DIMENSIONS OF COMORBIDITY: AN INVESTIGATION INTO THE FUNCTIONAL USE OF ALCOHOL AND COCAINE HYDROCHLORIDE

by

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(Under the Direction of Paul M. Roman)

ABSTRACT

This study was a quantitative test of Pampering Theory. I predicted that those who have experienced role performance anxiety throughout their lifetime will be more likely than those who have not to use alcohol and drugs to overcome situations which cause role performance anxiety along with experimentation with cocaine hydrochloride. Using the National Epidemiological Survey of Alcohol and Related Conditions (N= 43, 093), I performed logistic regressions examining the significance of role performance anxiety in predicting subsequent alcohol and drug use and experimentation. The prediction of higher levels of cocaine hydrochloride experimentation by those suffering from role performance anxiety throughout their lifetime was only weakly shown. Results indicated a contemporaneous significant relationship between role performance anxiety and experimentation with hallucinogens and amphetamines. The discussion provides a theoretical grounding for the findings of my study and suggestions for future examination of lesser mental health problems and comorbid alcohol and drug use.

INDEX WORDS: alcohol, cocaine hydrochloride, social phobia, role performance anxiety, Pampering Theory, role strain

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B.A., University of Central Florida, 2006

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

MASTER OF ARTS

ATHENS, GEORGIA

2008

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May 2008

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INTRODUCTION AND THEORETICAL GROUNDING

Considered a deviant behavior within criminology, drug use is most commonly studied singularly or in connection with criminal acts. Too often criminology ignores the concurrent mental health issues which often plague alcoholics and drug users and perpetuates their deviant lifestyles. The point where substance abuse and mental health intersect provides me with a clear foundation for which to conduct my research. An example of a mild mental health disorder, and the notion of functional uses for either or both alcohol and cocaine hydrochloride to aid in socialization into acceptable role performances, is the combination that underlies my current research. Due to the reality of the present deficit of knowledge in this area, I will attempt to identify a possible relationship between those concerned about the adequacy of their role performances before others and likelihood of using alcohol and drugs to avoid role performance anxiety.

Utilization of nationally representative data based on a random sample allows me a greater degree of generalization than past studies that have drawn samples from medical and treatment institutions. I report preliminary, exploratory quantitative research into the functional utilization of alcohol and drugs, examining probability estimates of the odds of those with role performance anxiety experimenting with cocaine hydrochloride in comparison with other drugs to assess its appeal.

To begin, I refer to the sociological theory proposed by William J. Goode (1960), the Theory of Role Strain. According to this theory, role strain is defined as difficulty fulfilling one's role demands. In order to cope with these difficulties, individuals will engage in what Goode refers to

as role bargaining during which an individual may select alternative role behaviors in order to reduce role strain. Goode criticizes past sociological theorists that claimed that society is maintained by a commitment of individuals to society and the subsequent consensus of the individuals' norms. He argued that this view does not explain the presence of deviant behavior used to reduce role strain in society.

In line with Goode's assertions, my current research seeks to identify the functional use of illicit drugs in order to cope with role performance anxiety. One of the main tenets of Goode's theory is that there can be conformity without value-commitment and there can also exist value-commitment without conformity. In relation to role strain, I will be assessing role performance anxiety as a type of role strain and use of illicit drugs as role bargaining instead of adopting more conventional role behaviors in order to achieve conformity.

Hill (1962) claims that those who give in to addiction have one common characteristic that can be seen in all addicts: social deviance. Social deviants are those who exhibit some form of social pathology whether it be schizoid personality disorder or a less severe mood disorder. Acknowledging the range of pathologies which an addict may possess, the social deficits referred to may frequently go unnoticed by treatment professionals in favor of addressing the more florid symptoms of comorbid mental illness and substance abuse disorders. In addition, Cameron and Maraget (1951) have claimed that those who society considers social deviants are not consistently found to be antisocial but may, in fact, display characteristics of ineptness and inadequacy in daily life. Following the theoretical claims above, I assert that an individual's sense of anxiety can be quickly altered by the use of alcohol and drugs when facing role performance anxiety that reflects deficiency in socialization.

Originally developed to explain the drinking patterns referred to as "easing" and "pampering" by individuals in social settings, my current research seeks to quantitatively test Pampering Theory (Bacon 1973). In addition my research extends Pampering Theory to cocaine hydrochloride experimentation in comparison to experimentation with other forms of illicit drugs. The origin of Pampering Theory lies in the reality that all individuals are better at some things than others and that all people exhibit an uneven role performance across the multiple statuses which they occupy. Individuals who display poor role performances are susceptible to the criticism from and rejection by others who witness their poor performance in social situations.

In line with George Herbert Mead's conceptualization of the social self (1934), our "Me" supplies the self with the judgments of our poor performance and threatens our self worth. Drinking alcohol "eases" these negative feelings and therefore provides the individual with a strategy referred to as "pampering" where the individual drinks alcohol in anticipation of social events where their self worth may possibly be threatened. This is done in the service of maintaining certain statuses which might be threatened should they fail to attempt to perform the role.

As a sociological investigation into the use of substances to overcome social phobia, references will be made to role performance anxiety as opposed to social phobia to distance this discourse from that of psychological and public health research. With its foundation in Mead's conceptualization of the social self, Pampering Theory should be able to predict experimentation with cocaine hydrochloride by individuals who regularly experience role performance anxiety.

The Function of Alcohol and Cocaine Hydrochloride Use

There has been an increasing amount of research published on the functional use of alcohol for the purpose of socialization, especially due to the recent focus on binge drinking among the college student population. In fact, in one study, adolescents with poorer social skills were also more likely to be problem drinkers (Hover & Rosenthal-Gaffney 1991). Researchers have also found that some college students report expecting that effects of alcohol on their physiological and psychological functioning will actually compensate for their social deficits and report alcohol solely for this reason. Studies have also shown students with lower self esteem to engage in higher levels of drinking for the purpose of social functioning (Parish & Parish 1991; Lewis & O'Neill 2000).

It is clear to researchers that the physiological and psychological effects of alcohol cause the lowering of inhibitions and increased self confidence (Brown 1980). There has also been a long held belief that levels of alcoholism are much higher in populations of severely mentally ill individuals such as schizophrenics and those with bipolar disorder. My research attempts to draw attention to the functional use alcohol to avoid experiencing role performance anxiety that is labeled in psychological and psychiatric research as social phobia. Using alcohol as a social lubricant provides individuals with social deficits the means by which to overcome these deficits rather than address the existing problems leading to the comorbid disorder of social phobia. The immediate effects of alcohol provide an overwhelming purpose for those with social deficits despite the fact that drinking alcohol has been linked to long term, impaired social functioning (Lewis & O'Neill 2000). The original proponent of the Pampering Theory, Selden D. Bacon (1973), indeed viewed pampering as the first step for some alcoholics on what was to be a

downward spiral where constant alcohol use blocked their perception of their total ineptitude in performing the valued social roles in the spheres of family, work and community.

The motivation behind the use of and dependence on cocaine hydrochloride is widely unknown. Research concerning the psychosocial antecedents to cocaine hydrochloride dependence is vital to developing effective interventions that sustain long term management of cocaine abuse and dependence. To date the pursuit of such treatments has been largely ineffective. Kasarabada (1999) explains that relapse at the onset of stressors is common among this population and is also reflected in the higher than average dropout rate from cocaine treatment programs. Previous attempts to identify the psychosocial correlates of cocaine hydrochloride use have been made despite the lack of extensive, comprehensive data and lack of longitudinal measurements (Sareen, Chartier, Paulus, Stein 2006). The use of cocaine hydrochloride as a social disinhibitor is a strongly documented phenomenon. Feeling extremely self-confident about one's abilities across a range of role performance possibilities is a very commonly reported effect of cocaine ingestion, and explains the pattern of repeated dosing. Numerous studies report extracting more socialization factors than any other functional reason for using cocaine hydrochloride (Boys, Marsden, Strang 2001; DeCorte 2000).

Overview of Comorbidity and Lesser Disorders

By establishing the relationship of alcohol and experimentation with illicit drugs as a mask for role performance anxiety, new paths of research addressing such issues can be paved in multiple areas of substance abuse treatment. Successful treatment has proved to be more than just abstinence from the use of alcohol and drugs; it requires abstinence from all substance abuse reinforcing behaviors and triggering activities which if not addressed, upon completion of

treatment, will inevitably result in relapse back into use. It is clear that the social utility of the individual's substance of choice will not change itself; it is the individuals who must purge themselves of the underlying issues which led to the initiation of their use in the first place. If and when these issues are resolved, the social utility of the substance for the individual will cease to exist along with their dependence upon it.

Previous research conducted by substance abuse researchers has shown the strong correlation between mental health issues and comorbid substance abuse (Beisel, Scott, Dixon 1999). Although research on comorbidity historically focused upon more severe forms of mental illness, health care practitioners and substance abuse researchers have argued for a more current definition of the term "comorbidity" (Hall, Lynskey, Teesson 2001). By doing so, treatment professionals will be better able to fill the current gap of deficient knowledge in the area of more commonly experienced, less severe mental disorders and their connection to alcoholism and illicit substance use patterns.

Existing literature on substance abuse has highlighted the problems associated with diagnosing and treating individuals who suffer from concurrent mental health disorders (Keitner et al. 1991). In order to assess these concurrent issues, researchers have been limited to clinical samples of patients who have sought out help for their mental health and substance abuse problems. This sampling technique excludes the large portion of non-help seeking individuals and limits advances in diagnosing those with less severe forms of mental disorders and substance abuse problems (Grant & Harford 1995).

Current statistics available on national rates of comorbid disorders point to a growing social problem brought to light by advances in epidemiological research and the substance abuse

research field. According to the National Epidemiological Survey of Alcohol and Related Disorders (NESARC), about 20% of individuals who, at the time of the cross-sectional survey, had a substance use disorder also reported a concurrent mood or anxiety disorder during the period between 2001 and 2002 (NIAAA 2004). In addition, until the advent of nationally representative random samples such as the NESARC which is the data set utilized in my study, researchers have been unable to address the more commonly experienced and less severe mental health issues. The NESARC survey is the largest comorbidity study ever conducted of adults in the United States and is structured in a way that allows both professionally diagnosed and undiagnosed individuals to answer numerous screening questions based on those used in psychiatric and psychological counseling, the DSM-IV diagnoses criteria. The purpose of this is to pick up on the lesser mental health problems with may normally go undetected such as the main interest in my study, social phobia.

Hypotheses

To specify my approach to the questions outlined above, I engage the theoretical framework of Pampering Theory in formulating the following hypotheses. According to Pampering Theory, individuals who suffer from anxiety to perform their necessary role in social situations are likely to employ the use of alcohol to overcome their fears. I first hypothesize that the individuals in my study who suffer from role performance anxiety (social phobia) will be more likely than those who do not to report utilizing alcohol to avoid this fear. This assertion is Hypothesis 1.

Following the tenets of previous studies on the functional use of illicit, mind-altering drugs in social situations, my second hypothesis states that individuals who suffer from role performance anxiety will be more likely than those who do not to report utilizing illicit drugs to avoid this fear. This assertion is Hypothesis 2. These hypotheses will be tested quantitatively in my primary analysis.

In accordance with previous research on the functional use of cocaine hydrochloride to increase confidence and lower inhibitions, my third hypothesis asserts that those who suffer from role performance anxiety will be more likely to experiment with cocaine hydrochloride than other illicit substances. This is Hypothesis 3. In order to test this hypothesis, I will be comparing the odds of experimentation with cocaine hydrochloride by those with role performance anxiety with the log odds of experimentation with cannabis, MDMA, hallucinogens, and amphetamines. I predict that experimentation with cocaine hydrochloride will be more likely than experimentation with other drugs when controlling for relevant predictors such as education and socioeconomic status.

LITERATURE REVIEW

Theoretical/Sociological View of Cocaine Use and Alcohol Use

I have previously described the interplay between the general theoretical ideas of Goode and Mead, and the connection of their conceptualizations with that of Bacon and his fairly-well specified Pampering Theory. I now turn to a review of empirical studies that have directly approached different dimensions of my specific research hypotheses.

The influence of role socialization on substance use examined by Burton, Johnson, Ritter, and Clayton (1996), attempted to explain how entries into social roles provide protective as well as negative consequences. The researchers claimed that those who enter new roles without the proper preparation lose out on the protective effects which these roles may provide. As a result, the individual utilizes drugs to overcome obstacles presented by their new role. Therefore, it would be appropriate to assume that those who are uncomfortable with their ability to perform the role at hand would be more likely to utilize alcohol or drugs to overcome their anxiety. The researchers speculate that inadequate role performance may result from early entry into adult social roles whereas resistance to social control may result for those who enter social roles later than expected.

Zinberg (2006) theorizes a sociological frame in which it is the physical and social setting in which one uses drugs which has the greatest and overlooked impact on individual experiences. So much attention is instead paid to the pharmacological impacts on the users that little room is left for psychosocial analyses. It is due to this slight that cocaine researchers have yet to establish the basics of psychological dependence on cocaine hydrochloride as its rapture is so often claimed by the users of this stimulant drug.

Grund (1993) describes the rituals and social controls associated with heroin and cocaine use in his study of drug users in the Netherlands. According to Grund's description, non deviant drug users were those who administered cocaine hydrochloride intranasally rather than smoking, injecting, etc.. Also mentioned was the non-addictive nature of cocaine as the use of cocaine had only been continued parallel to its functional properties. Once the social utility of cocaine no longer subsists, it appears that abstaining from drug use is attainable with minute consequences.

The Universal Phenomenon of Social Drinking

Substance abuse researchers, as well as historians who have looked at drinking over time around the world., have long found a common theme of increased alcohol use in social situations. The physiological and psychological effects of alcohol on the drinker have been noted for their ability to lower inhibitions, increase self confidence, and overall alter one's perception of their current reality. Effect expectancies then can create the means by which individual basis their decision to drink dependent upon the current situation (Brown 1980).

Often referred to as a "social lubricant," certain demographics of individuals engaged in highly social lifestyles and activities are commonly used in research studies aimed at determining alcohol consumption patterns and the cause of alcohol problems (Monahan & Lannutti 2000). One such highly studied demographic is that of the young adult population in college. Previous research has pointed to the positive effects of alcohol as a main factor in the development of alcohol disorders among the college population (Brown 1985). The highly social nature of this demographic paired with the positive effect expectancies of alcohol use provide a viable explanation for the frequent binge drinking among college students.

Expectancy studies have also shown an effect of alcohol on physical signs of nervousness and anxiety. A study by Wilson and Abrams (2005), randomly divided 32 males into expectancy conditions; half believed they were given plain tonic and the other half thought they were given vodka and tonic drinks. In actuality, the researchers gave half of the "tonic only" males tonic drinks with alcohol in them and half of the "vodka and tonic" males plain tonic drinks. After the males had finished their drinks, they were directed to engage in a short interaction with female confederates during which their heart rates were being monitored. The researchers found that the participants who *believed* they had consumed alcohol had a significantly smaller heart rate increase than those who believed they were given plain tonic, indicating that the mere belief of having consumed alcohol was adequate to quell role performance anxiety, and conversely, enhance self-confidence.

Cocaine Hydrochloride Use: An Understudied Phenomenon

Research on cocaine use and dependence remains one of the most underrepresented of the substance abuse studies examined by social scientists. While the physiological effects of cocaine on lower level organisms up through mice, primates, and humans have been painstakingly recorded by researchers supported by the National Institute of Drug Abuse, the psychosocial factors surrounding use and addiction to cocaine remain, to this day, widely overlooked. Because drug research is intertwined with drug prohibition in complex ways, sociological studies have been in part minimized by higher authorities in the government because their conduct risks the possibility of uncovering positive effects or social utilities which could in turn be used to challenge prohibition, in which an even larger complex of vested interests are involved. Nonetheless, the steady failure rate of cocaine dependence and addiction treatment

programs suggests cocaine research deserves greater attention in the social sciences. The high drop-out rate of cocaine treatment programs have ultimately resulted in a large proportion of treatment-seekers relapsing into cocaine use at the onset of stress (Kasarabada 1999). The overall unexplainable failure of such programs to reduce attrition as well as their inability to adequately treat these addictions points to a key missing link in our understanding of how this addiction manifests itself.

With strong positive reinforcing effects of cocaine use on self confidence and self-efficacy, those labeled as dependent on cocaine may find negative consequences dull in comparison to their physical and mental state under the influence of cocaine's euphoric effects. Gawin (1990) has affirmed the initial decrease in anxiety, reduced social inhibitions, and increased socialization and communication are the foremost positive reinforcement for the initial use of cocaine. These immensely appealing properties of cocaine create a myriad of user-types which have not, to this day, been clearly identified as cocaine-specific addicts. The heterogeneity of this population of users presents a problem unique to cocaine treatment providers in the ways in which their differing treatment modalities are able to address the plethora of psychosocial needs specific to each individual.

The uncovering of previously unknown psychosocial antecedents to cocaine use may provide program evaluators with vital insight into the motivation of some to use cocaine. This knowledge will then provide the facts needed to formulate new cocaine treatment programs so as to hone in on the origin of cocaine dependence. A focus on psychosocial functioning and role performance enhancement appear important in this quest.

Social Phobia/ Anxiety and the Comorbidity Issue

Studies show that there is a higher than average prevalence of substance abuse disorders in populations of severely mentally ill individuals (Beisel, Scott, Dixon 1999). Researchers have long held that the key to successful treatment of patients with comorbid drug abuse and mental health disorders is to combine various psychotherapies with traditional drug treatment strategies. An obvious question that remains unanswered is whether one of the disorders is "servicing" the other, or indeed if their co-existence is reciprocally supported. To date, the root of comorbidity remains fairly vague with psychiatric and epidemiological researchers citing biological origins. Especially salient in such studies were the genetic influences which played a key role in the development of comorbid disorders in males (Pickens, Svikis, McGue, LaBuda 1995).

Feinstein (1970) defines comorbidity as, "any distinct additional clinical entity that has coexisted or that may occur during the clinical course of a patient who has the index disease under study." Although this definition would seem appropriate for all classifications of mental disorders, most often the term comorbidity has been used to describe the co-occurrence of schizophrenia and substance abuse disorders, especially that of alcoholism. This linguistic usage of the term comorbid has been criticized by scholars and researchers insisting that the applicability of the term be broadened in the field of psychiatric and substance abuse treatment (Hall, Lynskey, Teesson 2001). Critics argue that more common mental health disorders such as anxiety, personality disorders, and antisocial behavior can also co-occur with substance abuse disorders and therefore, for the purpose of advancing the field of substance abuse and psychiatric treatment, a more widely encompassing definition should be accepted.

Studies by addiction research professionals also point out the frequent overshadowing of underlying mental health problems in favor of treating substance abuse, the more salient part of comorbid disorders (and possibly the most treatable). Therefore, dual-diagnosis treatment remains a widely unpracticed method of treating those individuals with both mental health and substance abuse problems. Presentations at the 13th meeting of the American Academy of Addiction Psychiatry by researchers from the National Institute of Mental Health reported comorbidity in adults as being the norm not an exception. Although the phenomenon of comorbidity is generally accepted by treatment professionals, the substance abuse treatment industry and mental health professionals have yet to agree upon a uniform model of treatment to address this pervasion combination of disorders (Rosack 2003). The extent to which the systems of treatment for each remain independent offers further pessimism for successful approaches to both disorders simultaneously.

Patterns of Current Cocaine Use Globally

Researchers Van Etten et al. (1998) report that cocaine users, compared to non-users, are much less likely to engage in activities which are considered introverted, non-social, and mood-related. Findings such as this suggest that a predominant characteristic of the cocaine user is being a highly social individual, finding the most enjoyment in activities which involve interactions with other people. Activities cited as being those enjoyed most by cocaine users were activities which were also more likely to be perceived as drug reinforcing. The researchers conducting this study use a behavioral theory approach which suggests that less participation in non-drug reinforcing, alternative activities is more likely to result in increased drug abuse.

The functional use of cocaine for socialization purposes in this population may provide insight into the type of treatment modality most appropriate for those users preoccupied with extroverted activities. In their analysis of treatment outcomes, researchers found that better treatment outcomes were positively associated with a greater frequency of engagement in non-social activities. These conclusions imply that a greater understanding of the psychosocial forces surrounding the participation of cocaine users in specific kinds of activities is needed. Researchers suggest that employing non-drug reinforcing activities in treatment programs may prove to be an essential part of successful cocaine dependence treatment programs.

Studies of the use patterns of Amsterdam community-based users in 1987 and 1991 (Cohen 1994) found reinforcing evidence of the important role played by the social circumstances in which cocaine is used. The average age at initial cocaine use was 22.2 years old with heaviest use levels resulting as nonsignificant in predicting future abstinence patterns. Low level users reported weekend use as the period in which they consumed the most amount of cocaine per week. Limits of this study include the lack of data concluding supply situation and concomitant use of cocaine and other substances. Overall, the most common advantages to cocaine use cited by the community-based users were that they felt more energetic, communicative, high/ relaxed, more creative, and self-confident. In reference to setting of use, respondents in both aggregate groups reported stable responses of going out, going to parties, and social gatherings with friends as the most important social contexts for use. The social function of cocaine for users over the years remained the most important motivation for use.

In the multifaceted book, The Taming of Cocaine (Decorte 2000), cocaine users were interviewed to decipher the subjective effects which one experiences when using cocaine which may help researchers understand the process of cocaine treatment from a more holistic

perspective. Results almost identical to those found in the Amsterdam sample of community-based users by Cohen (1989), revealed the top four perceived advantages to using cocaine being communication, high/relaxed, more energetic, and self-confidence. Decorte asserts that these advantages most often reported are those which are most conducive and influential in a socialized setting and for those with highly social lifestyles. In measuring Subjective Measure of Desire, 22.5% of respondents reported psychological dependence occurring with only .9% of the respondents reporting any form of physical dependence on cocaine. In relation to the set of the most frequent cocaine use reported by respondents, going out to meet people to dance, going to a private party, and meeting friends at home were the three most cited situations for cocaine use.

Boys, Marsden, and Strang (2001) cite the very functional nature of drug use, in particular cocaine, in initiating socialization. Researchers describe the typical cocaine user (through use of previous research) as those most likely to be in their mid-20s, better educated than the average individual and single. The results of this study which used a snowball sample of poly-drug using, non-treatment seeking youth, indicated over 60% of those poly-drug users who used cocaine cited themselves as using cocaine in social situations to feel more confident. Researchers also found one of the four most frequently reported functions for cocaine use was to help you feel more confident or more able to talk to people in a social setting.

Results of this study indicated that 65% of the total sample reported using cocaine for this function with 60.2% male and 72% female comprising this portion. The gender differences for this measure were also significant with young women more often than young men using cocaine as a disinhibitor and form of social support during social situations. The implications of these results point towards the prospect of increased vulnerability in women leading to increased levels of cocaine related psychological disorders. Researchers assert that lack of understanding of

gender differences in drug use serve as an impediment for the development of successful treatment programs.

Also found were patterns in use which indicated that use of cocaine in order to assuage negative moods and depressed states was the best predictor of higher levels of problems associated with cocaine use. The researchers were able to make this assumption based upon a scale which scored levels of problems associated with use. Life problems associated with use were also most likely to be associated with negative internal states or moods. In addition it was discovered that those who most frequently endorsed cocaine use were also those who were much more concerned with social activities than those who were found to be less likely to endorse cocaine use for functional purposes.

In reference to applicability in a treatment setting, such findings imply the need for a stronger focus on perceived function of cocaine for users. The substance-related problems which users had were so strongly associated with their reason for use, it would seem logical to employ the understanding of such functions in treatment programs. Researchers suggest a future aspect of treatment to focus upon be the functional appraisal of drug use in individuals' perceptions to serve as insight into psychosocial needs of patients.

DATA AND METHODS

NESARC

The data set utilized to carry out the current research study is Wave I of the National Epidemiological Survey of Alcohol and Related Conditions (NESARC). Supported by funding from the National Institute on Alcohol Abuse and Alcoholism, the survey is a representative sample of 43, 093 US citizens 18 and older who were non-institutionalized at the time of the survey. Computer-assisted personal interviewing was conducted for Wave I of the data collection process from August 2001 to May 2002. The Census 2000/2001 Supplementary Survey was used to frame the NESARC sample for housing units. A group quarters frame was also used in the sample and was contrived from the Census 2000 Group Quarters Inventory. Over-sampling was conducted for the 18-24 age group in order to accurately assess the extreme consequences and the nature of young adults' heavy alcohol and drug consumption patterns.

The NESARC data is an appropriate data set for assessing the impact of role performance anxiety on drug use and alcohol use patterns as the breadth of this survey spans the United States and provides accurate, concise measures for the current study's key variables of interest: role performance anxiety (social phobia) and alcohol and drug use, specifically cocaine hydrochloride. Among the most important aspects of the NESARC data is the inclusion of separate measures for cocaine hydrochloride use rather than grouping cocaine hydrochloride with crack cocaine in one single category of use as most drug-related surveys available do. Therefore this data set provides a more accurate portrayal of the demographic characteristics of cocaine hydrochloride users which differs greatly from the demographic characteristics of crack cocaine users (Hatsukami and Fischman 1996).

Unlike previous drug-related surveys, the NESARC data include many measures for DSM-IV classified mental disorders along with more generalized anxiety and phobias. The variable role performance anxiety will be measured by the respondents' answer, yes or no, to having a lifetime diagnosis of social phobia. A lifetime diagnosis of social phobia is determined by the respondents' answers to a series of screening questions. The issue of comorbidity that my research seeks to concentrate on is discernible in the questions located in section 7 of the NESARC survey which directly addresses the functional usage of alcohol and illicit drugs to cope with social phobia or, for the purpose of this investigation, role performance anxiety.

Method

I performed a series of logistic regressions to predict the probability of individuals with role performance anxiety utilizing alcohol and/or drugs to avoid experiencing role performance anxiety in a sample reflecting an N of 43, 093. This sample of 43, 093 was maintained throughout each of the seven analyses to be explained. In addition and more specifically, I performed secondary binary logistic regressions to assess the predictive power of role performance anxiety on experimentation with cocaine hydrochloride in comparison to experimentation with MDMA, hallucinogens, cannabis, and amphetamines.

The key dependent variables used in my analyses were ALCSP, DGSP, and USECOKE, USEMDMA, USEHALL, USECANN, and AMPHUSE. ALCSP was the label representing the variable indicating whether one had ever used alcohol to avoid social phobia. This variable was dummy coded with 0 = no and 1 = yes. Similarly, DGSP is the label for the variable indicating whether one had ever used drugs to avoid social phobia with 0 = no and 1 = yes. Subsequent analyses called for dummy coded dependent variables indicating whether or not one had

experimented with the drug of interest with 0 = no and 1 = yes. USECOKE indicates whether one has experimented with cocaine hydrochloride. USEMDMA indicates whether one has experimented with MDMA (ecstasy). USEHALL indicated whether one has experimented with hallucinogens. USECANN indicates whether one has experimented with cannabis (marijuana). Lastly, AMPHUSE indicates whether one has experimented with amphetamines.

The key independent variable in my analyses was role performance anxiety. This variable is measured by the use of the DSM-IV lifetime diagnosis of social phobia, labeled in the NESARC data as socpdlif. This variable was dummy coded to follow the values of 1=yes and 0=no, else in response to whether the participant has experienced social phobia throughout their lifetime and met the diagnosis criteria set forth by the DSM-IV.

Control variables included in all analyses were dummy coded and entered in five blocks were age, sex, race, marital status, socioeconomic status, and highest education level completed. Male was the reference category for the sex variables with male = 0 and female = 1. The race variable was included the reference category of Hispanic= 5. The remainder of the race categories were white = 1, black = 2, American Indian/Native American/ Alaskan= 3, and Asian/Native Hawaiian/Pacific Islander = 4. The reference category for the variable marital status was single= 0 whereas married = 1, never married = 2, and widowed/divorced/separated = 3. Socioeconomic status or SES was measured by creating an interval level measurement for the annual personal income variable. This SES measurement included upper ($80,000+) = 4 being the reference category; lower SES (0- $29,999)= 1; middle SES ($30,000-49,999)= 2; upper-mid($50,000-79,999)= 3. The highest grade or year of school completed variables was reduced from 14 possible response categories to 5. The reference category for the education variable is

graduate/professional degree= 5. The remainder of the categories were some high school= 1, high school diploma=2, some college=3, and bachelor's degree=4.

The first binary logistic regression was performed examining the likelihood of role performance anxiety to result in the use of alcohol as a means to overcome this anxiety. ALCSP was dummy coded to represent participants who reported either 1=yes, they had used alcohol at some point in their lives to avoid role performance anxiety or 0 = no, else. Block 1 includes only the variables SOCPDLIF and ALCSP in order to assess the direct influence that the SOCPDLIF variable has upon the outcome variable ALCSP. In Block 2, the typically used control variables, SEX and AGE were entered followed by Block 3 in which the variable race was introduced to the model. Marital status is entered in Block 4 followed by Block 5 which introduces the control variables of interest, SES and education level into the model to see how much variance can be accounted for by these demographic characteristics. A second binary logistic regression was performed using an identical method substituting DGSP (drug use to avoid role performance anxiety) as the dependent variable of interest.

The next step in my analyses was to assess the odds of those with role performance anxiety to experiment with cocaine hydrochloride in comparison to experimentation with MDMA, hallucinogens, cannabis, and amphetamines. In order to accomplish this I retained role performance anxiety as my main independent variable of interest. All dependent variables used were measured with binary response categories of 1= yes and 0 = no. Drug use survey questions were assessed by the following question: "In your lifetime, have you ever used…?" followed by the drug of interest being cocaine hydrochloride, hallucinogens, MDMA, cannabis, and amphetamines. To retain the integrity of my original statistical model, I engaged the use of

identical control variables used in my first and second primary regression analyses. Therefore, the significance of role performance anxiety in predicting experimentation with the chosen drugs of interest was assessed following by block entry of the control variables for sex and age, race, marital status, socioeconomic status, and education level.

Analytic Strategy

To investigate the relationship between role performance anxiety and use of alcohol and drugs to avoid role performance anxiety, I chose to run a series of logistic regressions (shown in tables 1 and 2). Because I am interested in utilization of substances to avoid role performance anxiety based upon the theoretical concepts of Pampering Theory, I run separate regressions for alcohol use to avoid role performance anxiety and drug use to avoid role performance anxiety. For individuals with role performance anxiety, I predict the log odds that at some point in their life, the individual has used alcohol to avoid experiencing role performance anxiety. I then proceed to predict the log odds of an individual with role performance anxiety using drugs to avoid role performance anxiety at one point in their life. I run the separate regressions in order to compare the odds of using alcohol versus drugs to avoid role performance anxiety when controlling for relevant predictors such as sex, age, and education.

My next step was to analyze the effect of role performance anxiety on experimentation with various drugs in order to determine the predictive power of role performance anxiety on cocaine hydrochloride use. In order to determine this, I ran a series of five logistic regressions for the following dependent variables: cocaine hydrochloride, MDMA, hallucinogens, amphetamines, and inhalants. By doing this, I am able to compare the log odds of experimentation with cocaine hydrochloride by those who suffer from role performance anxiety

with the odds of experimentation with other illicit substances. I anticipate that the odds of experimenting with cocaine hydrochloride versus other drugs will be higher for those with role performance anxiety.

RESULTS

Primary Analyses

My initial logistic regression models assessing the odds of using alcohol to avoid role performance anxiety and using drugs to avoid role performance anxiety produced significant results to support Hypothesis 1 and Hypothesis 2. With all other variables in held constant, there remained a positive significant relationship between role performance anxiety and using alcohol to avoid role performance anxiety with the log odds of this occurrence being 45.78 with a 95% confidence interval. Hosmer and Lemeshow statistics indicate that each of my five models are a good fit for the data throughout my analyses with the full regression model indicating a significance of .554. There also remained a significant positive relationship between role performance anxiety and using drugs to avoid role performance anxiety when all other variables were held constant. The log odds of an individual with role performance anxiety using drugs to avoid role performance anxiety is 38.741, a slightly lower odds ratio than that of alcohol use to avoid role performance anxiety. The full model resulted in a Hosmer and Lemeshow significance of .001 when adding the education and SES control variables, indicating that these variables do not significantly add to the model, unlike the previous models which indicated a good fit of the model to my data.

Table 1 shows that the dummy coded race variables indicated a significant relationship between being Caucasian, as opposed to Hispanic, and using alcohol to avoid role performance anxiety. Relative to Hispanics, the log odds of a Caucasian individual to use alcohol to avoid role performance anxiety were 1.672. Native Americans/ Alaska Natives also produced a significant positive relationship in compared with Hispanics with the log odds of 2.129 that alcohol would be used to avoid role performance anxiety. The Asian/ Native Hawaiian variable produced a

significant positive relationship to use of alcohol to avoid role performance anxiety as compared to Hispanics until the introduction of the control variable for marital status in Model 3 when the Asian/ Native Hawaiian variable loses all significance. Relative to Hispanics, the Black predictor variable was also not significant in this analysis.

I found a significant negative relationship between gender and use of alcohol to avoid role performance anxiety. With all other variables held constant as illustrated in Table 1, females with role performance anxiety are .484 times less likely than males with role performance anxiety to use alcohol to avoid role performance anxiety. An analysis of the relationship between role performance anxiety and use of alcohol to avoid role performance anxiety indicates a significant negative relationship between all education levels compared to the graduate/professional degree reference category and use of alcohol to avoid role performance anxiety except the variable indicating a bachelor's degree. Variables corresponding to a high school education or less, high school diploma, and some college indicate log odds of .592, .579. and .624, respectively. These results show those who have attained less than a graduate or a professional degree are less likely to have used alcohol to avoid role performance anxiety.

Consistent with life course theories of crime and delinquency (Akers & Sellers 2004), I found a significant negative relationship between age and use of alcohol to avoid role performance anxiety. Results indicate a decrease in the log odds of using alcohol to avoid role performance anxiety by .984 for each year a person ages. As illustrated in Table 1 socioeconomic status was not a significant predictor of alcohol use to avoid role performance anxiety. Identical results were found in Table 2, indicating the possible presence of underlying measurement errors within my data. Marital status was not a significant predictor of alcohol use

to avoid role performance anxiety by those who suffer from role performance anxiety as illustrated in Table 1.

Unexpected results were found in the second analysis illustrated in Table 2 assessing the log odds of those with role performance anxiety using drugs to avoid role performance anxiety. Unlike the results found in Table 1, Caucasian was not a significant predictor of using drugs to avoid role performance anxiety. In fact, the only race variable which remained significant, relative to the Hispanic reference category, throughout all five logistic regression models was the Native American/ Alaska Native variable with log odds of 2.77 in Model 5, holding all other variables constant.

Table 2 illustrated similar findings as reported in Table 1; gender was also a significant negative predictor of use of drugs to avoid role performance anxiety. The log odds of females using drugs to avoid role performance anxiety were .4.

Results from Table 2 report the exact opposite relationship than was found in Table 1. According to my findings, none of the education variables were significant relative to the graduate and professional degree reference category except the variable indicating achievement of a bachelor's degree which indicated a significant negative relationship between having a bachelor's degree and using drugs to avoid social phobia. The log odds of an individual with bachelor's degree to use drugs to avoid social phobia in comparison to those with a graduate or professional degree were .446. The log odds of using drugs to avoid role performance anxiety also decrease .967 for each year an individual ages.

Table 2 indicates a significant negative relationship between being married and the odds of using drugs to avoid role performance anxiety compared to the odds of those in the single reference category. Therefore, relative to single individuals, those who are married decrease their

log odds of using drugs to avoid social phobia by a factor of .5 with all other variables held constant. Widowed, divorced, or separated was not a significant predictor of drug use to avoid role performance anxiety in comparison to singles.

Secondary Analyses

Results of my secondary logistic regression analysis indicate a significant positive relationship between role performance anxiety and experimentation with MDMA, hallucinogens, cannabis, amphetamines, and cocaine hydrochloride, all of the illicit drugs included in my analysis. Role performance anxiety maintains its explanatory power in predicting cocaine hydrochloride experimentation throughout all five models and is not significantly affected by the introduction of control variables to models 1-5. Entering control variables into the analysis of role performance anxiety and experimentation with amphetamines also did not decrease the effect of my main predictor variable.

The log odds of role performance anxiety in predicting amphetamine use only decreased by a factor of .328 when the age and race variables were entered in model 3. The relationship between role performance anxiety and cannabis experimentation maintain log odds of approximately 2 and remained unaffected by the entry of the control variables throughout the five models. Similar the effects seen in Table 3, the log odds of experimentation with hallucinogens by those with role performance anxiety remain relatively stable at a factor of approximately 2.5 despite a decrease of .293 from model 2 to model 3 when the race and age variables were entered into the model. Again, there remained a very modest change in the log odds of role performance anxiety and experimentation with MDMA when relevant predictors were entered throughout the five models.

The log odds of an individual with role performance anxiety to experiment with cocaine hydrochloride was not significantly higher than the log odds of other drug experimentation occurring, especially that of hallucinogens and amphetamines. Holding all other predictors constant, the log odds of experimentation with cocaine hydrochloride by an individual with role performance anxiety was 2.311 in comparison to experimentation with hallucinogens with log odds of 2.572 and amphetamines with log odds of 2.653. Although significance remained positive in all models for the drug experimentation analyzed, my Hypothesis 3, was not strongly supported by the results of my analysis.

There remained a significant, positive relationship between role performance anxiety and experimentation with role performance anxiety throughout each of the five models. Table 3 shows the log odds of experimentation with cocaine hydrochloride relative to the Hispanic reference category were 1.42 for Caucasians and 1.943 for Native American/ Alaskan Natives. In comparison to the marital reference category of single, being married and also widowed, divorced, and separated remained significant positive throughout the analysis. The only education variable that produced a significant positive relationship in relation to the graduate/professional degree reference category was the variable for some college with the log odds of 1.343. These results indicate that compared to Hispanics, Caucasians and Native Americans are both more likely to experiment with cocaine hydrochloride. In comparison with those who are single, married individuals are more likely to have experimented with cocaine hydrochloride by a factor of 1.12 followed by the widowed, divorced, and separated at 1.902.

Significant negative relationships were found between role performance anxiety and sex indicating that females are less likely than males to have experimented with cocaine hydrochloride. The age variable, in following with the tenets of Life Course Theories of deviance

(Akers and Sellers 2004) maintains significant and negative throughout each of the five models in Table 3 along with each of the five models in Tables 3-7. The race variables of black and Asian/ Pacific Islander were also found to be significant and negative in comparison to Hispanics along with the socioeconomic variables of lower SES, mid SES, and upper-middle SES relative to those belonging in the upper SES category with the log odds of .472, .613, and .751 respectively. No significance was found between those with less than a high school diploma, high school graduates, and those with a bachelor's degree relative to those with a graduate/professional degree.

Table 4 reports the results of my analysis of the relationship between role performance anxiety and experimentation with cannabis. A significant positive relationship was found between role performance anxiety and experimentation with cannabis and this relationship remained significant throughout all five models in Table 4. The log odds of experimentation with cannabis by those with role performance anxiety remained roughly 2.2 throughout the five models. The control variable race produced significant, positive relationships between Caucasian, black, and Native American race variables and experimentation with cannabis relative to Hispanics' experimentation with cannabis. Therefore I can conclude that when compared to my constant race variable of Hispanic, being Caucasian, black, or Native American increases the likelihood of experimentation with cannabis. Also significant and positive was the relationship between married and widowed, divorced, and separated and experimentation with cannabis compared to single individuals. Therefore, compared to individuals who are single, be married or widowed, divorced, or separated increases the likelihood of experimentation with cannabis.

Significant negative relationships in Table 4 included sex, age, and all three SES variables. Therefore females are less likely to experiment with cannabis. With each year that one ages, the likelihood of experimentation with cannabis decreases. Also, compared to my constant SES variable upper class, lower, middle, and upper middle SES are all less likely to experiment with cannabis. Having less than a high school diploma, being a high school graduate, and having a bachelor's degree also were found to have significant, negative relationships to experimentation with cannabis when compared to the reference category of graduate/professional degree. Relative to graduate/professional degree, no significance was found between the education variable indicating some college.

My main predictor variable, role performance anxiety maintained a significant positive relationship to experimentation with amphetamines throughout each of the five models in Table 5 with log odds of 2.653. Other significant, positive relationships were found between the race variables Caucasian and Native Americans relative to Hispanics. Married and widowed, divorced, and separated also produced significant, positive results compared to the reference category single. Also significant and positive was the relationship between the variable some college in comparison to the education reference category graduate/professional degree.

Three significant, negative relationships were produced in Table 5 and those were sex, age, and the race variable black. This result indicates that females are less likely than males to experiment with amphetamines. Also, as one ages yearly, the likelihood of experimentation with amphetamines decreases by a factor of .968. Numerous control variables remained as non-significant throughout the analysis predicting experimentation with amphetamines and those included the race variable Asian/Pacific Islander relative to Hispanics and those with less than a high school diploma, high school graduates, and those with a bachelor's degree relative to the

education reference category graduate/professional degree. Relative to upper SES, lower SES, middle SES, and upper-middle SES also remained non-significant throughout the analysis.

Table 6 assessed the predictive power of role performance anxiety on experimentation with hallucinogens. What I found was a significant, positive relationship between role performance anxiety and experimentation with hallucinogens which remained positive throughout the five models in Table 6. The log odds of experimentation with hallucinogens by those with role performance anxiety remain approximately 2.5 throughout all five models in Table 6. Also significant and positive were the relationships between Caucasian, Native American, widowed, divorced, separated, and the control variable indicated some college in predicting experimentation with hallucinogens.

Significant, negative relationships were found between the variables sex, age, and the race variable black. Therefore, females compared to males and black individuals relative to Hispanics are less likely to experiment with hallucinogens. The age variable indicates that for every year that an individual ages, their likelihood of experimentation with hallucinogens decreases by a factor of .956. Other significant negative relationships illustrated in Table 6 include those with less than a high school degree, high school graduates, and those with a bachelor's degree relative to the reference category graduate/professional degree. Compared to the upper SES reference category, all three SES variables, lower, middle, and upper-middle SES remained significant and negative. No significance was found between the race variable Asian/ Pacific Islander relative to the Hispanic reference category and experimentation with hallucinogens.

Table 7 illustrates the relationship between role performance anxiety and experimentation with MDMA. There remained a significant, positive relationship between role performance

anxiety and experimentation with MDMA with log odds of 1.898. Relative to the Hispanic reference category, two other variables produced significant, positive results and they were the Caucasian and Native American race variables with the black race variable producing significant, negative results. No significance was found for the Asian/Pacific Islander race variables. The dummy coded sex variable, again, produced significant negative effects indicating that females are less likely than men to experiment with MDMA.

Results also showed that as one ages, the likelihood of experimentation with MDMA decreases by a factor of .908. Those who are married are also less likely to experiment with MDMA compared to those who are single along with individuals at all levels of socioeconomic status when compared to those in the upper SES category. Education was found to produce significant, negative relationship to experimentation with MDMA in reference to those with a graduate/professional degree for those with less than a high school diploma, high school graduates, and those with some college. No significance was found for those with a bachelor's degree and those who are widowed, divorced, or separated.

DISCUSSION

Recent studies suggest that comorbid substance abuse and mental health disorders are much more common than originally thought (Sareen et al 2007). The nature of dual disorders often leaves one disorder overshadowing the concurrent making it extremely difficult for treatment providers in both the mental health and substance abuse treatment field to devise an appropriate treatment strategy to treat both disorders. Often, it is the lesser disorders such as social phobias and anxiety disorders that go unnoticed in the typical substance abuse treatment facility, adept only at treating the substance abuse, not in identifying the possible psycho-social antecedents to the substance abuse. Research such as my current study is in great need for the advancement of our understanding of comorbid disorders and the underlying functional use of the alcohol and illicit drugs to overcome psychosocial deficits.

Previous studies have shown a high prevalence of substance abuse disorders in populations of the severely mentally ill. These individuals, such as those with schizophrenia and the severely depressed are a highly visible population within the mental health sector of the health care system (Beisel, Scott, Dixon 1999). Research referencing "comorbid disorders" have largely focused on these extreme mental health issues while overshadowing the phenomenon of, for instance, social drinking. Social drinking is a clear illustration of the common use of substances, licit and illicit, for functional purposes such as that of alcohol as a "social lubricant" (Roman & Blum).

Although the highly salient social drinking is just one way in which individuals seek the uninhibited and confidence boosting effects of substances to compensate for deficits such as social phobia or role performance anxiety. Cocaine hydrochloride is one such drug that has been touted for its liberating effects by users since the days of chewing coca leaves. Gawin (1990) has

documented the extreme social reinforcing effects of cocaine hydrochloride on users emphasizing increased socialization and communication. These attributed of the drug were the most commonly referenced effects experienced by users that drew them to begin utilizing the drug in social situations.

Initial Predictions and Subsequent Findings

My initial predictions when conceptualizing my research were grounded in previous studies of the same variety and guided by the theoretical framework of Pampering Theory (Bacon 1973). According to Pampering Theory, when individuals are placed in roles that they ill-equipped to perform, they will often employ the use of mind-altering substances in order to dull the negative feedback felt by the "self" in the situation (Mead). In line with this conceptualization, I predicted there to be a strong, positive relationship between having suffered life-long role performance anxiety and utilizing alcohol and drugs to avoid this anxiety. In addition, due to its well-documented effects of increased socialization, I predicted that the likelihood of experimentation with cocaine hydrochloride would far exceed that of experimentation with MDMA, cannabis, hallucinogens, and amphetamines by those suffering role performance anxieties.

As predicted, those who suffered a lifetime occurrence of role performance anxiety were highly likely to utilize the use of both alcohol and drugs to avoid experiencing role performance anxiety. My secondary analysis results were also inline with my initial predictions that hypothesized role performance anxiety to be able to predict experimentation with cocaine hydrochloride. Unanticipated findings indicated that although those with role performance anxiety were twice as likely to experiment with cocaine hydrochloride, they were also twice as likely to experiment with amphetamines and hallucinogens, discrediting my third hypothesis

predicting a much greater likelihood of experimentation with cocaine hydrochloride. This finding suggests that the function of amphetamines and hallucinogens for those suffering for role performance anxiety may be similar to the function of cocaine hydrochloride.

Practical Implications

What stood out in my secondary analysis of experimentation with drugs was the large effect of the Native American Race Variable on the likelihood of experimentation with all drugs included in my analysis. Unexpectedly, Native Americans were even more likely than Caucasian individuals to experiment with cocaine hydrochloride, my key dependent variable. Previous research has emphasized the substance abuse and dependence issues apparent in the Native American population yet have focused primarily upon alcohol abuse and dependence. Research done in the field of Native American and substance abuse studies has shown extremely high levels of alcohol and drug use in the Native American population along with high levels of substance abuse treatment dropout (VanDetti, McRee, Christiansen, & Herrell 2002). Studies by Shaunessey, Doshi, Jones, and Everett (2004) also highlight the strong correlation between attempted suicide and substance abuse among this population, indicating a greater need for studies of mental health in this population. My research supports the previous research on Native American substance abuse and increases the visibility of mental health issues within this population.

From my results, I provide an overview of the current phenomenon of comorbidity that may be used as a foundation for further studies on the issue of lesser disorders of comorbidity. My findings provide evidence of a strong association between role performance anxiety and the functional use of alcohol and drugs to avoid experiencing this anxiety as is proposed by Pampering Theory. To the credibility of Pampering Theory, I add substantiation to claims of

alcohol use to avoid role performance anxiety, even more so than drug use to avoid role performance anxiety. My results also indicate an association between being Native American and utilizing alcohol and drugs to avoid role performance anxiety which brings to light possible comorbidity issues previously unexamined.

Limitations

There were a few limitations regarding my data that are worthy of further discussion. Use of cocaine hydrochloride in social situations was been studied by researchers (Cohen 1994) who have asserted that this venue of use is most common with low level users. For the purposes of my current study, analyzing levels of cocaine hydrochloride use by those with role performance anxiety would have enabled me to expound upon these previous findings and further my assertion of the characteristics of functional cocaine hydrochloride users. Unfortunately, utilizing the NESARC data set restricted me to dichotomous dependent variables due to the lack of variance in levels of drug use as was found after performing various descriptive statistic analyses in SPSS.

A subsequent limitation is the measure of role performance anxiety, referred to as social phobia in the NESARC data set. The national, cross-sectional nature of this data set infers that findings can be generalized to the United States general population. Due to the lesser form of this mental health disorder, many individuals experiencing occasional role performance anxiety may go unrecognized, decreasing the validity of my measure of role performance anxiety which is measured by the NESARC data set as being social phobia experienced throughout one's lifetime. The NESARC data collection process involves a form of data collection long debated for its validity in accurately illustrating alcohol and drug use behaviors. Researchers have long held that the validity of self-report data becomes compromised when questions approach sensitive topics

such as illicit drug use. Errors in accurate reporting are said to be attributed to a phenomenon called social desirability. Social desirability occurs when individuals are asked to divulge of deviant behaviors and opt instead to alter their honest response so as to avoid any negative consequences following their admissions (Aquilino 1997). Underreporting appears to be the greatest threat to validity due to the very private nature of such illegal activities. Other than arrest data which cannot be generalized to the larger population, self-reporting is the only way researchers can truly ascertain the current levels of illicit drug use in a given population. Given these facts, social researchers have developed new survey instruments to ameliorate the validity tribulations incurred by face-to-face interview surveys.

Improvements have come about in the field of survey research in the form of computer-assisted self-interviewing (ACASI). This form of self-interviewing was utilized by the NESARC data collection staff and is said to reduce the pressures of social desirability by taking the researcher out of the process and instead allowing the respondent to answer questions in full anonymity. Although meant to address past issues of validity of self-report data, new issues have arisen around this method worthy of mention. By removing the survey researcher from the interview process, the respondent's comprehensions of the meanings of behavioral questions may be misrepresented (Turner, Ku, Rogers, Lindberg, Pleck, & Sonenstein 1998). Taking this possible limitation into account, for the purposes of the NESARC data collection, ACASI was the most appropriate method available to gather information on alcohol and drug use patterns in this nationally representative sample.

In conclusion, my research has contributed to the larger body of knowledge of comorbid disorders by providing additional evidence of lesser mental disorders corresponding to the functional use of alcohol and drugs. By testing the claims of Pampering Theory (Bacon 1973),

my research contends that perceived social deficits may be overcome by the utilization of alcohol to dull negative external and internal influences on one's self concept. In addition, by testing the likelihood of drug utilization in social situations, I am able to extend the applicability of Pampering Theory to explain drug use in social situations as well.

Future Directions

Future research should continue to study comorbidity due to the reality that concurrent substance abuse and dependence and mental health disorders plague a greater portion of the population than originally thought. As previously stated, levels of drug use amongst those with mental health disorders are often varying depending upon the type of drug along with the type of mental disorder. Lesser disorders such as phobias and anxiety disorders should also be given greater attention in the substance abuse, mental health, public health, and social science fields. By giving consideration to these lesser disorders, patterns in drug choice may further indicate the functional nature of certain drugs corresponding to particular mental deficits. If we are to ameliorate the social and personal problems caused by comorbid disorders, identification of the individuals' coping mechanisms will provide the information necessary for the development successful, integrated treatment strategies to address both issues.

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Table 1: Use of Alcohol to Avoid Role Performance Anxiety

	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
	Model 1		Model 2		Model 3		Model 4		Model 5	
socpdlif	3.816	45.417***	3.87	47.963***	3.81	45.167***	3.803	44.828***	3.824	45.78***
SEXdum			-0.705	0.494***	-0.685	0.504***	-0.703	0.459***	-0.726	0.484***
age			-0.012	0.988***	-0.015	0.986***	-0.016	0.985***	-0.016	0.984***
CAUC					0.565	1.759***	0.554	1.741***	0.514	1.672***
BLK					-0.164	0.849	-0.228	0.796	-0.232	0.793
NATIND					0.772	2.164**	0.747	2.111**	0.756	2.129**
ASIANHAW					0.122	1.13	0.117	1.124	0.016	1.016
MAR							-0.21	0.811	-0.193	0.825
WDSdum							0.176	1.192	0.217	1.243
HSLESS									-0.524	0.592**
HSGRAD									-0.546	0.579**
SOMECOLL									-0.472	0.624**
BACHELORS									-0.233	0.729
LOWERSES									0.306	1.359
MIDSES									0.279	1.322
UPPERMIDSES									0.26	1.297
constant	-5.295	0.005	-4.418	0.012	-4.667	0.009	-4.539	0.011	-4.378	0.013
Nagelkerke	0.304									
Model x2		1628.555		1712.067		1753.687		1765.952		1779.978
df	16									

<.001 = * <.01 = ** <.05 = *

Table 2: Drug Use to Avoid Role Performance Anxiety

	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
	Model 1		Model 2		Model 3		Model 4		Model 5	
socpdlif	3.692	40.138***	3.732	41.783***	3.678	39.57***	3.656	38.702***	3.657	38.741***
SEXdum			-0.846	0.429***	-0.837	0.433***	-0.86	0.423***	-0.917	0.4***
age			-0.032	0.969***	-0.033	0.967***	-0.035	0.966***	-0.034	0.967***
CAUC					0.261	1.298	0.218	1.244	0.198	1.22
BLK					-0.294	0.745	-0.476	0.622	-0.503	0.605
NATIND					1.102	3.009**	1.026	2.789*	1.019	2.77*
ASIANHAW					-0.156	0.855	-0.192	0.825	-0.163	0.85
MAR							-0.674	0.509**	-0.656	0.519**
WDSdum							0.395	1.485	0.402	1.494
HSLESS									-0.535	0.585
HSGRAD									-0.322	0.725
SOMECOLL									-0.328	0.721
BACHELORS									-0.807	0.446*
LOWERSES									0.705	2.025
MIDSES									0.408	1.504
UPPERMIDSES									0.82	2.27
constant	-6.596	0.001	-4.896	0.007	-4.955	0.007	-4.667	0.009	-4.932	0.007
Nagelkerke	0.267									
Model x2		444.916		508.451		519.661		547.106		556.268
df	8									

<.001 = *** <.01 = ** <.05 = *

Table 3: Log Odds of Experimentation With Cocaine Hydrochloride

	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
	Model 1		Model 2		Model 3		Model 4		Model 5	
socpdlif	0.865	2.375***	0.891	2.437***	0.823	2.277***	0.814	2.257***	0.838	2.311***
SEXdum			-0.689	0.502***	-0.666	0.514***	-0.725	0.485***	-0.622	0.537***
age			-0.026	0.974***	-0.028	0.972***	-0.035	0.965***	-0.036	0.965***
CAUC					0.473	1.605***	0.474	1.607***	0.359	1.432***
BLK					-0.251	0.778**	-0.255	0.775**	-0.317	0.728***
NATIND					0.711	2.037***	0.7	2.013***	0.664	1.943***
ASIANHAW					-0.747	0.474***	-0.711	0.491***	-0.812	0.444***
MAR							0.198	1.219***	0.114	1.12*
WDSdum							0.699	2.011***	0.643	1.902***
HSLESS									-0.101	0.904
HSGRAD									0.091	1.096
SOMECOLL									0.295	1.343***
BACHELORS									-0.05	0.951
LOWERSES									-0.75	0.472***
MIDSES									-0.489	0.613***
UPPERMIDSES									-0.286	0.751**
constant	-2.888	0.056	-1.44	0.237	-1.593	0.203	-1.54	0.214	-0.957	0.384
Nagelkerke	0.084									
Model x2		117.676		814.983		1037.122		1148.327		1291.368
df	8									

<.001 = *** <.01 = ** <.05 = *

Table 4: Log Odds of Experimentation with Cannabis

	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
	Model 1		Model 2		Model 3		Model 4		Model 5	
socpdlif	0.831	2.295***	0.871	2.388***	0.798	2.222***	0.793	2.209***	0.829	2.291***
SEXdum			-0.55	0.557***	-0.548	0.578***	-0.584	0.558***	-0.519	0.595***
age			-0.037	0.946***	-0.041	0.96***	-0.046	0.955***	-0.047	0.955***
CAUC					0.853	2.347***	0.856	2.355***	0.722	2.059***
BLK					0.378	1.459***	0.381	1.463***	0.316	1.372***
NATIND					1.218	3.381***	1.214	3.368***	1.179	3.251***
ASIANHAW					-0.327	0.721**	-0.304	0.738**	-0.481	0.618***
MAR							0.132	1.141***	0.073	1.076*
WDSdum							0.463	1.589***	0.45	1.568***
HSLESS									-0.465	0.628***
HSGRAD									-0.343	0.709***
SOMECOLL									-0.067	0.935
BACHELORS									-0.199	0.819***
LOWERSES									-0.495	0.609***
MIDSES									-0.269	0.764***
UPPERMIDSES									-0.166	0.847*
constant	-1.501	0.223	0.368	1.445	-0.045	0.956	-0.005	0.995	0.703	2.019
Nagelkerke	0.157									
mode x2		264.365		3109.48		3932.069		4060.108		4426.941
df	8									

<.001 = *** <.01 = ** <.05 = *

Table 5: Log Odds of Experimentation with Amphetamines

	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
	Model 1		Model 2		Model 3		Model 4		Model 5	
socpdlif	1.079	2.941***	1.101	3.007***	0.985	2.679***	0.977	2.656***	0.976	2.653***
SEXdum			-0.634	.530***	-0.598	0.55***	-0.662	0.516***	-0.643	0.526***
age					-0.026	0.974***	-0.034	0.967***	-0.033	0.968***
CAUC					1.011	2.749***	1.012	2.751***	0.959	2.609***
BLK					-0.359	0.699**	-0.364	0.695**	-0.406	0.666**
NATIND					1.552	4.723***	1.54	4.666***	1.511	4.531***
ASIANHAW					-0.358	0.108	-0.317	0.728	-0.331	0.718
MAR							0.221	1.247**	0.202	1.224**
WDSdum							0.762	2.142***	0.736	2.088***
HSLESS									-0.017	0.983
HSGRAD									0.111	1.118
SOMECOLL									0.398	1.489***
BACHELORS									-0.009	0.991
LOWERSES									-0.149	0.862
MIDSES									-0.053	0.949
UPPERMIDSES									-0.028	0.972
constant	-3.244	0.039	-1.98	0.138	-2.466	0.085	-2.419	0.089	-2.476	0.084
Nagelkerke	0.094									
Model x2		153.518		557.546		1034.764		1133.979		1187.097
df	8									

<.001 = *** <.01 = ** <.05 = *

Table 6: Log Odds of Experimentation with Hallucinogens

	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
	Model 1		Model 2		Model 3		Model 4		Model 5	
socpdlif	1.002	2.724***	1.047	2.85***	0.939	2.557***	0.927	2.526***	0.945	2.572***
SEXdum			-0.796	0.451***	-0.762	0.467***	-0.793	0.452***	-0.755	0.47***
age			-0.037	0.963***	-0.042	0.959***	-0.045	0.956***	-0.045	0.956***
CAUC					0.919	2.507***	0.906	2.475***	0.825	2.282***
BLK					-0.604	0.546***	-0.667	0.513***	-0.704	0.495***
NATIND					1.34	3.819***	1.32	3.744***	1.303	3.681***
ASIANHAW					-0.167	0.846	-0.148	0.862	-0.251	0.778
MAR							-0.176	0.839**	-0.214	0.808***
WDSdum							0.421	1.523***	0.409	1.506***
HSLESS									-0.271	0.762**
HSGRAD									-0.263	0.769**
SOMECOLL									0.07	1.073
BACHELORS									-0.201	0.818*
LOWERSES									-0.319	0.727**
MIDSES									-0.195	0.822
UPPERMIDSES									-0.073	0.929
constant	-3.006	0.049	-1.079	0.34	-1.467	0.231	-1.337	0.263	-0.895	0.408
Nagelkerke	0.134									
Model x2		154.618		1204.212		1784.196		1877.069		1949.942
df	8									

<.001 = *** <.01 = ** <.05 = *

Table 7: Log Odds of Experimentation with MDMA

	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
	Model 1		Model 2		Model 3		Model 4		Model 5	
socpdlif	0.675	1.965***	0.724	2.063***	0.617	1.853***	0.603	1.827***	0.641	1.898***
SEXdum			-0.616	0.54***	-0.573	0.564***	-0.523	0.593***	-0.515	0.597***
age			-0.094	0.911***	-0.098	0.907***	-0.087	0.916***	-0.096	0.908***
CAUC					0.877	2.403***	0.846	2.331***	0.735	2.086***
BLK					-1.105	0.331***	-1.227	0.293***	-1.244	0.288***
NATIND					1.089	2.971***	1.065	2.9***	1.071	2.917***
ASIANHAW					0.346	1.413	0.319	1.376	0.109	1.115
MAR							-0.583	0.558***	-0.586	0.556***
WDSdum							-0.123	0.884	-0.033	0.967
HSLESS									-0.642	0.526**
HSGRAD									-0.68	0.506***
SOMECOLL									-0.368	0.692*
BACHELORS									-0.218	0.804
LOWERSES									-0.54	0.583**
MIDSES									-0.468	0.627*
UPPERMIDSES									-0.502	0.605*
constant	-4.37	0.013	-0.742	0.476	-1.108	0.33	-1.174	0.309	0.073	1.075
Nagelkerke	0.189									
x2		16.724		820.596		1001.328		1034.193		1071.066
df	8									

<.001 = *** <.01 = ** <.05 = *