 2012). These potential explanations highlight the fact that being out of school draws loosely upon the commitment component of social bond theory. As a result, the variable identified for commitment within the NSA (1995) is whether or not a youth has been suspended from school. This was coded as a "yes" or "no" dichotomous variable.

Dependent Variable.

The dependent variable included in this study will be the use of pain killers. This will be operationalized as a youth reports having used pain killers. This is reported in the data as a dichotomous variable with "yes" or "no." Other possible responses included "not sure", "refused", and "unknown," which were coded as missing data. There are additional substances recorded on the questionnaire (such as cocaine, LSD, and inhalants); however, many studies have already investigated these issues (Danielson et al., 2009; Herrera, 2001; Lewis et al., 1991; Vaughn et al., 2008); and given the rise in pain killer use, and the potential lifelong negative consequences of using them (Johnston et al., 2005; Wu et al., 2008), the focus of this thesis will be solely on pain killers. Table 1 summarizes all of the variables that will be used in this analysis.

Table 1. Summary of variables.

Independent Variables	**Control Variables**	**Intervening Variables**	**Dependent Variable**
		General Strain	
Family Structure	Age	Abuse	Pain Killer Use
	Gender	Failing Grade	
Family Transitions	SES	**Social Control**	
Parent Divorce/Separation	Race	Attachment	
New Stepparent		School Suspension	

Statistical Methodology

According to Leech, Barrett, and Morgan (2008) "logistic regression is helpful when you want to predict a categorical variable from a set of predictor variables" (p. 114). Therefore, to determine the relationship between family structure and transitions, abuse, attachment, and commitment, with having ever used pain killers, while still controlling for demographics, a hierarchical logistic regression will be used as the statistical test. This is because the dependent

variable is dichotomous and logistic regression makes it possible to compare multiple independent variables on the same dependent variable at the same time.

In conducting this logistic regression analysis, the first independent variable entered into the regression to predict likelihood of having ever used pain killers will be family structure. This will be followed by the variables for parental transitions (including parents divorced/separated in last year, and new stepparent in the last year) being added into the regression. This will provide a basis for how family structure influences youth pain killer use. Following this, the variables controlling for basic demographics, including age, gender, socioeconomic status, and race will be added to ensure any identified relationships between family structure or transitions and pain killer use are not spurious.

The next variables entered into the logistic regression will be the variables representing general strain theory, including abuse and failing grades. As described above, the abuse variable includes being a victim of sexual assault, physical assault by a parent, and physically abusive punishment through marks or burns. Ideally, this will provide greater information than family structure alone (as was evidenced in Spohn and Kurtz, 2011). Following these variables, concepts from social control theory will be analyzed, including those variables representing levels of attachment and commitment.

Hypothesis 1 (Family Structure)

General Strain Theory.

The first step in the analysis will be to determine whether youth who lived in a family structure other than traditional were more likely to experience abuse. This will be entered into a binary logistic regression, with family structure alone entered as an independent variable and

whether or not a youth experienced abuse as the dependent variable. This will be followed by the same independent variable being entered into a binary logistic regression for failing grades.

Social Control Theory.

The above method will then be repeated to determine what effect family structure has on attachment and the odds of youth being suspended. This will be entered into a binary logistic regression, with family structure entered as the independent variable, and attachment as the dependent variable. For this analysis (and the subsequent one that will be later used with family transitions), attachment will be changed into a binary variable. It will be assessed as "high attachment" and "low attachment." Any family that reported discussing all three situations identified for attachment in the questionnaire will be rated as high. The other responses will be rated as low attachment. This was done to allow the use of binary logistic regression as the appropriate method to analyze the dependent variable. Moreover, an empirical review of the frequency distribution showed that the majority of parents (3,031 of 3990 cases) discussed all three situations with their children (559 parents had discussed 2 of the 3 variables, 244 parents had discussed one, and 156 parents discussed none). Consequently, there was little theoretically relevant variation lost in the dichotomization process. Binary logistic regression will be completed one last time for family structure, using school suspension as the dependent variable.

Pain Killer Use.

The first step in testing the hypothesis stated above is determining whether or not family structure increases the likelihood of a youth using pain killers. The hypothesis posits that youth from a nontraditional family structure will be more likely to use pain killers. A binary logistic regression will be completed to assess this. The independent variables will be family structure and basic demographics with pain killers as the dependent variable.

The next step in the hierarchical logistic regression is to factor in whether or not the youth experiencing abuse or a failing grade (drawing on general strain concepts) mediates the effects of pain use and family structure. This will be followed by whether attachment to the parent or school suspension (social control variables) influence using pain killers.

Hypothesis 2 (Family Transitions)

General Strain Theory.

The first step in the analysis will be to determine whether youth who experienced a family transition; that is, parents separating or the addition of a new stepparent, were more likely to experience abuse. This will be entered into a binary logistic regression, with each family transition variable being entered as independent variables and whether or not a youth experienced abuse as the dependent variable. This will be followed by the same independent variable being entered into a binary logistic regression for failing grades.

Social Control Theory.

The above will then be repeated to determine what effect family transitions have on attachment and the odds of youth being suspended. This will be entered into a binary logistic regression, with the two family transition variables (parents separated or new stepparent) entered as the independent variables, and attachment as the dependent variable. As described above with family structure, attachment will be changed into a binary variable for this analysis. It will again be assessed as "high attachment" and "low attachment." A binary logistic regression will be completed one last time for family structure with school suspension as the dependent variable.

The next step in testing this hypothesis will be to determine whether or not family transitions within the past year influenced youth' likelihood of using pain killers and determining any potential mediating factors.

Pain Killer Use.

The first step in testing the hypothesis stated above is determining whether or not family transitions increase the likelihood of a youth engaging in pain killer use. The hypothesis posits that youth with family transitions will be more likely to engage in substance use. A hierarchical logistic regression will be completed to assess this. Initially, the independent variables will be parents' divorced/separated and new stepparent with pain killer use as the dependent variable. Following this, the remainder of the hierarchical regression will be completed.

After the initial dependent variables have been analyzed, basic demographics of age, race SES, and sex will be entered into the regression. Following this, the variables drawing upon general strain theory will be entered into the equation (abuse and failing grade). Finally, the variables for social control (attachment and school suspension) will be entered. This series of hierarchical regressions will allow for a determination of whether or not family structure or transitions do indeed play a significant role in adolescent pain killer use, or if those effects are mediated by factors identified through general strain and social control theories.

Chapter 4: Results

Sample Demographics

The sample population consisted of 2018 male and 2005 female respondents. 69.5% percent of the respondents were white, 14.5% African American, 9.9% Asian, and 6.1% were identified as other race. The median was used for each income category within the NSA (1995) to determine household income, resulting in the following annual incomes $2,500 (106 families), $7,500 (189 families), $15,000 (356 families), $25,000 (619 families), $35,000 (646 families), $45,000 (515 families), $62,500 (814 families), $87,500 (353 families), $100,000 or more (172 families).

Within the sample, there were 3035 traditional, two-parent married households, 142 cohabitating households, 657 single, divorced, or separated households, and 182 never married households. Parents had divorced or separated in the last year for 7.6% of the youth, while 6.3% had gained a new stepparent in the last year. Any type of abuse by a parent was reported by 427 youth and 1,645 youth reported having at least one failing grade. A total of 533 youth reported they had been suspended from school. With regards to parents discussing potentially dangerous situations, and how their child could remain safe, 156 reported not having discussed any of those situations with their child, 244 discussed one situation, 559 discussed two of the three situations, and 3,031 discussed all three situations with their child. A total of 138 youth reported using pain killers.

Family Structure

Family Structure and Abuse.

The first step in the analysis was to determine whether youth who lived in a family structure other than traditional were more likely to experience abuse. As was predicted, youth from nontraditional family structures had greater odds of experiencing abuse when compared to

youth from a traditional family. The greatest risk was presented in homes where the parental figures were never married, with those youth having over 2 times greater odds of experiencing abuse. This was followed by single parent homes at approximately 1.6 greater odds, both of which were statistically significant. Cohabiting families were not a significant indicator for whether or not a youth would experience abuse.

Family Structure and Failing Grades.

Following the analysis for abuse, a binary logistic regression was again completed for the influence of family structure on whether or not a youth had failed a course in school. Again, the results showed a protective benefit for children in married parent homes. Every family structure other than married parents had a significantly greater likelihood that the youth would receive a failing grade. Children from cohabiting families had the greatest risk in this group, with 2.3 greater odds of failing. This was closely followed by children in families where the parent has never been married at 2.2 greater odds, and lastly single parent homes with 2.1 greater odds of receiving a failing grade.

Family Structure and Attachment.

A binary logistic regression was then completed for the effect of family structure on attachment. Contrary to what was predicted, while each family structure had a greater likelihood of lower attachment, none of them reached a level of significance. The family structure with the closest level to significance was a single parent home, followed by cohabiting, and lastly, never married parent families.

Family Structure and School Suspension.

The last binary logistic regression completed for family structure on a mediating variable was that of school suspension. Family structure was again a significant factor in determining

whether or not a youth had greater odds of being suspended from school. Youth in every "non-traditional" family structure was more likely to be suspended when compared to youth from a married parent family. The greatest risk was for youth in a home where the parent had never been married, with those youth having 2.4 higher odds of being suspended. Youth from cohabiting families had the next greatest risk with 2.4 higher odds, followed by single parent homes with 1.8 greater odds of being suspended from school.

Family Transitions

Family Transitions and Abuse.

A binary logistic regression was completed to determine whether family transitions influenced the likelihood of a child being abused. As was predicted, youth who experienced any type of parent transition were more likely to be abused. The greatest risk was for those in a home where the parents had divorced within the past year, with those youth having 2.3 times greater odds of experiencing abuse. Youth from homes with a new stepparent had 1.9 times the odds of being abused.

Family Transitions and Failing Grades.

The presence of family transitions was again a statistically significant factor in whether or not a youth reported a failing grade. In families where there was a divorce or separation, the youth had 2.2 times greater odds of a failing grade. This was closely followed by a new stepparent at 2 times greater odds.

Family Transitions and Attachment.

There were no significant differences in attachment with the presence of family transitions. While youth who had experienced either transition had slightly greater odds of lower attachment, it was limited to 30% greater likelihood for a home where parents had divorced or

separated, and 12% for homes with a new stepparent; however, it is recognized that without being significant, these results could be due to chance.

Family Transitions and School Suspension.

Youth who had experienced a family transition were again significantly more likely to be suspended from school. This result was higher for youth who had experienced the separation or divorce of parents, with those youth having 2.4 times the likelihood of being suspended when compared to youth with no family transitions. Youth who had a new stepparent had 1.9 times greater odds of being suspended.

Family Structure and Transitions and Pain Killer Use

With the knowledge of how family structure and transitions effect each of the potentially mediating variables for pain killer use, the hierarchical logistical regression analysis was conducted. The first step was to determine whether family structure had an effect on pain killer use. As was hypothesized, youth from every non-traditional family structure had significantly greater odds of using pain killers than youth from married parent families. The greatest risk was found in children from cohabiting families with 2.3 greater odds of using pain killers. This was followed by youth from never married families with twice the odds, and youth from single parent families with 1.8 greater odds.

Following the analyses for family structure, family transitions were separately entered into a regression to determine their effect alone on pain killer use. The presence of a new stepparent did not significantly increase the odds of a youth using pain killers. If the parents were divorced or separated, the youth had 2.3 times greater odds of using pain killers when compared to youth with no family transitions. Family transitions were then entered into the logistic regression to determine how they affect family structure.

Once family transitions were entered into the hierarchical logistic regression for family structure and pain killer use, the significant effects of being from a single parent home and a home in which the parents were never married were no longer present. While these youth exhibited slightly higher odds of pain killer use (1.5 and 1.9 greater odds respectively), these effects were no longer significant. Cohabiting households did retain their significance, with 2.2 times greater odds. The effects of having parents divorced or separated also remained significant, with those youth having 1.9 greater odds, and the highest level of significance at .019), see table 2 for a summary of this hierarchical logistic regression.

Table 2. Family Structure and Transitions, Adolescent Pain Killer Use

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Two married			8.136	3	.043	
Cohabiting	.777	.366	4.502	1	.034	2.176
Single Parent	.392	.229	2.936	1	.087	1.481
Never Married	.617	.346	3.180	1	.075	1.853
Separated	.632	.269	5.528	1	.019	1.881
NewStepParent	.010	.331	.001	1	.976	1.010
Constant	-3.555	.111	1018.001	1	<.0001	.029

For this table, Pearson Chi Square=17.313, df=5, sig .004; any significance level, $p \leq .05$ was considered statistically significant.

Given that there is a statistically significant difference between family structures, as well as divorced or separated parents within the past year, and pain killer use, the remaining analyses were completed to identify any mediating variables. The first step was to complete the hierarchical logistic regression with basic demographic variables.

Entering basic demographic variables into the equation did not eliminate the significance of either family structure, or parents divorced or separated within the past year, on pain killer use. Youth from cohabiting families had 2.3 times greater odds of using when compared to a traditional family structure. Homes in which the parents were separated or divorced within the

past year retained significantly greater odds, with a higher level of significance at .004 and 2.2 times greater odds of using pain killers. Also of note is that age (i.e. the older the youth is, the more likely he or she is to use pain killers) and income were significant predictors. Each year of age provides a 31% greater likelihood of use. Income provides a protective benefit where the greater the income, the less likely the youth is to use pain killers. Table 3 provides the information obtained from hierarchical logistic regression with demographic variables included.

Table 3. Family Structure, Transitions, general demographics, adolescent substance use

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
New Stepparent	.126	.337	.141	1	.707	1.135
Two married			6.660	3	.084	
Cohabiting	.821	.374	4.814	1	.028	2.273
Single Parent	.161	.253	.406	1	.524	1.175
Never married	.635	.383	2.753	1	.097	1.887
Separated	.779	.274	8.106	1	.004	2.179
Gender	-.047	.180	.070	1	.792	.954
Age	.272	.058	21.983	1	<.0001	1.312
Caucasian			2.446	3	.485	
A. American	-.327	.277	1.394	1	.238	.721
Asian	-.385	.331	1.351	1	.245	.681
Other race	.032	.363	.008	1	.930	1.032
Income	-.008	.004	3.962	1	.047	.992
Constant	-7.086	.907	61.063	1	<.0001	.001

For this table, Pearson Chi Square=47.827, df=11, sig. <.0001; any significance level, $p \leq .05$ was considered statistically significant.

The final step of the hierarchical logistic regression was to determine whether the variables drawn from general strain and social control mediated the significance of a youth using pain killers when living with cohabiting parents, or parents divorcing or separating within the past year. This was done by entering each of the mediating variables (abuse, failing grade, attachment, and school suspension) into the logistic regression.

While each family structure remained at increased risk for substance use, neither family structure nor family transitions remained significant indicators for increased odds of pain killer use. Therefore, being abused and school suspension help to explain why youth from "non-traditional" family structures, as well as those who experience a family transition, were more likely to use pain killers.

Age did remain a significant factor for increased likelihood of pain killer use, with 1.3 greater odds of use with each year older. Income also no longer retained any significance in predicting the likelihood of using pain killers. The greatest indicator, aside from age, was whether or not the youth had been abused. Youth who reported being abused had 3.4 times greater odds of using pain killers when compared to youth who were not abused. Also of significance was whether or not youth had been suspended from school, with those youth having 1.7 times greater odds of using pain killers. Table 4 provides the output for the final hierarchical regression, including all mediating variables as well as the demographic variables.

Table 4. Hierarchical Logistic Regression with Mediating Variables, Adolescent Pain Killer Use

Variables	B	S.E.	Wald	df	Sig.	Exp(B)
New Stepparent	-.028	.343	.006	1	.936	.973
Two married			3.964	3	.265	
Cohabiting	.609	.387	2.478	1	.115	1.839
Single Parent	.096	.258	.140	1	.709	1.101
Never Married	.548	.388	1.996	1	.158	1.730
Separated	.527	.282	3.486	1	.062	1.694
Gender	-.164	.188	.758	1	.384	.849
Age	.234	.060	15.015	1	<.0001	1.264
Caucasian			4.657	3	.199	
A. American	-.518	.282	3.372	1	.066	.596
Asian	-.476	.335	2.018	1	.155	.621
Other race	-.030	.369	.007	1	.935	.970
Income	-.005	.004	1.640	1	.200	.995
Attachment	-.091	.112	.652	1	.419	.913
Suspended	.540	.230	5.522	1	.019	1.715
Failing Grade	.377	.203	3.431	1	.064	1.457
Abuse	1.228	.205	35.941	1	<.0001	3.414
Constant	-6.769	1.017	44.257	1	<.0001	.001

For this table, Pearson Chi Square=95.849, df=15, sig. <.0001; any significance level $p \leq .05$ was considered statistically significant.

Chapter 5: Conclusions and Recommendations

Discussion

The results of this study support the hypothesis that there are indeed mediating variables that influence how family structure effects adolescent substance use. Initially, it appeared that being from a home with something other than a traditional family structure did lead to greater odds of pain killer use, particularly for children in homes with cohabiting parents. This held true when basic demographic variables (age, race, gender, and SES) were controlled for. However, as was hypothesized, the introduction of certain strains, or weakened social bonds, did mediate the effects of family structure on adolescent pain killer use, explaining in part, why youth from certain family structures or transitions had greater odds of using pain killers. Youth who experienced abuse by a parent had three times greater odds of using pain killers than their non-abused counterparts. Youth who were suspended from school had significantly greater odds (170%) of using pain killers as well.

Additionally, this research initially supported the findings of Krohn et al. (2009) that family transitions lead to an increased risk of adolescent substance use, particularly the divorce or separation of parents. As with family structure, the nature of these findings was explained when abuse and school suspension were entered into the regression equation. Elements drawn from both social control/bonding (commitment) and general strain (abuse) theories are supported as influencing adolescent pain killer use. Youth who are victims of abuse are at greatest risk for increased odds of pain killer use. Additionally, the family structure and transitions were indicators of a youth being abused or suspended.

Youth from nontraditional family structures, or who experienced the divorce or separation of parents, were more likely to experience abuse, failing grades, and school

suspension. Surprisingly, attachment was not adversely effected by family structure or transitions. The potential reasons for this will be discussed in the limitations section.

This results of this study highlight the need for continued research on the interrelationships between known detrimental variables for delinquency or substance use. To date, this study and Spohn and Kurtz (2011) are the few to examine the interrelationship of family structure or transitions and abuse, which has been shown to be a key variable in both violent delinquency (Spohn & Kurtz, 2011) and pain killer use. However, since these two studies use the same data set, replicating the tests with other research would be valuable.

This study, as well as Spohn of Kurtz (2001), suggests that children from a home where parents are divorced or separated are more likely to experience abuse. However, one can legitimately ask: "What happened first—the abuse or the divorce?" Did one parent remove their child from an abusive situation or did the divorced parent, exposed to greater stresses than in the past, begin abusing his or her child for the first time? Knowing the answer to these "chicken or egg" questions will be beneficial in forming policy, prevention, and intervention services. As it stands, with only the results of this study, it would seem the greatest resources should be aimed at preventing abuse of children and minimizing the use of school suspensions.

Limitations

The above question as to the order of events brings to the forefront some of the limitations with this research. To begin with, it was a secondary data analysis, which inherently limits what can be assessed by the data collected. Moreover, the sample itself presented some problems. It included a very high numbers of married families; 75.4% of the families were two-parent married families. The 1995 census data indicates that approximately 69% of children lived in a two parent household (Saluter, 1995, p. iv). Some of the effects observed may be due to the

nature of the sample itself. Another potential limitation in the study is respondents may not always have been accurate in reporting family structure. Brown and Manning (2009) found that parents and children do not always report coming from the same family structure. While it is unknown how often this occurred in this dataset, it is a potential limitation if family structures were not explicitly stated and explained.

The categorization of family structure and transitions also presents a potential problem. The question pertaining to marital status did not distinguish between biological and stepparents. If that option had been available, the results may have been quite different. Secondly, family transitions only included formal transitions, such as whether parents divorced or separated or if a new marriage took place, resulting in a stepparent. It did not account for multiple significant others coming and leaving the home, such as boyfriends or girlfriends of the parent, which would arguably be a greater concern and pose a greater risk to the youth. It would be beneficial if future research were able to more clearly distinguish who exactly was going in and out of the home, as well as the number of family transitions.

Another limitation is evident in the fact that attachment to a parent was not significant at any point throughout the research. As was discussed in the literature review, attachment has been empirically tested repeatedly, with a great deal of evidence supporting greater attachment to a parent provides a protective benefit. Ideally, the questions relating to attachment would have been answered by the youth about his or her relationship with the parent(s). An example would be whether the child was willing to discuss safety with his or her parent, not asking the parent if they discussed safety with the child. It seems more likely that the variables used for attachment were not as valid as they possibly could have been with a more specific question of youth views on attachment indicators.

Also, this study only operationalized attachment to parents while Hirschi (1969) categorized this component as attachment to parents, school, and peers. Moreover, the operationalization may not have been a valid measure. Hirschi (1969) determined that proper discipline, intimacy of communication, respect and trust were key in developing attachment to parents. He asked questions such as whether a youth would like to be the type of person his or her mother was, whether the youth was able to talk to his or her parents, if his or her parents were involved in the youth's activities or if the youth shared his or her activities with his or her parents, if the youth believed his or her parent would stick by him or her if he or she was in trouble.

Additional studies testing attachment have operationalized attachment with variables such as whether or not a youth is able to talk to his or her parents about feelings, parents explain their own emotions, talk about future plans, whether or not parents explain decisions or rules (Ozbay & Ozden, 2006), help with youth problems, help with homework, and time spent with the parents (Norman & Ford, 2015). Similar questions were also asked about teachers and peers. Kierkus and Baer (2002) used variables including the importance of a youth's relationship with his or her parents, how often parents knew where their children were when not at home, how much time the youth spent at home on the weekends, and how often youth discussed their problems with their parents. Both of the above studies found support for attachment at least in part mediating or explaining delinquency or substance use.

While studies of attachment often use similar variables, there are slight differences throughout them, perhaps leading to less reliability across studies. Marganski (2013) believes that attachment is operationalized in such a variety of ways that it is difficult to compare across studies. She identifies the differences between psychological and criminological indicators

leading to this difference in how attachment is operationalized. As a result, Marganski (2013) proposed standardized variables to accurately assess attachment specifically for criminological research, the Criminological Scale of Affectional Attachment. She first determined whether or not the respondent had an intimate relationship with a parent (primary caregiver), sibling, friends, or romantic involvement. Each respondent was then asked to rate how "emotionally close or connected he/she felt to that person (i.e. emotional closeness), how much he/she liked to spend time with that person (i.e. emotional involvement), how much he/she looked up to that person (i.e. admiration), and how much he/she trusted that person to be loyal and faithful to him/her (i.e. trust)" (Marganski, 2013, p. 7). Each of these was rated on a Likert scale ranging from very little to very much. The test showed evidence that it was internally reliable. Research using the scale may prove beneficial in establishing a set scale for attachment.

Beyond attachment, the variable representing a failing grade may not have been interpreted as a strain to youth. While Agnew (2008) identifies that a failing grade may be a strain, it may also depend upon how each youth views the failing grade and whether or not the individual cares about doing well in school. Furthermore, there is some variety as to how a "failing grade" may be interpreted. The sample indicated that 41% of the youth reported having a failing grade, which raises the question: is the youth interpreting this as a failed grade on one test, overall class on a report card, or some other fail?

Another potential limitation is the variable for school suspension and the assumption that merely being suspended from school leads a youth to reject the entire entity of school and the ability to develop commitment to school. As was discussed in the methods section, some youth may have decreased commitment because of increased interactions with other antisocial peers and greater availability to engage in antisocial behaviors while suspended from school. However,

there is also the possibility that a youth who is greatly committed to the school environment makes a "mistake" and is suspended. There is no way to differentiate these cases based on how the questions were asked, as well as identifying the number of suspensions a youth has experienced. There may be a qualitative difference between a youth suspended once for one day and multiple times for multiple days. Using dichotomous variables such as this limits the information obtained from the study because they only provide two levels of comparison (Morgan, Leech, Gloeckner, & Barrett, 2007).

Throughout this study, most variables (aside from attachment) are simple yes or no responses, which does not encompass the actual options presented in life. As a result, the use of dichotomous variables may lose valuable information (de Vaus, 2002). There is a qualitative difference between youth who use pain killers every day versus those who use pain killers socially. To dichotomize variables throughout the study limited the ability to distinguish within groups and perhaps develop a more in-depth understanding of how or why abuse and suspension affected pain killer use and seriousness of use.

If data had been available, an ordinal logistic regression would have been a better method of analysis as it would not over simplify the data, unlike placing the variables into simple "yes" or "no" answers does. This would have accounted for different levels within the variables. For example, it would have been beneficial to know how frequently youth are abused. This dataset did provide information to determine more than one instance of abuse; however, the responses to these additional questions were limited with all but one or two respondents reporting only two incidents. Another limitation already noted was dichotomizing attachment as "high" and "low" when determining if family structure had an effect on attachment. Attachment is not as simple as that and there is likely some difference between parents that did not talk to their children at all

about staying safe as opposed to those who discussed one or two variables. That said, while the dichotomous variables may not have accounted for as much differentiation, they did provide valuable information and a framework for future study.

Lastly, as was noted in the literature review, the use of pain killers has doubled in the time this survey was administered (Wu, Ringwalt, Mannelli, & Patkar, 2008). It is possible that with greater social acceptance, or prevalence of use, data collected today on pain killers would produce different results. That would be a potential comparison study which should plausibly examine societal acceptance of pain killer use, or even accessibility of pain killers for youth today.

Conclusion

While this study was limited, partially due to the limitations of secondary data analysis, it does provide valuable information that can inform future research and policy. It examines the benefits of looking at interrelationships between variables to determine what the greatest risk to youth is regarding pain killer use. The results of this study suggest resources would be best allocated to programs teaching disciplinary skills, the potential harm of abusive parenting, and perhaps early parenting education. The pamphlets and educational paperwork by Bright Futures and the American Academy of Pediatrics, provided at well child doctor visits, is one method employed to do just this. This paperwork provides age specific guidelines for behavior, safe and effective discipline, family and community support, as well as informing parents on when to discuss specific safety issues with their children. This study also highlights the fact that the best outcomes for youth will rely upon a multidisciplinary approach, encompassing families, society, and education. Some school districts are implementing curriculum nights, even at the elementary level, so parents have a detailed knowledge and understanding of their children's educational

expectations to help increase likelihood of academic success as well as encouraging parental involvement (Greenville Public Schools, 2015). Community programs, such as Families First in Michigan, are able to provide work with families for 30 hours per week, in the home, in families determined to be at high risk for abuse or neglect (Michigan Department of Health and Human Services, 2015). The expansion of programs such as these can help at risk families to prevent abuse and neglect, while addressing other issues such as parental substance use or mental health, which may be placing families at higher risk. Perhaps the greatest benefit is this study is the knowledge that there is not a one system approach to solving adolescent substance use. It is a multifaceted problem and providing the best outcomes for children requires looking at interrelationships in life.

APPENDIX A:

NATIONAL SURVEY OF ADOLESCENTS (1995) CODEBOOK OF RELEVANT AND RECODED VARIABLES

CODEBOOK FOR ICPSR 2388
NATIONAL SURVEY OF ADOLESCENTS IN THE UNITED STATES, 1995

PLEASE NOTE: The "M" between the code and the code label indicates the code has been designated as a missing value.

NAME	VARIABLE LABEL
S1	AGE
	18 Don't know
	19 Refused S1
	99 M Unknown
	*Recode: 18, 19, 99 into system missing
GENDER	GENDER
	1 Male
	2 Female
Q7D	PARENTS SEPARATED OR DIVORCED
	1 Yes
	2 No
	3 Don't know
	4 Refused
	9 M Unknown
ParentsSeparated	PARENTS SEPARATED IN PAST YEAR
*Recode	0 No
	1 Yes
	3, 4, 9 into system missing
Q7L	NEW STEPMOTHER OR STEPFATHER
	1 Yes
	2 No
	3 Don't know

	4 Refused
	9 M Unknown
NewStepParent	RECODE NEW STEP PARENT
*Recode	0 No
	1 Yes
	3, 4, 9 into system missing
Q7T	BEING SUSPENDED FROM SCHOOL
	1 Yes
	2 No
	3 Don't know
	4 Refused
	9 M Unknown
Suspended	SCHOOL SUSPENSION
*Recode	0 No
	1 Yes
	3, 4, 9 into system missing
Q7U	AT LEAST ONE FAILING GRADE/REPORT CARD
	1 Yes
	2 No
	3 Don't know
	4 Refused
	9 M Unknown
FailingGrade	FAILING GRADE RECODE
*Recode	0 No
	1 Yes
	3, 4, 9 into system missing

ABUSE CONSISTS OF A COUNT OF ALL INCIDENTS LISTED BELOW IN WHICH A YOUTH REPORTED THE PARENT AS PERPETRATOR, THEN RECODED INTO DICHOTOMOUS YES/NO VARIABLE:

Q17IA	1ST INCID PERSONS RELAT TO YOU--1ST MEN
	1 Mother
	2 Stepmother
	3 Father
	4 Stepfather
	5 Brother/stepbrother
	6 Sister/stepsister
	7 Grandparent
	8 Other adult relative
	9 Other child relative
	10 Teacher
	11 Coach
	12 Neighbor
	13 Adult leader youth group
	14 Minister/priest/rabbi
	15 Doctor/health professional
	16 Social worker
	17 Co-worker
	18 Friend
	19 Other child
	20 Other adult
	21 Don't know
	22 Refused
	99 M Unknown
ParentSexAPerp	WAS THE PARENT A PERP OF SEXUAL ABUSE
*Recode	0 No (all other responses)
	1 Yes (includes 1-4 listed above)
Q20IA	1ST ASSAULT--RELAT TO PRSN--1ST MEN
	1 Mother

2 Stepmother

3 Father

4 Stepfather

5 Brother/stepbrother

6 Sister/stepsister

7 Grandparent

8 Other adult relative

9 Other child relative

10 Teacher

11 Coach

12 Neighbor

13 Adult leader youth group

14 Minister/priest/rabbi

15 Doctor/health professional

16 Social worker

17 Co-worker

18 Friend

19 Other child

20 Other adult

21 Don't know

22 Refused

99 M Unknown

Q20I2A 2ND ASSAULT--RELAT TO PRSN--1ST MEN

1 Mother

2 Stepmother

3 Father

4 Stepfather

5 Brother/stepbrother

6 Sister/stepsister

7 Grandparent

8 Other adult relative

9 Other child relative

10 Teacher

11 Coach

12 Neighbor
13 Adult leader youth group
14 Minister/priest/rabbi
15 Doctor/health professional
16 Social worker
17 Co-worker
18 Friend
19 Other child
20 Other adult
21 Don't know
22 Refused
99 M Unknown

AbsPhysAsltTot ABUSE PHYSICAL ASSAULT TOTAL

*Recode 0 No

1 Yes

(This yes variable was the total count of anyone reporting 1-4, being physically assaulted by a parent, for the above variables of physical assault)

Q40A SPANKED SO HARD HAD TO GO TO DOCTOR
1 Yes
2 No
3 Not sure
4 Refused
9 M Unknown

Q40C SPANKED SO HARD YOU GOT MARKS
1 Yes
2 No
3 Not sure
4 Refused
9 M Unknown

Q40E PUNISHED BY BEING BURNED 942 942 F1
1 Yes

	2 No
	3 Not sure
	4 Refused
	9 M Unknown
ExperienceAbuse	TOTAL ABUSE VARIABLE
*Recode	0 No
	1 Yes

(This variable was assessed by counting the totals for Q40A, Q40C, and Q40E. Any subject that reported yes in any, or a combination of, each was coded as yes for experiencing abuse, all others were no)

AllFormsAbuse	ASSAULT PUNISHMENT AND SEXUAL ABUSE
	0 No
	1 Yes

(This variable was created by counting totals for ExperienceAbuse, AbsPhysAsltTot, and ParentSexAPerp. Those respondents with counts other than 0 were assigned to yes, those with a rewponse of 0 were assigned to no. This was the variable used for the logistic regressions)

Q30A4	EVER TAKEN PAIN KILLERS
	1 Yes
	2 No
	3 Not sure
	4 Refused
	9 M Unknown
PainKillers	PAIN KILLERS RECODE
*Recode	0 No
	1 Yes
	3, 4, 9 into system missing
D9	RACIAL CATEGORIES
	1 White
	2 Black

	3 Pacific Islander
	4 American Indian
	5 Asian
	6 Something else
	7 Refused
RaceC	RACE RECODE
*Recode	1 Caucasian
	2 African American
	3 Asian
	4 Other
P10A	TALKED ABOUT HOW TO AVOID BEING ATTACKED
	1 Yes
	2 No
	3 Don't know
	4 Refused
P10B	TALK ABOUT HOW TO AVOID BEING KIDNAPPED
	1 Yes
	2 No
	3 Don't know
	4 Refused
P10C	HOW TO AVOID BEING SEXUALLY ABUSED
	1 Yes
	2 No
	3 Don't know
	4 Refused
Attachment	SCALE ATTACHMENT VARIABLE from P10A, P10B, and P10C
*Recode	0 Discussed none
	1 Discussed one
	2 Discussed two

	3 Discussed three
BinaryAttachment	ATTACHMENT FOR BINARY LOGISTIC REGRESSION
	0 Low
	1 High
D3	MARITAL STATUS
	1 Married
	2 Living as a couple
	3 Separated
	4 Divorced
	5 Widowed
	6 Single/never married
	7 Refused
FamilyStructure	FAMILY STRUCTURE VARIABLE
*Recode	1 Married
	2 Cohabiting
	3 Single Parent (includes 4 and 5 from above)
	4 Never Married
INCOME	FAMILY INCOME
	1 $0-$5k
	2 $5k-$10k
	3 $10k-$20k
	4 $20k-$30k
	5 $30k-$40k
	6 $40k-$50k
	7 $50k-$75k
	8 $75k-$100k
	9 > $100k
	99 M Unknown
Income$	FAMILY INCOME RECODE

*Recode	1 $2,500
	2 $7,500
	3 $15,000
	4 $25,000
	5 $35,000
	6 $45,000
	7 $62,500
	8 $87,500
	9 $100,000

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