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An Exploration of Negative Family Factors and Substance Use amongst Adolescents: The Lasting Effects of Family Substance Use, Parental Criminality, and Parental Corporal Punishment

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An Exploration of Negative Family Factors and
Substance Use amongst Adolescents:
The Lasting Effects of Family Substance Use, Parental Criminality,
and Parental Corporal Punishment

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Abstract

Studies have shown that there is a connection between negative family influences and adolescent deviance. The purpose of this study was to investigate how negative family factors may lead to adolescent substance use. The study examines literature that suggests that negative family factors may trigger adolescent substance use. This study utilized secondary data from the 1995 National Survey of Adolescents in the United States (Kilpatrick and Saunders, 1995). A representative sample of adolescents (ages 12-17) and adult parents from the United States was analyzed (n = 4,023). This study examined the direct effects negative family factors have on adolescent alcohol and marijuana use, while observing the mediating effects of peer delinquency, poor school performance, depression, and anxiety, controlling for age, race, sex, and SES. Results reveal that although children who come from homes where negative family influences are observed, peer delinquency appears to be the most prominent explanatory variable for adolescent substance use. This study will attempt to explain these results using social learning theory and general strain theory.

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An Exploration of Negative Family Factors and

Substance Use amongst Juveniles:

The Lasting Effects of Family Substance Use, Parental Criminality and Corporal Punishment

Chapter 1: Introduction

Research has shown that individuals tend to display attitudes and behaviors that are learned, whether it be deliberately or inadvertently (Bandura, 1986). Whether adolescents learn positive and/or negative attitudes and behaviors depends on the people that surround them and the environment in which they live. Adolescents are likely to imitate and model the behaviors of people they admire (Bahr, Hoffmann, & Xiaoyan, 2005). In many instances, the people they admire are parents or legal guardians, and the learning of these behaviors occurs within the home. The behavior of parents and other family members is crucial to understanding the attitudes and behaviors of youth and the outcomes that follow as the adolescents grow older.

In this thesis, social learning theory (Akers, 1985; Bandura, 1977; Bandura & Walters, 1963; Belson, 1978; Hartmann, 1969; Jeffrey, 1965; Liebert & Sprafkin, 1988; Walters & Thomas, 1963), general strain theory (Agnew, 1992), differential association (Sutherland, 1947), differential reinforcement (Akers, 1998), and operant conditioning (Skinner, 1953 ; Thorndike, 1898), will be the theoretical foundation used to answer the following research question: “Does exposure to negative family factors lead to adolescent substance use?” The hypothesis for this study is that exposure to familial influences, particularly negative influences (i.e. family alcohol and drug use, parental criminality and corporal punishment), will lead to substance use amongst juveniles as predicted by these theories.

One of the goals of the current study is to build on the considerable amount of research that has been done on the topic, and to further substantiate the importance of understanding the cause and effect relationship between exposure to familial influences and delinquent behavior

among adolescents. Briefly, this research suggests that family often builds the foundation for drug and alcohol addictions for younger children, harsh or authoritative parenting has been associated with poor academic performance as well as adolescent substance use, and parental deviance creates a pattern for future delinquent behavior amongst adolescents (Cattapan & Grimwade, 2008; Hawkins, Catalano, & Miller, 1992; Shumow, Vandell, & Posner, 1998).

Consequently, although a great deal is already known about how negative family factors impact the development of substance use among adolescents; the particulars of the process remain imperfectly understood. In building upon the existing body of work, the present study focused on key issues such as the age of adolescents and if younger or older children are more inclined to try alcohol and marijuana, which gender is more likely to try these substances, and whether or not race effects alcohol and marijuana use, as well as how socio-economic status plays a role in adolescent substance use.

Chapter 2: Literature Review

Research has shown that peers and family members influence adolescent behavior by providing reinforcement for key behaviors, and modeling the outcomes associated with those behaviors (Bandura, 1985). For example, family members who smoke can expose siblings or other members of the family to the immediate positive outcomes associated with smoking such as solidarity, commonality, and building closer relationships. Other reinforcement may derive from schools, churches, and peer-friendship groups. However, the family has the most significant impact on adolescents because the family is generally the first intimate social group many individuals belong to (Bahr, Hoffmann, & Xiaoyan, 2005). Children are more inclined to model or imitate the attitudes and behaviors of their parents because parents are generally the ones children have frequent interactions with over a long period of time (Bahr et al., 2005).

Other research has shown that maltreatment in the home can be triggered by several different types of strain: physical punishment, abuse, neglect, and negative relationships with parents. Adolescents who are unable to neutralize this strain in pro-social ways may react with anger and delinquent behavior. Empirical research on general strain theory suggests that delinquency can become a coping mechanism for alleviating the negative emotions attributed to exposure to strain (Brezina, 1996).

Many theorists argue that family plays a central role in determining whether juveniles engage in delinquency (Akers, 1998; Bandura, 1985; Hawkins, Catalano, & Miller, 1992; Kandel, 1996; Petraitis, Flay, & Miller, 1995; Svensson, 2000). The family, more than any other social group, influences whether juveniles learn to conform or deviate (Taylor & Kliewer, 2006). The present study examines the association between exposure to negative family factors and substance use among adolescents. Four variables are discussed and will be the central focus for

exploring the matter: they are parental criminality, family alcohol consumption, family drug use, and parental corporal punishment. The current study will contribute to the findings of similar studies done in the past, and will also summarize and build upon the considerable amount of research that has found that negative parental influences affects the behavior of juveniles.

Theoretical History of Social Learning Theory

One premise behind why children should not be exposed to negative influences stems from Albert Bandura's Social learning theory. Bandura (1977), the father of cognitive theory, has written several books and articles that have been widely used within the discipline of psychology. He became strongly interested in childhood aggression during his study at the University of Iowa (Evans, 1989). Bandura focused much of his work around aggression and deviance. He believed that adolescent aggression should be diagnosed and treated during childhood years, rather than "subjecting people to treatment years later to figure out what effects they have" (Evans, 1989, p. 3).

Social learning theory suggests that individuals learn to engage in deviant behavior by observing those around them (Bandura, 1977). Bandura believed that children learn behavior by watching and then imitating it. He argued that social learning theory illustrates how aggression is learned through a process called behavior modeling (Bandura & Ribes-Inesta, 1976). Bandura (1977), suggested that aggressive and violent tendencies are not inherited behaviors, but rather, aggression is a learned behavior to which children are especially vulnerable. He argued that aggression in children is influenced by the reinforcement of family members, the media, and the environment. He performed an experiment that allowed him to investigate how children react when viewing violence.

Bandura and Walters (1963) believed that children develop their personality through exposure to the current surrounding culture and experiences with peers and family. They felt modeling played a key role in social development. Bandura's famous experiment involved children watching an adult aggressively attack a plastic clown called the Bobo Doll. The Bobo Doll was an inflatable toy, about 5 feet tall, and was designed to spring upright when it was knocked down (Bandura, Ross, & Ross, 1961). The children selected for this experiment varied in age from 3 to 6 years old, with the average child being 4 years old. Each child was tested alone to ensure that the effects of their reactions would not affect the reactions of their peers (Bandura, et al., 1961).

The children watched a video in which a person, also referred to as the role model, would aggressively hit the Bobo Doll. The model did things such as hit the doll on the head with a mallet, sit on it, punch it in the nose repeatedly, kick it across the room, throw it in the air, and throw balls at it. After watching the video, the children were placed in a room full of toys and were instructed not to touch them. The children began to grow bored, angry and frustrated. They were then taken to another room where there were identical toys as those used in the Bobo Doll video (Bandura, at al., 1961). Bandura found that approximately 88% of the group of children imitated the aggressive behavior portrayed in the Bobo experiment. Furthermore, it was found that 40% of those children still reproduced violent behavior observed in the Bobo video eight months later (Bandura, et al., 1961).

The Bobo Doll studies of the early 1960's demonstrated exposure to violence involving aggressive models had the effect of teaching and motivating the subjects to copy the aggressive acts portrayed. (Bandura, 1965; Bandura, et al., 1961; Bandura, Ross, & Ross, 1963). Bandura believed that the children learned aggressive behavior through observational learning.

“Observational learning is also known as imitation or modeling” (Bandura, 1977, p. 24). This process occurs when individuals observe others’ behavior and imitate that behavior. There are four processes involved in observing the behavior following exposure to models. These processes include attention, retention, motor reproduction, and motivation (Bandura & Ribes-Inesta, 1976).

Attention is the first element of observational learning or modeling. Individuals cannot just learn something without first observing it and perceiving that behavior as significant (Bandura et al., 1976). Children have to pay attention to the behavior being modeled before they can retain it. “For example, children must attend to what the aggressor is doing and saying in order to reproduce the models’ behavior” (Allen & Santrock, 1993, p.139). Retention is the second component of observational modeling. Individuals must retain information and things that they see, and code that information into their long-term memory (Bandura et al., 1976). Individuals then retrieve and reproduce what they have learned and have imbedded into their brains. The children imitated the aggressive behavior they witnessed from the Bobo Doll video. They acted aggressively and violently because that was the behavior that was coded and stored into their memories after viewing the models’ behavior on the video.

Motor reproduction is the third component in the process of observational learning. “The observer must be able to reproduce the model’s behavior” (Bandura et al., 1976, p. 1). The witness must learn as well as possess the physical capacity to model a specific behavior. For example, learning to ride a bike is a motor reproduction skill. Once this behavior is learned through attention and retention, the individual must possess the physical capacity to produce the act (Bandura et al., 1976).

The final component in observational learning is motivation or reinforcement. This process enables the observer to receive positive reinforcement for the behavior they have modeled (Bandura, 1977). The children witnessed the adults or models being rewarded for their aggressive behavior in the Bobo video. Thus, they too performed the same acts to receive rewards. Bandura also believed that environmental factors were influential in the social learning of violence in children (Bandura, 1977). He reported that individuals who lived in high crime areas were more likely to act violently than those who dwelled in low-crime areas. Bandura believed that a neighborhood surrounded by societal conflict and decay was a prominent cause of criminality and deviance (Bandura, 1977).

There have been debates over the Bobo Doll experiment and whether or not viewing violence can lead to aggression in children (Bandura, 1977). However, Bandura firmly believed that aggressive behavior was a learned (as opposed to an inherent) behavior, and family and mass media should provide positive role models for their children as well as the general public (Bandura, 1977).

Sutherland's Differential Association Theory

Much like Bandura, Edwin Sutherland (1947) also believed that behavior is a learned process. Sutherland's theory of differential association argues that behavior is not inherited, rather it is learned, and a person who is not trained in crime does not formulate criminal behavior on their own. He believed behavior is learned through the process of communication and that the communication process is verbal, but can also include communication of gestures and occurs within small intimate groups.

According to Sutherland (1947), when criminal behavior is learned, it is learned through two processes which are learning the techniques of committing the crime, and the second

involves the direction of motives, drives, rationalizations, and attitudes. Sutherland (1947) argued that the specific direction of motives and drives is learned from the definition of legal codes or rules that must be followed. Sutherland (1947) claimed that differential association refers to both criminal and anti-criminal behavior. He maintains that when individuals act criminal, it is because they came in contact with criminal behavior patterns and learned the behavior. Moreover, he believed that differential associations may vary in frequency, duration, priority, and intensity, and the process of learning criminal behavior by association with criminal patterns involves all of the mechanisms that are involved in any other types of learning. In other words, learning criminal behavior is not limited to the process of imitation. For example, a person who is persuaded learns criminal behavior by association, but this process would not generally be described as imitation (Sutherland, 1947).

Lastly, Sutherland argued that though criminal behavior is an expression of general needs and values, it is not explained by those general needs and values since non-criminal behavior is an expression of the same needs and values. For example, an individual who commits burglary generally does so to retrieve items or money, but similarly, honest hardworking individuals work in order to secure those same things. Identifying why a person has the associations which he has is very complex because it involves many things. However, it is Sutherlands' perception that a person's associations are determined in a general context of social organization, including many personal group relationships; this includes family (Sutherland, 1947).

Akers and Further Developments in Social Learning Theory

Like Bandura and Sutherland, Akers (1998) argues that social learning describes how individuals become prone to deviant or criminal behavior and that a deviant behavior's

propensity may either change or remain stable. According to Akers (1998), deviant behavior is learned and modified and moreover, behavior is acquired, performed, repeated, maintained and changed. Social learning theory expects peer influences to be the primary driving force behind deviant behavior, but it is the content and direction of this influence that is important (Akers, 1998). Delinquent behavior occurs most when it is frequently reinforced and infrequently punished (Agnew, 2001).

Akers (1998) argues differential reinforcement and imitation are the primary learning mechanisms for social learning. He describes differential reinforcement of behavior as a function of the frequency, amount and probability of experienced or perceived contingent rewards and punishments. Imitation is described by Akers as modeling the behavior and its consequences as experienced by others. “The strength of criminal behavior is a direct function of the amount, frequency, and probability of its reinforcement” (Akers, 1998, p. 45).

Social learning theory as proposed by Akers (1985), refers to behavior having consequences which then have an effect on the replication of that behavior and both prior and anticipated rewards and punishments influence the behavior. The basic assumption in social learning theory is that the same learning process a person uses in the context of a social structure, or learning in day-to-day events, is the same learning process one utilizes when acting out deviant behavior. It is within peer groups that drugs are typically first made available according to Akers (1992). “Social learning admits that birds of a feather do flock together, but it also admits that if the birds are humans, they also will influence one another’s behavior, in both conforming and deviant directions” (Boeringer, Shehan, & Akers, 1991, p. 210). The learning process revolves around the situation and one’s interaction with their environment and the people

within that environment. Akers (1998) argues that “criminal behavior is learned according the principles of operant conditioning” (p. 45).

According to the theory of operant conditioning, change in behavior is the result of an individual’s response to events (stimuli) that occur in the environment. A response produces a consequence. When a particular stimulus-response pattern is reinforced (rewarded), the individual is conditioned to respond (Skinner, 1953). Furthermore, reinforcement is the key element to Skinner’s stimulus-response theory. A reinforcer is something that strengthens a desired response (Skinner, 1953). For example, a verbal phrase, a feeling of accomplishment and satisfaction, or a good grade. The theory also covers negative reinforcers, which are any stimuli that results in the increased frequency of a response when they are withdrawn (Skinner, 1957).

Reinforcement can be positive or negative. Positive reinforced behavior results in something good, like a positive consequence. For example, money, approval from family or peers, or even pleasurable feelings associated with drug use. On the other hand, negative reinforcement results in the removal of something bad. For instance, agreeing to use drugs with friends because they are ridiculing a person for saying no to drugs. Once the drugs have been taken, the anticipated consequence is that the friends will stop name calling and bullying. Consequently, the drug use has been negatively reinforced (Agnew, 2001). One’s behavior is reinforced and punished by family members, peers, teachers, and others, although family and peers are the major sources of reinforcement and punishment for adolescents (Agnew, 2001).

According to Akers theory of differential reinforcement, “the principle behavior effects come from interaction in or under the influence of those groups with which one is in differential association and which control sources and patterns of reinforcement, provide normative definitions , and expose one to behavioral models....” (Akers, 1985, p. 57-58). Whether

individuals will abstain from using drugs depends on the past, present and anticipated future rewards and punishments the individual perceives to be attached to abstaining from the drug use. The individual learns attitudes and orientations which are favorable or unfavorable to using drugs (definitions). This can involve verbal and cognitive behavior which can be directly reinforced and can act as cue stimuli for drug use (Akers, 1985). The more an individual defines behavior such as drug use, good or justifiable, the more they are likely they are to act out that behavior.

The theory also states that an individuals' behavior is formed by interaction with their environment (Akers, 1998). Akers argued that according to operant conditioning, delinquent behavior was shaped by a juvenile's interaction with their environment and deviance-producing environments have an impact on individuals' behavior through learning mechanisms (Akers, 1998). Furthermore, a juvenile's behavior is not only a function of their own beliefs and the reinforcements and punishments they receive, but also of the behavior of the people that surround them. The principle behavioral effects come from interaction in or under the influence of the groups individuals surround themselves with. These primary groups are typically friends and family, but can also include secondary groups and media (Akers, 1985). "Drug use is predicted to the extent that it has been differentially reinforced over abstinence and is defined by the individual as desirable or justified when he or she is in a situation discriminative for the behavior" (Akers, 1992, p. 12-13).

Some theorists believe learning occurs through trial and error (Thorndike, 1898). Edwin Thorndike (1898) is famous for his work on learning theory that lead to the development of operant conditioning and behaviorism. Skinners (1953) theory of operant conditioning is built on the ideas of Edward Thorndike. Thorndike (1898) studied learning of animals and is famous for

his puzzle box experiment. In order to empirically test the laws of learning, Thorndike (1898) placed a cat in a puzzle box, which was to encourage the cat to escape to reach a scrap of fish placed outside the box. Thorndike would put a cat inside the puzzle box and time how long it took to escape. The cats experimented with different ways to escape the puzzle box and reach the fish. Eventually, the cat would discover the lever which opened the cage. When it had escaped, the cat was placed back in the cage, and the time it took to escape was recorded. In successful trials, the cats would learn that pressing the lever would have favorable consequences and they would acknowledge the behavior, becoming increasingly quick at pressing the lever in order to gain their reward of the fish (Thorndike, 1898).

Following his puzzle box experiment, Thorndike (1898) put forward a “law of effect,” which states that any behavior that is followed by a pleasant consequence is likely to be repeated, and any behavior that is followed by unpleasant consequences is likely to be stopped. One often imitates or models the behavior of others, especially when they have reason to believe their behavior will result in reinforcement. More specifically, a juvenile is more inclined to imitate a model when they like or respect the model, (i.e., a parent) (Agnew, 2001). Parents give reinforcement on a daily basis, sometimes without even noticing it, whether it is positive or negative.

General Strain Theory

Delinquency and aggression have been linked to harmful stimuli such as child abuse and neglect, physical punishment, criminal victimization, negative relationships with parents and peers, adverse or negative school experiences, verbal threats and insults, physical pain, and a wide range of stressful life events (Agnew & Kaufman, 2010; Bandura, 1973; Hawkins & Lishner, 1987; Healy & Bonner, 1969; Kaplan, Robbins, & Martin, 1983; Lauritsen, Sampson, &

Laub, 1991; Linsky & Straus, 1986; Mawson, 1987; Novy & Donohue, 1985; Rivera & Widom, 1990; Short & Strodbeck, 1965; Straus, 1991; Vaux & Ruggiero, 1983).

Robert Agnew's (1992) general strain theory focused on negative relationships with others and delinquency resulting from anger and other negative emotions. General strain theory is a "social-psychological theory that explains delinquency as a response to negative emotions elicited by adverse experiences or relationships (Hollist, Hughes, & Schaible, 2009, p. 379). This theory groups several types of strains under three main categories. The first type of strain is strain as the failure to achieve positively valued goals. The second type of strain is strain as the removal of positively valued stimuli from the individual, and the third is strain as the presentation of negative stimuli.

The failure to achieve positively valued goals refers to individuals who set aspirations and expectations, yet are unable to achieve them based on factors such as social class, attractiveness, intelligence, and physical ability (Agnew, 1992). The second type of strain occurs when positively valued stimuli are removed. Criminal behavior may present itself as an attempt to prevent the loss of a stimuli, obtain a replacement for the stimuli, or as an act of revenge for the loss of the stimuli (Agnew, 1992). Examples of this type of strain are loss of a friend or family member or being laid off or fired from a job. Lastly, the third type of strain is based on the actual or anticipated presentation of negative stimuli (Agnew, 1992). Examples of negative stimuli are physical or sexual abuse, child neglect, and domestic violence.

According to Broidy (2001), "strain triggers negative emotions, which in turn necessitate coping" (p. 10). An individual is likely to adopt illegitimate coping schemes if legitimate coping strategies are either ineffective or unavailable. Broidy (2001) argues that when strain raises high levels of anger that individuals cannot alleviate using legitimate coping strategies, criminal and

deviant outcomes are probable. Agnew (1992) suggests that anger is typically linked to illegitimate outcomes. When individuals get angry in response to strain, legitimate coping strategies may facilitate the impact of this anger, making illegitimate or criminal responses unlikely (Broidy, 2001). “Anger is especially likely to produce delinquency because it disrupts cognitive processes in ways that impede noncriminal coping, reduces the actual and perceived costs of crime, and creates a sense of power and control, and creates a desire for revenge or retribution” (Agnew, 2001, p. 327).

Furthermore, Agnew (2001) argues that strain within the family context can be a result of problematic parent-child relationships, which can include mistreatment such as parental rejection, child abuse, and neglect. Agnew (1992, p. 64; 2001, p. 326-338) suggests that strains most favorable to delinquency create pressures for criminal coping, and tend to be of high magnitude, clustered, of long duration, perceived as unjust, and associated with low social control. Maltreatment like child abuse and neglect, are believed to be a source of strain in the daily lives of adolescents and may be conducive to the development of delinquency for a number of reasons.

First, maltreatment is viewed as unjust and unfair when compared to modern day norms of parenting and parenting practices experienced by the adolescents’ peers (Agnew, 2001). When parents mistreat their children, they may threaten the child’s goals, values, needs, activities, and/or identities. The end result can turn into anger and frustration, which can increase the probability of delinquency (Agnew, 2001).

Second, because adolescents are supposed to rely on their parents for financial support and other basic necessities of life, they may acquire a sense of powerlessness to do anything to resolve or escape mistreatment, leading to anger and other negative emotions. The magnitude of

such strain is multiplied when the parent-child relationship problems are of an extended duration, frequently occurring, and difficult to avoid (Agnew, 2001).

Lastly, maltreatment is harmful to the development of the parent-child bond. Parental influence over the child tends to weaken when problems between parent and child increase. The healthy bond weakens and the void may be filled with associations conducive to attitudes and values favorable to delinquency (Agnew, 2006). In order to cope with strain produced by parent maltreatment, adolescents may engage in delinquent behavior, ranging from alcohol and drug use to serious acts of violence (Agnew, 2001).

Agnew argues that specific internal and external factors such as self-esteem, individual and personal resources, temperament, and intelligence may also impact the emotional impact of strain, and shape an individual's coping strategies. He also maintains that although it is not inevitable, strain is most likely a trigger to criminal responses when an individual does not have effective legitimate coping strategies.

Mazerolle, Burton, Cullen, Evans, and Payne (2000) performed a study using high school students attending grades ten through twelve. The students were asked to fill out a youth life style survey, which consisted of items concerning youth attitudes about their friends, family, school, religious beliefs, and community. The survey also evaluated participation in various conforming and nonconforming behaviors, including delinquency. Measures consistent with general strain theory were designed to evaluate two major aspects of strain: exposure to noxious stimuli and the loss of positively valued stimuli (Mazerolle et al., 2000). Removal of positive stimuli reflected a single item indicator that measured the strain that adolescents may feel when their parents take away privileges such as dating, going out with friends or watching television.

The measure for exposure to noxious stimuli focused on parental hostility and reflected the extent to which the respondents had difficult relationships with their parents.

The study analyzed various acts of delinquency such as assault, engaging in armed robbery, attacking others with intent to inflict great bodily harm, rape, participating in gang fights, drug use, and school related deviance like damaging school property, skipping school, or cheating on tests. The authors found that adolescents who experience more strain often engage in more violence than adolescents experiencing less strain. Anger was significantly related to violent delinquency, and violence is related to exposure to strain, having affiliations with parents and peers, and being male. Drug use was not significantly relevant among this sample of adolescents (Mazerolle et al., 2000).

The present study draws upon general strain theory to examine the association between negative family factors and substance use amongst adolescents. The four factors that will constitute the core of the analysis will be parental criminality, family alcohol consumption, family drug use, and parental corporal punishment. It is hypothesized that these variables may produce strain within adolescents exposed to them and that some of those adolescents (particularly those who are not able to cope with that strain in pro-social ways) may react by turning to illicit substances. This is particularly likely to happen to those adolescents who feel anger, and perceive a sense of injustice, associated with family based strain. The current study will build upon the considerable amount of research that has found that negative parental influences affect the behavior of juveniles in the home.

Parental Criminality

Research has found that juveniles with criminal or deviant parents (e.g., those with alcohol or drug problems) are more likely to be delinquent (Agnew, 2001). This is due in part to the parent modeling criminal or aggressive behavior, which encourages children to do the same. According to Sampson and Laub (1993), parents of deviant and aggressive children are more likely to be inconsistent, threatening, and harsh in their discipline. Criminal and deviant parents are also more likely to engage in abusive behaviors and get into conflicts with family members, which is then reflected in their children's behavior (Agnew, 2001).

A classic study performed by Wilson (1975), looked at families that consisted of five or more children and parents that have been reported to the Social Services Department and local police authorities for neglect and deviant behaviors. The study examined children between three and five years old and a boy in the home, aged 6 or aged 10. The primary objective of the study was to explore the relationship between a socially disadvantaged home and the boys' functioning at school, and to relate the findings to delinquent behavior. Wilson (1975) claimed the study treats delinquency as a family problem, related to child rearing methods and parental deviance.

The author defines "delinquent behavior" as a finding of guilt in juvenile court or receiving a warning from local authorities for committing a deviant act. With permission from the respondents, the cities probation and Social Services departments released full records and information regarding the families selected for this study. Records of criminal and non-criminal offenses of the parents were also provided.

The study found that in 23 families (41% of the sample), there was no record of an offense by either parent. In 22 families (39%), fathers only had convictions, and in four families (7%), mothers only had convictions. The remaining 13% of families consisted of both parents

that had a record of convictions. The seriousness of offenses varied greatly; however, Wilson (1975) found that the average age for a child at-risk for delinquent behavior based on parental deviance is 9 years of age. Children of parents who are major offenders have about twice the offense rate compared to children of parents who are non-offenders or minor offenders. In sum, this study shows that juvenile delinquency correlates highly with parental criminality, and parental behaviors do in fact influence the behaviors of children in the home.

Family Alcohol Consumption

Some researchers argue that children who are exposed to deviance and substance abuse are more likely to act deviant themselves because they become desensitized by it and, therefore come to believe that this behavior is the norm (Duncan, Duncan, Hops, & Tildesley, 1995; Kandel, Wu, & Davies, 1994; Pandina & Johnson, 1989). A substantial body of research suggests that all types of parental substance use, including smoking, drinking, and illicit drugs, are associated with children's substance use (Anderson & Henry, 1994; Andrews, Hops, Tildesley, & Harris, 1993; Chassin, Rogosch, & Barrera, 1991; Thompson & Wilsnack, 1987; Weinberg Dielman, Mandell, & Shope, 1994; Yarnold 1999).

Children of parents who consume alcohol on a daily basis are at increased risk for alcohol problems. These children tend to initiate alcohol use earlier and engage in heavy drinking at a younger age, than children whose parents do not frequently drink alcohol (Richter & Richter, 2001). Additionally, children of alcohol and drug users may learn to view unconventional behavior (excessive substance use) as norm (Richter & Richter, 2001). Children learn to form their beliefs about substance use around their parent's views or actions. Therefore, adolescents of parents who use drugs and alcohol are more inclined to use these substances as well because they have become desensitized to it and believe substance abuse to be normal behavior.

A study done by Van der Zwaluh, Scholte, Vermulst, Buitelaar, Verkes, & Engels (2008), illustrated that parental drinking led to problematic underage drinking among children during their teen years. The researchers used social learning theory to suggest that parental problem drinking had a direct effect on adolescent drinking. They also tested the effect of older adolescent alcohol consumption on younger siblings in the home. Van der Zwaluh et al. (2008) surveyed 428 Dutch families, consisting of mother, father and two adolescent children, all living together in the same household. The children averaged 13.4 years old and all participants were visited and surveyed within their home. Subjects were asked questions regarding parental alcohol consumption, adolescent alcohol consumption, parental practices, and adolescent behaviors inside and outside the home.

Van der Zwaluh et al. (2008) found that parental problem drinking had a direct effect on children in the home. Although both maternal and paternal problem drinking was associated with adolescent drinking, problem drinking by the mother was most strongly associated with alcohol use of children in the home. Moreover, paternal problem drinking had more of an effect on younger adolescents in the home, whereas maternal drinking had a strong effect on older siblings in the home.

According to Hearst, Fulkerson, Maldonado-Molina, Perry, & Komro (2007), adolescents who are raised in households where parents consume alcohol may give adolescents greater access to alcohol. Furthermore, the authors suggested that parents who drink alcohol or have a history of DUI, as well as children who witness violence or domestic abuse within the home may model this behavior later on in life (see also Gulliver & Beggs, 2004; Reeder, Alsop, Begg, Nada-Raja, & McLaren (1998).

In 2001, Chopra, Dhawan, Sethi, & Mohan (2008), performed a study which used a multistage random sampling survey technique. A total of 43,952 respondents participated. All participants were over the age of 10 years old. Stage one of the survey entailed face-to-face interviews with respondents and asked parents questions regarding tobacco, alcohol and other substance use (type, frequency, amount used). The researchers found that alcohol and tobacco use was prevalent among children whose parents also used alcohol and tobacco.

Additionally, the study found that children of parents who either do not use alcohol or engage in any form of substance abuse, as well as children of parents who only occasionally drink (holidays and special occasions) were less likely to use these substances themselves. Chopra et al. (2008) argued that the association between alcohol and substance use was explained by social learning theory and behavior modeling of children and their parents.

Moreover, Christoffersen, Soothill, and Francis (2008), conducted a survey to identify potential precursors of first-time drinking and driving among adolescent boys and young men. All of the subjects in this study were less than 27 years of age. In this cohort, 3,282 of the 43,403 subjects were convicted of drunk driving at some point during their life. The authors found that parental substance abuse was significantly associated with first time drinking and driving convictions. These findings are consistent with previous literature on modeling parental behavior.

Family Drug Use

In addition to parental criminality and family alcohol consumption, family drug use has significant impacts on the risk of adolescent drug use. Within families where drugs are used, adolescents may observe drug use and acquire favorable attitudes towards the behavior, and begin using drugs themselves. Empirical evidence suggests that children learn and imitate their

parent's behavior, including substance abuse (Andrews, Hops, & Duncan, 1997; Bandura, 1977; Biederman, Faraone, Monuteaux, & Feighner, 2000, Chassin, Curran, Hussong, & Colder, 1996).

Furthermore, Ahmed, Bush, Davidson, and Lannotti (1984) performed a study in which they examined the effects of parental modeling of drug use on children's anticipation of drug use. In a study of 420 children, in grades K-6, they found parental drug-taking behavior to be the best predictor for both anticipation and actual use of both alcohol and marijuana.

Furthermore, some researchers argue that permissive parental attitudes towards drug use as perceived by youths, is important when it comes to youth's attitudes toward drug use. Brook, Gordon, Whiteman, and Cohen (1986) found that parental tolerance of drug use predicted adolescent drug use. According to the authors, youth are more likely to participate in drug taking behaviors if parents use drugs themselves.

Families affect children's drug use in a number of ways. Brook, Whiteman, Gordon, and Brook (1988), argued that drug use by older brother's effects drug use in younger brothers within the home due to modeling of drug-using behavior. Cloninger, Bohman, Sigvardsson, and Von Knorring (1985) argue that in addition to parental substance use, sibling substance use in the home may also be a precursor to adolescent drug use due to imitation and modeling.

Parental Corporal Punishment

A large body of evidence has shown that aggressive parenting styles may also lead to adolescent substance use. Brook, Brook, Gordon, Whiteman, & Cohen (1990) found that aggressive parenting styles, poor parenting practices, and high levels of conflict in the family may increase the risk for adolescent problem behaviors such as drug and alcohol use.

Children exposed to physical violence within the home exhibit elevated rates of many behavior problems including the following: externalizing and internalizing problems, substance abuse problems, separation anxiety, social skill deficits, school problems, post-traumatic stress disorder, and higher rates of aggression and violence in their own behaviors (Bisson & Shepard, 1995; Holden, Geffner, & Jouriles, 1998; Sternberg, Lamb, Greenbaum, Cicchetti, Dawud, & Cortes, 1993).

Miller (1993) suggests childhood physical abuse leads to lower self-esteem, which then leads to excessive adolescent drinking as a coping mechanism. He further suggested that physical abuse or punitive punishments may result in permanent psychological damage for adolescents, which leads to delinquent and aggressive behavior and excessive drinking. Furthermore, the much debated issue of corporal punishment has been an ongoing issue for decades. Although some say corporal punishment is a legitimate consequence for wrong doings, many would argue that it is not really a means of discipline, but rather a form of abuse that may lead to a number of psychological and psychosocial problems later in life (Cohen, Brook, Cohen, Velez, & Garcia, 1990; Cole & Dodge, 1998; Dishion & Patterson, 1999; Steinmetz, 1979).

Over the years, many studies have shown that physical punishment of any kind is associated with increases in children's aggressive behaviors (Becker, 1964; Patterson, 1982; Radke-Yarrow, Campbell & Burton, 1968). Corporal punishment likely increases in children's aggression because it models aggression (Bandura & Walters, 1959; Eron, Walder, & Lefkowitz, 1971).

Shumow, Vandell, & Posner (1998), examined harsh parenting strategies and children's adjustment in school, as well as other behavior problems in the home. The authors carried out a 3-year study in which parents of third graders in nine Milwaukee, Wisconsin schools were

selected. Of the 216 families originally selected, 194 participated through the entire study period. Respondents were asked to complete questionnaires and phone interviews regarding their family demographics, parenting, and children's adjustment. The researchers visited each child's school at the end of the year to gather information regarding test results, grades and verbal feedback from teachers and school personnel about how the child had adjusted over the school year.

Shumow et al. (1998) found that parents who used harsh punishments (physical and corporal punishment) in the third grade were found to continue using harsh punishment in the fifth grade. The study also found that parents who used harsh or physical punishments were more likely to have children who experience adjustment issues in school and behavior problems at home. Additionally, children who were physically punished were more likely to experience attitude problems at home and in school, and were more likely to receive poor grades in school. On the other hand, parental firmness was associated with children displaying responsible behavior at home and fewer problems at school. The authors emphasized the difference between parental harshness and parental firmness in this study, and concluded with the notion that parental harshness and corporal punishment presumably led to behavior and adjustment issues among third through fifth grade children.

A considerable amount of research has found a correlation between the variables discussed above and negative behavioral effects in juveniles. Many researchers associate negative behaviors to the learning process. In what follows, the theory of social learning will be discussed. Social learning theorists argue children must *learn* the behavior they observe before acting out those behaviors themselves. These theorists contend that children can only observe and learn the behaviors of others around them, and therefore, if children are exposed to negative parental influences, they too, will behave negatively.

Summary

The objective of this study is to examine the influence family has on adolescents within the home. The following chapter will outline how the present investigation will focus on parental criminality, family alcohol consumption, family drug use, and parental corporal punishment, and how exposure to these behaviors will negatively affect the behavior of children in the home, specifically leading to drug and alcohol use. Based on the research reviewed earlier, it is my understanding that familial behavior can influence adolescents in many ways. Based on the logic of social learning theory, general strain theory, differential association, differential reinforcement, and operant conditioning, it is plausible that familial drinking and drug use may trigger early adolescent substance abuse, and parental criminality may also influence other kinds of delinquent and anti-social behavior in children. Furthermore, due to the effects of general strain, adolescents are likely to resort to drug and alcohol use as a coping mechanism. Whether adolescents engage in delinquent behaviors as a coping mechanism depends on their perception of the associated costs and their ability to cope in a nondelinquent manner.

In short, it is the intention of the current study to build upon the existing research by examining multiple parent variables that have been previously shown to negatively influence the behavior of juveniles. The general hypothesis is that exposure to negative family factors will lead to substance use amongst juveniles through the mechanisms proposed by various theories in which children observe and model the behaviors of parents in the home. Although the present study will not ‘break new ground’ in this area, it will use existing data to answer a common set of research questions and validate previous studies that have been done on this subject. Data from the National Survey of Adolescents (Kilpatrick and Saunders, 1995) will be used to empirically investigate the hypotheses.

Chapter 3: Methods

The current study utilizes secondary data in order to further explore the cause and effect relationship between negative family factors and substance use among adolescents. Data was obtained from the 1995 National Survey of Adolescents in the United States (Kilpatrick and Saunders, 1995). This study was designed as a telephone survey of American youth (ages 12-17) who were living in United States households with telephones, residing with a parent or guardian, and who could speak either English or Spanish. “All interviewing was done by Schulman, Ronca, and Bucuvalas, Inc. (SRBI), a New York-based survey research team” (Kilpatrick and Saunders, 1995, p. 4).

The goal of the 1995 study was to test specific hypotheses that demonstrated a correlation between relationships among serious victimization experiences, the mental health effects of victimization, substance use/abuse, and delinquent behavior amongst adolescents. The research objectives were to provide descriptive information about cases of familial and nonfamilial violent assault, delinquent behavior, mental health problems, and substance use, abuse, and dependence, broken down by basic demographic variables. Also, to test a risk factor model that hypothesized relationships between violent familial and nonfamilial victimization in childhood and adolescence and the risk of post- traumatic stress disorder, delinquent behavior, and substance use, abuse, and dependence. Lastly, to examine potential differences between gender and ethnic minority groups in the correlates and consequences of substance use/abuse/dependence and delinquent behavior (Kilpatrick and Saunders, 1995).

Sample selection was done by a team of trained researchers. All interviews with both parents and adolescents were conducted using Computer-Assisted Telephone Interviewing (CATI) technology.

“Prior to initiating contact with the adolescent, one parent or guardian in each household was interviewed briefly to establish rapport and gain permission to interview the targeted adolescent, and to ensure the collection of comparative data to examine potential nonresponse bias from households without adolescent participation. Parents and guardians were given the opportunity to call a toll-free number to confirm the authenticity of the study. Whenever possible, adolescents were interviewed immediately following the parent or guardian interviews. Otherwise, appointments were scheduled when possible or blind callbacks at different times of the day or days of the week were made. As an incentive for participation, adolescent participants received a certificate of participation in the National Survey of Adolescents, and a check for five dollars as compensation for their time. The principal investigators created one data file by attaching the data from the parents to the records of their respective adolescents” (p. 5).

“The study consisted of two subsamples, a national probability household sample of 3,161 adolescents and a probability oversample of 862 adolescents residing in central city areas of the United States, for a total sample of 4,023” (p. 5). The survey used a random-digitdialing sampling procedure that utilized telephone banks within each geographic location. Random-digit-dialing was used to sample telephone households within the telephone banks selected in each geographic region. Nonworking household numbers were replaced by other numbers selected in the same fashion as the initial numbers. Non-answering numbers were called a total of five times before being replaced. In the final step, an adult respondent was screened to determine if there were any adolescents aged 12-17 currently living in the household or if any had lived there at least four months during the previous year. “In households with multiple eligible adolescents, a systematic selection (i.e., "most recent birthday" technique) was made to determine which eligible individual would be designated as the respondent” (p. 5).

Parents were interviewed first, at which time they were asked several questions about the family and were given a brief description of the study and interview topics (e.g., substance abuse, dangerous or risky situations, including property crime and physical or sexual violence). Parents were questioned about whether they were concerned about violent crime, drug abuse,

educational quality, gangs, and the safety of their children at school. In addition, they were questioned about their own victimization experiences and whether they discussed personal safety issues with their children. Parents were also asked about demographic information (i.e. gender, marital status, number of children, employment status, education, race, and income).

Adolescents were ensured complete anonymity before completing the survey. Participating youth were asked several questions regarding their history of sexual assault, physical assault, and harsh physical discipline. If they experienced any of these events, the researchers then elicited a description of the event and perpetrator, extent of injuries, age at abuse, and whether alcohol or drugs were involved. Information was also gathered about the delinquent behavior of respondents and their friends, including destruction of property, assault, theft, sexual assault, and gang activity. Other questions covered the history of personal and family substance use and mental health indicators, such as major depression, post-traumatic stress disorders, sleeping disorders, and problems concentrating. Demographic information was gathered from the adolescents on age, race, gender, number of people living in household, and grade in school.

Variables

Two outcome (dependent) variables were used in this study: (a) adolescent marijuana use and (b) adolescent alcohol use. The decision to use separate outcomes for each substance as opposed to assessing adolescent substance use in general is based on the notion that different types of delinquency and substance use can vary based upon parental behaviors. See the appendix for a list of variable definitions and how each variable was coded.

Independent Variables

Parental Criminality. The parental criminality concept refers to adolescents who have parents who have been in trouble with the law. The variable is measured in a dichotomous manner, where parents who have been in trouble with the law were coded as a 1 and parents who have not been in trouble with the law were coded as a 0.

Family Alcohol Consumption. Family alcohol consumption measures whether family members of respondents have a problem with drinking alcohol in excess. Children who reported family members who have a drinking problem were coded as a 1, while children who do not have family members with a drinking problem were coded as a 0.

Family Drug Use. The family drug use variable evaluates family drug use within the home where the adolescent resides. The variable is measured as a 1 for adolescents who report family members who use drugs and a 0 for children who do not have family members who use drugs.

Parental Corporal Punishment. The parental corporal punishment variable measures if children have been spanked so hard that it has led to marks, within the past year. The variable is measured as a 1 if children reported being spanked this hard and a 0 if this did not happen.

Demographic Controls. A dichotomous measure of gender and continuous measure of age in years were used as standard demographic control variables. For the gender variable, girls were coded as a 1 and boys were coded as a 0. A race variable was also included, which was coded as a six-category measure (White-not Hispanic, African American, Hispanic, Native American, Asian, and Other). Family income was also included as a demographic control and was coded as a five-category measure (\$0k-\$10k, \$10k-\$30k, \$30k-\$50k, \$50k-\$100k, and >\$100k).

Dependent Variables.

Based on the National Study of Adolescents data, responses were dichotomized into either “yes” or “no” categories. Subjects were coded a “yes” on the marijuana measure if they had ever tried smoking marijuana. They were also coded a “yes” on the alcohol measure if they tried drinking alcohol. The decision to dichotomize the outcome variables (as opposed to computing indexes based on counts of how often a subject engaged in substance use) was based on the structural and empirical limitations of the data set being analyzed (Kierkus, Johnson, and Hewitt, 2010).

Intervening Variables

Anxiety. The anxiety variable refers to adolescents who feel they have to be on their guard most of the time. The variable is measured as a 1 if children do feel they have to be on their guard much of the time and a 0 if they do not.

Depression. The concept of depression in the current study refers to adolescents who feel a sense of hopelessness and inadequacy and find it difficult to maintain concentration or interest in life. Children who feel depressed were coded as a 1, while children who do not feel depressed are coded as a 0.

Peer delinquency. The two variables used to measure peer delinquency are: (a) friends who use marijuana and (b) friends who drink alcohol. The current study defines peer delinquency as the behavior of peers that influences the behavior of the respondent in the study. The variables were both measured as a 1 for friends who do use marijuana or alcohol, and a 0 for friends who do not use marijuana or alcohol.

Repeat a school grade. The repeat a school grade variable refers to adolescents who have had to repeat a school grade. The variable is measured as a 1 if adolescents have had to repeat a school grade and a 0 if adolescents have not had to repeat a school grade.

Theoretical Models and Research Hypotheses

The following section describes the theoretical models and research hypotheses explored in this thesis. The models are hierarchical and additive in nature: that is, in each successive model, new variables are added and the relationships between the original “negative family factors” set and the appropriate type of delinquency are explored. The overall goal of the analysis is to first establish whether or not negative family factors are associated with marijuana and alcohol use among adolescents; and then to gain insight into how these relationships work (i.e., to establish how and why these variables are related). Elements of both social learning theory, and general strain theory; as discussed in Chapter 2 of this thesis, should help develop an understanding of these issues.

Regression Model 1MJ: The Effect of Four Negative Family Factors on Adolescent Marijuana Use

One of the ways that the relationship between negative family influences and adolescent substance use can be investigated is through the use of a binary logistic regression. Such a model simply examines the outcome of a categorical dependent variable based on one or more predictor variables. The purpose of this model is to provide some useful descriptive data regarding the association between negative family influences and adolescent substance use.

Figure 1.0

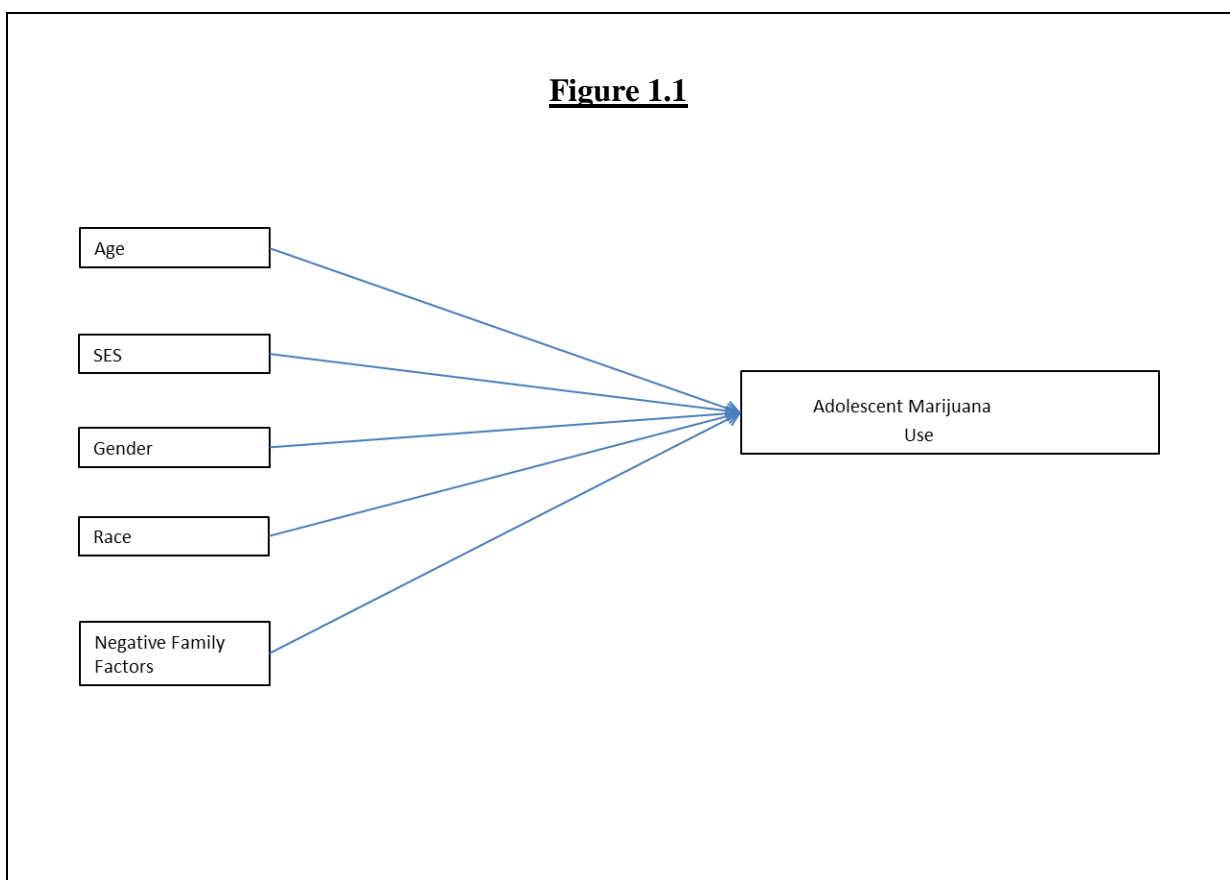


Figure 1.0 illustrates the basis for the regression model used to investigate the following hypothesis: negative family factors, specifically family substance use, parental criminality, and parental corporal punishment, set a precedent for adolescent substance use within the home. This model offers a basic understanding of the relationship between negative familial behaviors and adolescent marijuana use.

Regression Model 2MJ: The Effect of Four Negative Family Factors on Adolescent Marijuana Use, Controlling for Demographic Factors

Since this study does not utilize a strict experimental design, it is appropriate to attempt to control for the effects of a number of essential demographic variables. This is done by estimating a multivariate logistic regression model. The purpose of this model is to provide some descriptive data regarding the association of negative family factors and adolescent marijuana use while taking into consideration how demographic variables can influence the apparent relationship between the dependent and independent variables. For example, research suggests that males offend at a much higher rate than females (Steffensmeier and Allan, 1996) and older adolescents have a tendency to be more delinquent than younger adolescents (Gottfredson and Hirschi, 1990; Hirschi and Gottfredson, 1983). However, it may be reasonable to suggest that both younger and older males and females may come from a low income household, making socio-economic status a factor in marijuana use.

To account for this possibility, the current study controlled for age, sex, race, and socioeconomic status (SES). This model controls for the potential confounding influences of the four variables by entering them as predictors into a multivariate logistic regression analysis. This technique will have the effect of holding these four variables constant so they do not confound the relationship between negative family influences and adolescent marijuana use. This regression model is illustrated in figure 1.1.



Controlling for these four demographic variables may provide answers to the following research questions:

- Are younger or older adolescents more inclined to use marijuana?
- Are males or females more inclined to use marijuana?
- Are adolescents who come from low income or high income households more inclined to use marijuana?
- Does race affect marijuana use?
- Are adolescents who are exposed to negative familial influences more inclined to use marijuana controlling for basic demographics?

The research hypothesis for this regression model is based on previous research that suggests that these factors do influence adolescent marijuana use (Cattapan and Grimwade, 2008; Gottfredson and Hirschi, 1990; Hawkins, Catalano, and Miller, 1992; Hirschi and Gottfredson, 1983; Steffensmeier and Allan, 1996).

Regression Model 3MJ: The Effect of Four Negative Factors on Adolescent Marijuana Use, Controlling for Demographic Factors, and Accounting for Four Intervening Variables

The regression models that have been presented thus far essentially replicate numerous analyses that have previously been explored in the literature, more specifically, how parental behaviors influence children in the home. They determine to what extent negative familial factors have an influence on adolescent substance use (Hawkins, Catalano, and Miller, 1992; Steffensmeier and Allan, 1996; Vosniadou and Brewer, 1992). In addition to controlling for age, sex, race, and SES, the present study also accounts for four intervening variables. These intervening variables include youth repeating a school grade, youth feeling depressed, youth feeling like they have to be on guard most of the time, and youth's friends using marijuana (peer delinquency).

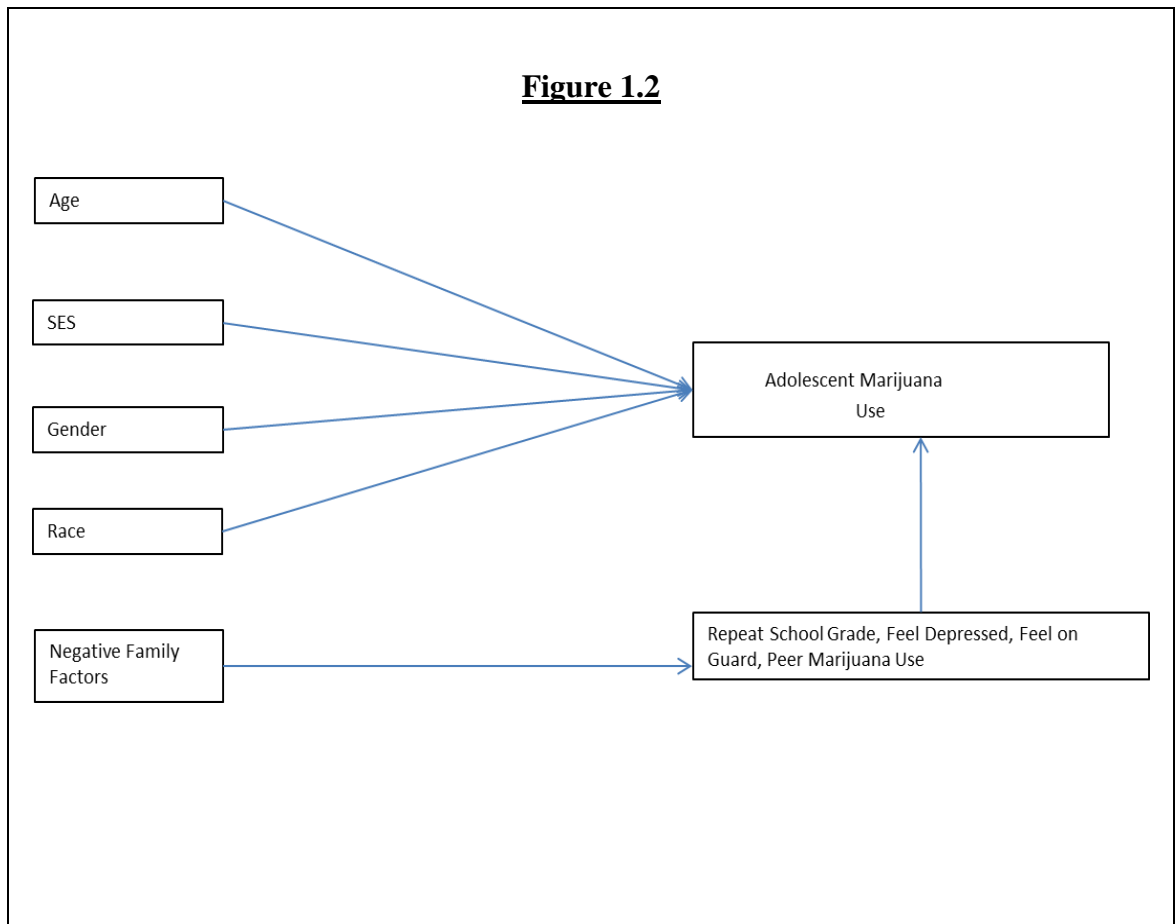


Figure 1.2 illustrates how these four intervening variables may lead to adolescent marijuana use due to exposure to negative family factors, controlling for demographic variables. The hypothesis for this model is that there may be a mediating effect on adolescent marijuana use based on the four intervening variables being measured. Most importantly, if it turns out that peer marijuana use mediates the direct effect of negative family factors on adolescent marijuana use, that will validate a core proposition of social learning theory. It will suggest that kids growing up in negative family environments seek out the company of deviant subcultures where they become immersed in substance use. For social learning theorists, peer deviance is the key explanatory variable for adolescent delinquency and many empirical studies suggest it plays an even more important role than parental behaviors (Agnew, 2006; Matsueda and Anderson, 2006;

Thornberry, 2006; Warr, 2006). Part of this effect may be due to the desire to deal with the pain of a deficient family environment (i.e., to cope with stressors like depression and being on guard) and part may be due to the desire to “fit in” with the peer group. This may be especially likely to happen in adolescents who are also doing poorly in school, and thus have weakened opportunities to excel in conventional peer groups.

General strain theory suggests that negative family factors may be associated with marijuana use through the mediating influence of a variety of factors including anxiety (being on guard), depression, and poor school performance. When mistreated at home, or when facing a deficient family environment (i.e., noxious stimuli), adolescents may feel strained, and therefore turn to various coping mechanisms. This may include leaving the house and spending time with deviant peers, or even utilizing illegal drugs such as marijuana in order to “kill the pain”. Adolescents may also take comfort in spending time with delinquent peers as a way to get back at their parents for the maltreatment they receive at home.

Moreover, just as social learning theorists suggest that peer deviance may occur if the adolescent has a strong desire to fit into a peer group, general strain theorists make the same argument. Adolescents who feel strained due to poor school performance or having to repeat a school grade may take comfort in spending time with deviant peers as a means of neutralizing negative affect. Adolescents may feel depressed, and have feelings of anxiety, because of the treatment they receive at home, and because of the constant demand to perform well in school. If they are not able to cope with these feelings in constructive, pro-social ways; adolescents may eventually turn to other outlets such as substance use. Drugs and alcohol may represent an attempt to escape the negative affect created by these noxious stimuli.

In sum, the literature suggests that both social learning and general strain theories can play important roles in exploring the cause and effect relationship between negative family factors and substance use among adolescents.

Regression Model 1AL: The Effect of Four Negative Family Factors on Adolescent Alcohol Use

Similar to the models previously represented, the current study examines the correlation between negative family factors and adolescent alcohol use. Comparable to figure 1.0, Regression Model 1AL provides the basis for investigating the following hypothesis: the effects of negative family factors, specifically family substance use, parental criminality, and parental corporal punishment, set a precedent for adolescent substance use.

The current study hypothesizes that family alcohol use may initiate adolescent alcohol use. This hypothesis is based on previous research which has found that children who grow up in households where alcohol is a problem grow to have a number of issues with emotional difficulties, poor educational attainment, and substance abuse problems (Burgess, 2009; Harwin and Heath, 2010).

Although not included, the model diagrams for adolescent alcohol would be identical to those diagrams previously presented for adolescent marijuana use; except, of course, that the dependent variables would be different.

Regression Model 2AL: The Effect of Four Negative Family Factors on Adolescent Alcohol Use, Controlling for Demographic Factors

Resembling Regression Model 2 MJ, the current model Regression Model 2AL controls for the effects of four demographic variables: age, race, sex and SES. Again, the purpose of this model is to provide some descriptive data regarding the association of negative family factors

and adolescent alcohol use while taking into consideration how demographic variables can influence the apparent relationship between the dependent and independent variables.

As previously explained, controlling for these four demographic variables may provide answers to the following research questions:

- Are younger or older adolescents more inclined to use alcohol?
- Are males or females more inclined to use alcohol?
- Are adolescents who come from low income or high income households more inclined to use alcohol?
- Does race affect alcohol use?
- Are adolescents who are exposed to negative familial influences more inclined to use alcohol controlling for basic demographics?

The research hypothesis for this regression model is based on previous research that suggests that these factors may influence adolescent alcohol use (Gottfredson and Hirschi, 1990; Harwin and Heath, 2010; Hawkins, Catalano, and Miller, 1992; Hirschi and Gottfredson, 1983).

Regression Model 3 AL: The Effect of Four Negative Family Factors on Adolescent Alcohol Use, Controlling for Demographic Factors, Accounting for Four Intervening Variables

The regression models that I have presented in the current study maintains the idea that negative family factors lead to adolescent substance use within the home through the process of anti-social learning and the effects of general strain. This last model tests this most directly by accounting for four plausible intervening variables: youth repeating a school grade, feelings of depression, feeling on guard, and friends using alcohol (peer delinquency). This model will account for these intervening variables in addition to controlling for age, sex, race, and SES.

Similar to figure 1.2, Regression Model 3AL illustrates how these four intervening variables may lead to adolescent alcohol use due to exposure to negative family factors, controlling for demographic variables. The hypothesis for this model is that there may be a mediating effect on adolescent alcohol use based on the four intervening variables being measured. Once again, the logic of social learning theory would suggest that peer delinquency (in this case, peer alcohol use) should prove to have the most influence on adolescent substance use (Agnew, 2006; Matsueda and Anderson, 2006; Thornberry, 2006; Warr, 2006). Conversely, negative family affects, associated with poor parenting, and correlated with depression and anxiety, are the more important causal factors drawn from general strain theory. As was the case in the marijuana model, it is also plausible that adolescents who do poorly in school will have fewer pro-social means of coping with negative affect, and hence may turn to alcohol to “kill the pain”.

Summary

The information presented in this chapter supports the idea that delinquent behavior is learned through the behaviors of those people around him/her through the process of social learning. It may also be initiated as adolescents react to, and attempt to deal with the effects of various stressors and strains that they experience in their lives. Substance use may be a common, if unhealthy and anti-social, means of dealing with the negative affect produced by exposure to noxious stimuli.

Two basic models were presented in this chapter: a regression model for adolescent marijuana use, and a regression model for adolescent alcohol use. Four independent variables were measured for negative family factors and four intervening variables were measured, while controlling for basic demographic variables. The purpose of these regression models is to

establish whether or not negative family factors are associated with marijuana and alcohol use among adolescents; and then to gain insight into how these relationships work (i.e., to establish how and why these variables are related). In the following chapter, analyses and results for each regression model are presented and discussed at length, and conclusions will be drawn regarding reasons for adolescent substance use.

Chapter 4: Results

The purpose of this chapter is to present the results and findings of the statistical analyses utilized in this thesis. There are four main sections discussed in this chapter. In the first section, the regression models for the four negative family factors are discussed. These analyses consist of binary logistic regression models that will allow the reader to develop an understanding of the key relationships examined in this study (i.e., between negative family factors and the two dependent variables: marijuana use and alcohol use). The second section will provide a regression model controlling for basic demographic variables. The third section will provide a regression model controlling for basic demographic variables and accounting for intervening variables. Each of these sections will provide information regarding how each regression model has changed after accounting and controlling for all the other variables in the model. The final section will discuss the effects each variable has on the others as new variables were introduced into each model. It will also provide a summary of the results at the conclusion of this chapter. The same approach will be used for each dependent variable: adolescent marijuana use and adolescent alcohol use.

As mentioned in Chapter 3, binary logistic regression examines the outcome of a categorical dependent variable based on one or more predictor variables. The purpose of this type of model for the current study is to explore the association between negative parental factors and adolescent substance use. Previous research has explored the issue of negative family factors and influences and how they can lead to adolescent substance use (Hawkins, Catalano, and Miller, 1992; Johnston, O'Malley, & Bachman, 1981; Shumow, Vandell, and Posner, 1998; Zucker and Harford, 1983).

The Effect of Four Negative Family Factors on Adolescent Marijuana Use

Regression Model 1MJ evaluates the proposition that negative parental factors (parental corporal punishment, parental criminality, family drug use, and family alcohol use) may lead to adolescent marijuana use. Table 1.0 presents the four independent variables used in the logistic regression models developed for this study as well as the analyses and statistical significance ratios for each variable measured.

Table 1.0 Multivariate Logistic Regression Analysis: The Effect of Negative Family Factors on Adolescent Marijuana Use

Odds Ratios of Adolescent Marijuana Use		
Variable	Odds Ratio	Statistical Significance
Parental Corporal Punishment	2.53	<.0001
Family Drinking	2.36	<.0001
Parental Criminality	1.05	.79
Family Drug Use	2.68	<.0001
<i>Constant</i>	.129	<.0001
Regression $\chi^2 = 253.15$ (df = 4) n = 4,017	p < .0001	

Having information on all of the predictor variables together helps one understand the dependent variable. When measuring the four independent variables together, the overall chi-square is 253.15 with four degrees of freedom which is statistically significant at the $p < .0001$ level. The effect of being spanked so hard, holding constant all other variables in this model is 2.53. Expressed in another way, children have slightly more than two and a half times the odds of using marijuana when spanked so hard they have marks, relative to kids who are not spanked hard, holding constant the other variables in the model.

When measuring family drinking on marijuana use, results show that children have just under two and a half times the odds of using marijuana. Moreover, when measuring family drug use, children have over two and a half times the odds of using marijuana, controlling for all the

other variables in the model. Parental criminality was also measured, however, the results proved to be insignificant when controlling for all the other variables.

The Effect of Four Negative Family Factors on Adolescent Marijuana Use, Controlling for Demographic Variables

Table 1.1 illustrates statistical analyses for the four independent variables, holding constant four demographic variables (age, sex, race, and SES). After adding the control variables to this model, the overall chi-square is 325.428 with 15 degrees of freedom ($p < .0001$), demonstrating a strong statistical relationship amongst the variables. The chi-square rises from 253.15 to 325.43, suggesting that adding the control variables provides additional information about why adolescents use marijuana.

Table 1.1 Multivariate Logistic Regression Analysis: The Effect of Negative Family Factors on Adolescent Marijuana Use, Controlling for Demographic Variables

Odds Ratios of Adolescent Marijuana Use		
Variable	Odds Ratio	Statistical Significance
Parental Corporal Punishment	2.55	<.0001
Family Drinking	2.26	<.0001
Parental Criminality	1.12	.53
Family Drug Use	2.83	<.0001
Age	1.17	<.0001
Race		.004
African American	.69	.02
Hispanic	1.34	.05
Native American	1.65	.03
Asian	.86	.70
Other	.89	.78
Gender (Female)	.82	.03
SES		.03
\$10k-\$30k	1.02	.94
\$30k-\$50k	.91	.62
\$50k-\$100k	1.11	.61
>\$100k	1.80	.03
Constant	.01	<.0001
Regression $\chi^2 = 325.43$ (df = 15)	p < .0001	
n = 3,673		

When controlling for basic demographic variables and holding constant all the other variables, it is clear that the coefficients for the four negative family factor variables in this table hardly changed between table 1.0 and table 1.1. For instance, the coefficient for being spanked so hard that it led to marks was 2.53 under the previous model and is 2.55 in the present analysis; a negligible change. The coefficient for family drinking was 2.36 in the previous model and is 2.26 in the present analysis. Furthermore, family drug use was 2.68 under the previous model and is 2.83 in the present analysis. Parental criminality was measured and remains statistically insignificant throughout both analyses.

With respect to race (which as a whole is statistically significant, $p. < .004$), the results show that African American children, relative to white children, have 31% lower odds of using marijuana, controlling for all of the other variables in this model. Hispanics have 34% higher odds of using marijuana, and Native Americans have 65% higher odds of using marijuana relative to white children. When looking at Asians and the other race category, results proved to be insignificant when controlling for all other variables. When looking at age, the results show a statistical significance at the $p. < 0001$ level and an exponentiated value of 1.17, which means that a child has 17% higher odds of smoking marijuana for each year of age, controlling for the other variables.

Holding constant all other variables in this model, the results show that female adolescents are less likely than male adolescents to smoke marijuana. Females have 18% lower odds of using marijuana than male adolescents. Lastly, holding constant all of the other variables in this model, the results illustrate that families that bring home $> \$100k$ a year have 1.80 times the odds of having children in the home that use marijuana relative to families that bring home less than $\$10k$ a year (the omitted category). In other words, when controlling for gender, age,

race, family alcohol use, family drug use, parental criminality, and parental corporal punishment, children from high income families are more likely to use marijuana than children from low income households. For families that earn \$10k-\$30k, \$30k-\$50k, and \$50k to \$100k, there were no significant differences relative to families earning less than \$10k.

In sum, it is evident that some of the control variables have significant relationships with the dependent variable; however, there is little indication that any of the parenting variables are spurious to any of the control variables.

The Effect of Negative Family Factors on Adolescent Marijuana Use, Controlling for Demographic Variables, and Accounting for Intervening Variables

When examining the statistical values of the individual intervening variables (depression, feeling on guard, repeating a school grade and peer marijuana use), each variable contributes to understanding marijuana use in its own way. Table 1.2 illustrates how each independent variable for negative family factors is affected after controlling for demographic variables, and taking into account intervening variables.

Table 1.2 Multivariate Logistic Regression Analysis: The Effect of Negative Family Factors on Adolescent Marijuana Use, Controlling for Demographic Variables and Accounting for Intervening Variables

Odds Ratios of Adolescent Marijuana Use

Variable	Odds Ratio	Statistical Significance
Parental Corporal Punishment	1.79	<.0001
Family Drinking	1.51	.003
Parental Criminality	1.01	.97
Family Drug Use	1.75	<.0001
Age	1.03	.04
Race		.05
African American	.69	.03
Hispanic	1.12	.52
Native American	1.68	.06
Asian	.82	.64
Other	1.42	.52
Gender (Female)	.79	.03

Table 1.2 (Continued)

SES		.19
\$10k-\$30k	1.94	.79
\$30k-\$50k	.76	.22
\$50k-\$100k	.87	.54
>\$100k	1.28	.42
Depression	1.34	.009
Feel on Guard	1.11	.49
Peer Marijuana Use	30.53	<.0001
Repeat School Grade	2.56	<.0001
<i>Constant</i>	<i>.01</i>	<i><.0001</i>

Regression $\chi^2 = 1,067.67$ (df=19) p < .0001
n = 3,572

The intervening variables explored here clearly help one understand the outcome variable: adolescent marijuana use. When controlling for demographic variables and accounting for intervening variables, the overall chi-square increases to 1,067.67 with 19 degrees of freedom (p. < .0001). This is substantially higher than in the previous two models. After accounting for intervening variables, the coefficients for the negative family factor variables drop greatly. When measuring corporal punishment, controlling for basic demographic variables in table 1.1, the coefficient was 2.55, however, after accounting for intervening variables, the coefficient drops to 1.79 (p. < .0001). Prior to accounting for intervening variables when measuring family drinking, the coefficient was 2.26 (p. < .0001); however, after taking into account intervening variables, the coefficient for family drinking drops to 1.51, with a level of significance of .003. Furthermore, when measuring family drug use, table 1.1 showed a coefficient of 2.83 (p. < .0001) controlling for demographics, but after controlling for demographics and accounting for intervening variables, the coefficient drops to 1.75 (p. < .0001). Lastly, parental criminality was measured. Although it was not statistically significant in previous models, the coefficient still drops a little bit after accounting for intervening variables.

When measuring demographic variables after taking into account intervening variables, age drops slightly from 1.17 in table 1.1, to 1.03 in the present analysis. In reference to race, the coefficient for marijuana use in African American children relative to white children does not change between tables 1.1 and 1.2. However, the coefficients for Hispanics and Native Americans were statistically significant in table 1.1, but are no longer statistically significant in table 1.2 after accounting for intervening variables. Lastly, the coefficients for Asians and the other category for race were not statistically significant when controlling for demographics in table 1.1 and remain statistically insignificant after accounting for intervening variables.

After measuring the intervening variable of depression, the variable illustrates statistical significance with a value of $p < .009$ and an exponentiated value of 1.34. Moreover, when measuring the variable repeating a school grade, the exponentiated value is 2.56 with a $p < .0001$ level of significance. When measuring the variable being on guard, the exponentiated value is 1.11 with a level of significance of $p < .494$, which makes the variable statistically insignificant. Lastly, when measuring the variable friends who use marijuana, the level of significance is $p < .0001$ with an exponentiated value of 30.53. Based on the results, it is apparent that the variables of depression, repeating a school grade, and friends using marijuana influence marijuana use directly, and create a partial intervening variable effect. In other words, feeling depressed, poor school performance, and especially having friends who use marijuana affects adolescent marijuana use; and they help explain how poor parenting and family problems influence marijuana use. Peer delinquency appears to be the most prominent explanatory variable for adolescent marijuana use.

The Effect of Four Negative Family Factors on Adolescent Alcohol Use

Regression Model 1AL evaluates the proposition that negative parental factors (parental corporal punishment, parental criminality, family drug use, and family alcohol use) may lead to

adolescent alcohol use. This notion is consistent with the bodies of literature that have focused on the impact of family factors and adolescent alcohol consumption (Bancroft, Wilson, Cunningham-Burley, Backett-Milburn, and Masters, 2004; Barlow, 2011; Harwin and Heath, 2010; Velleman, 2001). Table 2.0 presents the four independent variables used in the logistic regression models developed for this study, as well as the analyses and statistical significance ratios for each variable measured.

Table 2.0 Multivariate Logistic Regression Analysis: The Effect of Negative Family Factors on Adolescent Alcohol Use

Odds Ratios of Adolescent Alcohol Use		
Variable	Odds Ratio	Statistical Significance
Parental Corporal Punishment	1.92	<.0001
Family Drinking	1.99	<.0001
Parental Criminality	1.13	.45
Family Drug Use	2.08	<.0001
<i>Constant</i>	<i>1.05</i>	<i>.17</i>
Regression $\chi^2 = 161.057$ (df = 4) n = 4,011	p < .0001	

When measuring the four independent variables together, the overall model chi-square is 161.057 with four degrees of freedom which is statistically significant at the p. < .0001 level. The effect of being spanked so hard that it has led to marks on alcohol use, holding constant all other variables in this model is 1.92. In other words, children who are spanked so hard they get marks have nearly two times the odds of using alcohol relative to kids who are not spanked hard, holding constant the other variables in the model.

When measuring family drinking on alcohol use, results show that children have just under two times the odds of using alcohol. Moreover, when measuring family drug use, children have slightly over two times the odds of using alcohol, controlling for all the other variables in

the model. Parental criminality was also measured, however, the results proved to be insignificant when controlling for all the other variables.

The Effect of Four Negative Family Factors on Adolescent Alcohol Use, Controlling for Demographic Variables

Table 2.1 illustrates statistical analyses for the four independent variables, holding constant four demographic variables (age, sex, race, and SES). After adding the control variables to this model, the overall chi-square is 474.344 with 15 degrees of freedom ($p < .0001$), demonstrating a strong statistical relationship amongst the variables. The chi-square rises from 161.057 to 474.433, suggesting that adding the control variables provides a great deal of additional information about why adolescents use alcohol.

Table 2.1 Multivariate Logistic Regression Analysis: The Effect of Negative Family Factors on Adolescent Alcohol Use, Controlling for Demographic Variables

Odds Ratios of Adolescent Alcohol Use		
Variable	Odds Ratio	Statistical Significance
Parental Corporal Punishment	1.97	<.0001
Family Drinking	1.98	<.0001
Parental Criminality	1.20	.31
Family Drug Use	2.14	<.0001
Age	1.42	<.0001
Race		.001
African American	.66	<.0001
Hispanic	1.04	.75
Native American	.75	.13
Asian	.63	.09
Other	1.20	.62
Gender (Female)	.92	.26
SES		.008
\$10k-\$30k	1.11	.47
\$30k-\$50k	1.15	.34
\$50k-\$100k	1.40	.025
>\$100k	1.82	.007
Constant	.006	<.0001
Regression $\chi^2 = 474.344$ (df=15)		p < .0001
n = 3,667		

Just as we saw in the marijuana models, when controlling for basic demographic variables and holding constant all the other variables, it is clear that the coefficients for the four negative family factor variables in this table hardly changed between table 2.0 and table 2.1. For instance, the coefficient for being spanked so hard that it led to marks was 1.92 under the previous model and is 1.97 in the present analysis; a slight change. The coefficient for family drinking was 1.99 in the previous model and is 1.98 in the present analysis. Furthermore, family drug use was 2.08 under the previous model and is 2.14 in the present analysis. Parental criminality was measured and remains statistically insignificant throughout both analyses.

When measuring race, (which as a whole is statistically significant, $p. < .001$), the results show that African American children, relative to white children, have 34% lower odds of using alcohol, controlling for all of the other variables in this model. When looking at Hispanics, Native Americans, Asians and the other race category, results proved to be insignificant when controlling for all other variables. When looking at age, the results show a statistical significance at the $p. < .0001$ level and an exponentiated value of 1.42, which means that a child has 42% higher odds of consuming alcohol for each year of age, controlling for the other variables.

Holding constant all other variables in this model, the results show that gender is not statistically significant when measuring adolescent alcohol use. However, when measuring SES, holding constant all of the other variables in this model, the results illustrate that families that bring home $> \$100k$ a year have 1.82 times the odds of having children in the home that use alcohol relative to families that bring home less than $\$10k$ a year (the omitted category). Expressed in another way, when controlling for gender, age, race, family alcohol use, family drug use, parental criminality, and parental corporal punishment, children from high income families are more likely to use alcohol than children from low income households. For families

that earn \$50k-\$100k, children have 40% higher odds of consuming alcohol. There were no significant differences relative to families earning \$30k-\$50k and \$10k-\$30K. Overall, it is evident that some of the control variables have significant relationships with the dependent variable; however, there is little indication that any of the parenting variables are spurious to any of the control variables.

The Effect of Negative Family Factors on Adolescent Alcohol Use, Controlling for Demographic Variables and Accounting for Intervening Variables

When examining the statistical values of the individual intervening variables (depression, feeling on guard, repeating a school grade and peer alcohol use), each contributes to understanding alcohol use. Table 2.2 illustrates how each independent variable for negative family factors is affected after controlling for demographic variables and taking into account intervening variables.

Table 2.2 Multivariate Logistic Regression Analysis: The Effect of Negative Family Factors on Adolescent Alcohol Use, Controlling for Demographic Variables and Accounting for Intervening Variables

Odds Ratios of Adolescent Alcohol Use

Variable	Odds Ratio	Statistical Significance
Parental Corporal Punishment	1.64	.001
Family Drinking	1.45	.005
Parental Criminality	1.03	.86
Family Drug Use	1.62	.002
Age	1.12	<.0001
Race		.01
African American	.68	.001
Hispanic	1	.99
Native American	.70	.09
Asian	.70	.23
Other	1.45	.34
Gender (Female)	.83	.02
		.13

Table 2.2 (Continued)

SES		
\$10k-\$30k	1.04	.81
\$30k-\$50k	.97	.83
\$50k-\$100k	1.21	.26
>\$100k	1.38	.19
Depression	1.13	.20
Feel on Guard	1.19	.23
Peer Alcohol Use	6.25	<.0001
Repeat School Grade	1.05	.80
<i>Constant</i>	.09	<.0001

p < .0001

Regression $\chi^2 = 954.491$ (df=19)
 n = 3,557

The intervening variables explored here help one understand the outcome variable: adolescent alcohol use. When controlling for demographic variables and accounting for intervening variables, the overall chi-square increases to 954.491 with 19 degrees of freedom (p < .0001). This is considerably higher than in the previous two models. After accounting for intervening variables, the coefficients for the negative family factor variables drop substantially.

When measuring corporal punishment, controlling for basic demographic variables in table 2.1, the coefficient was 1.97, however, after accounting for intervening variables, the coefficient drops to 1.64 (p < .001). Prior to accounting for intervening variables when measuring family drinking, the coefficient was 1.98 (p < .0001); however, after taking into account intervening variables, the coefficient for family drinking drops to 1.45 with a level of significance of .005. Furthermore, when measuring family drug use, table 2.1 showed a coefficient of 2.14 (p < .0001) controlling for demographics, but after controlling for demographics and accounting for intervening variables, the coefficient drops to 1.62 with a level of significance of .002. Lastly, parental criminality was measured. Although it was not

statistically significant in previous models, the coefficient still drops a little bit after accounting for intervening variables.

After measuring the intervening variable of peer alcohol use, the level of significance is $p < .0001$ with an exponentiated value of 6.25, meaning that children have over six times the odds of consuming alcohol if they associate with peers who use alcohol. The variables depression, feeling on guard, and repeating a school grade were also measured, however, the results proved to be statistically insignificant. Based on the results, it is apparent that the variable of peer alcohol use influences alcohol use directly, and creates a partial intervening variable effect. In other words, having friends who use alcohol affects adolescent alcohol use; and this helps explain how poor parenting and family problems influence alcohol use. Peer delinquency appears to be the most prominent explanatory variable for adolescent alcohol use.

Summary of Data and Analysis

By themselves, it is clear that adolescents who are negatively parented are more likely to use marijuana than those who are well parented. Three of the four negative parenting coefficients are statistically significant, and they increase the odds of adolescent marijuana use. When control variables are added to the model, the relationships between poor parenting and adolescent marijuana use hardly change. So, although many of the control variables themselves are associated with marijuana use, they do not confound the relationship between parenting and this type of deviant behavior. In the final analysis containing intervening variables, we see that a number of the constructs are associated with marijuana use. In particular, adolescents who have friends who use marijuana have over 30 times higher odds of using the substance themselves! More importantly, the intervening variables do help explain how and why, poor parenting influences marijuana use. Under the final model, we see the coefficients for poor parenting drop substantially. Statistically, this indicates that part of the reason that poor parenting affects

marijuana use is through the influence of the intervening variables (especially peer marijuana use).

Furthermore, it is clear that adolescents who are poorly parented are more likely to use alcohol than those who are well parented. Three of the four negative parenting coefficients are statistically significant, and they increase the odds of adolescent alcohol use. When control variables are added to the model, the relationships between poor parenting and adolescent alcohol use hardly change. So, even though many of the control variables themselves are associated with alcohol use, they do not confound the relationship between parenting and this type of deviant behavior. In the final analysis, containing intervening variables, we see that only one of the constructs is associated with alcohol use. In particular, adolescents who have friends who use alcohol have over six times higher odds of using the substance themselves. More importantly, the final analysis does help explain how and why poor parenting influences alcohol use. Under the final model, we see the coefficients for poor parenting drop substantially. Statistically, this indicates that part of the reason that poor parenting affects alcohol use is through the influence of the intervening variables (in this model, peer alcohol use). The theoretical and practical implications of these findings will be discussed in the final chapter of this thesis.

Chapter 5: Conclusion

The findings presented in the previous chapter provide valuable insights into how family factors influence adolescent substance use. The purpose of this final chapter is to summarize results from the previous chapter and discuss the role of social learning and general strain theory in understanding those results. This chapter will also feature a discussion of the limitations of this research, as well as recommendations for future work in this area, and potential policy implications related to reducing adolescent substance use.

When exploring the outcome variable of adolescent marijuana use, the negative family factor variables that have a direct effect on adolescent marijuana use are family drug use, family alcohol use, and corporal punishment. Adolescents who receive corporal punishment have nearly twice the odds of using marijuana relative to adolescents who do not receive corporal punishment. Moreover, adolescents from families that use drugs have nearly twice the odds of using marijuana relative to adolescents who do not have families that use drugs; and adolescents who have family members that drink have nearly one and a half times the odds of using marijuana relative to adolescents who do not have problems with family drinking.

Based on the results, it is apparent that depression, repeating a school grade, and friends using marijuana influence marijuana use directly. Feeling depressed, poor school performance, and having friends who use marijuana affect adolescent marijuana use. Furthermore, they help explain how poor parenting, and family problems, influence marijuana use. Peer delinquency appears to be the most prominent explanatory variable for adolescent marijuana use as the results show that adolescents have over 30 times the odds of using marijuana if they associate with peers who use marijuana!

When exploring the outcome variable of adolescent alcohol use, the results are similar to the adolescent marijuana use variable. The negative family factor variables that have a direct effect on adolescent marijuana use are family drug use, family alcohol use, and corporal punishment. Adolescents who experience corporal punishment have nearly one and a half times the odds of consuming alcohol. Moreover, adolescents who experience family drug use have over one and a half times the odds of using drugs, and also have nearly two times the odds of consuming alcohol, if they have family members that drink; relative to adolescents who do not have family members that drink or use drugs.

Furthermore, according to the results, adolescents have over six times the odds of consuming alcohol if they associate with peers who use alcohol. The variables depression, feeling on guard, and repeating a school grade were also measured; however, the results were not statistically significant. Based on the results, it is apparent that the variable of peer alcohol use influences alcohol use directly. Having friends who use alcohol affects adolescent alcohol use; and this helps explain how poor parenting and family problems influence alcohol use. Peer delinquency appears to be the most prominent explanatory variable for adolescent alcohol use.

Social Learning Theory

The modeling component of social learning theory appears to provide a partial explanation of *why* negative family and peer behaviors are correlated with delinquent behavior. Social learning theory (Akers, 1977; Bandura, 1986; Bandura, 1977) proposes that familial drug and alcohol use and peer alcohol use are important causes of delinquency. It appears that one can see the effects of familial drug and alcohol use, as well as peer substance use, at work in the empirical results. Kids seem to be modeling the behavior of both their drug and alcohol using peers and family members, and are engaging in these behaviors themselves. This is evident in

the marijuana model that shows adolescents with families that use drugs have nearly twice the odds of using marijuana themselves. It is also evident in the alcohol model that shows adolescents have nearly two times the odds of consuming alcohol, if they have family members who drink heavily.

Bandura (1976) argued that aggression in children is influenced by the reinforcement of family members, the media, and the environment. The same concept can be suggested for adolescent substance use. Observational learning, or behavior modeling, enables kids to model or imitate the behaviors they observe around them. Social learning theorists may suggest that adolescents receive reinforcement from their alcohol and drug using friends and family, and therefore model the same behavior by partaking in those substances themselves. Such reinforcement may include peer acceptance by partaking in drug or alcohol use. Adolescents may consider this positive reinforcement a reward because they are accepted by their deviant peers, and therefore, participate in deviant behaviors themselves in order to fit in.

Moreover, social learning theorists have indicated that crime is a product of learning the values and aggressive behaviors linked with criminality. Sutherlands' differential association theory suggests that individuals learn criminal behavior in adolescence from family members and peers (Sutherland, 1939). Through the interaction with others, individuals learn the values, attitudes, techniques, and motives for criminal behavior (Sutherland, 1939). As a result, social learning theorists may suggest children who interact with peers who drink and smoke are much more likely to follow in their footsteps, and act out those behaviors themselves.

According to the results of this study, adolescents who associate with marijuana smoking peers have over 30 times the odds of smoking marijuana themselves. They also have over six times the odds of consuming alcohol if they associate with peers who use alcohol. When taking

into account adolescents who have friends who use marijuana and alcohol, significant intervening effects were revealed, illustrating that adolescents tend to model the behavior of peers they hang out with, further substantiating the significance of modeling and social learning theory.

General Strain Theory

When considering general strain theory (Agnew, 1985; 1989, 1992; Brezina, 1996; Paternoster & Mazerolle, 1994) and its effect on adolescent marijuana use, it is plausible that abusive family behaviors may be associated with marijuana use either directly or through the mediating influence of anxiety (being on guard), depression, and poor school performance. When mistreated at home (i.e., corporal punishment), adolescents may feel strained, and therefore turn to various coping mechanisms. In this analysis, children who experience corporal punishment (i.e., noxious stimuli) have nearly two times the odds of using marijuana relative to children who do not experience corporal punishment.

Adolescents who live in households with family members who drink and use drugs may also turn to those habits themselves. Children whose parents partake in drinking and drug use have over one and a half times the odds of using marijuana themselves. According to general strain theory, adolescents may feel strained in the home environment due to familial substance use, and in order to cope with this frustration, they begin to use these substances as a means of “numbing the pain”.

Moreover, Agnew (2006) suggests that the variable of delinquent peer associations is a key mediating factor between poor parenting with delinquent behavior. For example, children who live in a deficient household may spend time with deviant peers outside the home, and utilize intoxicating substances, in order to cope with the treatment they receive at home. Agnew

(2006) states that negative treatment like harsh punishments by conventional others (i.e., parents) can “generate severe strain, which is especially conducive to illegal behavior” (p. 42). “Repeated strains at home can undermine relationships with parents, and may lead to youth spending more time on the streets with delinquent friends, which increases delinquent behavior” (p. 44).

Furthermore, due to the strain they feel at home, children may begin to feel depressed or have problems concentrating in school. The results of this study show that children who feel depressed, and have had to repeat a school grade, are more likely to use marijuana than children who do not feel the strains of poor school performance and depression. Agnew (1992) argues one source of strain is goal blockage between expectations and actual achievements. He states this “disjunction rests on the outcome of an individual’s behavior. Strain is increased when the actual achievements of an individual are less than that which the individual expected” (Agnew, 1992, p. 52). An adolescent who fails a grade, and has to repeat that grade, may feel this type of strain. Failing a grade can be an embarrassment, causing shame, both in front of peers and family. Intertwining difficult relationships with parents in conjunction with poor school performance “encompasses two major strains: parental rejection and negative secondary school experiences” (Agnew, 2006, p. 42). Due to feeling shame and embarrassment, adolescents may become depressed, and turn to marijuana as a way to cope with these negative feelings.

Summary of Theoretical Explanations

This study and the literature discussed in the last three chapters suggest that both social learning and general strain theories play an important role in explaining adolescent substance use. Both theories provide partial explanations for *why* negative familial experiences, the negative affect created by those experiences, interaction with delinquent peers, and the deviant techniques and values developed in those peer groups can lead to adolescent substance use. Both

models provide plausible explanations for adolescent substance use; however, peer delinquency appears to be the most prominent variable explaining the nature of the parenting / adolescent substance use relationship.

Limitations of this Research

The current research supports the existing body of knowledge regarding the effects of negative family factors and adolescent substance use. It has provided valuable empirical evidence showing that social learning and general strain theory can help explain the link between family dysfunction and adolescent substance use. Nonetheless, most social research, including the current study, present a number of unanswered questions, and creates additional avenues for inquiry. Moreover, this analysis was limited by number of methodological shortcomings that should be acknowledged.

One of the major limitations of this study is that the current research used secondary data. This means that the present researcher was limited in terms of variables that could be used to operationalize key strain and social learning concepts. Moreover, existing variables were not always measured with the degree of validity and precision that one would like. These factors could lessen the validity of this research. The National Survey of Adolescents in the United States (Kilpatrick and Saunders, 1995) presented multiple choice questions with a variety of possible responses. For instance, the authors asked respondents if they had ever tried an alcoholic beverage. The choices given ranged from “yes, no, not sure, refused, and unknown”. Further specification of this variable may have been beneficial for analytic purposes as it is difficult to accurately measure adolescent alcohol use based on how the question and answers were presented.

Furthermore, the same can be said about the adolescent marijuana use measure. The authors measured marijuana use with a question asking whether the respondent had ever used marijuana (along with a number of other illicit drugs). A follow up question then asked how often the respondent had used that drug. The multiple choice options varied from 1-3 occasions, 4-10 occasions, more than 10, unsure, and refused to answer. These questions are somewhat vague: it is likely that important differences may exist between experimental drug use, recreational drug use and casual drug use. Future researchers may wish to empirically define these levels of use, and construct their dependent measures accordingly.

Similarly, people can be considered alcohol dependent, chronic users, problem drinkers or casual consumers. The questions in the National Survey of Adolescents (Kilpatrick and Saunders, 1995) did not precisely differentiate or operationalize these types of consumption; however, future empirical work in this area could do so. At the very least, a count of incidents could be constructed and analyzed using a statistical methodology called negative binomial regression analysis. However, this method is more complex than logistic regression, and from a practical standpoint, can not be estimated using the software package SPSS; which was used to analyze the data for this study.

Furthermore, since the data used a self-report methodology; one should be mindful of the limitations of this technique. Some young people may have been opposed to fully reporting their delinquent behavior, while others may have exaggerated their delinquency. They may also have forgotten the time or frequency of events they participated in, incorrectly reporting their delinquent acts. In the end, these issues could also potentially harm the validity of the results, which in turn could affect the conclusions being drawn from this thesis.

Moreover, this study did not utilize longitudinal data. The 1995 National Survey of Adolescents in the United States used a cross-sectional design, which only examines a population at one point in time. Therefore, it could not directly test the long term effects of negative family factors on adolescent substance use. Lastly, the 1995 National Survey of Adolescents in the United States is a twenty year old study. Many things change over the course of a year, yet alone twenty years. Consequently, there is a need to replicate this study using a modern, longitudinal design that involves repeated observations of negative family factors, intervening and confounding variables, and adolescent substance use, over a period of time.

Recommendations for Future Research

In summation, because the 1995 National Survey of Adolescents in the United States is twenty years old, it is recommended that this study be replicated in order to determine how much society, familial relationships, and drug fads have changed over time. Furthermore, a longitudinal design, as opposed to a cross-sectional design, would allow a researcher to directly specify and test causal relationships between familial variables, intervening constructs from strain and learning theory, and relevant drug trends. There is relatively little to be gained by continuing to study *if* negative family factors are correlated with adolescent substance use. Research efforts in this area should be shifted toward fully understanding *why* these variables are related using modern data and a robust research methodology.

Policy Implications

The findings of this study suggest that one should explore positive outlets for youth to turn to when faced with strains or abuse in the home, or when lacking positive influences within their families. For policy makers this can mean the design and use of interventions that offer at-risk youth the opportunity to rely upon positive role models and peers, and promote problem solving skills that can inhibit the use of illegal substances as a coping mechanism. Such

interventions may include model programs like the Boys & Girls Club of America Programs like this provide services that enhance pro-social development of young boys and girls by encouraging a sense of confidence, positive self-esteem, and belonging. This club offers a safe place to grow by offering lessons on life skills, character and leadership. Sports and fitness programs, and also intensive intervention and case management are used to ensure that kids graduate from high school on time and become responsible, caring individuals that can one day make positive contributions to their communities (Youth Report to America, 2005).

Other policies that can make a difference in reducing adolescent substance use are after school programs. Programs like this allow youth to stay busy and interact with pro-social peers, in a structured environment; instead of going home after school, where youth are often left unsupervised while parents are at work (After School Alert Issue Brief, 2007). A program called the “Instead Club” could make a difference in reducing adolescent substance use. This program is implemented at some schools in the state of Michigan, and offers students 2-3 hours of clean fun with positive mentors 3 days a week. This program offers a variety of activities each week such as learning how to cope with fear and anger by participating in physical fitness activities, talking to a mentor or teacher and staying involved by participating in healthy and advantageous hobbies. This program also provides kids with information regarding the importance of saying no to drugs.

Parenting programs may also be of great benefit in reducing adolescent substance use (Spoth and Redmond, 1995). Parenting classes that focus on how to nurture children, how to talk to children, and how to be a positive role model may help parents become a more reliable and dependable influence on their kids. These programs should also provide substance abuse classes and rehabilitation initiatives for parents. Promoting after school programs and parenting classes

may not remove adolescent substance use all together; however, programs like these may promote higher self-esteem in children and parents, as well as offer positive influences and healthy activities, which can in the end, address the risk factors identified in this thesis, and thus plausibly reduce adolescent substance use.

Appendix

Definition of Variable Terms:

Dependent Variables:

Adolescent Alcohol Use: Question asked- Have you ever had a drink of beer, wine, liquor, or any alcoholic beverage?

The survey presented multiple choice answers and was coded as follows:

1. Yes
2. No
3. Not Sure
4. Refused
5. Unknown

Adolescent Marijuana Use: Question asked- Some people nowadays use other drugs that are not prescribed by a doctor, have you ever used...

1. Marijuana, (which is sometimes called pot or grass)
2. Cocaine or crack
3. Angel dust or PCP
4. LSD or other
5. Hallucinogenics, like; peyote, psilocybin, or mushrooms
6. Heroin or methadone
7. Inhalants, like glue, nitrous oxide, amyl nitrate, paint or gasoline
8. None

Respondents were also asked how often they used the drug. The survey presented multiple choice answers and was coded as follows:

1. 1-3 occasions
2. 4-10 occasions
3. More than 10
4. Don't know
5. Refused
6. Unknown

Independent Variables:

Family Alcohol Use: Question asked- Has anyone either in your family or who lived with you, not counting you, drink alcohol (beer, wine) so much that it became a problem? (For example, did anyone drink so much they got into fights with other People, or started to beat the kids, or couldn't get out of bed the next day, or had difficulty holding a job?)

The survey presented multiple choice answers and was coded as follows:

1. Yes
2. No
3. Not Sure
4. Refused
5. Unknown

Respondents were then asked which family member “drank that much.” The multiple choice answers were coded as follows:

- 1 Natural mother
- 2 Natural father
- 3 Adopted mother
- 4 Adopted father
- 5 Stepmother
- 6 Stepfather
- 7 Other mother substitute
- 8 Other father substitute
- 9 Brother
- 10 Sister
- 11 Stepbrother
- 12 Stepsister
- 13 Other relative
- 14 Other non-relative
- 15 Other
- 16 Not sure
- 17 Refused
- 99 Unknown

Family Drug Use: Question asked- Did anyone in your family or who lived with you, not counting your, use hard drugs, such as heroin, cocaine, speed, or uppers or downers, or have a drug problem? Again, please include as family not only family members who lived with you but also anyone else who lived in your home as well as parents, brothers, sisters, grandparents not living with you.

The survey presented multiple choice answers and was coded as follows:

1. Yes
2. No
3. Not Sure
4. Refused
5. Unknown

Respondents were then asked which family member used hard drugs. The multiple choice answers were coded as follows:

- 1 Natural mother
- 2 Natural father
- 3 Adopted mother
- 4 Adopted father
- 5 Stepmother
- 6 Stepfather
- 7 Other mother substitute
- 8 Other father substitute
- 9 Brother
- 10 Sister
- 11 Stepbrother
- 12 Stepsister
- 13 Other relative
- 14 Other non-relative
- 15 Other
- 16 Not sure
- 17 Refused
- 99 Unknown

Parental Corporal Punishment: Question asked- Families have different ways of punishing young people if they think they have done something wrong. Some families spank young people as a form of punishment. Has a parent or some adult in charge of you ever spanked you so hard that you had to see a doctor because you were hurt so bad? Not counting any spanking incidents you already told me about, has a parent or someone in charge of you ever spanked you so hard that you got bad marks, bruises, cuts or welts?

The survey presented multiple choice answers and was coded as follows:

1. Yes
2. No
3. Not Sure
4. Refused
5. Unknown

Parental Criminality: Question asked- Did drinking alcohol or the use of drugs cause either of your biological parents to have...

1. Problems with family or friends?
2. Problems with work?
3. Injuries or accidents?
4. Problems with their health?
5. Trouble with the law?

The survey then asked which parent had trouble with the law, and was coded as follows:

1. Father
2. Mother
3. Both
4. Not Sure
5. Refused
6. Unknown

Intervening Variables:

Anxiety: Question asked- People experience a variety of moods and feelings from time to time. Has there ever been a period of two weeks or more you felt.....

1. You had trouble concentrating or keeping you mind on what you were doing, even when you tried to concentrate?
2. You lost interest in activities which usually meant a lot to you
3. You felt you had to stay on guard much of the time
4. You deliberately tried very hard not to think about something that had happened to you
5. [If yes in Q.4) What was it you tried not to think about?
6. You had difficulty falling asleep or staying asleep
7. You stopped caring about activities in your life that used to be important to you
8. Unexpected noises startled you more than usual
9. You kept having unpleasant memories, or seeing them in your mind
10. [If Yes to Q.9]: What were the memories about?
11. You had repeated bad dreams or nightmares
12. [If Yes to Q.11]: What were the dreams about?
13. You went out of your way to avoid certain places or activities which might remind you of something that happened to you in the past
14. [If Yes to Q.13]: What did those places or activities remind you of?
15. You deliberately tried to avoid having any feelings about something that happened to you in the past
16. [If Yes to Q.15]: What were those feelings about?
17. You felt cut off from other people or found it difficult to feel close to other People
18. You found yourself suddenly feeling very anxious, fearful, or panicky

The authors presented multiple choice answers for feeling one had to be on guard much of the time, and it was coded as follows:

1. Yes
2. No
3. Not Sure
4. Refused
5. Unknown

Depression: Question asked- Have you ever had a period of two weeks or longer when you....

1. Lost weight without dieting
2. Gained weight without dieting
3. Had a significant increase or decrease in appetite
4. Slept too much/too little/ were unable to sit still
5. Felt tired/low in energy all the time
6. Felt worthless/guilty about the past
7. Had a hard time thinking/concentrating/making decisions
8. Felt things were so bad that you thought about hurting yourself
9. Thought about death a lot

Respondents were then asked if they felt depressed most of the day for at least two weeks. The authors presented multiple choice answers and it was coded as follows:

1. Yes
2. No
3. Not Sure
4. Refused
5. Unknown

Peer Delinquency: Question asked- Let's talk about your friends' behavior in the past 12 months. I'd like to ask you how many of your close friends have done each thing I will read to you. Have your friends ever...

1. Purposely damaged or destroyed property that did not belong to them?
2. Used marijuana or hashish?
3. Stolen something worth less than \$5?
4. Hit or threatened to hit someone without any reason?
5. Used alcohol?
6. Broken into a vehicle or building to steal something?
7. Sold hard drugs such as heroin, cocaine, and LSD?
8. Stolen something worth more than \$50?
9. Suggested you do something that was against the law?
10. Gotten drunk once in a while?
11. Used prescription drugs such as amphetamines or barbiturates when there was no medical need for them?
12. Sold or given alcohol to kids under 18?
13. Pressured or forced someone to do more sexually than he/she wanted to do?

For each type of peer delinquency, the authors presented multiple choice answers and it was coded as follows:

1. Yes
2. No
3. Not Sure
4. Refused

5. Have no Friends
6. Unknown

Repeat a School Grade: Question asked- After people have traumatic events that cause the bad moods, feelings, and emotional problems we have just been talking about, their lives can sometimes be affected in other ways. After the events you told me about that caused bad moods, feelings and emotional problems, did they ever cause:

1. Problems with your schoolwork, including bad grades, having to drop out of school, getting in trouble with your teachers or having to work harder to make the same grades, or repeating a school grade?

The authors presented multiple choice answers and it was coded as follows:

1. Yes
2. No
3. Don't know
4. Refused
5. Unknown

Demographic Variables:

Age: Question asked- How old are you? (Screen out if not 12-17 years of age)

The authors then asked respondents their birthdate and presented multiple choice answers. It was coded as follows:

1. Month and year of birth
2. Don't know
3. Refused
4. Unknown

Gender: Question asked- Respondents sex?

1. Male
2. Female

Respondents were asked to circle male or female and were coded as a 1 for male and 2 for female

Race: Question asked- Are you Spanish/Hispanic Origin?

1. Yes, Hispanic
2. No, Not Hispanic

In which of the following categories do you feel you belong?

1. Pacific Islander
2. American Indian or Alaskan native
3. Asian (Oriental)

4. African-American (Black)
5. White/Caucasian

The authors presented respondents with multiple choice answers regarding their race and it was coded as follows:

1. Yes, Hispanic
2. No, not Hispanic
3. Refused

Racial Categories:

1. White
2. Black
3. Pacific Islander
4. American Indian
5. Asian
6. Something else
7. Refused

Socio-Economic Status: Question asked- Before taxes and other payroll deductions, would you say that the total 1994 income of all members of your household was less than \$20,000, 20,000 to \$50,000 or more than \$50,000?

1. Less than \$20,000
2. \$20,000 to \$50,000
3. More than \$50,000
4. Not Sure
5. Refused

The authors coded the multiple choice answers as follows:

1. Less than \$20,000
2. \$20,000 to \$50,000
3. More than \$50,000
4. Don't know income
5. Refused

Question asked- Would you say that your total 1994 household income was ...?

1. \$5000 or less
2. \$5001 to \$10,000
3. \$10,001 to \$15,000
4. \$15,001 to \$20,000
5. Refused

The authors coded the multiple choice answers as follows:

1. \$5000 or less
2. \$5001 to \$10,000
3. \$10,001 to \$20,00
4. DK, less than \$20k

5. Ref, less than \$20k
6. Unknown

Question asked- Would you say that your total 1994 household income was . . . ?

1. \$20,000 to \$30,000
2. \$30,001 to \$40,000
3. \$40,001 to \$50,000
4. Refused

The authors coded the multiple choice answers as follows:

1. \$20,000 to \$30,000
2. \$30,000 to \$40,000
3. \$40,000 to \$50,000
4. DK, btwn \$20-\$50k
5. Ref, btwn \$20-\$50k
6. Unknown

Question asked- Would you say that your total 1994 household income was . . . ?

1. \$50,000 to \$70,000
2. \$70,001 to \$100,000
3. More than \$100,000
4. Refused

The authors coded the multiple choice questions as follows:

1. \$50,000 to \$75,000
2. \$75,000 to \$100,000
3. More than \$100,000
4. DK, more than \$50k
5. Ref, more than \$50k
6. Unknown

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