

ANALYSIS OF VARIABLES RELATED TO
DRUG AND ALCOHOL USE

A Thesis

Presented to

The Faculty of the Department of Psychology
The College of William and Mary in Virginia

In Partial Fulfillment

of the Requirements for the Degree of
Master of Arts

by

Wendy J. Wonch

2002

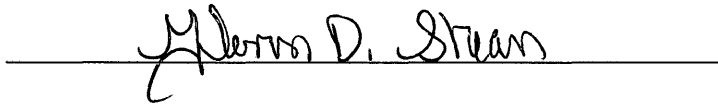
APPROVAL SHEET


This thesis is submitted in partial fulfillment of
the requirements for the degree of

Master of Arts


Author

Approved, May 2002


Glenn D. Shean, Ph.D.


Larry Ventis, Ph.D.



Rick Frieden, Ph.D.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iv
LIST OF TABLES	v
LIST OF FIGURES	vi
ABSTRACT	vii
INTRODUCTION	2
MAIN STUDY	15
GENERAL DISCUSSION	30
REFERENCES	47
TABLES	51
FIGURES	62
APPENDIX	64
VITA	88

ACKNOWLEDGEMENTS

The author wishes to express her appreciation to Professor Glenn Shean, under whose guidance this research was conducted, for his patient guidance and criticism throughout this investigation. The author is also indebted to Professors Larry Ventis and Rick Frieden for their careful reading and criticism of this manuscript. I would like to thank my friends and family for providing me with the motivation to complete this manuscript and my degree even during the most stressful of times. I would also like to thank those professors and teachers who were enthusiastic, interested and genuinely loved their field and teaching. These teachers continue to provide me with inspiration and encouragement throughout my academic career.

LIST OF TABLES

Table		Page
1.	Descriptive Statistics of Drug and Alcohol Related Words Reported Before and After Priming by Group Membership	51
2.	Descriptive Statistics for Exploratory Analysis of Factor Structure of Parental, Peer and Personality Variables	52
3.	Exploratory Factor Loadings of Peer, Personality and Parental Variables using Varimax Rotation	53
4.	Exploratory Factor Analysis of Peer, Personality and Parental Variables using Varimax Rotation with reported Eigenvalues	54
5.	Descriptive Statistics of Researcher Created Drug and Alcohol Scenarios	55
6.	Descriptive Statistics for Users and Non-users on Researcher Created Drug Scenarios	56
7.	Inter-correlations between Researcher Created Drug Scenarios and the DAS and CORE Subscales	57
8.	Exploratory Analysis of Researcher Created Drug and Alcohol Scenarios using Varimax Rotation	58
9.	Exploratory Analysis of Researcher Created Drug and Alcohol Scenarios using Oblimin Rotation	59
10.	CFA Indices of Fit for Interrelationships Amongst Family, Peer and Personality Variables Implicated in Alcohol and Drug Use	60
11.	CFA Indices of Fit for Structural Model of Family, Peer and Personality Variables Implicated in Alcohol and Drug Use	61

LIST OF FIGURES

Figure		Page
1.	Confirmatory Factor Structure of Family, Peer and Personality Variables Implicated in Alcohol and Drug Use	62
2.	A Nonrecursive Model of Parental, Peer and Personality Variables Related to Alcohol and Drug Use	63

ABSTRACT

This study was designed to determine the role of family, peer and personality variables that influence a late adolescents involvement with and attitudes toward drugs and alcohol. Participants consisted of 187 undergraduates from the introductory psychology research pool at the College of William and Mary. Results indicated that the self-reported number of peers that used drugs was the strongest single predictor of permissive drug and alcohol attitudes and use. Family and personality variables contributed to the initiation of drug and alcohol use indirectly. Specifically, the self reported level of family conflict, social alienation, authority conflict and rebelliousness were interrelated to one another. The strong relationship between the family and personality variables contributed to the development of permissive drug and alcohol attitudes and use overall, but not directly. Exploratory analyses further revealed that self-reported drug users report more drug and alcohol related words regardless of priming. Finally, there was an interaction between drug use and time, such that self-reported drug users were more affected by the drug priming than non-users.

ANALYSIS OF VARIABLES RELATED TO
DRUG AND ALCOHOL BEHAVIOR

INTRODUCTION

Many historians agree that the study of adolescent identity emerged from the historical underpinnings of 19th century Western society. It was during this period of time in Western society that adolescence was first recognized as a significant period in a person's life history (Baumeister & Tice, 1986). Prior to this time, a person was considered either a child or an adult and adolescence was not considered an important developmental period. Of course, it was always recognized that puberty played a significant role in the development from childhood to adulthood. Prior to the 19th century, the classification of people as children or adults was dependent on the onset of puberty, which was considered to be the beginning of adult maturation. It was not until the dawn of the 19th century that Western society acknowledged and began to cultivate the main role of adolescence, namely that of identity development (Baumeister & Tice, 1986).

Over the years, many theorists have contributed to the discussion of the struggles facing contemporary adolescents. However, Erik Erikson was the first theorist to articulate a theory of lifespan development (McAdams, 2001). Erikson's most notable contribution was that he was the first to propose that development included the entire lifespan and extended beyond the first few years of life. In particular, he noted that there were four stages of psychosocial development that extended beyond school age. He

proposed that the main task in adolescence and young adulthood was the resolution of the adolescent's identity. He proposed that if the adolescent failed to meet this developmental task, then the adolescent may never fully resolve this issue and hence never fully continue to develop through successive developmental stages (McAdams, 2001). In order to successfully resolve this stage of development an adolescent must explore available roles and then make a commitment to their chosen role. Subsequent research by James Marcia and others has elaborated on the role of identity development and identity status amongst adolescents (McAdams, 2001). The work by Marcia has associated identity statuses of adolescents with the completion of other key developmental tasks (McAdams, 2001).

Lerner's model of developmental contextualism provides an extension of Erikson's original theoretical framework to explain the struggles of adolescence. Lerner proposed that development involves the interplay of biological, psychological, societal and cultural variables (Lerner, 1992). Furthermore, these variables are reciprocal in nature (Lerner, 1992). Basically, any level of organization can affect and be affected by another level of organization. Lerner termed this interplay of variables, dynamic interactionism (Lerner, 1992). Lerner's model provides a theoretical framework that examines the multiple interactions between biology, personality, patterns of behavior, historical background and the family environment that contribute to the adolescent development.

Lerner's model of developmental contextualism explains development across time and levels. These levels of development are nested within each other and consist of bi-

directional and transactional interactions, which are mutually determined. The levels in Lerner's model are infinite and start from the more concrete concept of biology and encompass more abstract levels, such as cultural, cognitive, and social levels (Lerner, 1992). Finally, Lerner's model emphasizes the goodness of fit principle. This is the principle that an individual's personality must be able to "fit" or thrive within their environment (Lerner, 1982) in order to successfully navigate the developmental course. In this model an adolescent is not only the result of their environment, but also has the capacity to influence and make changes within the context of their environment (Lerner, 1982) in order to improve the fit between the individual and the environmental constraints. In Lerner's model, the development of adolescent attitudes and behaviors is a complex interactional process. The disruption of the normal developmental process can result in maladaptive attitudes and behaviors that are initiated in adolescence and are maintained throughout the lifespan.

Lifespan developmental theorists, such as Erikson and Lerner have provided a good theoretical background for understanding the development of identity. These theories emphasize the development of positive and healthy characteristics of identity development in adolescence (McAdams, 2001), however they often neglect the possibility of a negative identity development. The first theories that really examined the consequences of negative development in adolescence grew from work in criminological theory. The most relevant criminological theories that were later re-conceptualized into psychological theories of deviance, include early work done by Sutherland, Cressey and Hirschi.

Sutherland and Cressey proposed in the early 1940's that deviance is a learned behavior (Williams III & McShane, 1999). Specifically, deviance results from the process of "differential association." Basically, deviant behavior is the result of learning more definitions favorable to crime than unfavorable to crime (Thio & Calhoun, 1995; Williams III & McShane, 1999). The process of learning deviant behavior takes place within the context of intimate social networks. These intimate social networks provide the information needed to learn deviant techniques as well as the specific motivations, attitudes and rationalizations employed in support of these activities (Thio & Calhoun, 1995; Williams III & McShane, 1999). Sutherland and Cressey's theory emphasized the importance of deviance as a learned behavior. More contemporary theorists such as Akers have proposed a Social Learning Theory that elaborates on the impact of learning deviant behavior and draws from the psychological literature on operant conditioning (Williams III & McShane). Others have elaborated even further on Sutherland, Cressey and Akers. These researchers have examined the impact of social networks on criminal behavior, using Network Theory (De La Rosa & Recio Andradas, 1993).

In the late 1970's, Hirschi proposed another solution to understanding deviance. Hirschi's theory arose from Durkheim's theory of anomie as well as the newfound reliance on self-report data for reports of deviant behavior (Vold & Bernard, 1986 as cited in Williams III & McShane, 1999). In the 1970's, deviance researchers began relying on self-report data in order to uncover the prevalence of deviance. These researchers were most interested in studying deviance that often went unreported in official crime reports (Williams III & McShane, 1999). They believed that self-report

data of deviance more accurately reflected the overall prevalence of deviance within society. This supposition was based on the premise that most of deviance committed by an individual is largely unrecognized by official reports of deviance, such as the Uniform Crime Report (Thio & Calhoun, 1995; Williams III & McShane, 1999).

In response to this new methodological paradigm, Hirschi proposed his theory of social control. The basic premise of Hirschi's theory is that person's are bound to each other as well as society. He argued that the strength of these bonds was what predicted deviance. Specifically, he outlined four crucial elements of bonding: attachment, involvement, commitment and belief (Thio & Calhoun, 1995; Williams III & McShane, 1999). He defined attachment as the emotional bond between an individual, their peers and their family. Involvement was identified by Hirschi as the time spent in time-consuming activity. Hirschi defined commitment as the degree to which an individual is invested in their community and society. The degree of an individual's motivation level and/or their level of achievement has often been used as a measure of commitment. Finally, belief was defined by Hirschi as a persons' adherence to common aspects of civil law and religion (Thio & Calhoun, 1995; Williams III & McShane, 1999).

Theoretical work from criminology as well as psychology has paved the way for integrated theoretical approaches that examine how identity development can lead to pathways of alcohol and substance use amongst adolescents. Every year in this country, millions of dollars in grant money is allotted for investigating alcohol and drug use amongst teens in hopes of preventing the long-term economic, emotional, and physical effects that accompany drug and alcohol dependence and abuse. Research funding is

often focused on adolescent substance and alcohol use and abuse because this period in adolescent development appears to be crucial for entrance into and long-term maintenance of drug and alcohol use patterns. It has consistently been found that if a teen can avoid imbibing alcohol or taking drugs until the age of 21, then they are at relatively little risk for later drug or alcohol related problems (CASA, 2002; Flapan, 2001).

Recent findings from the National Household Survey on Drug Abuse indicated that drug and alcohol use rates for teens, ages twelve through twenty have remained stable over a number of years (Flapan, 2001). Specifically, these stable rates indicate that approximately 2.1 million teens between the ages of twelve and twenty or 6% of this population are heavy drinkers. Furthermore, 65.5% of those teens classified as heavy drinkers are also illicit drug users, or approximately 1.4 million of the heavy drinking teens. However, these stable rates of adolescent drug and alcohol abuse are indicative of developmental problems amongst a significant proportion of teens. Consistent evidence has shown that drug, alcohol and other deviance patterns are often established during the late childhood and adolescent developmental periods (Brofenbrenner, 1979; DeCourville 1995, Jessor, 1992; Kandel, 1985). Teens that remain in this type of heavy drug and alcohol use trajectory are likely to experience many of the economic, emotional and physical effects of long-term alcohol and substance abuse (CASA, 2002; Flapan, 2001). Although these rates of alcohol and substance use amongst teens have remained relatively stable over the years, recent evidence has indicated that in the wake of the events of

September 11th demand for alcohol and substance abuse treatment has risen sharply, especially in the eastern states located nearest the attacks (CASA, 2002).

Alcohol and substance abuse and dependence account for a number of negative outcomes. These negative outcomes not only account for emotional, physical and psychological problems that the person may experience individually, but also carry a societal cost as well. For instance, a significant number of homicides as well as AIDS deaths within the United States are related to drug involvement. Drug-related homicides in New York City are double annually the number of such homicides in England (Currie, 1993). Furthermore, over 80% of pediatric AIDS cases in the industrialized world are the result of intravenous drug use (Currie, 1993).

Jessor's Problem Behavior Theory was one of the first psychological theories that integrated psychological and criminological theory in order to account for the variation in adolescent involvement in delinquent as well as conventional behaviors. Problem behaviors are defined as those behaviors that society has labeled as undesirable and for which there is often some accompanying social control response. The undesirable behaviors that are often studied under this rubric include drug use, premarital / promiscuous sex, and involvement in crime. In contrast, the conventional / desirable behaviors that are studied often include involvement in extra-curricular activities, church attendance, and academic performance (DeCourville, 1995; Donovan, Jessor, & Costa, 1991; Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1995).

Similar to Hirschi's Social Constraint theory, Jessor's theory stresses that the amount adolescents invest themselves in societal values, the more this investment in

conventional activities and values acts as a buffer against problem behaviors.

Conversely, if an adolescent is disengaged from society, then that adolescent is at an increased risk for involvement in socially maligned activities, such as drug and alcohol use, delinquency and risky sexual behaviors. Problem Behavior Theory has typically been applied to adolescents. Jessor's theory is applicable to most freshman and sophomore college students as these students are resolving the identity issues of late adolescence so that they can become successful and productive young adults (Lerner, 1999; McAdams, 2001).

In contrast to Jessor's focus on the social constraints that prohibit or promote conventional and unconventional behavior, Oetting, Donnermeyer and Deffenbacher have proposed an alternative theory of adolescent drug use and deviance (1998). Oetting, et al.'s (1998) Primary Socialization Theory draws from Lerner's model of developmental contextualism, Erikson's focus on identity development, Sutherland, Cressey, and Akers' focus on the social learning of drug use and other deviant behaviors, as well as Hirschi's Social Constraint theory. This theory was designed to address the many methodological and theoretical shortcomings in the existing literature on adolescent deviance and substance use (Oetting & Donnermeyer, 1998). In particular, Primary Socialization Theory addresses why certain personal, social and societal characteristics are risk and protective factors (Oetting & Donnermeyer, 1998). Oetting, et al. (1998) proposed that drug use is similar to any normally learned behavior. Similar to Sutherland and Cressey's hypothesis, they propose that this learning takes place within the context of primary social interactions.

During the period of adolescence these primary social interactions take place amongst peer clusters, family, and school (Oetting & Donnermeyer, 1998). In this model the teen is supported by their interpersonal connections to the aforementioned groups. These primary sources of socialization transmit behavioral norms. There are two main pathways that can lead to deviance amongst adolescents according to the postulates of Primary Socialization Theory. First, like Sutherland, Cressey and Akers they propose that if the information passed on by these sources of socialization is deviant then deviance can result. Alternatively, Oetting, et al. (1998) postulated that if an adolescent shares weak bonds with these sources of socialization then deviance will result. This view is similar to Hirschi and Jessor's perspective that elaborate the role of risk factors in deviance. Specifically, Oetting, et al., Hirschi and Jessor agree that when a child has strong familial and educational bonds then these will mainly transmit positive social values and will protect the child from engaging in deviance. A common scenario for the entrance and maintenance of deviant attitudes is implicated in Primary Socialization Theory. This scenario is best envisioned as an adolescent forming weak familial and educational bonds, while simultaneously developing strong peer bonds. In this scenario the weak bonds with family and school disengage the adolescent from learning and accepting a model of conventional behavior and instead turning to peers for reinforcement and attitude maintenance (Oetting, et al., 1998). If these peers are involved in unconventional or deviant behaviors then the adolescent is likely to adopt these very values from the only socialization group that they hold strong ties with (Oetting, et al., 1998). Research has consistently shown that association with negative

peer groups is often the result of weak family and school bonds (Kandel 1978a; Kumpfer & Turner 1990-1991).

Oetting, et al. (1998) further postulated that only those personality traits that affect the socialization process will be related to the initiation and stabilization of drug and alcohol use patterns amongst adolescents. Specifically, only those traits that increase the chance that an adolescent will be unable to connect with conventional peers will lead the adolescent to forge bonds with other deviant/unconventional peers. Therefore, according to Oetting, et al. (1998) personality traits will only indirectly affect the entrance into deviance. Particularly, those personality traits that are related to anger, aggression and sensation seeking, oppositional defiant disorder, conduct disorder, and/or antisocial personality disorder would be most likely to indirectly affect the socialization process and hence later involvement with deviant peer clusters (Oetting, et al. 1998). For example, the postulates of Primary Socialization Theory might predict that when an adolescent possesses antisocial personality traits then that individual may have a difficult time forming bonds with conventional peers. Therefore, this adolescent may be relegated to forming attachments to deviant peers that have also been ostracized because of perceived personality deficits. Of course, the indirect influence of personality traits on the initiation and maintenance of deviant attitudes and behaviors will also be exacerbated or inhibited depending on the strength of the adolescent's familial and educational bonds.

This study was designed to determine the role of patterns of social disengagement that lead to permissive drug and alcohol attitudes and drug and alcohol use amongst college students.

The aim of the research was twofold. First this study was designed to test the prediction that the dimensions of rebelliousness, social alienation, authority conflict and familial discord to peer relationships that promote permissive drug and alcohol use attitudes and behavior using Oetting, et al's Primary Socialization Theory as a guide.

Hypotheses were tested using a multiple linear regression and the AMOS modeling program. Split half reliabilities of measures were used to measure the important latent constructs in order to reduce the effects of measurement error (Bollen, 1989; Rigdon, 1994 as cited in Arbuckle & Wothke, 1995). These latent constructs will then be connected to form a structural model. This structural model was created to represent the latent constructs of familial functioning, alienation, drug and alcohol permissive attitudes and peer relationships as predictors of alcohol and drug behavior.

Specifically, it was hypothesized that:

- I. The latent constructs of interest were conceptualized as family variables, personality variables, peer variables, permissive drug and alcohol attitude variables and drug and alcohol behavior. The latent construct of family variables was composed of the FES and the Family Problems scales, the latent construct of personality variables was composed of the Pd scale of the MMPI, the AUT and Pd_{4a} subscales of the MMPI, the latent construct of peer variables was composed of the responses to questions 10 and 11 of the Core Alcohol and Drug Survey Questionnaire, the latent construct of permissive drug and alcohol attitude variables was measured by DAS and the Drug Scenarios, and the latent construct of alcohol and drug behavior

was measured by responses to the Core Alcohol and Drug Survey Questionnaire. It was predicted that peer, family, and personality variables will predict drug attitudes and drug attitudes will predict drug and alcohol behavior amongst college students.

- II. Association with drug and alcohol using peers will be reflected in the participants' own permissive drug and alcohol use attitudes and behaviors. Specifically, participants who report higher DAS scores, more drug and alcohol use, and who perceive the drug users in the Drug Scenarios more favorably will report associating with more drug and alcohol using peers in the CORE survey than those participants who report little to no contact with drug or alcohol using peers.
- III. Participants with elevated Pd scores will report increased association with drug and alcohol using peers.
- IV. Participants who report more familial discord will also report being more socially alienated.
- V. Participants who report familial discord and high levels of social alienation will hold more permissive drug and alcohol related attitudes and associate with more drug and alcohol using peers.
- VI. There will be a positive relationship between holding permissive attitudes toward drug and alcohol use and actual drug and alcohol use.

Secondly, this study was designed to explore the effects of priming on the completion of Ambiguous Word Problems and the effectiveness of the researcher created

Drug Scenarios at accessing social cognitions related to drug and alcohol users. The Ambiguous Word Problems Questionnaire was given twice to all participants. The first Ambiguous Word Problems survey was given to each participant prior to any priming and then after they have completed the remaining eight questionnaires. The primed Ambiguous Word Problems survey will follow the eight questionnaires, where the last three questionnaires will be related to drug and alcohol use. The three preceding drug and alcohol questionnaires served as the priming for the second administration of the Ambiguous Word Problems.

Specifically, it was hypothesized that:

- I. The participants will be primed for drug and alcohol related words after students have completed the three drug and alcohol related questionnaires. There will be significantly more drug and alcohol related responses to the Ambiguous Word Problems after completion of the three previous drug and alcohol questionnaires compared to participants' responses on the first Ambiguous Word Problems survey.
- II. The researcher created Drug Scenarios will show adequate internal reliability, divergent and convergent validity with established drug and alcohol measures.

All analyses were conducted using the general linear model.

Method

Participants

Participants consisted of 187 undergraduate students from the psychology 201-202 research pool at The College of William and Mary. Each of the participants received one hour of class credit for their involvement in this study. Fliers for this study were placed on the psychology research board in Millington Hall to announce the study and provide sign up sheets for participants. Nearly all participants (92.5%) were from the freshman and sophomore classes, were between the ages of eighteen and nineteen (88.9%) and were female (77.0%).

Procedure

Each of the material packets was pre-assigned a subject number prior to the disbursement of the materials to the participants. First the participants received the Ambiguous Word Problems. This measure and all other measures were assigned a subject number prior to the disbursement so that the researcher may later match the appropriate Ambiguous Word Problems measure to the other completed participant self-report measures. This design kept the participant from being able to look back at the previous Ambiguous Word Problems in order to quickly fill out the second Ambiguous Word Problems, which was placed after the drug and alcohol surveys. The drug and alcohol surveys served as the priming for the second administration of the Ambiguous Word Problems questionnaire. Upon completion of the Ambiguous Word Problems measure the participants returned the measure to the researcher. The researcher then provided the participant with the remainder of the matching, numbered materials. Each

of the participants received a packet of materials containing the following measures in the subsequent order: The Family Environment Scale (1974) (FES), the Multiphasic Personality Inventory (MMPI) subscale for Psychopathic Deviate (Pd) (Hathaway & McKinley, 1967), the Harris and Lingoes (1968) MMPI scale for Social Alienation (Pd_{4A}), the Wiggins Content Scales (1966) of the MMPI for Authority Conflict (AUT) and Family Problems (FAM), Drug Scenarios, relevant portions of the DAS (1978), the CORE (1994), and the Ambiguous Word Problems. For the second administration of the Ambiguous Word Problems questionnaire the same responses were used, except the possible responses were placed in a different order in order to reduce any practice effects. Each of the participants had one hour to complete the pencil and paper self-report measures.

Measures

Ambiguous Word Problems (AWP): This is a researcher created measure that contains ambiguous words that all begin with 2 or 3 letters. Each two or three-letter word must then be completed using the first two or three letters provided. This measure includes only words that could easily be completed using either innocuous words or alcohol or drug related slang. This measure was created by consulting the book, “The Slang of Sin” by Tom Dalzell. Examples of items include do_____ or mar_____. These word problems could be solved a number of ways. The drug slang that would be an appropriate response for do_____ would be do_pe, while an innocuous answer might be do_g. Likewise, and drug slang response for mar_____ would mar_ijuana, while an innocuous answer might be mar_riage. There are two reasons that these, particular

words were selected by the researcher. First, the researcher picked words that were believed to reflect common drug and alcohol related terminology. Second, the researcher picked words that were easily completed using both drug and alcohol related terminology as well as innocuous words. Please refer to Appendix A for a copy of this measure.

Family Environment Scale – Form R (FES) (Moos, 1974): This scale is a forced choice 90 item measure that measures a person's perception of their family environment. It contains the underlying dimensions of Relationship, Personal Growth and System Maintenance, which are further sub-divided amongst ten Subscales. Research has established adequate internal consistency using Cronbach's alpha. The internal consistency ranged from .61 to .78 for each of the subscales. Furthermore, there was adequate test-retest reliability for each of the sub-scales at a one-year follow up. These test-retest values ranged from a low of .52 to a high of .89. Please refer to Appendix B for a copy of this measure.

Multiphasic Personality Inventory (MMPI) subscale for Psychopathic Deviate (MMPI-Pd) (Hathaway & McKinley, 1943): This scale consists of 50 forced choice items that provide an assessment of the Psychopathic Deviate (Pd) personality dimension as well as 30 forced choice items that provide the necessary K correction. The Pd subscale was designed as a measure of general social maladjustment. The Pd subscale of the MMPI can also be thought of as a measure of rebelliousness, with higher scores indicating more rebellious attitudes. Low scorers are described as conventional and conforming (Karp & Karp, 2001). The K scale that is also included was developed as a more subtle and effective attempt by examiners to assess defensiveness. High scorers are

thought to take a defensive approach to the MMPI, while low scorers are thought to represent an unusually honest and self-critical person (Karp & Karp, 2001). Research has established adequate test retest reliability as well as adequate validity for this measure. Please refer to Appendix C for a copy of this measure.

MMPI scale for Social Alienation (Pd_{4A}) (Harris & Lingo, 1968, as cited in Levitt, 1989): This scale consists of 18 forced choice items that provide an assessment of the social alienation component of the MMPI-Pd scale. The Pd_{4A} is the result of a factor analysis conducted by Harris & Lingo (1968). This subscale was created as a useful diagnostic tool to aid in describing the elevation of the overall Pd subscale of the MMPI. This scale measures the tendency of a person to externalize blame, to feel put upon by society, and to feel isolated from others. Results have shown that this scale has good clinical utility (Levitt, 1989). Please refer to Appendix D for a copy of this measure.

MMPI for Authority Conflict (AUT) (Wiggins, 1966): This scale consists of 20 forced choice items factor analyzed from the MMPI that provide an assessment of authority conflict. This subscale was created as a useful diagnostic tool to aid in describing the elevation of the overall Pd subscale of the MMPI. High scorers perceive that interpersonal relationships are exploitive, they show a disregard for ethical conduct, and have a tendency to minimize the negative impact of antisocial behavior (Lachar & Alexander, 1978 as cited in Levitt, 1989). Results have shown adequate reliability and validity for this measure. Please refer to Appendix E for a copy of this measure.

MMPI for Family Problems (FAM) (Wiggins, 1966): This scale consists of 16 forced choice items factor analyzed from the MMPI that provide an assessment of family

problems. High FAM scorers perceive that they had an unpleasant home life characterized by a lack of love as well as parents who were unnecessarily critical, quarrelsome or quick tempered. Results have shown adequate reliability and validity for this measure. Please refer to Appendix F for a copy of this measure.

Drug Scenarios: This measure includes four alcohol and drug scenarios created by the researcher. Each scenario includes a drug or alcohol user, a non-user and a law enforcement officer. This measure was designed to assess perceptions of drug and alcohol users, abstainers, and law enforcement in drug and alcohol scenarios. Each character in each scenario was rated on a 1 to 5 Likert-type scale. Please refer to Appendix G for a copy of this measure.

The Drug Attitudes Scale (DAS) (Goodstadt, Cook, Magid, & Gruson, 1978): This is a 36 item, 5-point Likert-type scale. It contains six subscales with three positively and three negatively worded questions in each. The subscales included were designed to assess attitudes related to heroin, alcohol, marijuana, hallucinogens, tobacco and drug use in general. The DAS was designed to measure the degree of permissiveness toward drug and alcohol use. High scores reflect more permissive attitudes toward drugs and alcohol. This measure has shown adequate reliability and validity. Please refer to Appendix H for a copy of this measure.

Core Alcohol and Drug Survey Questionnaire (CORE) (Presly, Meilman, & Lyerla 1994): This is a measure designed to assess the nature, scope, and consequences of the use of alcohol and other drugs by college students. The content areas included in this measure are as follows: demographic information, frequency of alcohol and drug use,

age of first use of alcohol and drugs, perceptions' of others alcohol and drug use, location of use and consequences of use, and family history of alcohol or other drug problems.

This measure has shown adequate reliability and validity. Please refer to Appendix I for a copy of this measure.

Ethical Concerns

Participants were asked to self-report information about their family history as well as their history of drug, alcohol and tobacco use. This type of information can be sensitive and could be construed as an invasion of privacy or as a psychological stressor. In order to negate these possible adverse effects, several measures were taken to maintain anonymity of the participants and to relieve any possible psychological discomfort that participants' may experience. First, participants were advised that they could terminate their participation at any point in time. The participants were also informed that their responses would remain anonymous. Participants were given the research consent form D prior to the beginning of the study. Please see Appendix J for a copy of the included consent form. Each of the participants completed the research consent forms and placed them in a manila envelope. The consent forms were kept separate from the completed inventories. Next, participants were provided with the survey packets following the procedure discussed previously. The questionnaire packets did not include any identifying information about the participant, thereby ensuring the anonymity of the participant while providing them with research participation credit. Finally, participants were thoroughly debriefed and provided with the number to the Counseling Center on campus, if they felt any acute repercussions from their participation in this study. Please

refer to Appendix K for the verbatim instructions and debriefing provided to the participants.

Results

Self-Reported Drug Use and Priming Effects

Please refer to Table 1 for the descriptive statistics for the number of drug and alcohol related words reported before and after priming by group membership. As hypothesized, there was a significant main effect for priming. The results indicated that regardless of self-reported drug use all participants were primed after being given the drug and alcohol measures and reported significantly more drug and alcohol related words on the AWP at Time 2, $F(1, 185) = 87.37, MSE = 101.01, p = .001$. Also, as hypothesized there was a main effect for self-reported drug use, such that regardless of priming, those participants that reported drug use were significantly more likely to list more drug and alcohol related words on the AWP at Time 1 and Time 2, $F(1, 185) = 11.99, MSE = 20.42, p = .001$. However, most importantly, as hypothesized there was a significant interaction between reported drug use and participants' responses to the AWP before and after priming, $F(1, 185) = 7.44, MSE = 8.61, p = .01$, such that those participants that reported drug use scored significantly more drug and alcohol related words after priming than those participants that did not report drug use. These results fully supported exploratory hypothesis I regarding the effects of priming on drug and alcohol related cognitions.

Interrelationships Amongst Peer, Personality and Family Variables

Please refer to Table 2 for the descriptive statistics for the exploratory analyses of the factor structure of the parental, peer and personality variables. A visual inspection of the means and standard deviations for the FES subscales revealed that many of these subscales met and exceeded the norms established during the scale construction for a normal family. The only two means that were slightly lower were those for FES-Organization and FES-Expressiveness. Overall, participants represented a sample that perceived their family environments as extremely normal and free of distress.

A visual inspection of the results of the MMPI-Pd scale revealed that participants obtained relatively high psychopathic deviate scores. In general it is expected that participants this age group will score in the T55-60 range, however these participant on average scored above that significantly falling in the T76 range of the scale. It has been noted that persons with more education and higher socioeconomic status often score as elevated on the K Scale, which is part of the overall Pd score (Karp & Karp, 2001). Furthermore, education has been shown to relate to the amount that people view morality as a relative question (McAdams, 2001). Therefore, participants' higher scores may partly reflect higher defensiveness, or K scale scores. This seems to particularly be the case, since the univariate statistics for Social Alienation, Authority Conflict and Family Problems all reflect low to moderate scores on these measures. These measures were all derived from factor analyses conducted on the MMPI. Many of the items on these scales were items taken from the Pd and K scales of the MMPI.

Finally, a visual inspection of the DAS means revealed that participants scored in the middle range of responses endorsing permissive drug and alcohol attitudes.

Furthermore, participants reported little overall drug and alcohol use as seen from the univariate statistics gathered from students' responses to the CORE inventory.

The results of the exploratory analyses using both the orthogonal, varimax rotation and the oblique, oblimin rotation revealed that the varimax solution was the best fit for this data. The orthogonal solution was chosen as the best fit for the data because the oblique rotation revealed that there were modest intercorrelations between the factors. Furthermore, both the orthogonal and oblique solutions reported similar item loadings and factor structure. Both solutions reported the same eigenvalues. The factor loadings for the peer, personality and parental variables for the varimax rotation are reported in Table 3. The orthogonal, varimax rotation revealed six factors with eigenvalues over unity. The experimenter used the cut-off value of .45 in determining what was a significant loading for each subscale on each factor. This cut-off value was chosen by the researcher to ease interpretation of the factor structure for each of the respective factors. Please refer to Table 4 for a complete listing of the eigenvalues and total proportion of variance accounted for using the orthogonal, varimax solution. In both solutions, Factor 1 and Factor 2 accounted for the largest proportion of the variance.

The first factor revealed a measurement of drug and alcohol use and attitudes. All subscales that significantly loaded, loaded positively on this factor. The subscales that loaded on Factor 1 (drug and alcohol use and attitudes) only were CORE and DAS subscales. The CORE and DAS subscales that loaded solely and significantly on this

factor were: DAS - alcohol attitudes, DAS - marijuana attitudes, DAS - drug attitudes, CORE - self-reported drug use, and the CORE - peer variables (how many hours were spent with drug using peers? and how many friends were drug users?). Subscales that were shared between Factor 1 and other factors were CORE - alcohol use as well as the CORE -Total. Both of these subscales also loaded significantly on Factor 5.

The second factor revealed a measurement of family conflict. The items that loaded solely on Factor 2 (family conflict) were the FES subscales of Cohesion and Conflict, the Family Problems Scale (FAM) and the Social Alienation Scale (Pd4a) drawn from the MMPI item pool. All of these subscales positively loaded on this factor, except for FES – Cohesion, which loaded negatively.

The third factor revealed a measurement of family control. The FES – Achievement, FES – Organization, and FES - Control subscales all loaded solely on Factor 3 (family control). All of these scales loaded positively on this factor. The FES subscale of Expressiveness nearly loaded on this factor as well (-.44). Expressiveness was negatively related to the family control factor. However, FES - Expressiveness loaded significantly Factor 4.

The fourth factor revealed a measurement of family pursuits and interests. The FES subscales of Intellectual/Cultural Pursuits, Recreational Activity, and Expressiveness loaded solely on Factor 4 (family pursuits and interests). These subscales were positively related to this factor. The FES subscales of Expressiveness also nearly loaded on Factor 3.

The fifth factor revealed a measurement of authority conflict and alcohol use and attitudes. The Authority Conflict (AUT) subscale drawn from the MMPI loaded solely on Factor 5 (authority conflict and alcohol use and attitudes). The AUT subscale was positively related to this factor. The following subscales of: CORE – Alcohol Use and CORE – Total also significantly loaded on this factor. Both of the CORE, alcohol related subscales were positively related to Factor 5. Both of the CORE subscales also loaded on Factor 1. DAS – Alcohol Attitudes also nearly loaded on this Factor (.43), however it did not load significantly on Factor 1.

The sixth factor revealed a measurement of independence and cigarette attitudes. Several of the subscales loaded solely on Factor 6 (independence and cigarette attitudes). These three subscales were the: FES – Independence, MMPI – Pd and DAS – Cigarette Attitudes. All of these subscales loaded positively on this factor. The DAS subscales of Alcohol Attitudes and Drug Attitudes nearly loaded significantly on Factor 6. Both of these DAS attitudinal measures were positively related to this factor. However, The DAS Subscales of Alcohol Attitudes and Drug Attitudes significantly loaded on Factor 1. DAS - Alcohol Attitudes also nearly significantly loaded on Factor 5 (.43).

A confirmatory factor analysis was conducted using the AMOS 4.0 modeling program to examine the fit between the peer, personality, and parental variables. Results of this analysis revealed an adequate fit with the specified model, $CFI = .99$. Please refer to Table 10 for a listing of other relevant fit indices for this model. The latent family variable was positively predicted by FES – Cohesion (.65) and was negatively predicted by the Family Problems Scale from the MMPI (-.95) and FES – Conflict (-.72). The

latent peer variable was positively predicted by the number of peers reported to also use drugs (.97) and the number of hours reportedly spent with drug using peers (.41). The latent personality construct was positively predicted by: the Psychopathic Deviate score from the MMPI (.29), the Social Alienation Scale (.65) and the Authority Conflict Score (.46). The strongest interrelationship between the latent constructs was between the family and peer constructs. Specifically, family cohesion was negatively related to personality adjustment (-.85), such that the more cohesive the family environment that less the participant reported personality problems. In this case, as perceived cohesion increased the reported level of alienation, authority conflict and antisocial tendencies decreased. Furthermore, the peer and personality latent constructs were positively related (.33). This means that participants that reported increased contact with drug using peers also reported more feelings of social alienation, authority conflict and antisocial tendencies. Finally, there was a very modest relationship between the family and peer constructs. Family cohesion was negatively related to peer involvement (-.10), such that as cohesion increased contact with drug using peers decreased. Please refer to Figure 1 in order to view the interrelationship of the variables with their standardized coefficients. This model fully supported the third and fourth research hypotheses.

A confirmatory factor analysis of peer, personality, and parental variables predicting drug and alcohol attitudes and use were shown to adequately fit with the specified model, $CFI = 1.00$. Please refer to Table 11 for a listing of other relevant fit indices for this model. Specifically, the results revealed that family conflict (FAM), the number of friends that used drugs, social alienation (Pd4a), and authority conflict (AUT)

were interrelated. Furthermore, these variables predicted drug and alcohol attitudes, which then predicted drug and alcohol use. The self-reported number of friends who were drug users was the most significant predictor of drug and alcohol attitudes (.38), authority conflict was next (.14), while social alienation was a small, negative contributor (-.09) and family conflict was the weakest predictor (.06) of this overall relationship.

The two weakest predictors (Pd4a and FAM) were the most highly interrelated (.54). Authority Conflict was also moderately related to social alienation (.34), family conflict (.34) and the number of friends reported to use drugs (.28). Social Alienation and the number of friends reported to use drugs was modestly related (.13), while the number of friends reported to use drugs was negligibly related to family conflict (.09). Finally, drug and alcohol use were strongly predicted by drug and alcohol attitudes (1.31). Please refer to Figure 2 in order to view the interrelationship of the variables and path diagram with the standardized coefficients. The results of these analyses supported the first, second, fifth and sixth research hypotheses.

Scale Properties of Drug Scenarios

The results of the exploratory factor analyses of the researcher created measure of Drug Scenarios (DS) using both the orthogonal, varimax rotation and the oblique, oblimin rotation revealed that the oblique solution was the best fit for this data. The oblique rotation was chosen as the best fit because the factors were significantly intercorrelated with one another. The factor loadings for the DS items were the cleanest for the oblique rotation and are reported in Table 9. Therefore, the factor loadings and intercorrelations for the oblique rotation are discussed below. Although the factor

loadings for the DS items for the orthogonal rotation are not discussed below they are reported in Table 8. Please refer to Table 8 and Table 9 for the complete listings of the item coefficients, eigenvalues, total proportion of variance accounted for, and factor intercorrelations using both solutions. Both the orthogonal and oblique rotations revealed three factors with eigenvalues over unity. The experimenter used the cut-off value of .45 for determining what was a significant loading for each item on each factor. This cut-off value was chosen by the researcher to ease interpretation of the factor structure for each of the respective factors. In both solutions, Factor 1 accounted for the largest proportion of the variance.

The first factor revealed a measurement of “drug and alcohol users”. Nearly all of the researcher created “user” items loaded solely on this factor, except one of the “user” items loaded on Factor 2 instead. Of the four scenarios created by the researcher the first scenario seems to be the weakest. This scenario did not load cleanly on Factor 1, as the drug user in this scenario was grouped with the non users and cops in Factor 2.

The second factor revealed a measurement of “non-users”. Nearly all of the “non-user” items loaded solely on this Factor, except one of the “non-user” items loaded on Factor 3 instead. Also, one of the four “cop” items significantly loaded on Factor 2. The analysis of this factor revealed that in scenario one the drug user and non-user were viewed as similar, while in scenario two the cops and the non-users were viewed as similar.

The third factor revealed a measurement of “cops”. Nearly all of the “cop” items loaded solely on this factor, except one of the “cop” items significantly loaded on Factor

2. Also, a “non-user” item loaded on Factor 3. The analysis of this factor revealed that in the third scenario the non-user that was also in a position of authority (the counter worker) was viewed as similar to the police officers. In the second scenario involving alcohol, the cop and non-user were viewed as similar.

Overall, there were modest correlations amongst these three factors. Specifically, Factor 1 (“users”) and Factor 2 (“non-users”) were positively related to one another. Basically, users and non-users were seen as somewhat similar, while “cops” were seen as dissimilar to these two groups. Specifically, Factor 3 (“cops”) was modestly, negatively related to the other two factors (“users” and “non-users”).

Reliability analyses revealed that the first subscale that was designed to measure “users” contained an adequate level of internal reliability ($\alpha = .90$). This scale also demonstrated modest to moderate levels of convergent validity with the DAS and CORE subscales. Furthermore, responses on the “users” subscale significantly discriminated self-reported users from non-users, $F(1,185) = 29.85, p = .00$.

Reliability analyses using Cronbach’s alpha also revealed adequate internal reliability for the “non-users” subscale ($\alpha = .67$). This scale demonstrated consistent discriminant validity with the DAS and CORE subscales, however this scale did not significantly discriminate self-reported users from non-users, $F(1,185) = 1.80, p = .18$.

Finally, reliability analyses using Cronbach’s alpha revealed adequate internal reliability for the “cops” subscale ($\alpha = .77$). This scale also demonstrated consistent discriminant validity with the DAS and CORE subscales. This scale did not significantly discriminate self-reported users from non-users although it did approach significance, F

(1, 185) = 2.88, $p = .09$. Please refer to Table 6 in the Appendix for the descriptive statistics on the discriminant validity between self-reported users and non-users and refer to Table 7 for the results of the inter-correlations amongst these measures. Results of the scale analysis revealed that this measure is adequate, however further testing should be conducted in order to improve the internal reliability of this measure. These results provide partial support for exploratory hypothesis two.

Discussion

This sample was not representative of all college students. The composition of this sample reflected the demographic characteristics of the Introductory Psychology research pool at a prestigious, liberal arts college in the east. These sample characteristics were reflected in the fact that nearly all of the participants (92.5%) were from the freshman and sophomore classes, were between the ages of eighteen and nineteen (88.9%) and were female (77.0%), as would be expected by the enrollment characteristics of this college sample. Furthermore, most of the students represented non-drug users (71.1%) and reported little alcohol use. The participants' self-reported number of times alcohol was used in the last year averaged around once a month. These sample characteristics reveal that this college sample may have over-represented students that were not involved in drinking or drug lifestyles. However, the overrepresentation of non-users in this sample may accurately reflect the amount of drug and alcohol involvement of freshman and sophomore students at a prestigious, liberal arts college in the East.

Self-Reported Drug Use and Priming Effects

Overall, the results revealed that there was a priming effect regardless of reported drug use. Both self-reported drug users and non-users were primed after receiving the drug and alcohol measures. The results further revealed that self-reported drug users reported more drug and alcohol related words overall, but most importantly this group was primed more than non-drug users. This finding is especially relevant because it highlights that those people that have used drugs and been exposed to drug culture, even minimally, have an easier time accessing cognitions directly related to drug use. The interaction between priming and reported drug use is startling given that the self-reported drug users in this sample reported very minimal drug use. Most self-reported drug users reported no use of cocaine, LSD and/or designer drugs. In fact, most of the self-reported drug users reported using marijuana an average of once a month. This interaction between priming and reported drug use is also surprising given the relative weakness of the priming. The priming in this case was simply the drug and alcohol measures given as part of the experiment.

Interrelationships Amongst Peer, Personality and Family Variables

Overall, these participants were representative of normal, distress free homes, slightly rebellious, and within the modest to normal range for drug and alcohol attitudes and use. Results of the exploratory factor analysis revealed that contrary to the hypothesis peer, personality and family variables were only modestly interrelated. However, the results of the confirmatory factor analysis represented in Figure 1 show that when these subscales

were analyzed as latent constructs representing peer, family and personality variables they were in fact related.

The strongest factor revealed in the exploratory analyses represented “drug and alcohol use and attitudes.” The results indicated that the surveys of drug and alcohol use measure a distinct construct of drug and alcohol use. This factor was most represented by drug use and attitudes, although alcohol use and attitudes also loaded here. This means that while attitudes and use of drugs and alcohol do share some similarities, there also seem to be distinct differences between attitudes and use of drugs and alcohol. Therefore, if a researcher is most interested in studying drug use, studying alcohol use may be of some help, but may not completely reflect the distinct nature and patterns of drug use.

Furthermore, the peer variables loaded on this factor. This result supported the hypothesis and previous research that found significant interrelationships amongst peer use and permissive drug and alcohol attitudes and use. This interrelationship between peer variables and permissive drug and alcohol attitudes and use was further illustrated in the result of the confirmatory factor analysis represented by Figure 2. The confirmatory factor analysis revealed that the strongest predictor of drug and alcohol attitudes and use was the self-reported number of friends that use drugs. The relationship between the self-reported number of friends that use drugs and drug and alcohol attitudes and use was quite strong. This relationship accounted for unique variance beyond the interrelationships between this variable and the other family and personality variables. Therefore, despite the contribution of these interrelated variables of family, personality

and peer variables, the self-reported number of peers that use drugs provides an accurate representation of whether or not a person holds permissive drug and alcohol attitudes and hence uses drugs and alcohol.

This factor also clearly revealed that drug and alcohol attitudes are very similar to drug and alcohol use. In fact, the results of the confirmatory factor analysis revealed that drug and alcohol attitudes are synonymous with drug and alcohol use. This finding provides an alternative way for researchers to examine drug and alcohol use. Basically, a researcher would be able to indirectly study drug and alcohol behavior without asking any questions that directly inquire about drug and alcohol use. This strong interrelationship between attitudes and use is especially important when the researcher is interested in maintaining confidentiality in the study design, rather than anonymity when studying this specific, sensitive and risky behavior.

The second factor revealed in the exploratory analyses revealed a measurement of family conflict. This measure of family conflict was used to create the latent family variable used in the confirmatory factor analysis seen in Figure 1. The exploratory analyses revealed that not only were cohesion, conflict and family problems similar to one another, so was the variable of social alienation. The results revealed that cohesion and conflict are two sides of the same continuum, as both loaded significantly on this factor. However, cohesion loaded negatively to the other family conflict variables.

This factor also revealed that the level of social alienation was interrelated to the amount of perceived family conflict. This relationship between family conflict and social alienation can also be seen in the results of both of the confirmatory factor analyses.

Figure 1 shows that social alienation is the largest predictor of the latent construct of personality. Furthermore the latent personality factor is strongly related to the latent family conflict variable, such that as family conflict increases personality adjustment decreases. Results of the second confirmatory factor analysis also illustrated in Figure 2 showcase the interrelationship between social alienation and the family conflict. In Figure 2, it can be seen that the relationship between family conflict and social alienation is quite significant. As the self-reported level of family conflict increases, so does the level of social alienation. Therefore, the results of these analyses reveal that social alienation and family conflict are clearly related. However, these results do not indicate which variable is clearly affecting the other.

The third and fourth factors revealed in the exploratory analysis revealed factors of family control and family pursuits and interests. These results indicated that the FES really measures four distinct aspects of family functioning, rather than the ten subscales that it was originally conceived to measure. These can be summarized as: family conflict, family control, family pursuits and interests, and independence. The subscales of family control and pursuits and interests were not used in any of the further analyses. Neither of these factors were related to any of the peer, personality, family, attitude, or use variables that were relevant to this research.

The fifth factor revealed in the exploratory analysis was a measurement of authority conflict and alcohol use and attitudes. This factor revealed that authority conflict and alcohol attitudes and use are closely related. The results of this exploratory factor analysis revealed that alcohol use and attitudes are related to drug use and attitudes,

but also contain distinct characteristics separate from drug attitudes and use. Therefore, there may be distinct paths for drug and alcohol use and attitudes. Furthermore, the relationship between authority conflict and permissive drug and alcohol attitudes and use was also found in the confirmatory factor analysis illustrated in Figure 2. Authority conflict predicted drug and alcohol attitudes and use, even after the interrelationships between authority conflict and social alienation, self-reported number of drug-using peers and level of family conflict were accounted for.

Finally, the sixth factor revealed a measure of independence and cigarette attitudes. This factor revealed that the level of perceived independence within the family was interrelated with rebelliousness, and cigarette attitudes. This result indicated that rebelliousness as measured by the MMPI, Pd scale and independence were related constructs as were permissive attitudes toward cigarette use. As was illustrated earlier, attitudes and use are very similar constructs. Therefore, even though there was not a direct analysis of cigarette use in this study, it would appear that cigarette users tend to be more rebellious than non-smokers.

The results of the confirmatory factor analysis shown in Figure 1, clearly demonstrate the interrelationships of family, peer and personality variables. Specifically, it was shown that the personality constructs of rebelliousness, social alienation and authority conflict were grouped to form the latent personality variable. In this equation, social alienation was the strongest contributor to the latent personality construct, with authority conflict and then psychopathic deviate score following in strength. This latent personality construct was strongly, negatively related to the latent family construct. The

latent personality construct is best conceived as a measurement of family cohesion. In this model, the strongest contributor to the latent family variable was the measure of family problems from the MMPI, with the FES – Conflict and FES – Cohesion scales following in strength. The more cohesive the family environment was perceived to be the less maladjusted the participants reported themselves to be. Specifically, participants reported that as the family environment was perceived as more cohesive the less alienation, problems with authority and rebelliousness they subsequently experienced.

The latent construct of the peer variable was composed of the self-reported number of peers that use drugs as well as the self-reported number of hours spent with drug using peers. The number of peers reported to use drugs contributed largely to the latent peer variable, while the number of hours spent with drug-using peers moderately contributed to the peer construct. This latent peer construct can best be conceived of as a measurement of peer drug involvement. This latent peer construct was negligibly, negatively related to the family cohesion construct. There was only a modest relationship between the peer and family constructs. This can be interpreted to mean that these two constructs are measuring separate, unrelated constructs. Specifically, the level of perceived family cohesion is only minimally related to self-reported levels of peer drug use. This finding was also supported by the exploratory factor analysis that found that all of the peer measures loaded with the alcohol and drug attitudes and drug use measures and none of the family measures. However, the latent peer variable was modestly, positively related to the personality maladjustment construct. This result indicated that as personality maladjustment increased, so did the numbers and the amount of time spent

with drug using peers. Specifically, increased self-reports of social alienation, authority conflict and rebelliousness were related to increased numbers of drug using peers and increased amount of time reportedly spent with drug using peers.

Overall, this model supported many of the research hypotheses. Specifically, this model revealed that family cohesion and social maladjustment are influenced by one another. These types of analyses used in this study cannot reveal the exact mechanisms for this relationship. However, it does provide a strong support for the mutual influence of both of these variables in drug use amongst college students. Furthermore, association with drug using peers may contribute a unique amount of variance to the final overall equation. This unique variance from the peer variable is reflected in the results from both the exploratory and confirmatory factor analyses. This peer association variable is distinct from the family cohesion construct and is only modestly related to the personality maladjustment construct.

The results of the confirmatory factor analysis shown in Figure 2, clearly demonstrate the interrelationships of family, peer and personality variables as predictors of drug and alcohol attitudes and use. This model provided further support for the peer drug use variable as contributing uniquely to the overall equation. The self-reported number of friends that use drugs was the strongest predictor of drug and alcohol attitudes, after the interrelationships were accounted for in the model. In fact, the self-reported number of friends that use drugs was only minimally related to one other variable, that of authority conflict. In the previous equation, the peer variable was modestly related to the personality variable. This relationship between the latent constructs of peers and

personality, most likely resulted from the relationship between the self-reported number of drug using peers and authority conflict. All of the remaining predictors of drug and alcohol attitudes and use were minimal. This is most likely due to the fact that almost all of the predictors are interrelated with one another. Many of these interrelationships were found in the previously reported exploratory and confirmatory factor analyses. This model showcased the strong contribution of drug using peers as a predictor of drug and alcohol attitudes and use.

The self reported level of family conflict was correlated with several other variables. Specifically, family conflict was moderately related to the level of social alienation and authority conflict. This result echoes, the previous result represented in Figure 1. Basically, that there is a strong relationship between family conflict and aspects of personality maladjustment. Specifically, participants who reported high levels of family conflict also reported higher levels of social alienation and authority conflict. The strong interrelationship of personality with family cohesion weakened the strength of these individual contributors to the degree of drug and alcohol attitudes and use. Family cohesion and the measures chosen for personality maladjustment contribute to the overall equation, but because they both share so much of the same amount of variance, neither is contributing strongly to the final equation. In essence, family conflict and measures of social alienation, authority conflict and rebelliousness are influencing one another. In the end, the mutual influence and relationship between family and personality is contributing to participants' drug and alcohol attitudes and use.

The personality variables in the equation in Figure 2 revealed that the next largest predictor of drug and alcohol attitudes and use was authority conflict. Authority conflict only modestly predicted drug and alcohol attitudes and use. The modest direct influence of authority conflict on the drug and alcohol variables was most likely the result that this variable captured modest amounts of variance from all of the other variables. Social alienation contributed modestly to drug and alcohol attitudes and use. The minimal contribution of social alienation directly to the equation was due to the moderate relationship between social alienation and family conflict and authority conflict. Social alienation did contribute to the overall equation. However, the interrelationships between social alienation and the other variables allowed social alienation to only act indirectly on the attitudinal and use variables.

The drug and alcohol use and attitude measures were highly related. The results of both this confirmatory factor analysis and the previous exploratory factor analysis revealed that these constructs are very similar. These constructs are so similar that it may be unnecessary for a researcher to use measures of drug and alcohol use in order to assess this variable. In fact, a researcher worried about the limitations of asking participants to reveal this specific type of sensitive material could turn to alcohol and drug attitudinal measures as an alternative to measuring actual use.

Overall, this model confirmed many of the previous findings about the interrelationships amongst the peer, personality and family variables. Furthermore, this model elaborated on how these relationships predict drug and alcohol attitudes and use. The model revealed that self-reported number of drug using peers was the largest

predictor of the alcohol and drug attitudes and use. The model further revealed that the strong interrelationships between the family and personality variables decreased the unique contribution of each of these variables to the drug and alcohol attitudes and use. Therefore, it was revealed that personality was a strong indirect predictor of both peer and family relationships. Personality maladjustment was most strongly related to family conflict, but it also was modestly related to drug using peer relationships. Personality, especially, self-reported feelings of social alienation, authority conflict and rebelliousness are intertwined with self-reports of family and peer relationships.

These results indicate that personality, family and peers influence the development of permissive drug and alcohol attitudes and use. However, these variables influence the development of permissive drug and alcohol attitudes and use in different ways. Namely, there is a very strong, reciprocal relationship between personality and family that is influential and affects these attitudes indirectly. However, drug-using peers may affect the strength of the drug and alcohol relationship more directly. This direct relationship between drug using peers and alcohol and drug attitudes and use may result because the peer variable measures a distinct construct. This peer construct remained separate from the influence of family relationships and personality maladjustment.

Scale Properties of Drug Scenarios

Overall, the researcher created Drug Scenarios (DS) revealed adequate levels of internal reliability, convergent and divergent validity. The user measure was the most internally reliable as well as showcased the highest degree of convergent and divergent validity. The non-user subscale and cop subscales showcased lower levels of internal

reliability, convergent and divergent validity. These subscales were not nearly as clear-cut in the final reliability and factor analyses.

Further testing should be conducted in order to improve the internal reliability, convergent and divergent validity of each of the subscales. Specifically, scene one should be re-examined to create a stronger user subscale. In scene one the non-user and user were viewed as similar. The similarity between the non-user and user may be due to the fact, that no drug use took place in this scene.

The non-user and cop subscales should be re-examined in the second scenario as well. This scenario was the only scenario that addressed alcohol consumption. In this scenario the cop and non-drinker were viewed as similar. This similarity may be due to the reaction of the cop to the drinker. If the cop had been portrayed as arresting the drinker for a “drunk and disorderly” charge, perhaps this scenario would have loaded more cleanly.

Scenario three should also be re-examined in order to improve the non-user and cop subscales. In this scenario the cop and counter worker (or non-user) were perceived as similar. In this case, the non-user also held a position of authority. Therefore, the non-user item may have loaded on the cop factor because both the counter worker and police officers were viewed as similar based on their authoritative positions. In all of the other scenarios, the non-user was portrayed as a peer rather than an authority figure. This scenario may simply need to include a non-using peer rather than a non-using authority figure.

Overall, the preliminary analyses revealed that this measure accessed cognitions related to drug and alcohol use. Specifically, this measure was created as an indirect way to measure the perceptions of users, non-users and police officers in ecologically valid scenarios. Further research is needed to increase the validity and reliability of this measure, especially the nonuser and cop subscales.

Implications for the Research, Treatment and Etiology of Drug Use

The results from the exploratory analyses revealed that drug users think about drug and alcohol use more frequently than non-users. Specifically, drug users are able to access more drug related cognitions quickly when provided with some form of drug related priming. Self-reported drug users think about drugs regardless of priming, but once they are primed they are able to access these cognitions quickly. Even within the context of a weak priming, self-reported drug users think about drug related words. Furthermore, they think about drug-related words even when there was no indication to write or think about such things.

This finding has several implications for the treatment of drug use. Specifically, these results indicate that drug users think about drugs even in mundane or ambiguous situations. However, when these ambiguous situations include some kind of drug-related cue then drug users think about drugs even more. Drug related cues, even very subtle ones, can lead drug users to think about drug use more. Mental health professionals should be aware that drug users are influenced by drug-related cues within their environment. Therefore, in order for mental health professionals to help in the recovery of drug users and abusers they should acknowledge how powerful drug-related

environmental cues can be for the drug user. This is especially important given the evidence that drug users place themselves in environments flooded with drug cues, since most drug users report having several drug using peers. Therefore, the drug user is in an environment that is flooded with drug cues that can lead to increased drug related cognitions. Further research should be done in order to understand the impact of different levels of environmental cues on drug-related cognitions between non-users, drug users and drug abusers.

Furthermore, the exploratory analyses revealed that drug and alcohol use may reflect two different things. There is some overlap between drug and alcohol attitudes and use, however this overlap may be less important than the fact that drug and alcohol attitudes and use are different in several respects. Therefore, researchers who group drug and alcohol use together should be aware that while these variables share some similarity there is danger in making broad statements that group drug and alcohol use together. The differences in attitudes and use of drugs and alcohol may simply reflect the differences in legality. However, more research needs to be conducted in order to understand the relationship between drug and alcohol attitudes and use.

The results of the exploratory and confirmatory factor analyses also revealed that drug and alcohol attitudes and use are very similar to one another. This knowledge provides an additional way for drug researchers to access drug use without measuring this variable directly. This issue may be especially important when the researcher needs to maintain confidentiality within the study design. Basically, a researcher may want to really ask questions of participants about their actual use and keep their name attached to

the measure, however due to ethical limitations they may not be allowed by their review board to ask these questions. Therefore, using drug attitude measures provides an indirect way to examine drug and alcohol use, while still being able to pre-screen participants.

The results of the exploratory and confirmatory factor analyses revealed that the number of self-reported drug using peers and the amount of time spent with drug using peers are the strongest single indicator of permissive drug and alcohol attitudes and use. This result appears, regardless of the indirect influence of family and personality variables, peers still are the most direct way to assess whether a person holds permissive drug and alcohol attitudes or whether they ultimately use drugs. Peers exert a noticeable and unique influence on the development of permissive drug and alcohol attitudes. Therefore, the results of this study indicated that mental health professionals as well as parents should make their best effort to know how many of the adolescent's peers use drugs. This knowledge about peer drug use would provide the mental health professional and/or parent with knowledge that would enable them to more accurately measure the development of drug use in their own client or adolescent.

Finally, the results of both the confirmatory and exploratory factor analyses revealed that personality and family variables are related. The design of this research does not indicate what variable caused the other, however it does provide insight into the relationship between externalizing personality characteristics and self-reported level of family conflict. Basically, those who reported a high level of family conflict also reported feeling more alienated, had more problems with authority and were more

rebellious. Family conflict and personality variables did contribute to the drug use pathway. However, these variables are mutually influencing each other and so only contributed to the drug use pathway indirectly.

In the most likely scenario, the background issues of high levels of family conflict, social alienation, authority conflict and rebelliousness lead to association with drug using peers. The drug using peers then contribute to the development of permissive drug and alcohol attitudes by providing a model for drug use and attitudes. Peers may provide the socially alienated adolescent, who was raised in a dysfunctional familial environment with the cues and attitudes needed to successfully enter the world of drug use. The interaction amongst peers, family and personality in the pathway to drug use appears to be very dynamic and reciprocal.

Further research is needed to understand more precisely how family and personality interact with one another and with peers to provide a pathway for drug use. These factors are clearly all forces that play a part in the entrance of the adolescent into the drug culture, however it remains to be seen how to disentangle these effects. The most direct route to measuring whether an adolescent uses drugs is simply to look at their friends. However, this view is short sighted and does not account for the more distal influence of family and personality that are part of the overall equation as well. Future research should work to make methodological improvements that may be able to capture the mutual influence of all of these variables on the initiation of drug use. However, until methodological progress is made researchers should continue to examine the influence of

all of these variables on the initiation of drug use, while paying special attention to the unique contribution of peer networks in learning and accepting drug culture.

References

- Arbuckle, J. L., & Wothke, W. (1995). *Amos 4.0 user's guide*. Chicago: Small Waters Corporation.
- Baumeister, R. F., & Tice, D. M. (1986). How adolescence became the struggle for self: A historical transformation of psychological development. In J. Sals & A. G. Greenwald (Eds.). *Psychological perspectives on the self: Vol. 3.* (pp.183-201). Hillsdale, NJ: Erlbaum.
- Brofenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA: Harvard University Press.
- Currie, E. (1993). Drug crisis: The American nightmare. In A. Thio & T. Calhoun (Eds.), *Readings in deviant behavior* (pp. 225-231). New York, NY: Harper Collins.
- Dalzell, T. (1998). *The slang of sin*. Springfield: Merriam Webster.
- De La Rosa, M. R., & Recio Adrados, J. L. (Eds.). (1993). *Drug abuse among minority youth: Advances in research and methodology* (NIDA Research Monograph No. 130). Rockville, Maryland: US Department of Health and Human Services.
- Donovan, J. E., Jessor, R., & Costa, F. M. (1991). Adolescent health behavior and conventionality-unconventionality: An extension of problem-behavior theory. *Health Psychology, 10*, 52-61.
- Flapan, D. (2001, October 8). Drug use rates stable, youth tobacco use declines. *Medscape Wire*. Retrieved October 8, 2001, from <http://psychiatry.medscape.com/MedscapeWire/2001/10/medwire.1008.Drug.html>

- Goodstadt, M. S., Cook, G., Magid, S., & Gruson, V. (1978). The drug attitudes scale (DAS): Its development and evaluation. *The International Journal of Addictions, 13*, 1307-1317.
- Hathaway, S. R., & McKinley, J. C. (1943). *The Minnesota Multiphasic Personality Inventory*. New York: Psychological Corporation.
- Jessor, R. (1992). Risk behavior in adolescence: A psychosocial framework for understanding and action. *Developmental Review, 12*, 374-390.
- Jessor, R., Van Den Bos, J., Vanderryn, J., Costa, F. M., & Turbin, M. S. (1995). In G. A. Marlatt, & G. R. VandenBos (Eds.), *Addictive behaviors: Readings on etiology, prevention, and treatment*. (pp. 239-264). Washington, D.C.: American Psychological Association.
- Kandel, D. B. (1978). Convergences in prospective longitudinal surveys of drug use in normal populations. In D. Kandel (Ed.). *Longitudinal Research on Drug Use* (pp. 3-38). Washington, D. C.: Hemisphere Publishing.
- Kandel, D. B. (1985). On processes of peer influences in adolescent drug use: A developmental perspective. *Advances in Alcohol and Substance Abuse, 4*, 139-163.
- Karp, C. L., & Karp, L. (2001). *MMPI: Questions to ask*. Retrieved July, 25th, 2001 from www.falseallegations.com/mmpi-bw.htm.
- Kumpfer, K. L., & Turner, C. W. (1990-1991). The social ecology model of adolescent substance abuse: Implications for prevention. *International Journal of Addictions, 25*, 435-463.

- Lerner, R. M. (1982). Children and adolescents as producers of their own development. *Developmental Review, 2*, 342-370.
- Lerner, R. M. (1992). Dialectics, developmental contextualism, and the further enhancement of theory about puberty and psychosocial development. *Journal of Early Adolescence, 12*, 366-388.
- Lerner, R. M. L., J. V., (Ed.). (1999). *Theoretical foundations and biological bases of development in adolescence*. Adolescence: Development, Diversity and Context. New York: Garland Publishing.
- Levitt, E. E. (1989). *The clinical applications of MMPI special scales*. New Jersey: Lawrence Erlbaum.
- McAdams, D. P. (2001). *The person: An integrated introduction to personality psychology* (3rd ed.) New York: Harcourt.
- Moos, R. H., & Moos, B. S. (1981). *Family Environment Scale Manual*. Palo Alto: Consulting Psychologists Press.
- The National Center on Addiction and Substance Abuse at Columbia University (CASA), (2002, April 2). *Nearly half the nation reports an increased demand for drug and alcohol treatment six months after September 11*. Retrieved April 3, 2002, from http://www.casacolumbia.org/newsletter1457/newsletter_show.htm?doc_id=107055
- Oetting, E. R., Deffenbacher, J. L., & Donnermeyer, J. F. (1998). Primary socialization theory. The role played by personal traits in the etiology of drug use and deviance II. *Substance Use and Misuse, 33*(6), 1337-1366.

- Oetting, E. R., & Donnermeyer, J. F. (1998). Primary socialization theory. The etiology of drug use and deviance. *Substance Use and Misuse, 33*(4), 995-205.
- Oetting, E. R., Donnermeyer, J. F., & Deffenbacher, J. L. (1998). Primary socialization theory. The influence of the community on drug use and deviance III. *Substance Use and Misuse, 33*(8), 1629-1665.
- Presley, C. A., Meilman, P. W., & Lyerla, R. (1994). Development of the core alcohol and drug survey: Initial findings and future directions. *Journal of American College Health, 42*, 248-255.
- Thio, A., & Calhoun, T. C. (Eds.). (1995). *Readings in deviant behavior*. New York: Harper Collins.
- Wiggins, J. S. (1966). Substantive dimensions of self-report in the MMPI item pool. *Psychological Monographs, 80*, (Whole No. 630).
- Williams III, F. P., & McShane, M. D. (1999). *Criminological theory* (3rd ed.) New Jersey: Prentice Hall.

Table 1

Descriptive Statistics of Drug and Alcohol Related Words Reported Before and After Priming by Group Membership

Self Reported Drug Use	Timing Before Priming	After Priming
No (N = 133)	.54 (.69)	1.35 (1.43)
Yes (N = 54)	.72 (.83)	2.20 (1.73)
Total (N = 187)	.59 (.74)	1.60 (1.57)

N = 187

Table 2

Descriptive Statistics for Exploratory Analysis of Factor Structure of Parental, Peer and Personality Variables

Subscale	Means	Standard Deviations
FES – Cohesion	6.75	2.31
FES – Expressiveness	5.07	2.14
FES – Conflict	3.60	2.39
FES – Independence	7.00	1.53
FES – Achievement	6.25	1.43
FES – Recreational Activity	6.17	2.17
FES - Moral and Religious	5.30	2.38
FES – Intellectual Pursuits	6.19	2.25
FES – Organization	5.17	2.16
FES – Control	4.79	2.40
MMPI – Psychopathic Deviate	30.23	4.80
MMPI – Social Alienation	6.49	3.05
MMPI – Authority Conflict	8.33	3.84
MMPI – Family Problems	5.60	3.30
DAS – Cigarette Attitudes	13.60	4.72
DAS – Alcohol Attitudes	18.84	6.67
DAS – Marijuana Attitudes	14.21	7.33
DAS – Heroin Attitudes	10.79	3.60
DAS – Total	81.06	24.03
CORE – Alcohol Use	6.51	7.43
CORE – Drug Use	.57	1.36
CORE – How many peers?	2.21	4.86
CORE – How many hours spent?	4.90	12.40

N = 187

Table 3

Exploratory Factor Loadings of Peer, Personality and Parental Variables using Varimax Rotation

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
FES – Cohesion	.01	-.75	.01	.31	-.01	.01
FES – Expressiveness	.23	-.34	-.44	.46	-.15	.00
FES – Conflict	.15	.80	.01	.01	-.00	.00
FES – Independence	-.20	-.01	-.36	.32	.25	.45
FES – Achievement	-.01	.25	.49	.27	.28	.14
FES – Intellectual Pursuits	-.00	-.19	.00	.72	-.01	-.01
FES – Recreational Activity	.00	-.00	.00	.83	.01	.01
FES – Moral and Religious	-.01	-.36	.42	.01	-.27	-.11
FES – Organization	-.00	-.31	.70	.00	.01	.13
FES – Control	-.00	.33	.74	-.10	-.15	-.18
MMPI – Psychopathic Deviate	.21	.33	.00	.01	-.39	.57
MMPI – Social Alienation	.00	.63	-.00	-.01	.01	.01
MMPI – Authority Conflict	.20	.29	.01	-.19	.65	-.00
MMPI – Family Problems	.01	.88	.11	-.01	.01	.00
DAS – Cigarette Attitudes	.37	.00	.11	-.13	.14	.69
DAS – Alcohol Attitudes	.49	.00	-.00	.12	.43	.43
DAS – Marijuana Attitudes	.74	.01	-.18	-.00	.15	.36
DAS – Drug Attitudes	.69	.01	-.23	-.10	-.01	.44
CORE – Alcohol Use	.63	-.00	.00	.01	.61	.01
CORE – Drug Use	.80	.00	-.01	-.11	.00	.00
CORE – Peers use drugs?	.75	.01	-.00	.00	.11	-.01
CORE – Hours spent with these peers?	.66	.00	.12	.01	-.01	.01
CORE – Total	.73	.00	.00	.01	.51	.01

Table 4

Exploratory Factor Analysis of Peer, Personality and Parental Variables using Varimax Rotation with reported Eigenvalues

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
<i>Eigenvalues</i>	5.36	3.38	1.83	1.60	1.29	1.04
<i>Total Variance Accounted For</i>	23.29	14.69	7.95	6.97	5.59	4.50

Table 5

Descriptive Statistics of Researcher Created Drug and Alcohol Scenarios

	Means	Standard Deviations
Scene 1A	3.80	.96
Scene 1B	3.58	.88
Scene 1C	3.33	1.15
Scene 2A	4.48	.74
Scene 2B	2.62	1.20
Scene 2C	4.24	.94
Scene 3A	2.98	1.15
Scene 3B	2.98	1.15
Scene 3C	3.36	1.01
Scene 3D	3.54	.96
Scene 4A	3.14	1.20
Scene 4B	4.25	.85
Scene 4C	3.02	1.24
Scene 4D	3.75	1.03

Table 6

Descriptive Statistics for Users and Non-users on Researcher Created Drug Scenarios

	Non-Users (N = 133)	Drug Users (N = 54)	Total (N = 187)
User Subscale	3.10 (.76)	3.77 (.76)	3.29 (.82)
Non-User Subscale	3.88 (.59)	4.01 (.66)	3.92 (.62)
Cop Subscale	3.65 (.78)	3.87 (.78)	3.72 (.78)

Table 7

Inter-correlations between Researcher Created Drug Scenarios and the DAS and CORE Subscales

	DS-Us	DS-Non	DS-Cop	DAS-Alco	DAS-Pot	DAS-Drugs	CORE-Alco	CORE-Drugs
DS-Use								
DS-Non	.55**							
DS-Cop	.56**	.71**						
DAS-Alco	.36**	-.06	.14					
DAS-Pot	.51**	.01	.10	.57**				
DAS-Drugs	.49**	.05	.13	.49**	.80**			
COR-Alco	.28**	-.01	.11	.64**	.52**	.37**		
COR-Drug	.39**	.10	-.03	.29**	.56**	.57**	.39**	

*p < .05, **p < .01

Table 8

Exploratory Analysis of Researcher Created Drug and Alcohol Scenarios using Varimax Rotation

	Factor 1	Factor 2	Factor 3
Scene 1A	.45	.62	.00
Scene 1B	.40	.54	.31
Scene 1C	.14	.01	.81
Scene 2A	-.00	.80	.01
Scene 2B	.64	.01	.20
Scene 2C	.17	.68	.16
Scene 3A	.92	.13	.01
Scene 3B	.92	.13	.01
Scene 3C	.01	.15	.81
Scene 3D	.34	.44	.62
Scene 4A	.85	.20	.17
Scene 4B	.01	.67	.26
Scene 4C	.86	.15	.19
Scene 4D	.31	.46	.60
<i>Eigenvalues</i>	6.07	2.00	1.22
<i>Total Variance Accounted For</i>	43.38	14.31	8.74

Table 9

Exploratory Analysis of Researcher Created Drug and Alcohol Scenarios using Oblimin Rotation

	Factor 1	Factor 2	Factor 3
Scene 1A	.39	.60	.14
Scene 1B	.30	.46	-.20
Scene 1C	.00	-.10	-.84
Scene 2A	-.14	.86	.01
Scene 2B	.65	-.01	-.10
Scene 2C	.01	.68	-.00
Scene 3A	.96	-.00	.01
Scene 3B	.95	-.00	.01
Scene 3C	-.01	.00	-.84
Scene 3D	.21	.31	-.56
Scene 4A	.86	.00	-.00
Scene 4B	-.01	.68	-.17
Scene 4C	.87	-.00	-.01
Scene 4D	.18	.34	-.53
<i>Eigenvalues</i>	6.07	2.00	1.22
<i>Total Variance Accounted For</i>	43.38	14.31	8.74
<i>Factor Intercorrelations</i>			
Factor 1			
Factor 2	.35		
Factor 3	-.34	-.36	

Table 10

CFA Indices of Fit for Interrelationships Amongst Family, Peer and Personality Variables Implicated in Alcohol and Drug Use

Model Displayed in Figure 1	
Chi-square	40.10
df	17.00
TLI	.98
CFI	.99
RMSEA	.09

Table 11

CFA Indices of Fit for Structural Model of Family, Peer and Personality Variables Implicated in Alcohol and Drug Use

Model Displayed in Figure 2	
Chi-square	3857.00
df	21.00
TLI	.98
CFI	1.00
RMSEA	.10

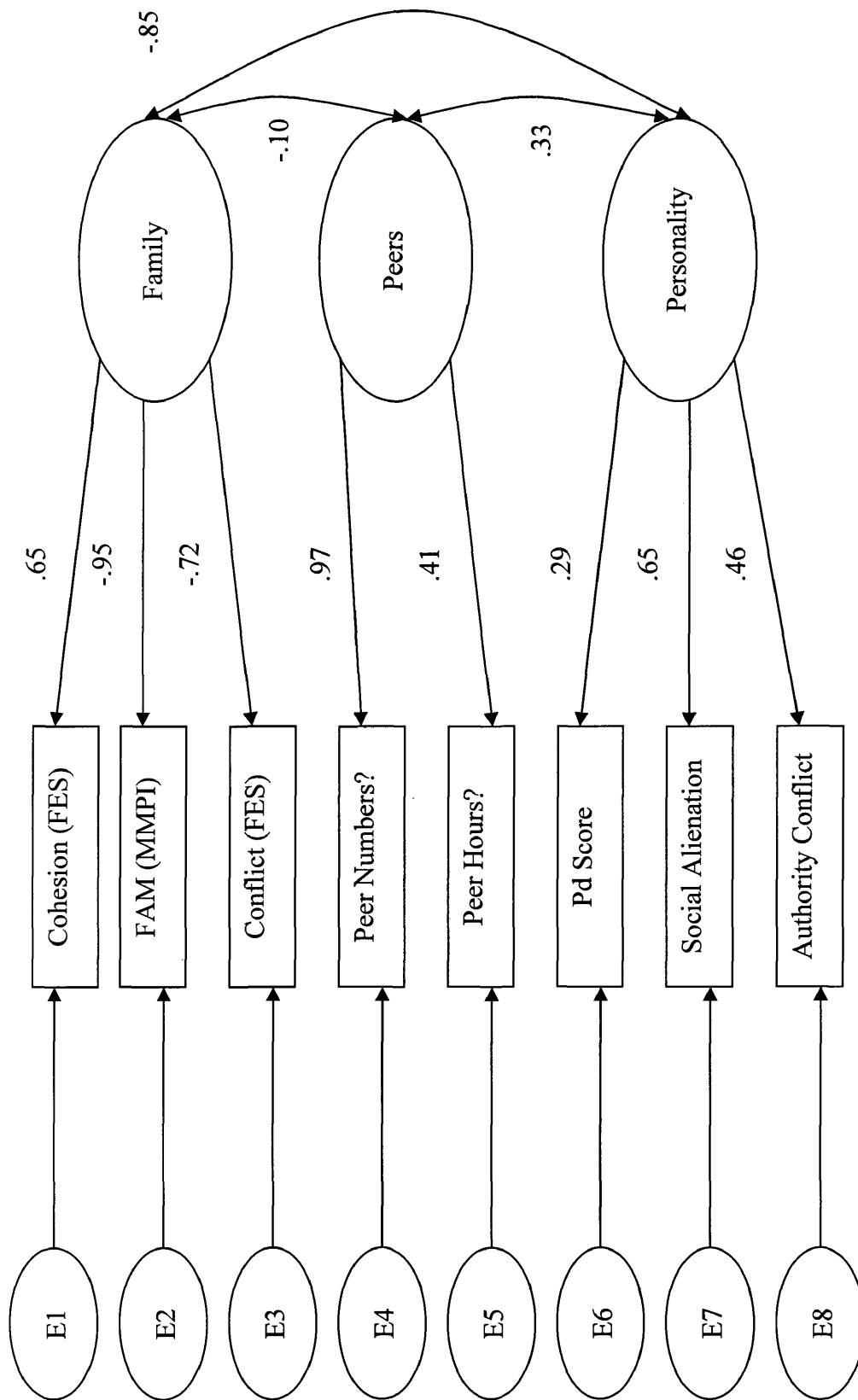


Figure 1. Confirmatory Factor Structure of Family, Peer and Personality Variables Implicated in Alcohol and Drug Use

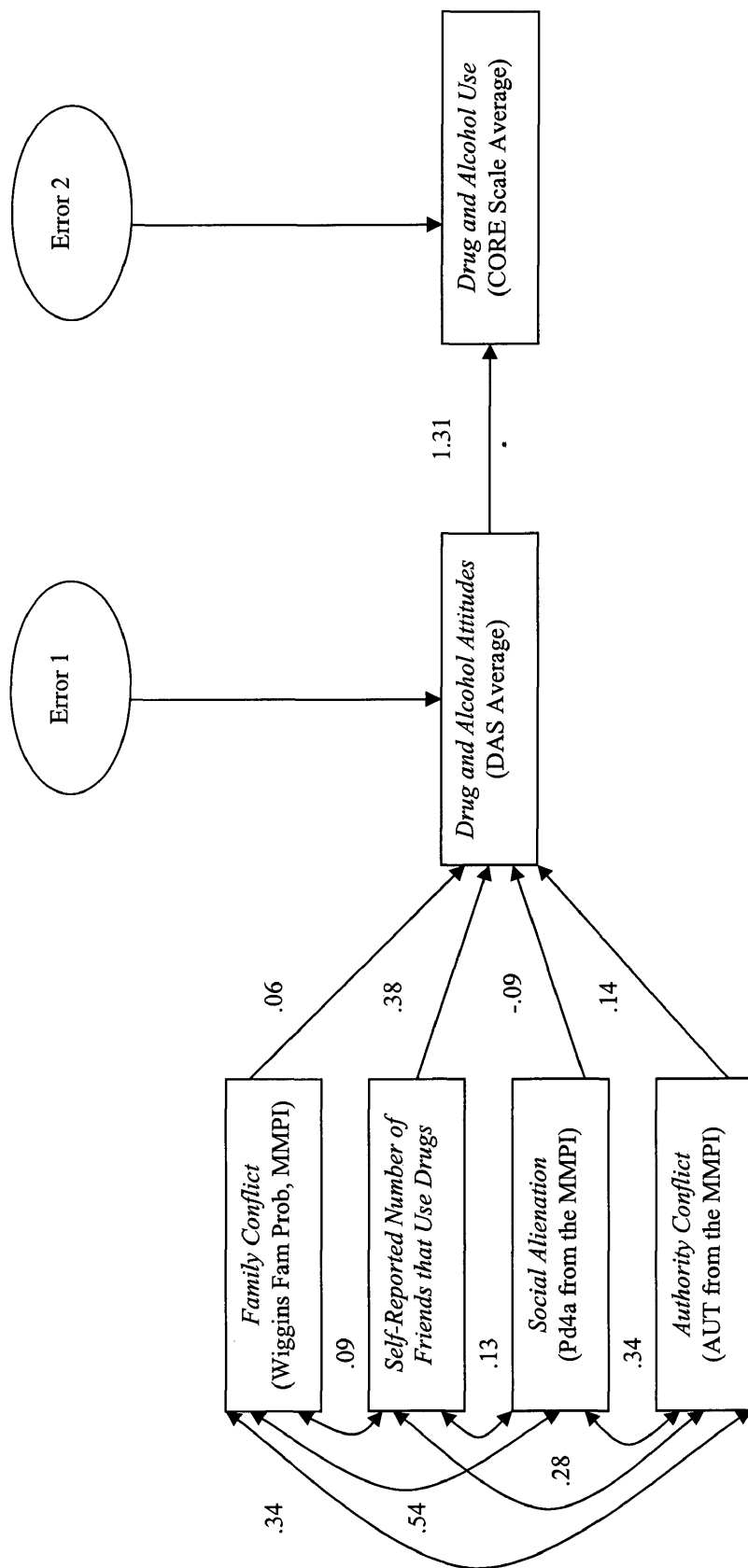


Figure 2. A Nonrecursive Model of Parental, Peer, and Personality Variables Related to Alcohol and Drug Use.

Appendix A

Ambiguous Word Problems

The following are a set of word problems. There are no right or wrong answers. Please use whatever word comes to mind, including slang terms. Please fill in the blanks with the additional letters in order to create a word of your choice that begins with the letters listed by each number.

For example, you will see a word blank like the following: ex_____

Then you will complete the word, such as : ex_ample

1. do _____
2. mar _____
3. ro _____
4. car _____
5. bo _____
6. hoo _____
7. re _____
8. fre _____
9. sm _____
10. spe _____
11. bu _____
12. han _____
13. bi _____
14. sho _____
15. co _____

Appendix B

Family Environment Scale – Form R

Rudolf H. Moos

Instructions

There are 90 statements in this booklet. They are statements about families. You are to decide which of these statements are true of your family and which are false. Make all of your marks on the separate answer sheets. If you think the statement is *True* or mostly *True* of your family, make an X in the box labeled T (true). If you think the statement is *False* or mostly *False* of your family make an X in the box labeled F (false).

You may feel that some of the statements are true for some family members and false for others. Mark T if the statement is *true* for most members. Mark F if the statement is *false* for most members. If the members are evenly divided, decide what is the stronger overall impression and answer accordingly.

Remember, we would like to know what your family seems like to *you*. So *do not* try to figure out how other members see your family, but *do* give us your general impression of your family for each statement.

1. Family members really help and support one another.
2. Family members often keep their feelings to themselves.
3. We fight a lot in our family
4. We don't do things on our own very often in our family.
5. We feel it is important to be the best at whatever you can be.
6. We often talk about political and social problems.
7. We spend most weekends and evenings at home.
8. Family members attend church, synagogue, or Sunday School fairly often.
9. Activities in our family are pretty carefully planned.
10. Family members are rarely ordered around.
11. We often seem to be killing time at home.
12. We say anything we want to around home.
13. Family members rarely become openly angry.
14. In our family, we are strongly encouraged to be independent.
15. Getting ahead in life is very important in our family.
16. We rarely go to lectures, plays or concerts.
17. Friends often come over for dinner or to visit.
18. We don't say prayers in our family.
19. We are generally very neat and orderly.
20. There are very few rules to follow in our family.
21. We put a lot of energy into what we do at home.
22. It's hard to "blow off steam" at home without upsetting somebody.
23. Family members sometimes get so angry they throw things.
24. We think things out for ourselves in our family.
25. How much money a person makes is not very important to us.
26. Learning about new and different things is very important to our family.

27. Nobody in our family is active in sports, Little League, bowling, etc.
28. We often talk about the religious meaning of Christmas, Passover, or other holidays.
29. It's often hard to find things when you need them in our household.
30. There is one family member who makes most of the decisions.
31. There is a feeling of togetherness in our family.
32. We tell each other about our personal problems.
33. Family members hardly ever lose their temper.
34. We come and go as we want to in our family.
35. We believe in competition and "may the best man win."
36. We are not that interested in cultural activities.
37. We often go to movies, sports, events, camping, etc.
38. We don't believe in heaven or hell.
39. Being on time is very important in our family.
40. There are set ways of doing things at home.
41. We rarely volunteer when something has to be done at home.
42. If we feel like doing something on the spur of the moment we often just pick things up and go.
43. Family members often criticize each other.
44. There is very little privacy in our family.
45. We always strive to do things just a little better the next time.
46. We rarely have intellectual discussions.
47. Everyone in our family has a hobby or two.
48. Family members have strict ideas about what is right and wrong.
49. People change their minds often in our family.
50. There is a strong emphasis on following rules in our family.
51. Family members back each other up.
52. Someone usually gets upset if you complain in our family.
53. Family members sometimes hit each other.
54. Family members almost always rely on themselves when a problem comes up.
55. Family members rarely worry about job promotions, school grades, etc.
56. Someone in our family plays a musical instrument.
57. Family members are not very involved in recreational activities outside work or school.
58. We believe there are some things you just have to take on faith.
59. Family members make sure their rooms are neat.
60. Everyone has an equal say in family decisions.
61. There is very little group spirit in our family.
62. Money and paying bills is openly talked about in our family.
63. If there's a disagreement in our family, we try hard to smooth things over and keep the peace.
64. Family members strongly encourage each other to stand up for their rights.
65. In our family, we don't try that hard to succeed.
66. Family members often go to the library.
67. Family members sometimes attend courses or take lessons for some hobby or interest (outside of school).

68. In our family each person has different ideas about what is right and wrong.
69. Each person's duties are clearly defined in our family.
70. We can do whatever we want to in our family.
71. We really get along well with each other.
72. We are usually careful about what we say to each other.
73. Family members often try to one-up or out-do each other.
74. It's hard to be by yourself without hurting someone's feelings in our household.
75. "Work before play" is the rule in our family.
76. Watching T.V. is more important than reading in our family.
77. Family members go out a lot.
78. The Bible is a very important book in our home.
79. Money is not handled very carefully in our family.
80. Rules are pretty inflexible in our household.
81. There is plenty of time and attention for everyone in our family.
82. There are a lot of spontaneous discussions in our family.
83. In our family, we believe you don't ever get anywhere by raising your voice.
84. We are not really encouraged to speak up for ourselves in our family.
85. Family members are often compared with others as to how well they are doing in work or school.
86. Family members really like music, art and literature.
87. Our main form of entertainment is watching T.V. or listening to the radio.
88. Family members believe that if you sin you will be punished.
89. Dishes are usually done immediately after eating.
90. You can't get away with much in our family.

Appendix C

MMPI – Pd Scale (Hathaway and McKinley, 1943)

This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you.

You are to make your answers on the answer sheet you have. If a statement is TRUE or MOSTLY TRUE, as applied to you, circle the T. If a statement is FALSE or NOT USUALLY TRUE, as applied to you, circle the F. If a statement does not apply to you or if it is something that you don't know about, make no mark on the answer sheet.

Remember, to give YOUR OWN opinion of yourself. Do not leave any blank space if you can avoid it.

Remember, try to make some answer to every statement.

- | | | |
|--|---|---|
| 1. My daily life is full of things that keep me interested. | T | F |
| 2. I am sure that I got a raw deal from life. | T | F |
| 3. My sex life is satisfactory. | T | F |
| 4. At times I have very much wanted to leave home. | T | F |
| 5. No one seems to understand me. | T | F |
| 6. I find it hard to keep my mind on a task or job. | T | F |
| 7. I have had very peculiar and strange experiences. | T | F |
| 8. If people had not had it in for me I would have been much more successful. | T | F |
| 9. I have never been in trouble because of my sex behavior. | T | F |
| 10. During one period when I was a youngster I engaged in petty thievery. | T | F |
| 11. My family does not like the work I have chosen (or the work I intend to choose for my life work.) | T | F |
| 12. I have not lived the right kind of life. | T | F |
| 13. I wish I could be as happy as others seem to be. | T | F |
| 14. I am easily downed in an argument. | T | F |
| 15. These days I find it hard not to give up hope of amounting to something. | T | F |
| 16. I do not mind being made fun of. | T | F |
| 17. I do many things which I regret afterwards (I regret things more or more often than others seem to.) | T | F |
| 18. I have very few quarrels with members of my family. | T | F |
| 19. My hardest battles are with myself. | T | F |
| 20. Much of the time I feel as if I have done something wrong or evil. | T | F |

- | | | |
|--|---|---|
| 21. I am happy most of the time. | T | F |
| 22. Someone has it in for me. | T | F |
| 23. In school I was sometimes sent to the principal for being the class clown. | T | F |
| 24. I know who is responsible for most of my troubles. | T | F |
| 25. At times my thoughts have raced ahead faster than I could speak them. | T | F |
| 26. I believe that my home life is as pleasant as that of most people I know. | T | F |
| 27. My conduct is largely controlled by the customs of those about me. | T | F |
| 28. I am neither gaining nor losing weight. | T | F |
| 29. What others think of me does not bother me. | T | F |
| 30. It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of things. | T | F |
| 31. I liked school. | T | F |
| 32. I find it hard to make talk when I meet new people. | T | F |
| 33. I am against giving money to beggars. | T | F |
| 34. I wish I were not so shy. | T | F |
| 35. I have used alcohol excessively. | T | F |
| 36. There is very little love and companionship in my family as compared to other homes. | T | F |
| 37. My parents have often objected to the kind of people I went around with. | T | F |
| 38. I like to talk about sex. | T | F |
| 39. I have been quite independent and free from family rule. | T | F |
| 40. My relatives are nearly all in sympathy with me. | T | F |
| 41. I have been disappointed in love. | T | F |
| 42. My way of doing things is apt to be misunderstood by others. | T | F |
| 43. My parents and family find more fault with me than they should. | T | F |
| 44. Sometimes without any reason or even when things are going wrong I feel excitedly happy,
"on top of the world." | T | F |
| 45. When in a group of people I have trouble thinking of the right things to talk about. | T | F |
| 46. I am sure I am being talked about. | T | F |
| 47. I have very few fears compared to my friends. | T | F |

48. I am always disgusted by the law when a criminal is freed through the arguments of a smart lawyer. T F
49. I have never been in trouble with the law. T F
50. I have periods in which I feel unusually cheerful for no particular reason. T F
51. I have very few quarrels with members of my family. T F
52. At times I feel like swearing. T F
53. At times I feel like smashing things. T F
54. I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others. T F
55. It takes a lot of argument to convince most people of the truth. T F
56. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it. T F
57. Often I can't understand why I've been so cross and so grouchy. T F
58. At times my thoughts have raced ahead faster than I could speak them. T F
59. Criticism or scolding hurts me terribly. T F
60. I certainly feel useless at times. T F
61. It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important. T F
62. I have never felt better in my life than I do right now. T F
63. What others think of me does not bother me. T F
64. It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of things. T F
65. I find it hard to make talk when I meet new people. T F
66. I am against giving money to beggars. T F
67. I frequently find myself worrying about something. T F
68. I get mad easily and then get over it soon. T F
69. When in a group of people I have trouble thinking of the right things to talk about. T F
70. At times I am full of energy. T F
71. I have periods in which I feel unusually cheerful without any special reason. T F
72. I think nearly everyone would tell a lie to keep out of trouble. T F

73. I worry over money and business. T F
74. At periods my mind seems to work more slowly than usual. T F
75. People often disappoint me. T F
76. I have sometimes felt that difficulties were piling up so high that I could not overcome them. T F
77. I often think, "I wish I were a child again." T F
78. I have often met people who were supposed to be experts who were no better than I. T F
79. I find it hard to set aside a task I have undertaken, even for a short time. T F
80. I like to let people know where I stand on things. T F

Appendix D

Harris and Lingoes (1968) MMPI Subscale – Social Alienation (Pd_{4A})

This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you.

You are to make your answers on the answer sheet you have. If a statement is TRUE or MOSTLY TRUE, as applied to you, circle the T. If a statement is FALSE or NOT USUALLY TRUE, as applied to you, circle the F. If a statement does not apply to you or if it is something that you don't know about, make no mark on the answer sheet.

Remember, to give YOUR OWN opinion of yourself. Do not leave any blank space if you can avoid it.

Remember, try to make some answer to every statement.

- | | | |
|---|---|---|
| 1. I am sure I got a raw deal from life. | T | F |
| 2. No one seems to understand me. | T | F |
| 3. If people had not had it in for me I would have been much more successful. | T | F |
| 4. I sometimes keep on at a thing until others lose their patience with me. | T | F |
| 5. I wish I could be as happy as others seem to be. | T | F |
| 6. I do many things which I regret afterwards (I regret things more or more often than others seem to.) | T | F |
| 7. Someone has it in for me. | T | F |
| 8. I know who is responsible for most of my troubles. | T | F |
| 9. I have the wanderlust and am never happy unless I am roaming or traveling about. | T | F |
| 10. I have been disappointed in love. | T | F |
| 11. My way of doing things is apt to be misunderstood by others. | T | F |
| 12. I am sure I am being talked about. | T | F |
| 13. Even when I am with people I feel lonely much of the time. | T | F |
| 14. I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards. | T | F |
| 15. I strongly defend my opinions as a rule. | T | F |
| 16. My sex life is satisfactory. | T | F |
| 17. My conduct is largely controlled by the customs of those about me. | T | F |
| 18. What others think of me does not bother me. | T | F |

Appendix E

Wiggins Content Scales of the MMPI (1966) – Authority Conflict

This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you.

You are to make your answers on the answer sheet you have. If a statement is TRUE or MOSTLY TRUE, as applied to you, circle the T. If a statement is FALSE or NOT USUALLY TRUE, as applied to you, circle the F. If a statement does not apply to you or if it is something that you don't know about, make no mark on the answer sheet.

Remember, to give YOUR OWN opinion of yourself. Do not leave any blank space if you can avoid it.

Remember, try to make some answer to every statement.

- | | |
|--|-----|
| 1. I have often had to take orders from someone who did not know as much as I did. | T F |
| 2. I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others. | T F |
| 3. I think most people would lie to get ahead. | T F |
| 4. I enjoy a race or game better when I bet on it. | T F |
| 5. Most people are honest chiefly through fear of being caught. | T F |
| 6. In school I was sometimes sent to the principal for acting up. | T F |
| 7. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it. | T F |
| 8. I don't blame anyone for trying to grab everything he can get in the world. | T F |
| 9. It is safer to trust nobody. | T F |
| 10. At times I have been so entertained by the cleverness of a crook that I have hoped that he would get away with it. | T F |
| 11. Most people make friends because friends are likely to be useful to them. | T F |
| 12. If several people find themselves in trouble, the best thing for them to do is to agree upon a story and stick to it. | T F |
| 13. The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it. | T F |
| 14. I think nearly everyone would tell a lie to keep out of trouble. | T F |
| 15. Most people inwardly dislike putting themselves out to help people. | T F |
| 16. I have often met people who were supposed to be experts who were no better than I. | T F |
| 17. People generally demand more respect for their own rights than they are willing to allow for others. | T F |

18. It is all right to get around the law if you don't actually break it. T F
19. I enjoy gambling for small stakes. T F
20. I have never been in trouble with the law. T F

Appendix F

Wiggins Content Scales of the MMPI (1966) – Family Problems (FAM)

This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you.

You are to make your answers on the answer sheet you have. If a statement is TRUE or MOSTLY TRUE, as applied to you, circle the T. If a statement is FALSE or NOT USUALLY TRUE, as applied to you, circle the F. If a statement does not apply to you or if it is something that you don't know about, make no mark on the answer sheet.

Remember, to give YOUR OWN opinion of yourself. Do not leave any blank space if you can avoid it.

Remember, try to make some answer to every statement.

- | | | |
|---|---|---|
| 1. At times I have very much wanted to leave home. | T | F |
| 2. My people treat me more like a child than a grown up. | T | F |
| 3. There is very little love and companionship in my family as compared to other homes. | T | F |
| 4. My parents have often objected to the kind of people I went around with. | T | F |
| 5. Some of my family have habits that bother and annoy me very much. | T | F |
| 6. I have been disappointed in love. | T | F |
| 7. My parents and family find more fault with me than they should. | T | F |
| 8. The things that some of my family have done have frightened me. | T | F |
| 9. My mother or father often made me obey even when I thought that it was unreasonable. | T | F |
| 10. One or more members of my family is very nervous. | T | F |
| 11. Some of my family have quick tempers. | T | F |
| 12. I loved my father. | T | F |
| 13. I have very few quarrels with members of my own family. | T | F |
| 14. I believe that my home is as pleasant as most people I know. | T | F |
| 15. I loved my mother. | T | F |
| 16. The members of my family and my close relatives get along quite well. | T | F |

Appendix G

Please read the following scenarios very carefully. You will be asked to rate each of the characters in each of the scenarios. You may leave spaces blank, however please try to make some answer for every statement. Use your own impression of the characters and the details of the scenario to guide your ratings. Please remember that there are no right or wrong answers. Make sure to answer the questions for each scenario as soon as you have finished reading it. It may help to keep the answer sheet where you can see it while reading the scenarios so that you can easily refer to the scenario and character names.

On a scale of 1 to 5, beside each character name, please rate them on the following scale:

- 1 = Completely Unlikable
- 2 = Somewhat Unlikable
- 3 = Neither Likable or Unlikable
- 4 = Somewhat Likable
- 5 = Completely Likable

Scenario #1

Chris is driving home from a late night of work. Chris is a manager at a local video store and had to close. Chris is driving a fellow employee named Dusty home. As Chris is driving they both notice the flash of red and blue lights in the car's rearview mirror. Chris doesn't know why they are being pulled over. Chris stops the car and pulls over to the curb. The officer gets out of the police car and walks over to Chris's car. Chris rolls down the window and asks, "What's the matter, officer?" The officer shines the flashlight into the car and replies that, "Well. . . you've got a taillight out. Would you please hand me your license and registration and keep your hands where I can see them." Chris breathes a quick sigh of relief as the officer prepares to write a fix-it ticket for the broken taillight. The officer continues to sweep the flashlight through the car keeping an eye on Chris and Dusty. The officer looks at Chris's license and registration and then takes another look at Chris and Dusty. Officer Jones notices Chris's bleary eyes and asks Chris, "Late night, eh. Have you been out partying?" Chris replies that they have not. The officer then asks Chris and Dusty to step out of the car. Chris and Dusty do as they are told. The officer asks Chris and Dusty to place their hands on the rear of the vehicle while the officer searches the car. While inside the car the officer finds a small, cold pipe filled with the remnants of marijuana. The officer asks Chris, "Is this your pipe?" Chris nods in affirmation. The officer continues to search the car and finds nothing else of interest. After finishing the search of the vehicle Officer Jones returns to Chris. The officer looks Chris and Dusty over and runs them through a few sobriety tests. The officer determines that they are not under the influence of any substances. Officer Jones writes Chris a fix-it ticket for the taillight and a ticket for the possession of paraphernalia and allows Chris to take Dusty home.

Scenario #2

Morgan and Mica have spent all week studying for exams. Mica invites Morgan out. They decide to go to Duffy's a local bar near the college and have a few drinks. They go out around 10 pm, just when the bars start to really bring in a lot of people. Once Mica and Morgan get to the bar Morgan starts to think that this may not be best idea, since Mica still has a lot of studying to finish. Mica just looks at Morgan and says, "Morgan you and I really need a break and it's Friday night. Let's just relax and have a good time." Morgan reluctantly agrees, so they continue their way to the bar. Morgan orders a beer and Mica orders two shots of tequila with a beer chaser. Morgan continues to sip away at the beer while they both mingle in the crowded bar. Meanwhile, Mica continues to overindulge. Before the bar closes at around 2 am Mica finishes off a total of: three shots of tequila, 2 beers, a gin and tonic, a kamikaze shooter, and one shot of whiskey. During this same amount of time, Morgan finished the beer he had begun at the beginning of the evening.

Morgan pulls Mica out of the bar before he can make plans to continue the party with others. While on the sidewalk they see several patrol cars driving up and down near the bars, waiting for the people to leave. Morgan starts to worry, as it is evident that Mica has lost some of his motor

coordination and can't seem to walk straight. Morgan attempts to put Mica's arm around his shoulder, so that Mica can be assisted to Morgan's car. Mica pulls back an arm and yells, "What the hell are you doing? I'm fine. I can walk! What you don't think I can walk? I can walk. Man, I've been walking since I was two." Soon Officer Rose approaches the two on the street. The officer asks Mica if anything is wrong. Mica replies, "There wouldn't be officer if Morgan didn't treat me like a two-year-old." Officer Rose says, "Well, it looks to me like you've been drinking. Have you been drinking?" Mica looks at the ground and nods in affirmation. The officer turns to Morgan and asks if Morgan has been drinking as well. Morgan replies, "Yes I have, but I only had one beer and that was over an hour ago." Officer Rose replies, "If you two think you can work things out, then I won't have to take Mica here in on Drunk and Disorderly. Do you think you can make it home safely." Morgan and Mica nod their head vigorously, signaling yes. The officer replies, "Well, I'll let you both go, if I can be assured that you, Morgan, will be driving Mica home." Morgan agrees and then walks Mica to the car and drives them both to campus, where they crash for the night.

Scenario #3

Sam and Terry have been home all day smoking marijuana. Suddenly, they get a craving for nachos and snack cakes. They live around the block from a 24-Hour convenience store. They put on their shoes and they walk over. There is the usual smattering of people buying gas and cigarettes. Sam and Terry ignore them as they wander through the aisles looking for nachos and snack cakes. Their eyes are bloodshot and they seem a little lost in their pursuit of their choice munchies. It's noticeable to Jo, the cashier, and several other customers that Sam and Terry are under the influence. While Sam and Terry take an inordinate amount of time browsing the aisles, are easily distracted, and slightly disoriented, but they don't bother anyone in the store. They finally find exactly what they came for. They grab their goodies and walk up to the counter. Jo rings them up, slightly annoyed. Jo has to remind them to dig for an extra dollar to cover the fountain drink they also decided to buy. As Sam reaches to find the extra dollar two police officers walk through the door of the store. The officers nod their head in the direction of the cashier and the cashier responds in kind. Sam and Terry look up and see the police officers. They pretend not to notice them. They silently tell themselves to "be cool" and then place the dollar on the counter and walk home with their nachos, snack cakes and fountain drinks.

Scenario #4

Jessie and Leigh are at a party at AJ's house. The music is loud and the house is full of people. Jessie knows AJ but this is the first time that they have really ever hung out. AJ introduces Jessie and Leigh to people and then AJ points them in the direction of the beer. Jessie and Leigh work their way over to the plastic cups. Jessie pays the obligatory couple of dollars for the cups and hands a cup to Leigh. Jessie fills the cups with beer and then they both walk around the party making conversation. Jessie refills the cup several times in the next couple of hours, while Leigh doesn't refill the cup once during this same period of time. Leigh and Jessie wander into a bedroom that smells strongly of incense. In the bedroom a group of people have gathered. Jessie notices AJ and waves to him. Jessie finds a seat next to AJ. Leigh follows Jessie's lead and sits down next to Jessie in the group of people. AJ turns to Jessie and asks, "Do you like to party?" Jessie just shrugs the shoulders and says, "Yeah, I guess so, why?" AJ replies that s/he has some marijuana to share if Jessie has a lighter. Jessie fishes the lighter out of the shirt pocket and then AJ pulls out a bag of marijuana. AJ reaches a hand behind the headboard of the bed and pulls out a large water pipe. AJ fills the pipe with the marijuana and takes Jessie's lighter. AJ takes a long inhale and then passes the pipe to Jessie. Jessie follows AJ's lead and inhales as well. Jessie then passes the pipe and lighter to Leigh. Leigh passes the pipe and lighter on to the next person without inhaling. Jessie leans over to Leigh and asks, "Don't you want any?" Leigh simply replies, "It's not for me." Jessie shrugs and returns to talking with AJ and Leigh. The pipe is passed around several times. Jessie continues to pass the pipe inhaling each time, while Leigh never inhales and AJ periodically refills the pipe.

After some time there is a loud knock on the door. In the bedroom, AJ quickly hides the pipe and the marijuana in the hiding place by the bed. While, AJ's roommate opens the front door slightly and peers out. Officers Smith and Lane ask if they can come in, as they've had a complaint about the noise. The roommate lets the officers in and turns down the stereo. The officers ask if everyone is of age to drink and to see ID's. Everyone shows the officers their ID's. The officers look around the house and find nothing, but a bunch of young people drinking. The officers determine that no laws are being broken. They give the household a warning about the noise and drinking and driving and then leave.

Answer Sheet for Scenarios

On a scale of 1 to 5, beside each character name, please rate them on the following scale:

- 1 = Completely Unlikable
- 2 = Somewhat Unlikable
- 3 = Neither Likable or Unlikable
- 4 = Somewhat Likable
- 5 = Completely Likable

Scenario #1

1a. Chris 1 2 3 4 5

1b. Dusty 1 2 3 4 5

1c. Officer Jones 1 2 3 4 5

Scenario #2

2a. Morgan 1 2 3 4 5

2b. Mica 1 2 3 4 5

2c. Officer Rose 1 2 3 4 5

Scenario #3

3a. Sam 1 2 3 4 5

3b. Terry 1 2 3 4 5

3c. Jo 1 2 3 4 5

3d. Officers 1 2 3 4 5

Scenario #4

4a. Jessie 1 2 3 4 5

4b. Leigh 1 2 3 4 5

4c. AJ 1 2 3 4 5

4d. Officers Smith & Lane 1 2 3 4 5

Appendix H

The Drug Attitudes Scale (DAS)

Goodstadt, Cook, Magid and Gruson 1978

On a scale of 1 to 5 circle how you feel about each of the following statements listed below.

1 = Disagree

2 = Somewhat Disagree

3 = Neither Agree or Disagree

4 = Somewhat Agree

5 = Agree

- | | |
|---|-----------|
| 1. Alcohol is a good thing to loosen the atmosphere at a party. | 1 2 3 4 5 |
| 2. Using marijuana is a foolish thing to do. | 1 2 3 4 5 |
| 3. Hallucinogens are too dangerous to experiment with. | 1 2 3 4 5 |
| 4. There is nothing wrong with smoking (cigarettes). | 1 2 3 4 5 |
| 5. We need stricter control of drugs. | 1 2 3 4 5 |
| 6. Heroin is not as dangerous as people usually say. | 1 2 3 4 5 |
| 7. There is nothing wrong with drinking alcohol. | 1 2 3 4 5 |
| 8. Marijuana can make a social gathering more enjoyable. | 1 2 3 4 5 |
| 9. There is no harm in the occasional use of hallucinogens. | 1 2 3 4 5 |
| 10. All cigarette advertising should be banned. | 1 2 3 4 5 |
| 11. People who use drugs are a burden to society. | 1 2 3 4 5 |
| 12. People addicted to heroin are psychologically sick. | 1 2 3 4 5 |
| 13. The dangers of alcohol outweigh the pleasures of drinking. | 1 2 3 4 5 |
| 14. Using marijuana is wrong. | 1 2 3 4 5 |
| 15. Far stiffer laws against the use of hallucinogens should be introduced. | 1 2 3 4 5 |
| 16. Lots of people smoke (cigarettes) and it doesn't seem to hurt them. | 1 2 3 4 5 |
| 17. There is nothing wrong with using drugs if they make you feel good. | 1 2 3 4 5 |
| 18. A person should never take heroin for any reason. | 1 2 3 4 5 |
| 19. Too much fuss is made about alcohol use. | 1 2 3 4 5 |
| 20. The only bad thing about marijuana is the fact that it is illegal. | 1 2 3 4 5 |

21. It's okay to use hallucinogens if you know what you're getting into. 1 2 3 4 5
22. The sale of tobacco (cigarettes) should be banned. 1 2 3 4 5
23. Something is wrong with the world when drug-taking becomes an accepted way of life. 1 2 3 4 5
24. The laws against heroin should be made more lenient. 1 2 3 4 5
25. The government should put tighter controls on the sale of alcohol. 1 2 3 4 5
26. There is no harm in the occasional use of marijuana. 1 2 3 4 5
27. Hallucinogens can't be controlled – they take over your life. 1 2 3 4 5
28. Teachers should set a good example by not smoking (cigarettes). 1 2 3 4 5
29. Drugs can help improve relations among people. 1 2 3 4 5
30. People who use heroin are stupid. 1 2 3 4 5
31. Drinking alcohol is a waste of money. 1 2 3 4 5
32. The legalization of marijuana would be a step in the wrong direction. 1 2 3 4 5
33. If somebody offered me hallucinogens at a party, I would probably take one. 1 2 3 4 5
34. Education should not condemn smoking (cigarettes). 1 2 3 4 5
35. I would welcome the opportunity to get "high" on drugs. 1 2 3 4 5
36. It is not immoral to use heroin. 1 2 3 4 5

Appendix I

Drug Survey Questionnaire

(Items taken from *The Core Alcohol and Drug Survey Questionnaire*,
Presley, Meilman, Lyerla, 1994)

Circle the answer below that best describes you or fill in the blank with the correct answer where appropriate.

1. Classification: Freshman Soph Junior Senior Grad
2. Age: _____
3. Gender: Male Female
4. Think back over the last two weeks. How many times have you had five or more drinks* at a sitting?

 None Once Twice 3 to 5 times 6 to 9 times 10 or more

* A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink.

5. Average number of drinks you consume a week _____
6. Have any of your family had alcohol or other drug problems? (mark all that apply)

 Mother Stepfather Father's Parents Children

 Father Brothers/Sisters Aunts/Uncles

 Stepmother Mother's Parents Spouse

7. At what age did you first use.... (mark one for each line)

a.	Tobacco (smoke, chew, snuff)	Never	Under 10	10-15	16-22	23+
b.	Alcohol (beer, wine, liquor)	Never	Under 10	10-15	16-22	23+
c.	Marijuana (pot, hash, hash oil)	Never	Under 10	10-15	16-22	23+
d.	Cocaine (crack, rock, freebase)	Never	Under 10	10-15	16-22	23+
e.	Hallucinogens (LSD, PCP)	Never	Under 10	10-15	16-22	23+
f.	Opiates (heroin, smack, horse)	Never	Under 10	10-15	16-22	23+
g.	Designer Drugs (MDMA, ecstasy)	Never	Under 10	10-15	16-22	23+

8. Within the last year about how often have you used.... (mark one for each line)

a.	Tobacco (smoke, chew, snuff)	Never	Once/Year	Once/Month	Once/Week	3/Week	Everyday
b.	Alcohol (beer, wine, liquor)	Never	Once/Year	Once/Month	Once/Week	3/Week	Everyday
c.	Marijuana (pot, hash, hash oil)	Never	Once/Year	Once/Month	Once/Week	3/Week	Everyday
d.	Cocaine (crack, rock, freebase)	Never	Once/Year	Once/Month	Once/Week	3/Week	Everyday
e.	Hallucinogens (LSD, PCP)	Never	Once/Year	Once/Month	Once/Week	3/Week	Everyday
f.	Designer Drugs (MDMA, ecstasy)	Never	Once/Year	Once/Month	Once/Week	3/Week	Everyday

9. How many of the students on your campus do you think use.... (mark one for each line)

a.	Tobacco (smoke, chew, snuff)	None	A few	Several	Many	Most	All
b.	Alcohol (beer, wine, liquor)	None	A few	Several	Many	Most	All
c.	Marijuana (pot, hash, hash oil)	None	A few	Several	Many	Most	All
d.	Cocaine (crack, rock, freebase)	None	A few	Several	Many	Most	All

- | | | | | | |
|------------------------------------|-------|------|-------|-----------|------------------|
| e. Been arrested for DWI/DUI | Never | Once | Twice | 3-9 Times | 10 or more times |
| f. Got into an argument or a fight | Never | Once | Twice | 3-9 Times | 10 or more times |

Appendix J

FORM D

COLLEGE OF WILLIAM AND MARY
PSYCHOLOGY DEPARTMENT CONSENT FORM

The general nature of this study of personality and familial variables related to risky behavior conducted by Wendy Wonch has been explained to me. I understand that I will be asked to provide answers to questions of a sensitive nature in the researcher given measures. I further understand that my anonymity will be preserved and that my name will not be associated with my responses or with any results of this study. I know that I may refuse to answer any question asked and that I may discontinue participation at any time. I also understand that any grade, payment, or credit for participation will not be affected by my responses or by my exercising any of my rights. I am also aware that I may report dissatisfactions with any aspect of this experiment to the Psychology Department Chair, Larry Ventis, 221-3888. I am aware that I must be at least 18 years of age to participate. My signature below signifies my voluntary participation in this study.

Date

Signature

Printed Name

Appendix K

Verbatim Instructions to Participants

Introduction

Hi! My name is Wendy Wonch and I am doing research for my Master's thesis. I need the help of some people to fill out several questionnaires about personality and familial variables related to risky behavior. These questionnaires will require about an hour of your time. Please raise your hand if you are willing to participate in this study. I will explain the study more fully afterward and you can obtain the final results if you wish. If you are not interested in participating in this study you may leave the room now. Are there any questions?

First, please read and fill out this consent form. Also, please note that this study contains questions of a sensitive nature about risky behaviors and that all of your responses will remain anonymous and you may terminate participation at any time and still retain full credit for your cooperation. After you are finished with the consent form I will collect them and place them in this manila envelope. (Researcher holds up the manila envelope). If you would like to receive the results of this study please put your campus address below your signature on the consent form. Now, I will explain the procedure of the study. I will pass out this measure, when you have completed this measure please return the measure to me and I will provide you with the rest of the questionnaires. The instructions for all of these questionnaires should be self-explanatory. Please read the directions carefully and take special care to keep the packets in the order in which you have received them and make sure to answer all the questionnaires in the exact order that they have been handed out to you. As stated

previously, some of the questions contained herein are of a sensitive nature. However, there are no known risks or discomforts associated with this research, but in the event of problems resulting from participation in this study, free psychological treatment is available at the Counseling Center in Blow Memorial Hall.

Debriefing

In this study I was I looking to more directly understand the relationship between how the personality dimensions of social alienation and rebelliousness and the perception of the familial relationship affect current relationships with peers and influence cognitions and behaviors related to drug use. Specifically I hypothesized that the underlying constructs of interest can be conceptualized as family variables, personality variables, peer variables, permissive drug and alcohol attitude variables and drug and alcohol behavior. The underlying construct of family variables will be composed of the FES and the Family Problems scales, the underlying construct of personality variables will be composed of the Pd scale of the MMPI, the AUT and Pd_{4a} (Social Alienation) subscales of the MMPI, the underlying construct of peer variables will be composed of the responses to questions 10 and 11 of the Core Alcohol and Drug Survey Questionnaire, the underlying construct of permissive drug and alcohol attitude variables will be measured by DAS and the Drug Scenarios, and the underlying construct of alcohol and drug behavior will be measured by responses to the Core Alcohol and Drug Survey Questionnaire. It is predicted that peer, family, and personality variables will predict drug attitudes and drug attitudes will predict drug and alcohol behavior amongst college students. Basically, those who report poorer family relations, higher levels of social alienation, rebelliousness, and authority conflict will also spend more time with

drug using peers, the combination of these variables will then be related to more permissive drug and alcohol attitudes and more permissive drug and alcohol related attitudes will be related to increased drug and alcohol behavior. The word scenarios at the beginning and the end of the study were an attempt to assess the effects of priming. Basically, after completing the drug related surveys and scenarios it was hypothesized that participants would report more drug and alcohol related words. Do you have any questions? Please do not discuss this study with others who might take part in the near future. Thanks for your time.

VITA

Wendy Johanna Wonch

The author was born in North Platte, Nebraska, May 29, 1977. In 2000 she received her B.A. with a concentration in psychology from the University of Nebraska-Lincoln. She entered into the Masters program at the College of William and Mary in 2000. She will continue her education at the University of Memphis, where she will pursue her Ph.D. in Counseling.