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Smoking Behavior of Women in a Chemical Dependency Treatment Program

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An Abstract Presented To the Faculty of the Graduate School of Lindenwood College in Partial Fulfillment of the Requirements for the Degree of Master of Art

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ABSTRACT

The research question which will be discussed is smoking behavior in women who are participating in a treatment program for chemical dependency. The women subjects were between 18 and 40 years old. This study explored the relationship between smoking behaviors and substance abuse behaviors including alcohol usage. A sample, chosen at random, completed a personnel interview and a questionnaire. The research identified several areas that were similar between the smoking behavior and substance abuse. These areas included environment, personality, peer relationships and situational cues. The associated behaviors that began at the preadolescent age carried over into the subjects adult life. Seventy-two percent of the sample population began the smoking behavior between the ages of ten and fourteen. Sixty-four percent began alcohol usage and fifty-six percent began substance abuse between fourteen and seventeen. The research indicated that as the subjects attained the age of twenty-one, the usage of alcohol was lower than at younger ages. From the research, it appears that the smoking behavior precedes the initial use of other substances.

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In thanks:

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Dedication

To my husband, Leslie, sons Matthew and Nathan and all my family and friends.

To My Sister: Erin Rose Krause: 03/09/57 to 10/01/84.

To My Father: Amos E. Jose: 06/17/23 to 04/20/91.

We Made It Er and Dad!!, we made it.

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Chapter 1

Introduction

The research topic discussed is smoking behavior of women who are participating in a treatment program for chemical dependency.

The question to be researched raises the issue why focus research on women as opposed to men who smoke? The answer to this question is that smoking in the female population is on the increase (Dhillion 1985). In the United States women smokers smoke 60 percent more cigarettes a day than a generation ago, which makes the United States female smokers the heaviest smokers in the world (Jacobson 1982).

Not only do women smoke more heavily than twenty-five years ago, but the population is much younger. In 1970's and 80's there are more American teenage girls who smoked than teenage boys. Nearly four in every ten teenage girls are now smoking 20 cigarettes (1 pack) a day (Jacobson 1982).

When does a young person start to smoke and why do they smoke? Researchers agree that the primary reason a child starts to smoke is social. We know that a child will have a first cigarette when very young, many less than ten years of age. A young child is greatly influenced by watching parents actions and those of other members of the family. Research has pointed to

the incidence where a girl will copy the mother or sister in smoking behavior. If the mother or sister smokes there is a high probability the girl will also smoke (Bewley, 1971).

When a girl leaves the home environment to attend school other influences alter the behavior and this influence is very important. A girl who smokes chooses friends who also smoke. The behavior points to social adaptation to the smoking (Jacobson, 1982).

There are three stages in the smoking habit. The first phase begins with the experimental, which is characterized with role model behavior, curiosity and the wish to be accepted as a peer or an adult. The second phase is characterized by physical dependence to nicotine. The third phase involves dependency which is psychological, physical and the actual smoking ritual (Allen, Angermann, Fockler 1968).

The addictive properties of smoking are known and nicotine is one of the greatest. According to the Royal College of Physicians' report, Smoking On Health

> "Tobacco smoking is a form of drug dependence different from, but no less strong than, that of other addictive drugs. . . . . Most smokers continue to indulge in the habit because they are addicted to nicotine."

In the United States alone smokers take well over 10 billion doses of nicotine per day. Tobacco smoke has nicotine, the only known psychoactive ingredient in it. Addicted smokers will smoke for one reason and

that is to keep the level of nicotine in the bloodstream. As British researcher, Dr. M. A. Hamilton Russell wrote, "If it were not for the nicotine in tobacco smoke, people would be little more inclined to cigarette than they are to blow bubbles or light sparklers" (Ferguson, 1987, p. 26).

Most smokers take ten puffs per cigarette. For a smoker who smokes a pack a day receives about 200 puffs per day. Each puff contains nicotine. The nicotine reaches the smoker's brain within seven seconds, about twice as fast as a syringe full of heroin injected in the vein. The heroin first must enter the body's systemic circulatory system then the brain, the nicotine enters the blood from the lungs and passes straight to the brain (Ferguson, 1987).

The nicotine enters the brain and begins acting like the neurotransmitter acelytcholine. The brain then begins to send out epinephrine (adrenaline), norepinehrine, dopamine, arginine, vasopression and beta-endorpine. These brain chemicals are powerful in that they cause other reactions. Acetycholine is a chemical that stimulates arousal and alertness, while dopamine operates on the brain's mechanism controlling pleasure. The beta-endorpine serves the brain and body as an analgesic and reduces pain and anxiety. With the effect on the body and brain chemistry the smoker derives pleasure and decreases anxiety and gives the

smoker relaxation. The smoker continues the habit because this behavior is repeated over and over each day. The brain continues to send signals to the body. It is now alert, aroused, not feeling pain and more relaxed. This behavior becomes an intimate part of the smoker's life. These findings help to explain the smoker's dependency role every time a puff is taken from the cigarette.

A serious determinant of whether a drug is addictive physically is the phenomena of 'tolerance' and 'withdrawal symptoms' which are the signposts of narcotics drugs such barbiturates and opiates (morphine - like drugs). For the 'tolerance symptom' a dependent drug user must have more of the drug to maintain the same effect as when the drug was first used. The 'withdrawal symptom', the other side of tolerance, occurs when there is a sudden stoppage of the drug use. Then the nerves signal the brain that the drug isn't in the system and the body begins to adjust to drug free state. During this phase the body may begin having unpleasant side effects while the drug is leaving the body (Jacobson, 1982).

Nicotine is one of several addictive substances in one cigarette. A smoker may develop a tolerance to carbon monoxide, tar acetone and phenol. These are four of about 1,000 components in one lit cigarette (Surgeon General, Julius Richmond, 1979).

In 1971, the Addiction Research Unit of the Institute of Psychiatry in London was formulated to study addiction to heroin. The unit also began to study cigarette smoking and, after investigation, labeled nicotine as addictive. Dr. M. A. Hamilton Russell of the Institute of Psychiatry states "It is far easier to become dependent on cigarettes than on alcohol or barbiturates." This, combined with the fact that smoking frequency overtakes any other addictive substance in the world, is a significant finding that can be studied at length (Dhillion 1985 p. 1).

Any time there is regular use of a substance the behavioral patterns are established. This constitutes an addiction. In the beginning stages of a person using a substance, that substance must be taken in larger and larger quantities to create the effects because the tolerance level for the substance substantially increases from the initial level.

Cigarette smoking is more powerful than a habit. It qualifies as an addiction. The nicotine requires the body to maintain a particular level of the amount in the bloodstream. When a smoker lowers this level the body becomes uncomfortable and sends signals to the body to react. The body is telling the smoker to reach for another cigarette. Once the smokers lights another cigarette the nicotine enters the bloodstream and the level is maintained (Dhillion, 1985.)

When certain substances are stopped or decreased, one may suffer a side effect, such as, tremors, loss or increase of appetite, cramps, vomiting, chills, insomnia, irritability, and a person may begin to undergo a strong desire for the substance as a way of lessening the symptoms of withdrawal.

Effects of Smoking on Internal Functioning

The organs of the body such as the glands, liver, digestive tract, and heart are controlled by the brain. These organs respond when a chemical such as nicotine is introduced into the body via the bloodstream. The organs respond by speeding up or slowing down their operation. These reactions may occur in any part of the body. For example, the heartbeat rhythm may change or the breathing rate as well as blood pressure, or the flow of gastric juices, elimination of wastes or general metabolism may be altered due to a chemical substance introduced in the body.

Every time a cigarette is smoked the functions of the body will react. Smoking allows the nicotine into the system through the soft tissues of the mouth and lungs. The body reacts and forces a flow of adrenaline and hormones to cause the energy to increase by elevating blood sugar levels. This gives the smoker a surge of energy; it is then proceeded by the movement of glucose out of the blood and then the let down or fatigue begins. The fatigue causes the smoker to start

feeling anxious, and discomfort and signals for the smoker to light another cigarette.

The glands are also working by giving adrenaline and the pancreas is working with glycogen from the liver. These conditions result in an increase of blood pressure and heartbeat rhythm by a minimum of nine beats per minute, which is around 10,000 extra beats per day. This condition then influences the amount of fat in the bloodstream. The heart and organs of the body are working harder and faster and the oxygen is decreased. The blood is not able to carry oxygen to the brain or heart. Approximately 20 percent of the blood cells around the heart do not work for sending oxygen to the heart (Dhillion, 1985, p.5).

The work the body does when the smoker lights a cigarette wears on the body. The blood is pumped at an abnormal and increased rate; the blood pressure is elevated, fatty substances (plaque) are lining the walls of the blood vessels causing them to become narrow and causing the blood pressure to rise more and the heart to further exert itself. The cycle begins each time a smoker inhales a cigarette. The smoker because of the exertion may develop a heart attack, or atherosclerosis, Reynaud's disease (coldness due to impaired circulation of blood to the extremities of the fingers and toes), strokes, and other health problems (Dhillion, 1985).

Other problems of smoker's health focus on diseases. Respiratory diseases such as respiratory tract infections, bronchitis, asthma, pneumonia, and difficulty with lung function are increased due to smoking.

Cigarette smoking is largely responsible for lung cancer. Cancer of the oral cavity, larynx, esophagus, kidney, urinary bladder and pancreas have direct correlation to cigarette smoking. In 1980, about 33 percent of cancer death among men were related to smoking, about 10 percent were directly related to women and the this is increasing. Ninety five percent of all those who contract lung cancer are heavy smokers. From 1930 till now, lung cancer in women increased 400 percent. The increase in women smokers is 350 percent. The lung cancer rate among women in the last ten years has doubled (Dhillion, 1985). Women who are using birth control pills and are cigarette smokers are three times more likely to die of a heart attack than a nonsmoker taking the birth control pill.

The rate of death from diseases of smoker is 500 percent greater than nonsmokers. Emphysema, a disease of smokers has increased a 100 percent in the last twenty years.

Women who smoke enter menopause at an earlier age. Death by gastric and duodenal ulcers is twice as likely for women than for nonsmokers. Babies born to mothers

who smoke have retarded fetal growth. Women smokers experience a greater number of miscarriages, stillborns and neonatal deaths.

When a pregnant woman smokes one cigarette, the carbon monoxide level in maternal and fetal blood increases to ten percent and the supply of oxygen to the fetus is decreased. The nicotine in this cigarette has caused the blood vessels to constrict in the placenta and further decreases the total oxygen as wells as nutrients to the infant. It has been noted that pregnant smokers have a thirty percent greater chance of miscarrying a child than a woman who has not smoked. Women who smoke are likely to have babies who are premature. Over fourteen percent of premature deliveries are attributed to the habit of smoking by the mother.

Smoking is increasing among blue collar workers, but most significantly among women, blacks, and adolescents particularly teenage girls (Dhillion, 1985).

According to the Royal College of Physicians, every woman who smokes two or more packs of cigarettes will decrease her life expectancy by twenty years (Dhillion, 1985 p. 18).

Statement of Purpose

The purpose of this study was to explore the relationship between smoking behavior and other

addictive behavior of alcohol and drug usage of women in a program for chemical dependency. The study would explore in detail the behaviors of smoking in women, when they were children, adolescents and adult and compare this behavior to use of alcohol and drugs. The study particularly will focus on a particular pattern and relationship in cross addictions in women.

Chapter 2

Literature Review

Addiction Influence

The present models of smoking behavior have been studied in the United States and Great Britain. The research clearly defines the behaviors as social, habitual, sensory, pharmalogical and all play a part in maintaining the smoking behavior (Karanic & Rustemili, 1987).

In defining 'addiction' Eiser (1985) uses the term for the 'tolerance' that regular users of a drug will develop to its effects. This requires an increased dose to produce the same effect. The deprived user will then experience a condition called 'withdrawal' and 'craving' with varying degrees of unpleasantness and duration (Eisle, 1985, p. 447). Researchers have generalized smoking behavior into this category of addiction.

To continue the addiction, certain stipulations are necessary and are as follows: (1) an 'expectancy' that taking a drug will improve one's mood state and (2) an 'association' between deprivation of a drug and experiencing an adverse mood state. Both the expectancy and the association may be acquired socially. The strengthening of the addiction with

repeated use will depend both on the pharmacological properties of the drug in question and the social context used (Eiser, 1985, p. 455).

Jaffe (1980) defined the term addiction as:

> "a behavioral pattern of drug use, characterized by overwhelming involvement with the use of a drug (compulsive use), the securing of it's supply and a high tendency to relapse after withdrawal" (Jaffe, 1980, p. 536).

A clarification of the term 'compulsive use' in the explanation listed above is necessary and follows:

> ". . . diminished flexibility in terms of their (addict's) behavior toward a particular drug. They continue to take it in the absence of medical indications, often despite adverse social and medical consequences and they behave as if the effects of the drugs are needed for the continued well-being" (Jaffe, 1980, p. 535).

In Stall's study (1986) on problematic use of substances, such as alcohol, opiate, tobacco and food, he discussed the meaning of addiction.

> He defined 'addiction' as a habitual and uncontrolled use of the substance so that it's use is potentially deleterious physically, personally, or socially (Stall 1986, p. 2).

In other research related to addiction, Sadava and Weithe (1985) smokers did not view situational factors as a cue to their addiction. Smoking was an acquired habit and many times situational cues started the smoking behavior. In the research, the heavy smokers noted that they were completely unaware of how much they smoked or when they smoked. Smoking for the habitual smoker does not constitute the 'lack of willpower' but rather a behavior that is repetitive,

rewarded and situationally cued. The situational cues seek out the feelings of enjoyment (Sadava & Weithe, 1985).

In the Marlatt, Baer, Donovan & Kivlahain (1988) study, they described addictive behavior as a

> "repetitive habit pattern that increases the risk of disease and/or associated personal and social problems" (Marlatt et al., 1988, p. 224).

Health Influences

A study by Krantz, Grunberg, and Baum (1985) points to factors concerning morbidity and morality. Since the beginning of the century the major cause of death was infectious diseases. Those diseases were tuberculosis and pneumonia. By contrast the leading causes of death now are chronic diseases such as cardiovascular disease and cancer. The causality of these diseases are societal, environmental, behavioral and biological. The focus now is on the environmental and behavioral causes. Cigarette smoking and diet are the behavioral variables of interest. The variable is a major health connection that permits psychologists to study them in detail to create a plan of developing a technique of prevention. Behavioral scientists now focus attention on the physiological processes such as the neuroendrine action which is important in the development of heart disease. They work to discover the processes that have a bearing on behavioral causes. Studies evolve concerning age, genetics, personality, history, and events that can change, enhance or reduce these behaviorial causes. In order to insure an effective intervention process, study various mechanisms (attitude, modeling and etc,) by which adolescents begin the smoking process.

Cigarette smoking is the single most preventable cause of morbidity and mortality in the United States (USDHEW 1979a). Most medical problems, disorders and illnesses affect 1/100,000, 1/10,000 or at the most 1/100 people. By contrast, smoking (not including passive smoking) and its resulting health hazards directly affect one out of every three people.

Cardiovascular illness is not an aging or a hereditary consequence. Behavior variables include diet, cigarette smoking, obesity and stress. The cancer risk factor is greater with behaviors of cigarette smoking and diet (Krantz, Grumberg and Baum 1985).

Now there is an awareness of an individual health, the behavior of an individual and how these variables interface. Behavioral scientist are studying areas of emotional stress and the development of heart disease. Scientists are looking at the physiological process, the initial warnings of heart disease and how they affect behavior.

By investigating all the forms of the process, the scientist can interpret historical and epidemiological signs such as personality, age, heredity and diet history into data that may change or modify. The question 'why do adolescents begin to smoke cigarettes' and the understanding of the processes such as (heredity, attitude and modeling) can bring about successful interventions (Evans, 1981).

Research has shown that the properties of nicotine in tobacco smoke are a built in reinforcer.

> "There is little doubt that if it were not for the nicotine in the tobacco smoke people would be little inclined to smoke than they are to blow bubbles . . ." (Russell, 1974, p. 255).

Many of the studies show that the smokers try to gauge their ingestion of nicotine (Herman, 1974, Kozlowski et al.,1975, Kumar et al., 1977 and Schachter, 1978).

Mello, Mendelson, and Palmieri (1987) studied the interaction of smoking with alcohol, opiates and marijuana as opposed to the behavior or personality of an individual. The drugs from different groups where shown to have a direct effect on cigarette smoking. The investigation found that alcohol, opiates and particular stimulants did increase smoking. However, marijuana did not alter smoking patterns.

Dreher and Fraser (1967), Malerzhy and Klotter (1974), and Watton (1972) discovered by surveys an association between smoking and the use of alcohol. Their observations point to the conclusion that alcoholics were shown to smoke much more than a nonalcoholic person. A strong connection occurs between smoking cigarettes and using alcohol in alcoholic men under clinical conditions (Griffiths et al. 1976).

This demonstration measured the smoking behavior of alcoholic men during six hour periods when the controlled variable was an alcoholic beverage or a

nonalcoholic beverage. The subjects smoked their favorite brand. Access to the alcoholic beverage consistently induced an increase in cigarette smoking in all situations when compared to the nonalcoholic beverage environment. The results of this study of alcoholic men has been documented by Henningfield et al. (1984) and then extended to include male subjects who drink socially (Mello et al. 1980).

Lieber and DeCarli (1968) and Ruben (1970) have investigated the possibility of a metabolic connection with alcohol that changes the metabolism rate for nicotine in the system. Chronic alcohol ingestion increases the activity of the microsomal enzymes that control and regulate drug metabolism. Schachter's (1978) research shows that the bloodstream absorbed some degree of nicotine and then excretes it into the urine. The nicotine that is excreted depends on the condition of the individuals system and the pH balance of the urine. Different events may alter the system with larger amounts of acidity. Stress or the consumption of alcohol may cause these changes that allows a greater loss of nicotine. The smoker, not being aware of the lower level of nicotine and the desire to replenish the nicotine, interprets this as a craving and requires another cigarette (Eiser, 1985).

Nicotine appears to play the role of reinforcing the continuous use of cigarette smoking (Jaffe and

Jarvik 1978, Russell 1976 and Gritz 1980). However, there is difficulty in dividing the distinct nicotine influence from the other components of tobacco smoke. This elaborates the reinforcement properties of smoking tobacco for an individual.

Increased cigarette smoking by methadone and heroin using addicts, occurs during the intoxication period (Mello et al. 1980 and Chart and Griffiths 1984). Gritz (1980) study found that heroin addicts were also heavy cigarette smokers. Studies by Karras and Kane (1980) and Chernick (1983) have revealed that one of the affects of methadone and heroin is to reinforce the effects of smoking. In other studies by Mello (1980), he discovered that marijuana did not appear to change the tobacco smoking behavior in any predictable way. This was in contrast to alcohol, opiates and other stimulants. A study by Griffiths (1981), now suggest that the use of opiates, alcohol and other stimulants actually increase cigarette smoking.

Mello and Mendelson (1987) studied twenty-one women subjects with sixteen being cigarette smokers. The women could request a cigarette anytime and they could earn one gram of marijuana only every thirty minutes for performing certain tasks. The major finding of this research concluded that cigarette

smoking was uneffected by the usage or nonusage of marijuana.

Adolescent drug use in America is prevalent. The substance may be tobacco, alcohol, marijuana or some other drug. When an adolescent reaches their senior year in high school, more than 90% have tried alcohol and 60% have tried marijuana (Marcos, Bohr & Johnson, 1986). Alcohol and tobacco are easy to obtain and usually acquired first (O'Malley et al. 1984). These two drugs are legal for adults, accepted by society and usually experimented with first by adolescents.

Environmental Influence

There are a number of factors involved in the prediction of drug abuse and addiction in adolescents. These factors include peer drug use, parent drug use, delinquency, poor self esteem, and an inability to conform to social norms and life changes. Research by Marcos, Bahr and Johnson (1986) focused on the model describing drug usage in teenagers in determining specific forms of drug abuse.

Drug abuse in the beginning stage appears to cause a positive affective state and provide a positive reinforcement. Drugs that are abused usually produce a change in the central nervous system. Drug related behavior of peers does not closely affect the cigarette smoking of an individual like alcohol and marijuana does. A possible cause is that cigarettes are addictive. After the smoking behavior first occurs, the drug itself continues to reinforce the need to smoke, regardless of whether friends smoke or not. The initial use of marijuana, alcohol and tobacco begins at a social level, but tobacco use continues even in a nonsocial setting. The social cue reinforce the alcohol and marijuana use (Marcos et al. 1986).

By 21 years of age, the population that has not begun the behavior of smoking cigarettes, consuming alcohol or smoking marijuana is unlikely to begin.

However, the usage of cocaine continues into the 20 plus age group according to the study by Ravies & Kendal (1987). Other studies by Cox (1985) and Nathan (1987) indicated that many who use controlled substances also consistently had behavior considered antisocial, had high levels of depression and low levels of self esteem. Low self esteem and depression are some of the conditions that constitute antisocial activities.

The initiation of smoking includes psychological, social and possibly psychobiological processes. The youth population may begin to smoke because of wishing to imitate family members, role models, such as, athletic figures, movie stars or an influential adult figure. Some adolescents begin smoking behavior as an antisocial tendency or a form of rebellion. Many adolescents have misconceptions of the risks involved in smoking or lack of knowledge of the health factors involved (Krantz et al., 1985).

In Vicary and Lerner's (1986) longitudinal study of 133 subjects and their families, they discussed the parents' attitudes and involvement with their children. The study concluded that parental factors could discriminate between the adolescent who would and would not become a user of tobacco, alcohol or marijuana. The research data showed that parental difficulty in raising children, discipline that had to many

restraints and paternal rejections were consistent with marijuana and alcohol use in the adolescent. Other characteristics in families that imply more drug use is the lack of involvement in activities with the children and inconsistent discipline (Vicary & Lerner, 1986). Massy and Krohn (1986) study focused on smoking in secondary school children. Their study determined that there was a relationship that links the parent smoking behavior to the children's smoking behavior.

A twin study by Conterio and Chiarelli (1960), analyzed smoking and alcohol use for inherited traits. The alcohol and tobacco use studies showed that in three out of four studies, smoking was as likely to be inherited as alcohol use. Several other studies have gathered data supporting the criteria which links alcohol and drug use of the parents to their children causing them to exhibit the same behavior (Blum et al. 1969, Kandel 1978 and Tec 1970). Several other studies discovered the same correlation in the smoking behavior of the parents and their children (Bauer and Katlin 1971, Korsnick and Judd 1982 and Lauer et al. 1982). Teenagers are more likely to see their parents use a substance, especially cigarettes, than to see them exhibit any other behavior. Studies of the smoking adolescent having adoptive parents who smoked and biological parents who smoked found that the adolescent

correlated with the biological parents rather than the adoptive parents on the number of cigarettes smoked .

In a review of Hughs (1986) study, he states that heredity is a reason for the acquisition and the maintenance of smoking. Most genetic traits remain in families and smoking appears to do just that. A study by Green (1979) shows that smoking among adolescents is two to four times greater if parents or siblings smoke. Hughes (1984) studied subjects 20 - 60 years of age, whose parents smoked during their adolescences. These parents' adolescents were more likely (2 1/2 times) to be smokers as opposed to adolescents with nonsmoking parents. 52% of smokers had parents who smoked during adolescence as opposed to 20% who had parents that did not smoke.

The family has a direct influence over the use of cigarettes. If the family views the use of cigarettes as acceptable, the adolescent also will share that view (Massey et al. 1986). The adolescent who is smoking will more than likely have friends who smoke. Smoking becomes a focus in the selection of friends. The teenager also selects from the parents background, their level of education and outside activities, their geographical background and societal acceptance.

The Massey and Krohn (1986) study produced an important piece of information concerning sibling smoking. Other studies disregard this data for

adolescent smoking behavior. The anticipated results of the studies focus on parental influence rather than the sibling. The result of the study concluded that sibling behavior has more affect on the adolescent than parental attitude or behavior.

The Massey and Krohn (1986) study did note that there is a definite association between smoking peers and the continuation of the smoking behavior as the adolescent ages. As the teenager gets older, the appropriateness of certain behaviors changes and they become stronger or weaker. There is greater possibility that the individual will associate with peers having similar behavior, especially concerning smoking. Teenagers adopt smoking behavior for various reasons. They are more likely to smoke if their family and friends smokes.

Studies by Eckert (1983), Gritz (1977), Huntwork and Ferguson (1977), Krohn et al. (1980), Mausner (1973) and Newman (1970) have found that an adolescent who is a poor student in school and related functions, such as, clubs, academics or sports is more likely to be cigarette smokers than their peers who have an acceptable degree of success in these activities. Lotecka and Lassleben (1981) research discovered that teenagers accepted the cigarette smoking as a way to alleviate nervousness, boredom, feeling inadequate and giving a pleasurable sensation. However, as the

interviewer questioned the subjects more, the teenagers who smoked discussed difficult situations in their families life or with friends as opposed to those who did not smoke. In this study the reason most often given by teenagers to begin smoking is the same given for continuing to smoke, they feel acceptance from there peers.

In studying youthful deviance in the general population, drug use and its effects with peers, a consistent finding is that delinquent peers positively correlated with delinquent behavior. Research on drug usage also shows a direct association with friends who also use drugs (Marcos et al. 1986). Drug usage by friends and alcohol usage by friends are equal indicators of an adolescent's own alcohol usage.

In research by Jacobson (1983), one woman stated

> "that at 18, smoking not only calmed my nerves and relieved anxiety but it made me feel that I had in some way graduated to adulthood; I felt proud of myself".

Another woman stated,

> "they (cigarettes) make me feel sick but I feel incredibly grown up buying them"

(Jacobson, 1983: 29-30). In research done by Levitt (1971) when searching for a reason for smoking, school children continued to fall into the category of 'imitating adult behavior'. In the adolescent age group, causes of smoking behavior are independent of adults (Murray, 1983).

In a study conducted by Payne and Evelyn (1986), they selected as their population 379 school age children. The study consisted of self reports on the use of alcohol, tobacco and cocaine. The most common reason for use of a substance was 'to find out what it was like'. 83% of the respondents checked cigarettes, 64% checked marijuana and 59% checked alcohol. Other answers checked included the reason for cigarette and marijuana smoking was 'your friends encouraged you to smoke' (19% and 14% respectively) and 'To feel more adult' (9% and 8%). These answers did not figure as prominently for alcohol use. The reason for the use of alcohol was by other members of the family drinking (31%). Seldom (less than five checks per substance) were the other possible answers checked, such as, 'to be more popular with peers, to imitate someone you admire, you were unhappy, depressed, bored, wanted a new experience or to defy parents.' The reason checked most by regular users was 'you like the sensation, it makes you feel good' (3 of 5 smokers, 7 of 15 drinkers and 6 of 10 marijuana users). (Payne et al. 1986) The students also indicated that they used substances to help them relax, be more popular or feel more adult. None of the youth population appeared to feel depressed or ill without a specific substance. Of the 379 students participating in the Payne and Evelyn study, 27% of the boys and 22% of the girls said they had not

learned about drug usage from their parents (35% boys & 28% girls). Some respondents also claimed that the teachers had not discussed drug usage. Two-thirds of the students involved in the study, 65% of the boys and 71% of the girls checked the answer that stated that they wanted to know more about drugs and their effects. A higher proportion of students (75% boys, 82% girls) agreed it was essential that young people must be knowledgeable about drugs (Payne et al. 1986, p. 1134.).

In Combs, Fawzy and Gerber (1986) longitudinal research, the age of the child greatly influences much of the substance use in childhood. The more extensive use of cigarettes, alcohol and drug use did not always occur on a gradual level. The age between 12 and 15 appears to be when the behavior of substance usage is at a higher frequency. Some pre-adolescents and adolescents do abstain during this time. The research points to a strong connection between age and behavior associated with all substances such as cigarettes, alcohol, marijuana and other drugs. Economics distinguishes a certain increase in cigarette usage but not about other addictive substances. Of all the usage of substances between the age 12 and 15 very few differences occur between female and male. The researchers discovered that age is a very important element in developing programs of prevention or

intervention. By contrast, sex, social status, ethnic orientation appear unaffected by behavioral patterns of substance use during the ages of 12 to 15.

In research done by Hauck, Erford & Clark (1988), the use of social choices with substance abuse was studied in a group of 160 student, from grades four through eleven. The most significant outcome of this research centered on the teenagers positive attitude and social choices toward substance use than for the younger subjects. The attitudes and social choices of younger students were poor regarding the use of tobacco, alcohol and drugs. They were highly resistant to change for the thought process. When the issue of legal threats appeared concerning drinking, the older adolescents showed a positive attitude to the behavior. Educators, researchers and parental figures using the approach of legal threat to change choices or attitudes may reinforce the unwanted behavior instead of changing to the desired behavior. This occured more in the older adolescents behavior (Moore et al., 1988).

Smoking behavior studies by Erikson (1963) placed the emphasis on oral fixation. Erikson maintained that two of the eight stages of psychosocial elements are important in the imitation of smoking behavior. He states that smoking is a means to overcome low self esteem for the 6-11 age group. He found that for the 12-18 age group they need to establish their own

identity. However, Bandura's (1977) study placed emphasis on the social learning theory. He states that one would likely smoke if it were not for the reinforcing outcome of smoking. He focuses on the role models, media, peer influence and support of other smokers. In other studies by Clark et al. (1982), many nonsmokers exhibited a belief system that permitted individual credit or blame for personal happenings. In the smoker group, the belief system relates to external control. Clark concluded that by smoking the possibility existed for one to take control of the happenings in the environment.

In the research done by Peterson & Clark (1986), two experimental groups of adolescent girls were exposed to discussion on the number of cigarettes smoked. Groups formed to discuss and decide which technique works to change smoking behavior of adolescent girls. The one experimental group of adolescent girls was exposed to the idea of reducing the number of cigarettes they smoked each day. The control group did not participate in any discussion on reducing the cigarettes smoked. The researchers discovered that peer influence was greater in the experimental group. This group had changed attitudes, becoming more negative toward smoking and aware of tobacco related illnesses (Peterson & Clark, 1986).

Personality Influence

Essenck (1973) presented the idea that smoking generates an arousal cue. Someone who is an extrovert is more likely to be a habitual smoker. In a study of high school students, Jassor and Jessor (1977) claimed that smoking behavior was in a pattern with deviant behavior. The factors in the study included personality characteristics that included antisocial behavior toward society's values. The adolescents also held a belief system that influences their peers and parents. They exhibited a pattern of deviant behaviors that included alcohol use as well as stealing and lying.

More factors about stress have been associated with smoking behavior. The Surgeon General's report (1979: ch.18, p.9) states that antisocial tendencies such as "belligerence, psychopathic misconduct, deviance, rebelliousness, defiance and disagreeableness" are more prevalent in smokers than with nonsmokers. Others have accounted for adolescent cigarette smokers as using society's standards and then act out accordingly (Brook et al., 1981 and Coan, 1973). Teenage girls use smoking behavior as a symbol of resistance to rules, rebellion and attitudes that are antisocial (Bewley and Bland, 1971).

In Hundeby et al. (1987) research discovered a direct correlation between smoking and delinquency, ie shoplifting, involvement within the judicial system and running away from home. There is also a correlation with smoking and misbehavior in school, such as tardiness and truancy. These same behaviors also correlate with alcohol and marijuana drug usage.

This data includes alcohol, tobacco and drugs including prescription, illegal and over the counter drugs (aspirin, vitamins and etc.).

Introversion - Extroversion

In the Eysenck study, extroversion was an implicated behavior for smokers. The smokers were more extrovert than non - smokers. In 1973 Eysenck stated that extroverts are more likely to 'seek out' stimulation to overcome low levels of arousal.

Hughes (1986) studied 2,800 school age children using Eysenck scales on personality traits and discovered that those children with high extroversion or high neuroticism scores were more likely to smoke. Also in one study by Eysenck and Eaves (1980), the students with the higher scores on extroversion and neuroticism were more likely to continue to smoke. The neurotic smokers stated that smoking calms them while the extraverted smokers reported that smoking helps to stimulate them (Mangan and Golding, 1984; Wesnes and Warburton, 1983.).

In studies using electroencephalogram (EEG) with a contingent negative variation (CNV), found that the neurotics' and extroverts' response to nicotine or tobacco was the reason they were more likely to start smoking and maintain smoking. The nicotine response gave them the feeling of less anxiety and the capacity to focus on something. After the use of nicotine, the response obtained would reinforce the use of nicotine.

Detailed studies of introverts and extroverts concerning their morning and evening life habits focused on cigarette smoking, coffee and alcohol consumption revealed several findings of interest. The study of 1500 university subjects found significant difference between the morning and evening type person. The evening type person showed an increased frequency of smoking, night meals, caffeine and alcohol consumption were all reported. They discovered that 34.8% did not eat breakfast if they were a night person (Ishihara et al. 1985).

Research has shown that extroverts and introverts differ in circadian rhythms (Revelle, Humphreys, Simon & Gilliland, 1980). The research on personality dimensions of introversion - extroversion discovered that evening type personalities tended to be more extroverted and morning type personalities tended to be more introverted. Eysenck's (1967) study shows that smoking behavior is more associated with extroversion traits than introversion traits. Research used by Istvan and Matarazzo (1984) clearly indicated an interrelationship between tobacco, caffeine and alcohol use. They discovered that tobacco and alcohol use and tobacco and caffeine use are moderately associated. In focusing on personality traits of introversion - extroversion, they also concluded that introverts (morning types) smoked less and ingested less alcohol.

They also had a tendency to better health practices, such as eating three meals a day and regular sleeping habits. The significant difference discovered was that the extrovert type personality (evening type) took night meals and usually skipped breakfast by staying up late at night and sleeping late in the morning.

STRESS

In health factors, stress is an important element between health and behavior. Stress has been defined as physiological effector of stressors (increased blood pressure and immunosuppression), which cause an individual to be susceptible to disease. Behavioral changes relate to stress that is harmful (eg. drug abuse, alcohol use and cigarette smoking). These behaviors provide situations that affect health (Krantz, Grumberg and Baum 1985).

Many behaviors are legal but societal norms dissuade them from taking place because they will harm a person's health or create a worse problem. These behaviors by current thinking, especially cigarette smoking, may be less harmful than those behaviors that are unlawful. As a result individuals engaged in this behavior to relieve stress (Krantz et al. 1985).

Cigarette smokers have some psychological difficulties in that research has found them more depressed, somewhat anxious and neurotic (Henderson et al., 1981, Jamison, 1978, Kaplan et al. 1980, Motarazzo and Saslow, 1960, Smith, 1970, Stanaway and Watson, 1981). Research scores on neuroticism show an increase on how deep subjects inhaled compared to the age when they began smoking. They found that the younger the age when they started, the deeper they would inhale as

they got older. Besides smoking behavior, neuroticism relates to alcohol use and medication use (Henderson et al., 1981).

An adolescent may act out behavior which may serve as a way to cope with personal distress. The adolescent who wants recognition as an adult may smoke to achieve this status. To an adolescent the smoking behavior may symbolize an acceptance into the adult world.

Adaptation situations work with all addictions, including cigarette smoking. Hadaway, Beyerstein and Kimball (1986) study compared smoking behavior as an adaptive response versus a function of behavior. Early research considered tobacco addictive because it contained bio-chemical properties that alter a persons chemistry. In the adaptive view, tobacco addiction is seen as a functional response to distress. In related research Benfair's (1982) study discovered that the greater the stress subjects in a smoking cessation program were trying to cope with, the greater the probability of failure in the smoking cessation program. In fact, if a stressful problem arose, it served as a marker to show the number who would relapse in the program (Shiffman, 1979).

In the adaptive mode to smoking, the smoker is using an inadequate way of coping with stress by smoking. Addiction is a consequence of maintaining

this behavior to handle a negative stressor. The Hadaway, Beyerstein and Kimball (1986) study defined helpful drugs as those that help to work out difficulties and eliminate distress. The person begins to experiment with different drugs and finds that drug(s) serve the individual's need. The availability of a particular drug will regulate which drug(s) a person will select to use at a particular time. When drug usage becomes an addiction, the addiction will not stop just because the drug is not available. Generally another addiction or drug will take the first ones place.

Tipton and Riebsame (1987) constructed a questionnaire and used the premise of Krietler and Krietler (1976) four classes of beliefs. The belief system consisted of:

> (a) belief about self (I generally make a conscientious effort to maintain a healthy lifestyle); (b) general beliefs (smoking can cause serious health problems such as cancer, emphysema, or heart disease); (c) beliefs about norms or rules (no smoking in public places); and (d) beliefs about goals (an important goal for me is to maintain my health) (Tipton & Riebsame, 1987 p.218).

Of 59 items questioned, 17 were founded on beliefs about self, 15 on general beliefs, 15 related to beliefs about societal rules and norms and 12 related to goals. Each written item was a statement. There were 219 samples, (113 from males and 116 from

females), they rated the responses from strongly agree (worth 1) to strongly disagree (worth 7). Two correlated factors emerged from the findings. The factors of self belief and goal beliefs showed a corresponding interrelationship (Tipton & Riebsame, 1987)

The family unit was also investigated when studying the health factors of adolescents. The development of risk behavior by the adolescent appearred in the usage of alcohol, cigarettes and marijuana. These behaviors were also viewed as an involvement of social issues besides the risk to the adolescents well being. In the study of adolescents, two factors emerged concerning their use of cigarettes, alcohol and marijuana. Negative family situations is one factor that the adolescent must cope. A second factor may be to alleviate stress and tension that naturally occurs in the family unit. For either of these factors, the adolescent may adopt behaviors such as smoking cigarettes, drinking alcohol and smoking marijuana as a means to cope with these factors. Adolescents need to balance themselves between family members, family units and community to ensure a mature individual. They achieve this balance between the school system, peer relationships, individual development and personal identity. Some relationships may provide support and are part of the interlocking

systems of school, peers, special friends and family. The peers expect certain behavior in regards to smoking, drinking and using drugs (McCubbin, Needle & Wilson, 1985).

As adolescents respond to the biological, social and psychological changes occuring, the stressors created internally must be understood. During adolescence, becoming independent from ones parents and family, accepting appropriate roles in society and developing relationships with members of the opposite sex are their primary activities. The adolescent is also working in the academic arena to further his knowledge and prepare his job skills for a career and responsibilities of adulthood.

Olson (1983) studied the importance of how families handle stress when an adolescent is in this growth stage. The study also discussed the strong association with pride in the family, the communication skills of the parent with the adolescent, between the parents and how the family members resolved conflicts.

A survey by McCubbin, Patterson, Bauman & Harris (1981) compiled the stressors of youth. The survey consisted of six subscales and included such items as follows:

> (a) transition (parent quits or looses a job, divorce, remarriage etc.), (b) sexuality (adolescent engaging in sexual intercourse), (c) losses (close family member dies), (d) heavy responsibility and strains (family member runs away, arguments over car use or late hours), (e)

> substance use (arguments over use of cigarettes, alcohol or drugs) and (f) legal conflicts (juvenile detention, family member goes to jail or placed on probation) (McCubbin et al. 1985, p.55).

When an adolescent copes with stress, they can cause the family even greater stress. At times adolescents accept the stress and become involved with others, but others become involved with drinking alcohol, smoking cigarettes or abusing drugs (McCubbin et al. 1985). According to Duncan (1978) the use of alcohol, cigarettes and illegal substances should be viewed as a set of coping mechanisms in which adolescents learn to cope with stressors.

Adolescents sometime cope differently from adults in the same situation. Adolescents are not always able to be flexible in dealing with stressors because their cognitive, social, behavioral level and skills are not stable elements. At times in adolescence, these elements may appear unpredictable, ambiguous or even as a stressor. Adolescents using coping behaviors, such as, reducing demands, increasing personal resources, redefining the situation and managing stressors from experience do not succumb to addictive behaviors. Coping with stressful situations enhances their own psychological and physical well being. Some of the coping behaviors that were in the health risk category consist of cigarette smoking, alcohol use and marijuana use. 1985 statistics showed females ages 12 - 13 years

old (7%) used alcohol or smoked cigarettes and (2.6%) used illegal substances (McCubbin et al. ,1985).

The ability of adolescents to vent tension appears to be a positive factor in the maturation process. When an adolescent vents his frustrations by getting angry, yelling, placing blame on others, saying things that are mean and complaining to friends and family members, they tend not to use cigarettes and alcohol in a greater quantity (McCubbin et al., 1985).

Where smoking has become an acceptable behavior in certain arenas as a way of managing stress, other addictions also exist. A person who uses alcohol to cope rather than to socialize is at a greater risk of addiction. Researchers have discovered a link between stress and alcoholism and a link between stress and the use of benzodiazepine (Cooperstoch and Leonard, 1979, George, 1984 and Porhorecky and Brick, 1983).

Smoking and depression seem to link up to each other. In Kaplan et al. (1980), adolescents who were smoking and using drugs (barbiturates, amphetamines and other mind altering drugs, excluding marijuana) were found to be more depressed when compared to nonsmokers and nondrug users. Hadaway, et al. (1986) reported that there are many contingencies on whether an individual becomes dependent on alcohol or barbiturates as opposed to cigarette smoking. They purport that cigarette smoking behavior helps to cope with distress.

Women college students view smoking as a way to handle stress. In this time of life, the rigors of college, weight reduction, study concentration and the pressure to be part of the peer group, smoking behavior is key to these adaptations. College students stated that the smoking behavior gave them something to do with their hands. In research conducted by Beckwith (1986), the eating, drinking and smoking habits of 766, 20-30 year old women were studied. It found that the drinking and drinking related problems are increasing among women. The percentage of young women taking up the smoking behavior habit is increasing while the percentage of men is on the decrease. Women have a very difficult time in giving up the smoking (Jacobson, 1981). The reasons woman and men smoke has been studied and compared for some time. Women in one study report that they smoke to relieve negative feelings. (Jacobson, 1981) They also smoke to reduce arousal and for sedation (Beckwith, 1986).

Within the Beckwith study sample of 766 female participants, the drinkers were divided equally between smoker or nonsmoker. The smoker population contained those smokers who also used alcohol. The nonsmoker population contained those nonsmokers who also abstained from alcohol. Wechsler and McFadden (1979) discovered a similar finding for college women. The drinking smokers and drinking nonsmokers accounted for

96% of the population. The nondrinking nonsmokers accounted for 4% of the sample and the nondrinking smokers were less than 1% of the sample population (Beckwith, 1986).

Addiction was also studied by Evans and Lowe (1986). They found that female smoker referred to a reduction in tension as the prime reason they smoke. The men who smoked placed a stronger focus on the physical addiction as the prime cause of their smoking behavior. Evans and Lowe's (1986) research confirmed the study of N. H. Gottleib (1983), who found that the women's motive for smoking, was to lessen the effects of 'getting nervous and upset'.

Surawy and Cox (1986) studied motivation to smoking. The sedative and stimulant motives for smoking were investigatedand determined. The study also looks at the relationships of pre-smoking stress, and arousal and the cigarette enjoyment, and nicotine exposure. A result of the eighty-one smokers revealed that in sedative smoking the desire to smoke depends on stress before taking the cigarette and not on the accompanying level of arousal. The pre-smoking mood did not have an influence on stimulant smoking. The Surawy and Cox study also revealed that nicotine intake was greater for cigarette smoking associated with a high arousal state and high stress level as opposed to situations of low arousal and high stress levels.

The pre-smoking mood provides a significant influence in a smokers desired for a cigarette. The pre-smoking mood did not change the enjoyment of the cigarette between sedative smoking and stimulant smoking.

The study in this paper represents a population of women who are chemically dependent. The pre-existing stress that is part of a selected life style may influence the desire to smoke or continue to smoke. In the Surawy and Cox (1986) study, the desire to smoke, as well as the pleasure of smoking, was greater when the person was with other smokers. The preference of the smoker is to smoke in the presence of other smokers as opposed to just being alone. Pre-smoking levels of stress and arousal do not affect the smoking behavior of stimulant smoking, but external stimuli, especially social cues, were important.

The population in the Surawy and Cox (1986) study was sedative smokers and the level of stress before wanting to smoke makes the subject want to smoke a cigarette. The social environment and the presence of other smokers induces the stimulant smoker to desire to smoke. Both groups of smokers depend on the factor of personality.

The research studies by Cappell & Greely (1987) and Langenbucher & Nathan (1987) resulted in the discovery that alcohol gave desired behaviors after

ingestion according to the self report system of the survey sample. Alcohol was listed as reducing tension as well as lowering stress.

Elliott and Eisdorfer (1982) studied in detail several psychological events that could influence the resistance of a person to disease. When stress becomes part of life, behavioral changes occur that can be damaging, such as, cigarette smoking. These influences provide a means that affects the persons health.

CHAPTER 3

METHODOLOGY

Subjects

Subjects in this study were twenty-five women, 18 to 40 years old. Subjects were residents in a substance abuse and domestic violence treatment program. The thirty day residential treatment program is for women who abuse substances or are involved in a domestic violence situation. The sample population used in this study was made up of women from the program for substance abuse. Initially, thirty subjects were selected and interviewed during a four month interval. Twenty-five agreed to participate in the study. Two subjects did not remain in the program, two did not smoke and one declined to participate. The average age of the subjects was twenty-seven. Ten were in treatment for cocaine abuse, four for alcohol/cocaine, four for alcohol, two for marijuana, one for heroin/alcohol, one for heroin, one for benzodiazepine (Valium), and one each for amphetamines and methadone.

Interview

One interviewer, who was also the researcher, contacted the subjects through a personal interview. The interviewer had previous practicum experience in the residential treatment program and received

sufficient background information concerning the subjects. This information included the subject's date of entrance into the program, the chemical(s) addiction, and the drug of choice. The interviewer then met with each subject to explain the study and to request the individuals participation by answering the questions on the survey concerning their smoking behavior and substance usage.

Instrument

Questionnaire. The questionnaire (appendix A) is a 103 question survey. The first two questions asked the subjects age and level of education. The next thirty-eight questions focus on smoking behavior from childhood till the present, including the residence time in the treatment program for substance abuse. Question forty-one through sixty-six focus on the use of alcohol from childhood till the present, including the residence time in the treatment program for substance abuse. Question sixty-seven to ninety-six concentrate on the drug usage as it pertains to the subject from childhood till the present, including the residence time in the treatment program for substance abuse. Questions ninety-seven to 103 focus on the usage of caffeine (coffee, chocolate, and colas), sugar and salt containing products.

The interviewer gave the questionnaire to the subject individually and each subject circled the

answer most appropriate to her personal behavior. The interviewer was present during the response to the questionnaire. The subject could asked questions during the answering period of approximately twenty-five minutes but only to clarify a question if necessary.

Verification of Informed Consent

Before beginning the research, the director signed a 'Verification of Informed Consent' (appendix B). This consent form confirms that the participant voluntarily gives consent to participate in this study. The form states that the director has received a satisfactory explanation of the general purpose of the project. A description was given to the director concerning her clients participation. The director has been appraised of all aspects of the study. The director also states that the researcher is responsible for the risks associated with the research. The director was informed of any known risks or potential unpleasant experiences. The director is informed, on the consent form, that all data collected will be confidential. The director signs and dates the consent form before the research starts.

Before beginning the research, each participant signed a 'Verification of Informed Consent' (appendix C). This consent form confirms that the participant voluntarily gives consent to participate in this study.

The form states that the participant has received a satisfactory explanation of the general purpose of the project. A description was given to each subject concerning their participation. The participant also states that the researcher may not explain all aspects of the study until after the subject has completed the research task. The subject also states that the researcher is responsible for the risks associated with the research. The subject was informed of any known risks or potential unpleasant experiences. The participant states on the consent form that she is aware that she may terminate participation the study at any time during the study. The subject is informed, on the consent form, that all data collected will be confidential. The participant signs and dates the consent form before she starts the study. After the participant signs the form, the researcher prints the subjects name on the form and then the researcher signs the document.

CHAPTER 4

RESULTS

The collection of data was compiled in graph form from the information obtained from the survey.

Figure 1 Present Age Of Subjects

The present age of the subject is shown in figure one. The 26 to 28 year old age group had the largest population. The number responding in the age groups over age 29 were each similar (four or five). Only 4 subjects under the age of 26 responded.

FIGURE 1 PRESENT AGE

Figure 2 Education Level Of Subjects

The education level for the subjects is shown in figure 2. The largest grouping appeared with eleventh and twelfth grade completion. There is an equal number of respondents who did not reach eleventh grade or who completed advanced education past high school.

FIGURE 2 EDUCATION LEVEL

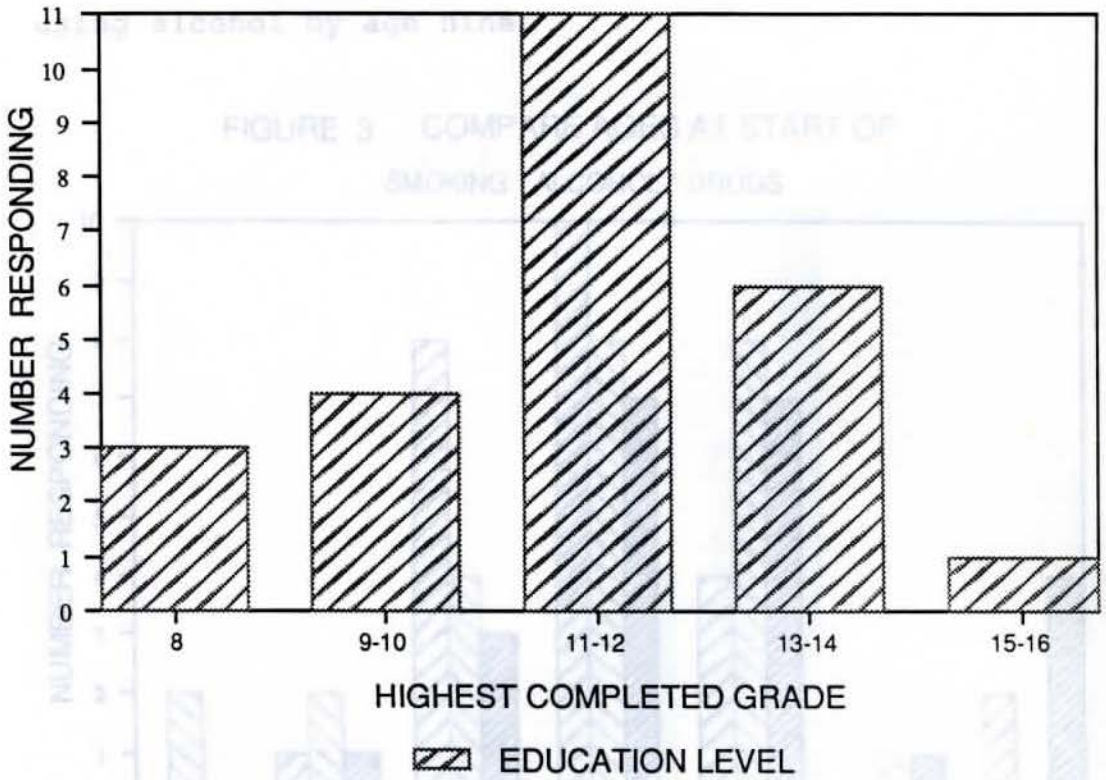


Figure 3 Ages When Starting The Behavior

A comparison of the ages when smoking, alcohol, and drug usage began appears in Figure 3. The majority began smoking between the ages of nine and fourteen. The significant usage of alcohol began between the ages of twelve and seventeen. The drug usage also began between twelve and seventeen. Note that no one began drinking alcohol after the legal age of twenty-one. The drinking behavior began prior to the legal age. Note that drug usage increased in the twenty-one and older group, after a decrease in the eighteen to twenty age group. Four respondents stated that they began using alcohol by age nine.

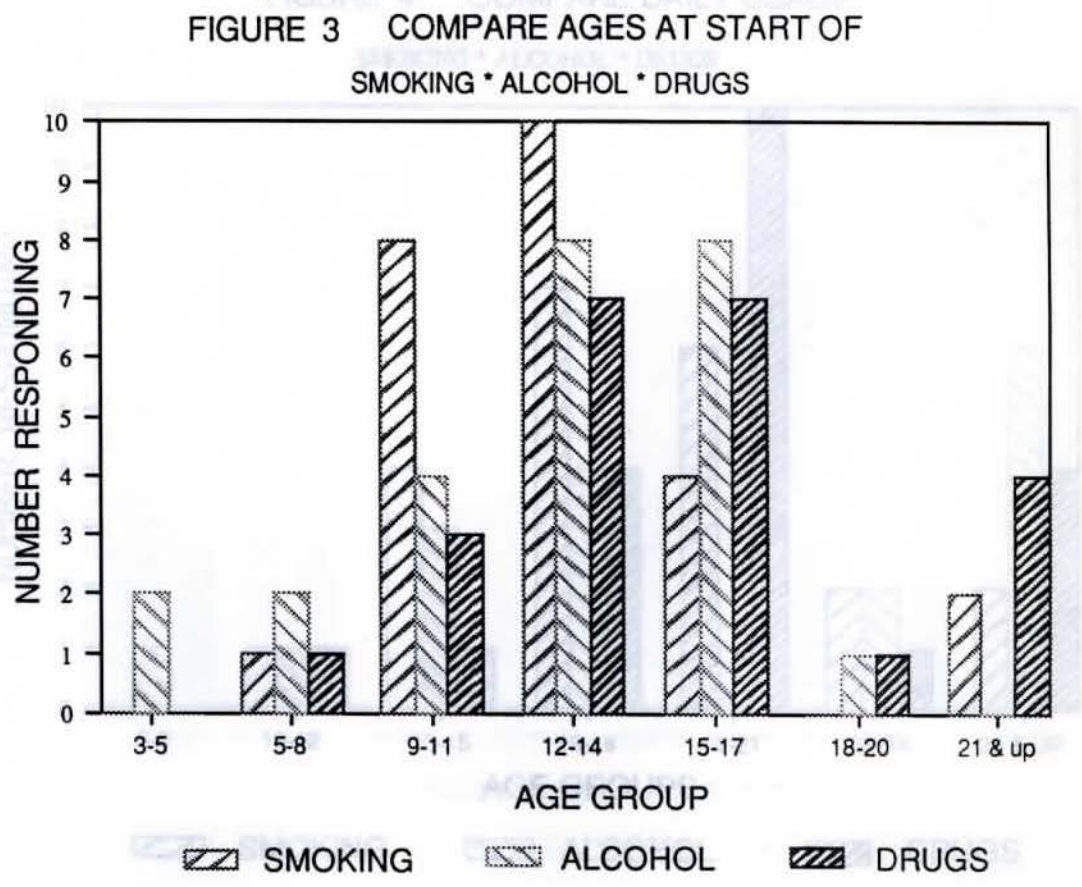


Figure 4 Age Of Daily Usage

The daily usage of smoking occurred at later age than drinking alcohol and using drugs as shown in Figure 4. Daily smoking increased significantly in the thirteen to eighteen year old age group. Daily drug usage increased between sixteen and eighteen age group and peaked in the nineteen to twenty-one year old age group. Daily usage of cigarettes, alcohol and drugs was very low for the twenty-two to twenty-four age group but increased again in the twenty-five and up age group, this may be from the and up grouping

FIGURE 4 COMPARE DAILY USAGE

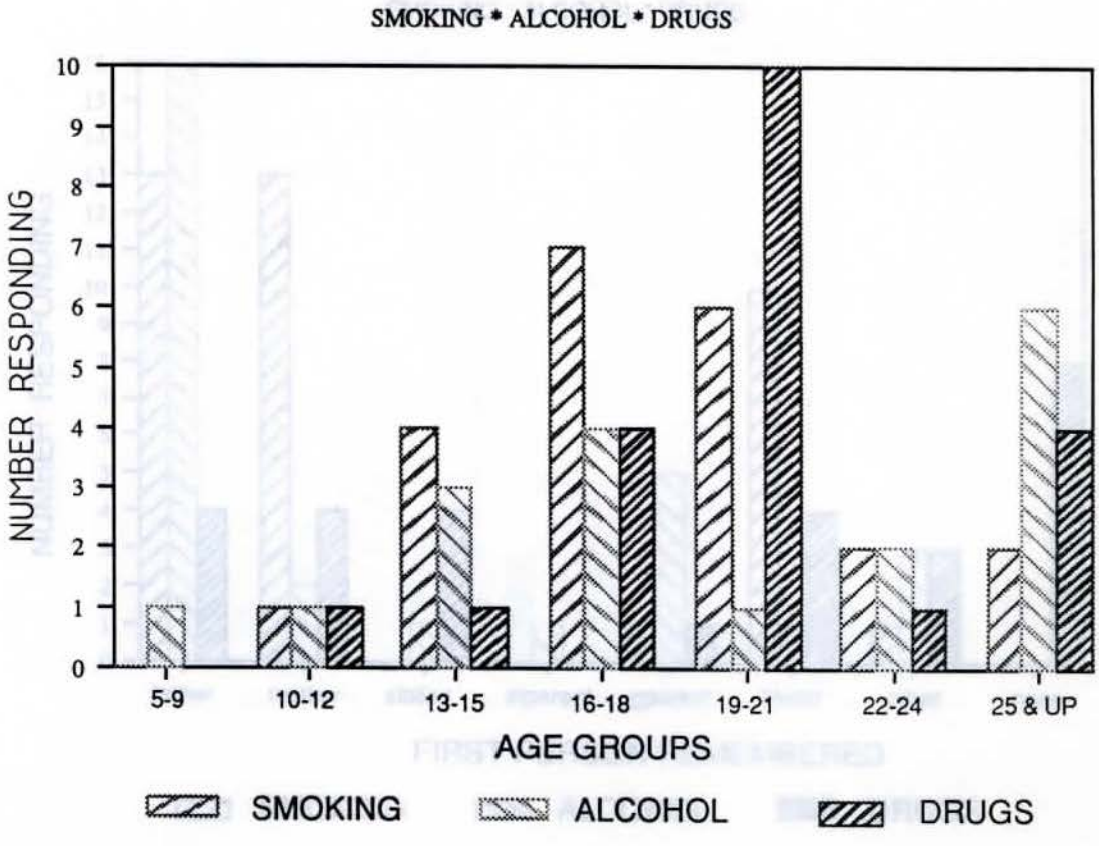


Figure 5 First Recollection Of Users

Figure 5 illustrates the first recollection of subject relating to others using cigarettes, alcohol, and drugs. Their father, mother and friends were remembered in greater number as smoking. Sixteen respondents stated that their father was the first person in their memory using alcohol with the grandparents second. Their father, mother, and friends scored equally for those using drug.

FIGURE 5 COMPARE FIRST PERSON USING WHEN GROWING UP

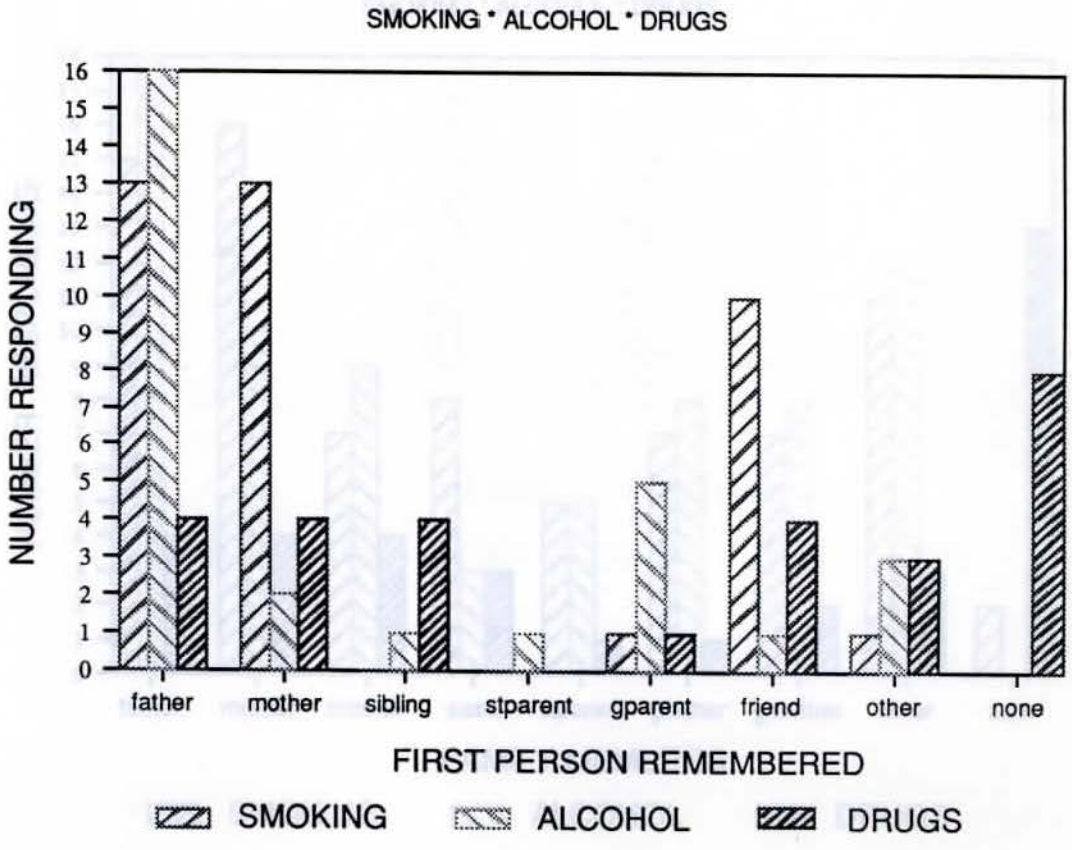


Figure 6 Family Members Usage AS Growing Up

As the subjects were growing up, figure 6 compares various family members usage. In comparing figures 5 and 6 together, the general trend of those in closet contract with the subject, used substances to a greater degree. Father, mother, siblings and grandparents scored highest in usage.

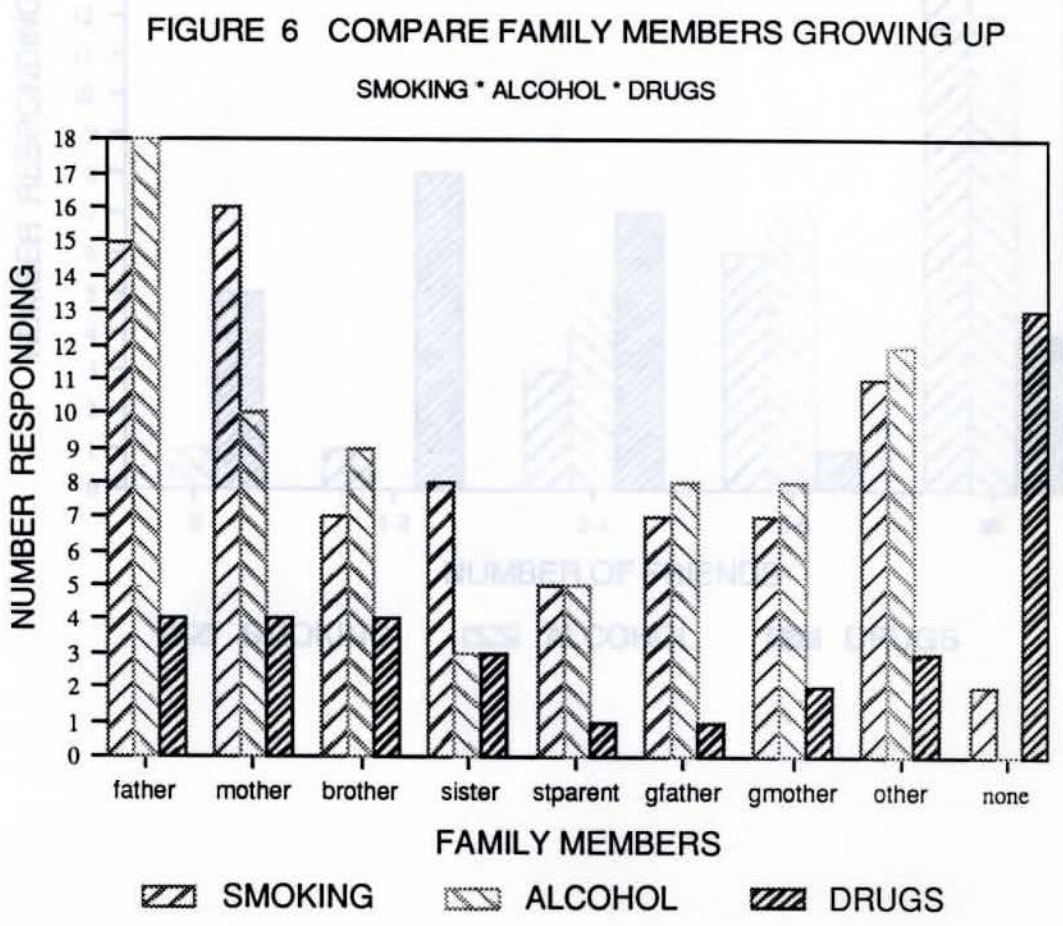


Figure 7 Friends Who Smoke

The subjects who smoked and used alcohol had similar number of friends who also smoked and used alcohol. These groups have significantly more friends than the subjects involved in drug usage (four or less).

FIGURE 7 NUMBER OF FRIENDS USING

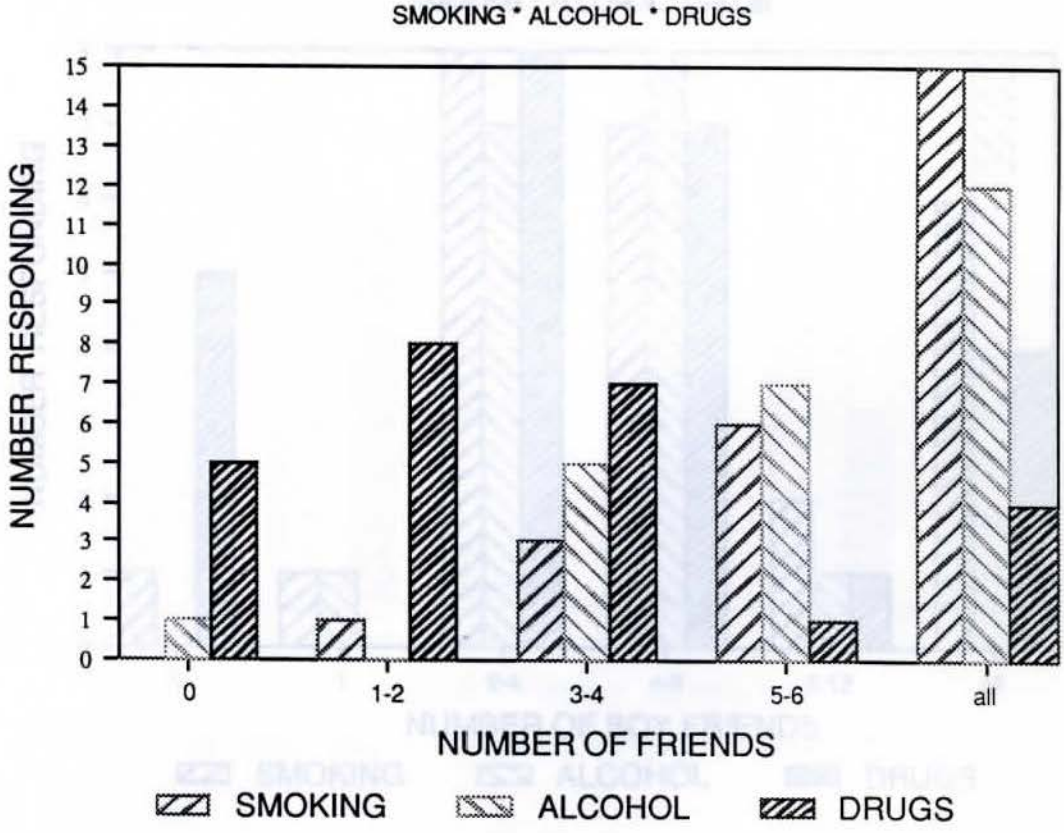


Figure 8 Boyfriends Smoking Behavior

Most of the subjects who had boyfriends that smoked also had boyfriends that used alcohol and drugs. A significant number of respondents stated that all their boyfriends smoked, used alcohol and drugs.

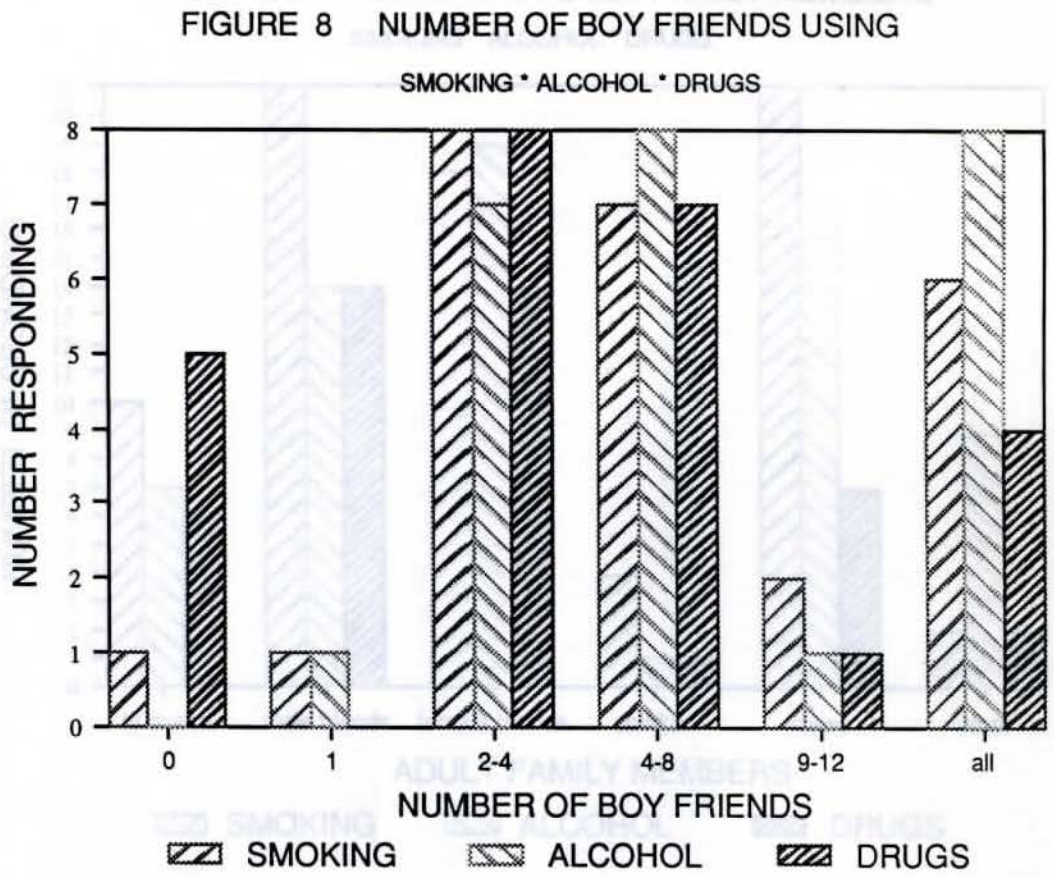


Figure 9 Comparing Adult Family Members

Comparing adult family members of the subjects, the spouse ranked lower by 50% than the female or male friends. The smoking in-laws and alcohol usage was twice the spouse.

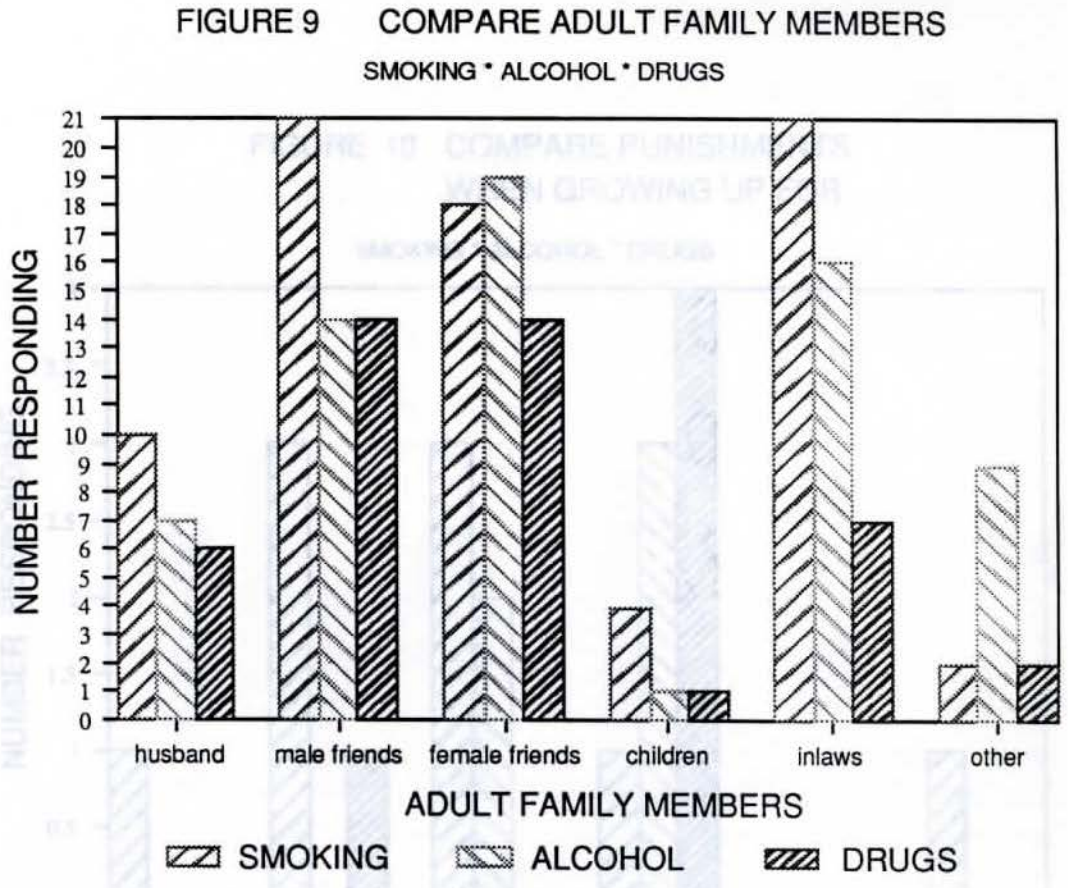


Figure 10 Punishment

The punishment of smoking had the least severity of the three behaviors. The smoking behavior was the only behavior that caused threats for punishment. No behavior caused an injurious punishment. Alcohol and drug usage generated the very severe forms of punishment.

FIGURE 10 COMPARE PUNISHMENTS WHEN GROWING UP FOR

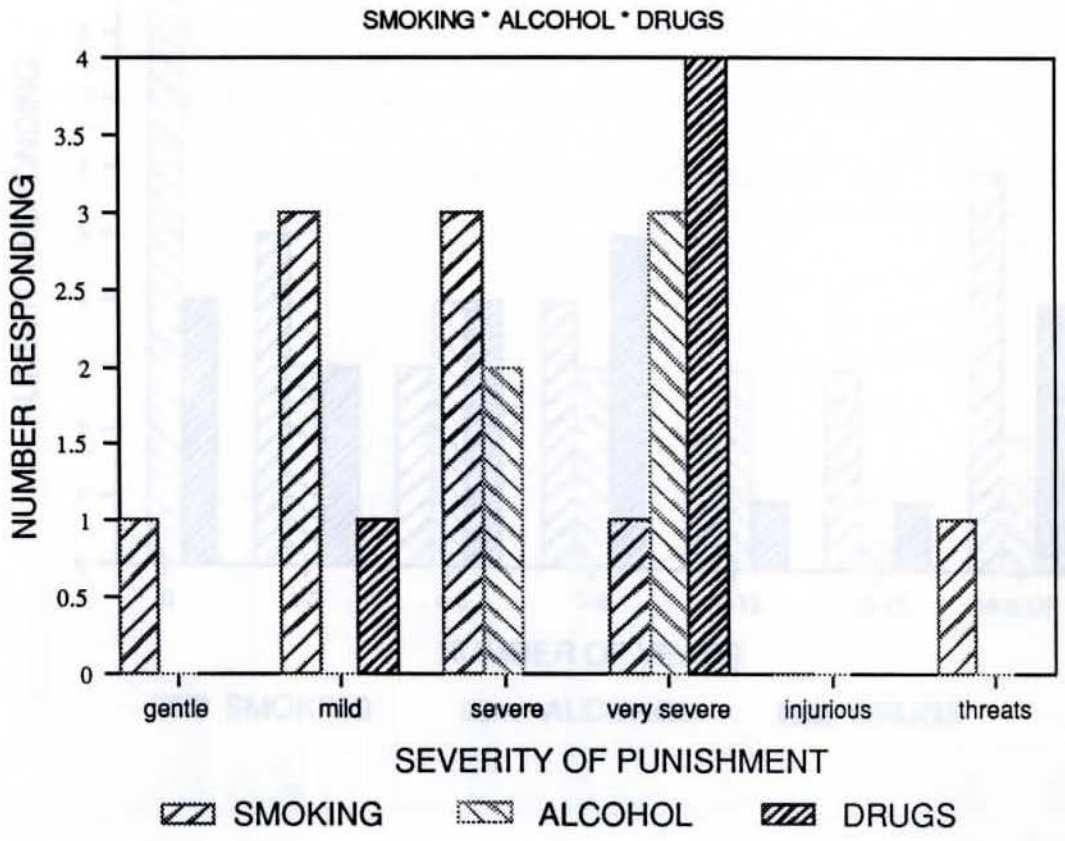


Figure 11 Number of Years of Usage

Result shown on Figure 11 indicate that the majority of those responding in all three behaviors to be nine years or less. Note the increased usage for 16 years and up. There was also a lessening in all three behaviors in the 10 to 15 years of usage.

FIGURE 11 COMPARE NUMBER OF YEARS OF USE

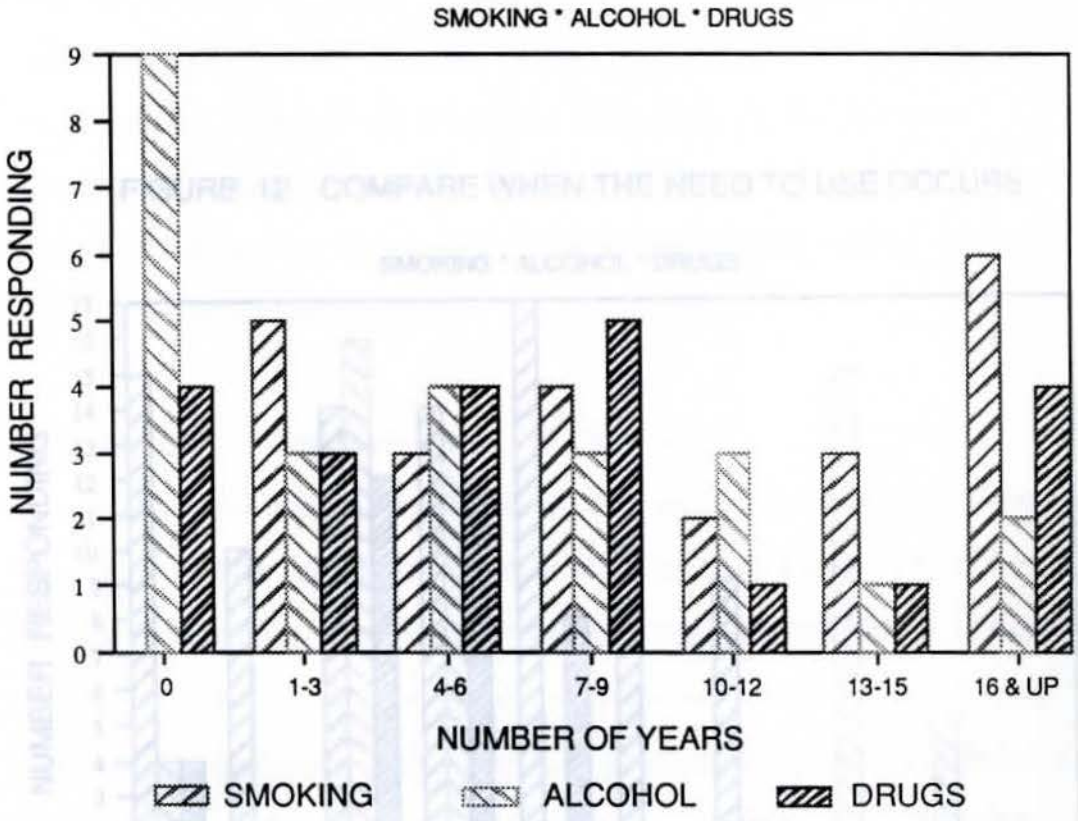


Figure 12 Compare the Need to Use

The need to use cigarettes appears when first waking, drinking alcohol and when angry or worried. he usage of alcohol and drugs appears the highest when worried or angry. Smoking appears needed for eating patterns and drinking coffee and soda. The need to use alcohol appeared to be social cues with friends. There appeared to be no need to use cigarette or drugs with friends. There was an increased response to drug usage with alcohol similar to a smoking need with alcohol.

FIGURE 12 COMPARE WHEN THE NEED TO USE OCCURS

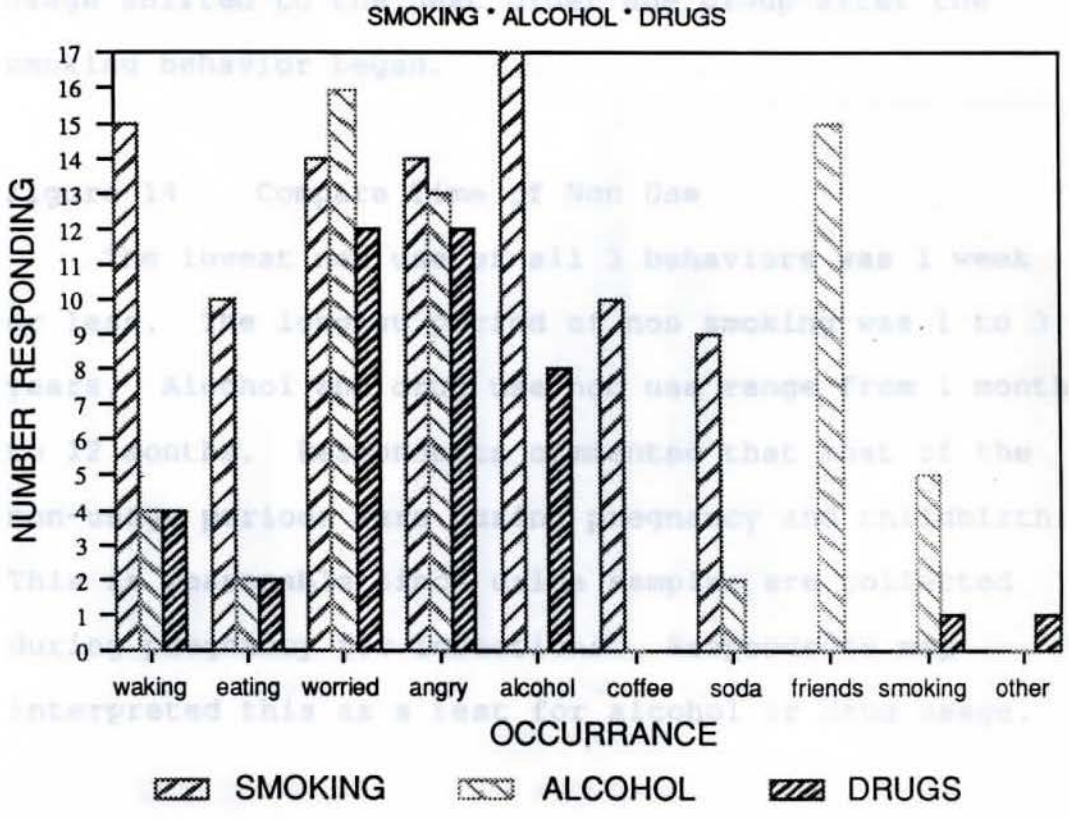


Figure 13 Compare Substance Education

The comparison of substance education at the formal level during elementary level was non-existent. There was an increase in formal education at the high school level to where about half of the respondents had drug education. One third had education about smoking and one quarter had education on alcohol. There is a close comparison between the formal education of the subjects substance use and the ages for beginning the associated behavior. Subjects began smoking between 9 and 14 years of age. Alcohol usage and drug usage was moderate in 9 and 11 age group and increased (doubled) in each of the 12 to 14 year old and 15 to 17 age group. It appears from the data that alcohol and drug usage shifted to the next older age group after the smoking behavior began.

Figure 14 Compare Time of Non Use

The lowest non use of all 3 behaviors was 1 week or less. The longest period of non smoking was 1 to 3 years. Alcohol and drug use non use range from 1 month to 12 months. Respondents commented that most of the non-usage periods were during pregnancy and childbirth. This is reasonable since urine samples are collected during pregnancy for infections. Respondents may interpreted this as a test for alcohol or drug usage.

FIGURE 13 COMPARE FORMAL SUBSTANCE EDUCATION

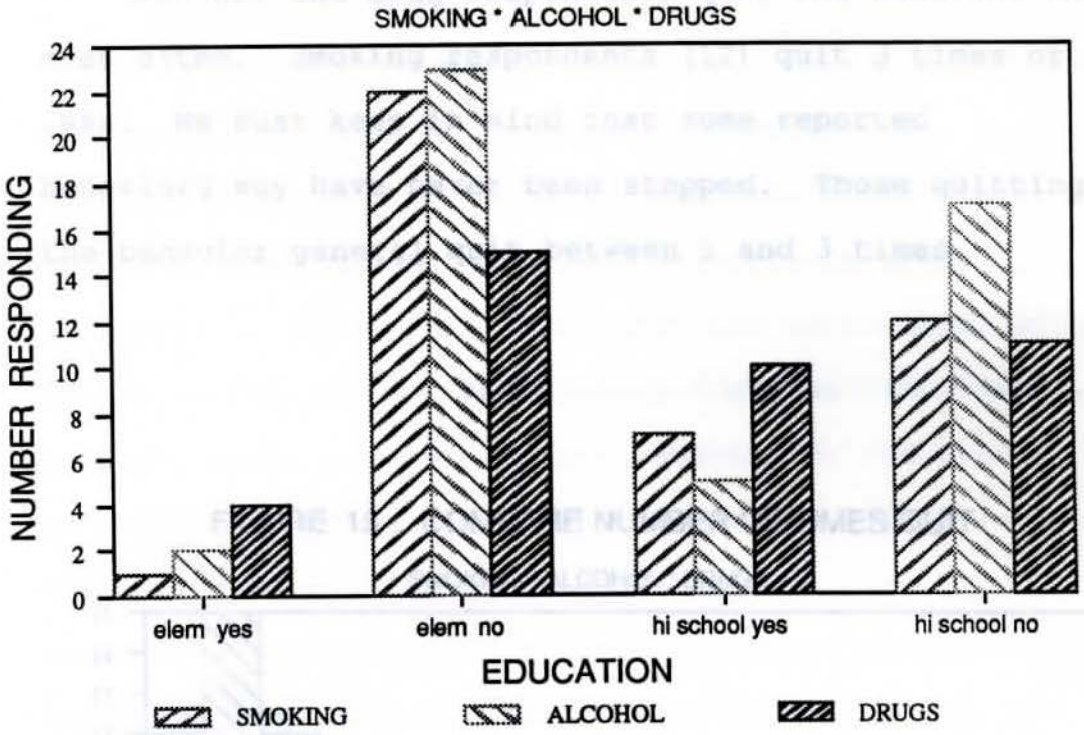


FIGURE 14 COMPARE PERIODS OF NON USE

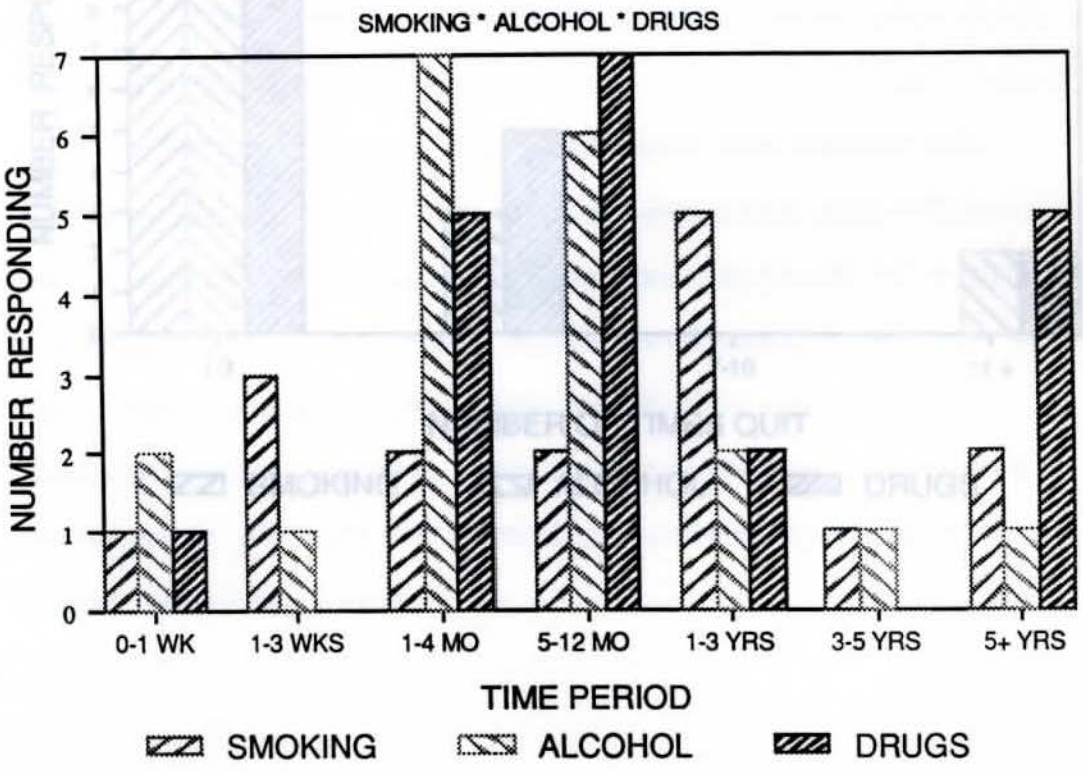
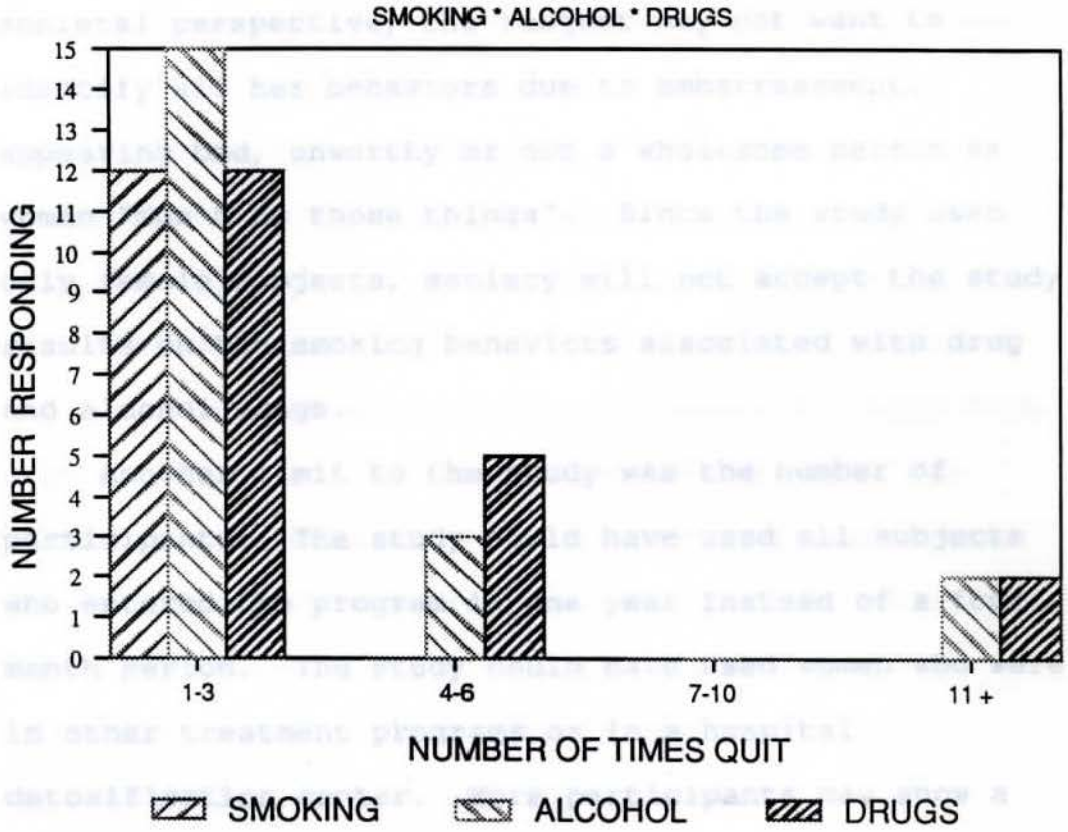


Figure 15 Compare the Number of Times Quit

Alcohol and drug respondents quit the behavior the most often. Smoking respondents (12) quit 3 times or less. We must keep in mind that some reported behaviors may have never been stopped. Those quitting the behavior general quit between 1 and 3 times.

FIGURE 15 COMPARE NUMBER OF TIMES QUIT



Limitation of the Study

There is difficulty in evaluating the behaviors of individuals through self reporting. The subject may perceive a question as meaning something different from the intent and may overrate or underrate personal behavior. A subject may feel that the interviewer will interpret the results differently from what they meant, will not admit to a particular behavior or the amount of time that behavior occupies their life. From a societal perspective, the subject may not want to identify all her behaviors due to embarrassment, appearing bad, unworthy or not a wholesome person as women "don't do those things". Since the study used only female subjects, society will not accept the study results on the smoking behaviors associated with drug and alcohol usage.

Another limit to the study was the number of participants. The study could have used all subjects who entered the program in one year instead of a four month period. The study could have used women who were in other treatment programs or in a hospital detoxification center. More participants may show a particular pattern of behavior between smoking and other chemical usage.

Recommendation for Future Study

More studies of this type are needed in the junior high level to study young women smoking. The studies should focus on why the smoking occurs and why young women differ from young men. More research could focus on the influence of smoking advertisements that target this population of women. The research should monitor the influence of young female children as they become aware of smoking advertisements in which women appear wealthy, educated, sophisticated, popular, career minded and sexually attractive. Future long term research would survey young female children between age seven or eight and do follow up research to see if this group becomes smokers or non-smokers while looking at the circumstances surrounding the behavior. Long term research may also look at smoking education in the school systems were anti-smoking messages and classes are on going from kindergarten through high school. Then compare the above with schools where smoking education is minimally taught or discussed. All studies would focus on the female smoker.

In this study 10 of the 25 women smoker were also addicted to cocaine, a future study could survey those addicted to alcohol or heroin. The study could monitor

patterns of behavior to note consistencies in behavior that may appear in the data.

The researcher noted that when she asked 21 of the subjects to participate in the study on smoking, the first question they asked was, "may we smoke while filling out the questionnaire"? The researcher responded, "that it was the room where smoking was permitted and it was their choice to smoke or not to smoke." The researcher realized that every subject who asked the question did indeed smoke, not one cigarette, but two cigarettes in the 20 minutes it took to complete the questionnaire.

The researcher also noted that 6 subjects asked if she was against smoking since the paper focused on smoking behavior. The researcher also was asked if she was a smoker.

One of the survey questions asked, "did you buy your first cigarette" and 4 of the 25 subjects commented to the researcher "is shoplifting considered an expected answer to this question". The researcher had not included shoplifting as a possible response to securing ones first pack of cigarettes. The researcher felt that the subjects were honest in asking about this response.

When subjects were answering the survey on alcohol usage, several commented "that as babies their parents would brag about putting alcohol in their bottles so they would sleep through the night, or whiskey on their gums while they were cutting teeth." Many talked about going to bars as children with their parents and sitting on the bar top.

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Appendix A

SMOKING AND CHEMICAL HISTORY SURVEY

1. CIRCLE your present age group?

   18-21 22-25 26-28 29-33 34-38

   39 & over

2. What grade level of education have you completed?

   1-4 5-7 8 9-10 11-12

   13-14 15-16 over 16

3. CIRCLE all who smoked in your family while you were growing up?

   father mother brother sister

   stepfather stepmother grandfather

   grandmother other _____(relation)

4. CIRCLE all who smoked in your adult family?

   husband fiancee boyfriend children

   female friends in laws: father mother

   other _____(relation)

5. Who is the first person you remember smoking?

   husband fiancee boyfriend children

   female friends father mother

   other _____(relation)

6. How many of your friends smoke?

   0 1-2 3-4 5-6 all

7. Did your friends smoke in school?

   yes no

8. How many boyfriends smoked?

   0 1 2-4 5-8 9-12 all

9. Does your husband, boyfriend or personal friend now smoke?

   yes no

10. Did your school address cigarette smoking education?

    elementary yes no high school yes no

11. At what age did you smoke your first cigarette?

    5-8 9-11 12-14 15-17 18-20
    21 & over

    If you have never smoked, please go to number 41.

12. Did someone give you your first cigarette?

    yes no

13. Did you buy your first cigarette?

    yes no

14. Where did you first smoke?

    school home friend's home park
    other _____

15. Were you ever punished for smoking?

    yes no

16. Was the punishment for smoking:

    gentle mild severe
    very severe injurious

17. At what age did you start smoking a full pack per day?

5-9 10-12 13-15 16-18 19-21

22-24 25 & over

18. How many years have you been smoking a pack a day?

0 1-3 4-6 7-9 10-12

13-15 16 0r more

19. How many years have you been smoking 2 packs a day?

0 1-3 4-6 7-9 10-12

13-15 16 0r more

20. What time of day do you smoke your first cigarette?

a. Within 30 minutes of waking.

b. Within 60 minutes of waking.

c. While fixing something to eat.

d. After eating first food of the day.

e. Midmorning, 2-3 hrs after waking.

f. Noon

g. Midafternoon.

h. Evening

21. What time do you usually smoke your last cigarette?

6-7pm 7-9pm 9-11pm 11-12pm

after midnight

22. Why did you select the brand you are now smoking?

cost taste nicotine/tar content

advertising other_____

23. Have you ever past up a borrowed cigarette because it was the wrong brand?

yes no

24. Have you ever quit smoking?

yes no

if no, skip to question # 27

25. How long of a period have you quit smoking?

less than a week 1-3weeks 1-4months

5-12months 1-3years 3-5years

more than 5years

26. How many times have you quit smoking in the last 3 years?

1-3 times 4-6 times 7-10 times

more than 10 times

27. How do you feel when asked not to smoke in certain areas or at certain times?

angry accepting don't care hurt

confused dismayed compliant

disgusted indifferent misunderstood

28. When do you feel the need to smoke?

upon waking eating when worried

when angry when drinking soda

when drinking coffee when drinking alcohol

29. During the last year, where have you bought most of your cigarettes?

supermarket quick shop gas station

vending machine liquor store discount store

30. Quantity generally purchased at one time is:

one pack two packs multiple packs

one carton two cartons multiple cartons

31. How do you light you cigarette most often?

match disposable lighter

personalized lighter from another cigarette

other_____

32. Do you carry your cigarettes in a special case?

yes no

33. Since you became a resident, are you smoking?

more less same not sure

34. Since you have been a resident, do you borrow cigarettes?

yes no

35. Since you have been a resident, have you lent cigarettes or a lighter?

yes no

36. If you lend or borrow, do you feel closer to that person?

yes no

37. How do you feel when your smoking is restricted in certain areas of the residence?

angry accepting don't care hurt
confused dismayed compliant
disgusted indifferent misunderstood

38. How do you feel when you are not allowed to smoke in group sessions?

angry accepting don't care hurt
confused dismayed compliant
disgusted indifferent misunderstood

39. How do you feel when you are not allowed to smoke in individual sessions?

angry accepting don't care hurt
confused dismayed compliant
disgusted indifferent misunderstood

40. How do you feel when you are given the opportunity to begin smoking after the session has been completed?

happy accepting don't care relieved
confused dismayed compliant
disgusted indifferent satisfied
misunderstood

ALCOHOLIC DRINKS

41. CIRCLE all who drank in your family while you were growing up?

father mother brother sister

stepfather stepmother grandfather

grandmother other _____(relation)

42. CIRCLE all who drink in your adult family?

husband fiancee boyfriend children

female friends in laws: father mother

other _____(relation)

43. Who is the first person you remember drinking?

father mother brother sister

stepfather stepmother grandfather

grandmother other _____(relation)

44. How many of your friends drink?

0 1-2 3-4 5-6 all

45. Did your friends drink in school?

yes no

46. How many boyfriends drank?

0 1 2-4 5-8 9-12 all

47. Does your husband, boyfriend or personal friend drink now?

yes no

48. Did your school address drinking education?

elementary yes no high school yes no

49. At what age did you drink your first alcoholic drink?

5-8 9-11 12-14 15-17

18-20 21 & over

If you have never, skip to question #67

50. Did someone give you your first drink?

yes no

51. Did you buy your first drink?

yes no

52. Where did you first drink?

school home friend's home park

other _____

53. Were you ever punished for drinking?

yes no

54. Was the punishment for drinking:

gentle mild severe

very severe injurious

55. Is most of your drinking with:

family girlfriend(s) boyfriend(s)

spouse alone stranger

56. At what age did you start having two drinks per week containing alcohol?

5-9 10-12 13-15 16-18 19-21

22-24 25 & over

57. At what age did you start drinking alcoholic drinks daily?

5-9 10-12 13-15 16-18 19-21

22-24 25 & over

58. How many years have you been drinking regularly (more than 2 each day) each day?

0 1-3 4-6 7-9 10-12

13-15 16 Or more

59. What time of day did you have your first drink?

a. Within 30 minutes of waking.

b. Within 60 minutes of waking.

c. While fixing something to eat.

d. After eating first food of the day.

e. Midmorning, 2-3 hrs after waking.

f. Noon.

g. Midafternoon.

h. Evening.

60. What time do you have your last drink?

6-7pm 7-9pm 9-11 11-12

after midnight

61. Why did you select this brand?

cost taste advertising other

62. Have you ever quit drinking?

yes no

if no, skip to question # 65

63. How long was the period during which you quit drinking, during the last 3 years?

less than a week 1-3weeks 1-4months

5-12months 1-3years 3-5years

more than 5years

64. How many times have you quit drinking?

0 1-3 times 4-6 times 7-10 times

more than 10 times

65. When do you feel the need to drink?

Upon waking eating when worried

when angry when drinking soda

when smoking with friend(s)

66. Where do you usually buy your alcoholic drinks?

supermarket quick shop gas station

liquor store discount store bar

lounge

DRUGS for this survey are defined as illegal or abused legal

67. CIRCLE all who used drugs in your family while you were growing up?

father mother brother sister
stepfather stepmother grandfather
grandmother other _____(relation)

68. CIRCLE all who use(d) drugs in your adult family?

husband fiancee boyfriend children
female friends in laws: father mother
other _____(relation)

69. Who is the first person you remember using drugs?

father mother brother sister
stepfather stepmother grandfather
grandmother other _____(relation)

70. Did your friends use drugs in school?

yes no

71. How many of your friends use(d) drugs?

0 1-2 3-4 5-6 all

72. How many boyfriends use(d) drugs?

0 1 2-4 5-8 9-12 all

73. Does your husband, boyfriend or personal friend use drugs now?

yes no

74. Did your school provide drug awareness education?

elementary yes no high school yes no

75. At what age did you use your first drugs?

If you never have, skip to question # 97

5-8 9-11 12-14 15-17

18-20 21 & over

76. Did someone give you your first drugs?

yes no

77. Did you buy your first drugs?

yes no

78. Where did you first use drugs?

school home friend's home park

other _____

79. Were you ever punished for using drugs?

yes no

80. Was the punishment for using:

gentle mild severe

very severe injurious

81. Is most of your drug use with:

family girlfriend(s) boyfriend(s)

spouse alone

82. At what age did you start using drugs three times per week?

5-9 10-12 13-15 16-18 19-21

22-24 25 & over

83. At what age did you start using drugs daily?

5-9 10-12 13-15 16-18 19-21

22-24 25 & over

84. How many years have you been using regularly (more than 2 each day) each day?

0 1-3 4-6 7-9 10-12

13-15 16 0r more

85. What time of day do you use your first drugs?

a. Within 30 minutes of waking.

b. Within 60 minutes of waking.

c. While fixing something to eat.

d. After eating first food of the day.

e. Midmorning, 2-3 hrs after waking.

f. Noon

g. Midafternoon.

h. Evening

86. What time do you use your last drugs?

6-7pm 7-9pm 9-11 11-12

after midnight

87. Why did you select this drug?

cost pleasure ease in obtaining

others use it other_____

88. Have you ever quit using?

yes no

if no, skip to question # 91

89. How long of a period have you quit using?

less than a week 1-3weeks 1-4months

5-12months 1-3years 3-5years

more than 5years

90. How many times have you quit using?

1-3 times 4-6 times 7-10 times

more than 10 times

91. When do you feel the need to use?

Upon waking eating when worried

when angry when drinking alcohol

when smoking

92. Where do you buy your drugs?

quick shop gas station on the street

liquor store discount store

93. Quantity generally purchased at one time?

one use two uses multiple uses

94 Do you feel closer to a person that uses the same drugs as you?

yes no

95. When using drugs, whom is a source

family girlfriend(s) boy friend(s)

spouse stranger

96 Have you ever had a time when you were not using, but had a source?

yes no time period

1 day - 2 weeks 2 weeks - 1 month

1-2 months 3-12 months

97. Do you drink coffee? (caffeine)

yes no

98. Do you drink coffee? (decaf)

yes no

99. Do you usually drink coffee and smoke (if available) at the same time?

yes no

100. On the average, how many cups of coffee with caffeine do you drink per day?

0 1-3 4-6 7-10

11-14 15 or more

101. On the average, how many cans of soda with caffeine do you drink per day?

0 1-3 4-6 7-10

11-14 15 or more

102. On the average how many bags/containers of non-sweet snacks do you eat per day? (chips, pretzels, nuts, corn chips etc.)

0 1-3 4-6 7-10

11-14 15 or more

103. On the average how many bags/containers of sweet snacks do you eat per day? (candy, cakes, donuts, gum etc.)

0 1-3 4-6 7-10

11-14 15 or more

THANK YOU FOR YOUR TIME AND ASSISTANCE

Appendix B

VERIFICATION OF INFORMED CONSENT

I, _____ (Please Print Full Name), the director of the Women's Center, under the auspices of Bridgeway Counseling Services Inc., give my consent to allow clients to volunteer as participants in the study titled:

Smoking Behavior Of Women In A Treatment Program For Chemical Dependency

for the completion of a Master of Arts program through Lindenwood College.

I have received a satisfactory explanation of the general purpose of the project, as well as a description of what the clients will be asked to do and the conditions that they will be exposed to. I realize that it may not be possible for the researcher to explain all aspects of the study to the client(s) until after it is completed.

It is my understanding that the researcher is responsible for any risks that they may sustain in this study. I have been informed of the following risks or potentially unpleasant experiences that the client(s) may experience:

_____

_____

It is my further understanding that the client(s) may terminate their participation in this study at any time, and that any data obtained will be kept confidential.

_____ Bonnie Hoeckelman

Signature of Director Researcher

_____ _____

Date Signature of Researcher

Appendix C

VERIFICATION OF INFORMED CONSENT

I, _____ (Please Print Full Name), a resident of the Women's Center, under the auspices of Bridgeway Counseling Services Inc., voluntary give my consent to serve as a participant in the study titled:

Smoking Behavior Of Women In A Treatment Program For Chemical Dependency

for the completion of a Master of Arts program through Lindenwood College.

I have received a satisfactory explanation of the general purpose of the project, as well as a description of what I will be asked to do and the conditions that I will be exposed to. I realize that it may not be possible for the researcher to explain all aspects of the study to me until after I have completed my participation. In return for my service in this study, I will receive:

_____

It is my understanding that the researcher is responsible for any risks that I may sustain in this study. I have been informed of the following risks or potentially unpleasant experiences:

_____

_____

It is my further understanding that I may terminate my participation in this study at any time, and that any data obtained will be confidential.

_____ Bonnie Hoeckelman

Signature of Participant Researcher

_____

Date _____

Signature of Researcher