Alcohol and Cocaine Simultaneous Polysubstance Use: A Qualitative Investigation

by

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B.Sc., University of Calgary, 2007

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ABSTRACT

Alcohol is among the most common substance to be co-administered with a variety of other drugs. It is frequently used simultaneously (i.e., on the same occasion) with cocaine. The objective of this qualitative investigation was to explore the patterns, contexts, functions, harmful consequences, risk-taking behaviors, and gender differences associated with the simultaneous use of cocaine and alcohol. In-depth semi-structured interviews with simultaneous alcohol and cocaine users were conducted at a residential treatment centre in Ontario, Canada (n=10). Two independent coders conducted a content analysis of the transcripts. Results revealed that method of cocaine use was an important variable when describing a simultaneous use occasion. There was a wide variety of reported contexts, functions, and harms associated with simultaneous alcohol and cocaine use. This research contributes to a better understanding of the patterns, functions, and contexts of simultaneous use, along with the corresponding risk taking behaviors and harms in treatment clients.
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Introduction

What is Simultaneous Polysubstance Use?

Polysubstance use can occur simultaneously or concurrently (Earleywine & Newcomb, 1997). Concurrent polysubstance use (CPU) is a style of ingestion where different drugs are consumed on separate occasions. For example, an individual may drink alcohol one day and smoke marijuana the next. Simultaneous polysubstance use (SPU) refers to the ingestion of multiple drugs on a single occasion. For example, an individual might drink alcohol and smoke marijuana in a single session of drug use. This style of drug use may create a combination or interaction of the effects of both drugs, and is difficult, if not impossible, to identify in most population health surveys.

Earleywine and Newcomb (1997) addressed the distinction between concurrent polysubstance use and simultaneous polysubstance use in order to demonstrate the discriminant validity of these two constructs. They assessed simultaneous polysubstance use in a community sample \( n = 470 \) and examined the prevalence of drug combinations and whether simultaneous use can be distinguished from concurrent use. Their findings revealed that simultaneous and concurrent polysubstance use formed 2 correlated but discriminable constructs.

The State of the Literature

Much of the research that informs current understandings of psychoactive substance use and addictive behavior and which shapes policy responses is based on studies that concentrate on a single substance type. Cook and Reuter (2007) make the undeniable point that much research funding and hence research practice to date has occurred within substance-specific silos. This narrow focus is in distinct contrast to actual
patterns of use and related harms: most Canadians use more than one substance, often on the same occasion, and the consequences (positive and negative) may be strongly shaped accordingly (Fischer et al., 2000). Additionally, contemporary patterns of substance use, especially among younger people, seem to increasingly involve the use of multiple substances both over time and on the same occasion (Stockwell, 2007).

Simultaneous substance users represent an important target group for prevention and treatment programs, as they may experience greater health problems as compared to single substance users. There is strong evidence that patterns of multiple substance use are predictive of increased risk of harms (Pagano, Graham, Frost-Pineda, & Gold, 2005; Midanik, Tam, & Weisner, 2007; Cherpitel, 1999). With some notable exceptions, such as the introduction of tobacco cessation supports into some alcohol and drug treatment programs (e.g. McIlvain and Bobo, 1999), policies and programs are usually developed, implemented and evaluated one substance or behavior at a time without consideration of possible consequences for other substance use and addiction outcomes. SPU may have significant treatment implications in terms of problem severity and treatment responsiveness, as well as triggers for relapse. A better understanding of the patterns, functions, and contexts of SPU, along with the corresponding risk-taking behaviors is necessary for formulating effective policies and treatment programs. It is time for a cross-cutting research agenda spanning the alcohol, tobacco, and other drug fields (Stockwell, 2007; Cook & Reuter, 2007).

The importance of measuring patterns of alcohol consumption if we are to understand and predict acute and chronic alcohol-related harms more clearly has been recognized in the literature (Stockwell, 2007). However, if combined alcohol and other
substance use carries a higher risk of adverse consequences and such combined use is becoming increasingly common it follows that we need the capacity to measure patterns of combined use. Unfortunately, most population health surveys ask separate sets of quantity-frequency questions for each major type of substance, usually applying to a 12-month period, and it is impossible to identify simultaneous use patterns (Stockwell, 2007). For example, population health surveys will ask: During the past twelve months how often did you use [insert drug name] and how much did you use on average on one occasion? Unfortunately, this type of question, even if asked for each major substance type, does not allow the researcher to identify if these substances were used simultaneously.

Despite the difficulty identifying SPU using most population health surveys, there exists some research investigating SPU (Grant & Harford, 1990; Midanik, Tam, & Weisner, 2007; Barrett, Darredeau, and Pihl, 2006). Further, there are a multitude of possible drug combinations where some combinations are more common than others. Research has shown that treatment populations frequently use alcohol and cocaine simultaneously and concurrently (Pakula, Macdonald, & Stockwell, 2009; Wiseman & McMillan, 1996; Martin, Clifford, Maisto, & Earleywine, 1996). The current study investigates the patterns, contexts, and functions of alcohol and cocaine simultaneous polysubstance use and identifies differential acute and long-term impacts of simultaneous use versus use of cocaine alone or alcohol alone.

Prevalence and Patterns of Use

Overall, alcohol and cocaine SPU occurs in several populations including youth, rave attendees, university, community, and treatment samples (Barrett, Darredeau, &
Pihl, 2006; Grant & Harford, 1990; Barrett, Gross, Garand, & Pihl, 2005; Hoffman, Barnes, Welte, & Dintcheff, 2000; Heil, Badger, & Higgins, 2001). Additionally, when alcohol is used in a polysubstance context its initial use tends to precede the use of cocaine, greater quantities of alcohol and cocaine are ingested than when used alone, and alcohol is reliably used over several administrations interspersed with cocaine drug use (Barrett, Darredeau, & Pihl, 2006; Gossop, Manning, and Ridge, 2006a; 2006b; Heil, Badger, & Higgins, 2001).

Community Sample

Grant and Harford (1990) studied the prevalence of concurrent and simultaneous use of alcohol and cocaine in 3,526 male and 4,512 female Blacks, Hispanics, and Whites (aged 12+ yrs). They examined differences in substance use rates between sociodemographic subgroups. Participants had completed the 1985 National Survey on Drug Abuse. Simultaneous use referred to the use of cocaine with alcohol at the same time (or within a couple of hours) during the past month or past year. Population estimates show that approximately 4 million (2.4%) Americans had engaged in the simultaneous use of alcohol and cocaine for the month preceding the interview, rising to 9 million (4.7%) when the past year timeframe was considered. Both males and females aged 18-25 and 26-34 reported greater simultaneous use of alcohol with cocaine compared to the younger and older age groups. Differences for each substance use practice were found in different age, sex, and ethnic groups. Population estimates associated with simultaneous use within the month preceding the interview among 18-34 males was 2,466,000, representing 1,080,000 Whites, 226,000 Blacks, and 160,000
Hispanic. The population estimate of simultaneous use among females in this age group was 1,980,000: 1,790,000 Whites, 120,000 Blacks, and 243,000 Hispanics.

Recently, Midanik, Tam, and Weisner (2007) estimated the prevalence, assessed the predictors, and evaluated factors associated with concurrent and simultaneous use of drugs and alcohol in the United States population. Using data from the 2000 National Alcohol Survey (n=7612), respondents were asked if they used specific drugs in the last 12 months. Current drinkers who reported using each type of drug were asked if they used alcohol and the drug at the same time. Approximately 5% of current drinkers reported using drugs other than marijuana in the last 12 months where 1.7% reported drinking alcohol and using drugs other than marijuana at the same time. They found that specific rate for the simultaneous use of alcohol and cocaine/crack was 0.9%.

Using longitudinal data from a multiethnic community sample of 470 adults Newcomb, Galaif, and Locke, (2001) examined patterns of abuse and dependence on alcohol, marijuana, and cocaine. They found that men were significantly more abusive, dependent, and polysubstance dependent on all drugs than women. They found that the use of multiple drugs and alcohol is common in young alcoholics and drug addicts as well as in more general populations. Abusing one of alcohol or cocaine substantially increased the likelihood of also abusing a different drug. Results indicate that 12% only used alcohol, 3% only used marijuana and 1% only used cocaine. For the remainder who either abused or were dependent on a drug, over half of those who used alcohol also used another drug (marijuana or cocaine) and 93% who used cocaine either abused or were dependent on another drug (i.e. alcohol). Further, they found that early severe problems with cocaine increased later alcohol problems.
In two articles Gossop, Manning, and Ridge (2006a; 2006b) reported differences in alcohol and drug consumption behaviors and related problems among users of cocaine powder versus crack cocaine. They reported patterns of cocaine use and alcohol use when these substances were taken on their own, the order of administration of alcohol and of cocaine when the two substances were taken together, and changes in the doses of alcohol and cocaine when the two substances were taken together. Further, they investigated differences in the combined use of the two substances by users of cocaine powder and crack cocaine. Entry criteria for the study were current (previous 30 days) use of both alcohol and cocaine. Study participants ($n = 102$) were recruited from clinical and community (non-clinical) settings in London. Data were collected by face-to-face structured interviews. Substance use was assessed by asking participants to report the number of days on which they used each of the target drugs in the past 30 days, the typical amount used on a using occasion, and the route of administration (i.e. snorting/intranasal, smoking/chasing, injection). Cocaine consumption measures were taken separately for use of crack cocaine and cocaine powder.

They found that heavy drinking was common, defined as drinking excessive amounts over prolonged periods. Different patterns of combined cocaine and alcohol use were reported by cocaine powder and crack cocaine users. Cocaine powder users reported more frequent heavy drinking than crack users. Cocaine powder users tended to take increased doses of both cocaine and alcohol when these were used in combination. During high-dose crack using episodes, crack users tended to drink lower amounts of alcohol than usual. Crack users tended to use alcohol at the end of crack-using sessions. The authors concluded that the observed differences are not understood clearly but may
be influenced by differential effects of route of administration upon absorption, bioavailability, and the balance of euphoric/dysphoric effects. The authors report that little is known about specific behavioral patterns of concurrent alcohol and cocaine use, and that this issue deserves further research attention. These differences in alcohol consumption patterns confirm the importance of distinguishing between the use of cocaine powder and crack cocaine when investigating SPU. The current study further investigates the differences in SPU consumption patterns for cocaine powder and crack cocaine by asking the users to describe why they use in a certain pattern when using both alcohol and cocaine simultaneously.

**University Sample**

Barrett, Darredeau, and Pihl (2006) investigated SPU in 149 drug-using university students who completed structured interviews about their use of various substances. They defined SPU as the tendency for drug users to administer multiple substances concomitantly. For each substance ever used, participants provided details about the type, order, and amount of all substances co-administered during its most recent administration. The proportion of users that co-administered each other substance during the most recent recalled administration of the drugs was calculated. Consistent with previous reports, they found that alcohol is among the most commonly co-administered substance with a variety of drugs. Seventy nine point seven percent of cocaine users, co-administered alcohol during the most recent recalled administration of cocaine. Chi-squared tests revealed that when alcohol was used in combination with cocaine its initial use preceded the administration of the other substance. Moreover, when alcohol was used in combination with cocaine its use was found to reliably continue following the
administration of cocaine and to be interspersed with the use of cocaine over repeated administrations. Paired samples t-tests revealed that when alcohol was used with cocaine it was ingested in greater quantities than when used in its absence. Barrett, Darredeau, and Pihl’s (2006) results suggest that the pattern in which a substance is used may be related to other substances co-administered.

Rave Attendees

Barrett, Gross, Garand, and Pihl, (2005) examined rave-related SPU and investigated if patterns of substance use were associated with previous rave attendance. One hundred and eighty-six rave attendees (50% female) representing a wide range of ages (16 to 47 years; mean = 23.5, sd = 5.15) and levels of rave attendance experience (1 to 400 events) completed structured interviews in Montreal, Canada between November 2002 and September 2003 about their rave attendance patterns and their use of various licit and illicit substances at the most recently attended event. On average, participants reported using 2.5 (SD = 1.2) different psychoactive substances (excluding tobacco) at the most recent event attended. Approximately 80% reported polysubstance use. Alcohol and cocaine were amongst some of the most frequently reported substances. Alcohol was the second most frequently reported substance with 52.2% of the sample reporting use. In 88.7% of these cases it was used with a minimum of one additional psychoactive substance. The frequency of simultaneous alcohol use was found in 76.5% of cocaine users. Alcohol was typically consumed near or at the beginning of the drug-taking sequence and in only 17.6% of the cases did its initial use follow other substance administration. Their results indicated that when alcohol was used in combination with cocaine its use reliably preceded the initiation of cocaine use. A subset of respondents (n
= 27) completed a second interview to determine the reliability of their responses. Results indicated that respondents could reliably recall details about which drugs were used, the total doses administered, as well as order of drug administration.

**Youth Sample**

Hoffman, Barnes, Welte, and Dintcheff, (2000) examined trends in combinational use (taking two or more substances together) of alcohol and marijuana or alcohol and cocaine. They were determined using data from three large comparable samples of students in grades 7-12, from surveys conducted in 1983, 1990, and 1994 ($n = 27,335$, $n = 23,860$, $n = 19,321$). Each of the 3 samples was demographically diverse, permitting detailed analysis of trends in various adolescent subgroups according to gender, grade level (age), and race/ethnicity. To assess combinational use participants were asked whether they had used alcohol and marijuana or alcohol and cocaine or crack together during the past 6 months. These 2 forms of adolescent combinational use of alcohol and illicit drugs dropped sharply from 1983 to 1990, but increased or remained stable from 1990 to 1994. The use of alcohol and crack or cocaine together remained stable at a low level in the 1990s. Both forms of combinational use increased in the 1990s more among younger adolescents than among older ones.

**Clinical Sample**

Research reveals that alcohol and cocaine SPU is common among treatment populations. Pakula, Macdonald, and Stockwell (2009) examined settings and functions related to the simultaneous use of alcohol with marijuana or cocaine using a dataset from a study of clients in treatment in Ontario, Canada. Substance abuse treatment clients who reported using marijuana ($n = 499$) or cocaine ($n = 375$) in the past year completed a self-
administered questionnaire, and were asked how often they use these substances in combination with alcohol. They found that the highest prevalence for simultaneous use was found in clients in treatment for alcohol, at 87.5% for simultaneous use with cocaine.

Martin, Clifford, Maisto, and Earleywine (1996) assessed patterns of SPU in 212 problem drinkers (aged 19-63 yrs) who participated in an alcohol treatment outcome study. SPU was defined as both drugs being used within 3 hours of each other. Participants were given a Time-Line Follow-Back interview that assessed the use of alcohol and 9 other drug classes for each day of the 120 days before treatment entry. Sixty one percent of participants reported SPU during this assessment interval. Participants who reported SPU were disproportionately younger, male, and unmarried compared with those who did not report SPU. The most common alcohol/drug combinations included alcohol with cocaine, where 60% of SPU participants combined alcohol with cocaine.

Wiseman and McMillan (1996) examined cocaine abusers (N = 42) from an inpatient drug rehabilitation program. They administered a semistructured interview regarding combined use of cocaine with alcohol or cigarettes. Concurrent use of alcohol and cocaine was reported by 37 patients. Of patients who used cocaine and alcohol concurrently, 97.3% reported simultaneous use of these drugs. All but two concurrent users reported simultaneous use of alcohol or cigarettes with cocaine.

Not only is alcohol and cocaine SPU common in treatment populations but it also appears to be associated with increased harms. Heil, Badger, and Higgins (2001) examined concurrent dependency on alcohol among those seeking treatment for cocaine dependence. Data were obtained from 302 adults (mean age 30 yrs) enrolled in outpatient
treatment for cocaine dependence. Participants who did and those who did not meet
criteria for alcohol dependence were compared on demographics, drug use, treatment
outcome, and other variables. Results revealed that with regard to cocaine use, alcoholics
were more likely than non-alcoholics to report an intranasal route of administration, use
of cocaine in social settings, more simultaneous use of cocaine and alcohol, and more
adverse consequences of their cocaine use, such as more difficulty concentrating, violent
impulses, nausea, seizures, missed work, unwanted sexual relations, and having
physically harmed someone. With regard to alcohol use, alcoholics reported consuming
alcohol more frequently and in larger amounts, had longer drinking histories, and were
more likely than non-alcoholics to report increases in alcohol consumption when using
cocaine. Alcoholics reported more severe employment, legal, family and psychiatric
problems.

Settings and Associated Activities

Compared to patterns of use, there is considerably less research investigating the
settings, associated activities, and functions of alcohol and cocaine SPU.

Hoffman, Barnes, Welte, and Dintcheff, (2000) found that even after controlling
for the rates of use, older students still had higher probabilities of combinational use than
younger students. They suggest that this age effect may be due to age differences in the
social circumstances in which substance use occurs, such that older students may
encounter more settings in which drinking and illicit drug use coincide, therefore
providing more opportunities for combinational use. They suggest that prevention
programs should include warnings about the dangers of combinational use, especially for
younger adolescents. Pakula, Macdonald, and Stockwell (2009) examined the settings
and functions related to the simultaneous use of alcohol with cocaine using a dataset from a study of clients in treatment in Ontario, Canada (described above). They found that after controlling for age group and gender effects, simultaneous use of alcohol and cocaine was significantly more likely to occur at home alone, at home with friends, at work/school with friends, and organized drinking venues (bars, taverns, parties, clubs, concerts or sporting events). Those who reported cocaine use in organized drinking venues were the most likely to be simultaneous users of cocaine and alcohol. Some of the other setting variables, including work/school alone, with strangers, and when driving a car, were not significantly associated with simultaneous cocaine and alcohol use.

Other variables associated with SPU appear to be the availability of the substances. Behavioral economic models of substance choice describe the relationship between changes in unit price and consumption. Sumnall, Tyler, Wagstaff, and Cole (2004) investigated the influence of price upon hypothetical purchases of alcohol, amphetamine, cocaine and ecstasy. Forty-three current polysubstance misusers (25 males, 18 females; mean age 21.3 ± 2.8) were recruited into the study. They found that as the price of alcohol rose, demand was inelastic. Cocaine was a complement drug and as the price of cocaine increased, demand was elastic. Alcohol and ecstasy were substitute drugs but amphetamine purchase was independent, indicating asymmetrical substitution of alcohol and cocaine. Finally, demand for ecstasy was also elastic, but only cocaine substituted as ecstasy price rose. These results extend previous findings in substance dependent populations using behavioral economic models (Petry, 2001; Petry & Bickel, 1998) and support the opinion that purchasing substances is a complex process, involving both socio-economic and psychopharmacological factors. While subjects expressed a
preference for ecstasy, these behavioral findings indicated that alcohol was their drug of choice when economic considerations were brought into play. Because the choice of substances used may change depending on price, it is also important for researchers to understand the choice of substitute drugs when researching polysubstance use.

Functions/Motivations

Some research findings suggest that simultaneous use is incidental, whereas others have found that it is some form of uniquely sought psychological state. Hoffman, Barnes, Welte, and Dintcheff, (2000) found that analyses controlling for rates of use suggest that alcohol and marijuana or alcohol and cocaine forms of combinational use are incidental to the use of the individual substances, rather than uniquely sought "highs." On the other hand, Sussman, Dent, and Stacy (1999) suggest that alcohol and stimulant use may be used in their sample to “balance out” effects of stimulants. Pakula et al. (2009) found two functions that were significantly associated with simultaneous alcohol and cocaine use: “when I was angry” and “when I was tired.” Patients who reported using cocaine when angry had the highest odds of being a simultaneous user with alcohol.

Other clinical observations have indicated that alcohol may be employed by cocaine/crack users to attenuate negative effects of cocaine, especially when "coming down" from a cocaine binge. Magura and Rosenblum, (2000) examined this issue by interviewing 66 cocaine/alcohol users, with opiate dependency histories, enrolled in methadone treatment. A path analysis model was specified to test several hypotheses concerning the possible modulating effects of alcohol use on cocaine use. About 60% of the participants reported often employing alcohol to ameliorate discomfort associated with tapering or ceasing cocaine/crack use. The main findings were: (1) more intense
cocaine/crack craving and feeling that cocaine/crack use was “out of control” both led to increased use of alcohol to come down; (2) the more frequently alcohol was used to come down, the less use of cocaine/crack; and (3) more cocaine/crack use and more use of alcohol to come down both led to increased heavy alcohol use. Importantly, the data were cross sectional rather than longitudinal; thus, temporal sequencing and causal interpretations must be considered tentative. Consequently, treating alcohol abuse in this population must take into account the important function it serves in modulating cocaine/crack use.

Wiseman and McMillan (1996) examined cocaine abusers (N = 42) from an inpatient drug rehabilitation program. When asked why they combined alcohol and cocaine simultaneously 37% of users did not give a reason. Increased cocaine effect was perceived by 43% of simultaneous alcohol users and increased alcohol effect was noted by 20% of simultaneous alcohol and cocaine users. Participants who said they experienced increased cocaine or alcohol effect from combining cocaine and alcohol reported using significantly less cocaine per occasion compared to those who did not experience increased effect.

Additionally, each gender may have different reasons for simultaneously using alcohol and cocaine. McCance-Katz, Hart, Boyarsky, Kosten, and Jatlow (2005) in a double-blind, placebo-controlled, randomized study examined gender differences in response to administration of these drugs alone and in combination. Current users of cocaine and alcohol (n = 17) who met diagnostic criteria (DSM-IV) for cocaine dependence and alcohol abuse or dependence (not physiologically dependent on alcohol) and who were not seeking treatment for substance use disorders gave voluntary, written,
informed consent to participate in three drug administration sessions: 1) four doses of intranasal cocaine (1 mg/kg every 30 min) with oral alcohol (1 g/kg following the initial cocaine dose and a second drink at +60 min (120 mg/kg) calculated to maintain a plasma alcohol concentration of approximately 100 mg/dL); 2) four doses of cocaine and alcohol placebo; 3) cocaine placebo and alcohol. Pharmacokinetics were obtained by serial blood sampling, physiological measurements (heart rate and blood pressure) were obtained with automated equipment, and subjective effects were assessed using visual analog scales over 480 min. Responses to cocaine, alcohol, and cocaine-alcohol were equivalent by gender for most measurements. Women had higher heart rates following alcohol administration (p = .02). Women consistently reported higher ratings for "Feel Good" a measure of overall mental/physical well-being, for all study conditions, reaching statistical significance for cocaine (p = .05) and approaching significance for alcohol administration (p = .1). Women showed equivalent responses to drug administration with the exception of perception of well-being, which was significantly increased for women. These findings may have implications for differential risk for acute and chronic toxicity in women.

Related Harms

Use of cocaine, alcohol, and the two drugs simultaneously is common and the risk of morbidity and mortality associated with these drugs is widely reported. Research has found that simultaneous use of alcohol and cocaine produces a psychoactive metabolite cocaethylene (psychoactive ethyl homologue of cocaine which is formed exclusively during the coadministration of cocaine and alcohol) which exerts cardiovascular toxicity and potentiates cocaine hepatotoxicity in humans and mice (Pagano, Graham, Frost-
Pineda, & Gold, 2005). Midanik, Tam, and Weisner (2007) found that simultaneous use of alcohol as well as other drugs was significantly related to social consequences, alcohol dependence, and depression. Their results mirror clinical populations in which increasingly younger clients report use of alcohol and drugs and need treatment for both.

Cherpitel (1999), investigating injury and SPU, found that alcohol consumption is associated with injury occurrence and with risk-taking dispositions, and these dispositions, themselves, have been found to be associated with injury. Data on risk perception, risk-taking, sensation seeking, alcohol and drug use, demographic characteristics, and injury in the last year were explored from the 1995 National Alcohol Survey of 4,925 respondents. The article does not specify how they define SPU or how they measured it. Moderate drinking, alcohol treatment, drug use, simultaneous use of alcohol and drugs, and risk-taking dispositions were all positively associated with reporting an injury. Those reporting a treated injury were twice as likely to report using drugs at least monthly during the last year and more likely to report using drugs and alcohol at least once on the same occasion during this time. Simultaneous use of alcohol and drugs on at least one occasion during the last year was positively associated with injury occurrence.

Multi-drug use has been documented as a key risk factor in overdose and overdose mortality in several studies. Coffin, Galea, Ahern, Leon, Vlahov, and Tardiff (2003) examined the contribution of multiple drug combinations to overdose mortality trends. They analyzed all 7,451 overdose deaths in New York City during the period 1990-1998 using records from the Office of the Chief Medical Examiner (OCME). Results show that opiates, cocaine, and alcohol were the 3 drugs most commonly
attributed as the cause of accidental overdose death by the OCME, accounting for 97.6% of all deaths; 57.8% of those deaths were attributed to 2 or more of these drugs in combination. Accidental overdose deaths increased in 1990-93 and subsequently declined slightly in 1993-98. Changes in the rate of multi-drug combination deaths accounted for most of the change in overdose death rates, whereas single drug overdose death rates remained relatively stable. Findings suggest that interventions to prevent accidental overdose mortality should address the use of drugs such as heroin, cocaine, and alcohol in combination.

Gossop, Manning, and Ridge, (2006b) investigated differences in alcohol and drug consumption behaviors and related problems among users of cocaine powder versus crack cocaine. Crack cocaine users reported more serious problems associated with cocaine, other illicit drugs, psychological and physical health problems, and acquisitive crime. They also found that frequent heavy drinking represents a serious risk to the health of many cocaine users. Few in the sample had received treatment for cocaine or alcohol problems. Notably, healthcare professionals working in primary care or accident and emergency settings may need to be trained to detect, assess, and respond to concurrent alcohol and cocaine problems.

Pennings, Leccese, and de Wolff (2002) reviewed the medical literature on psychological and somatic effects and consequences of combined use of alcohol and cocaine in humans. They concluded that there is generally no evidence that the combination of the two drugs does more than enhance additively the already strong tendency of each drug to induce a variety of physical and psychological disorders. A few exceptions were noted. Cocaine consistently antagonizes the learning deficits,
psychomotor performance deficits and driving deficits induced by alcohol. The combination of alcohol and cocaine tends to have greater-than-additive effects on heart rate. Compared to when taken alone, cocaine given at the same time as alcohol resulted in an up to 30% increase in blood levels of cocaine. This is not seen when cocaine was taken first. Several contradictory reported effects on perceived inebriation were also noted. Both prospective and retrospective data further reveal that co-use leads to the formation of cocaethylene, which may potentiate the cardiotoxic effects of cocaine or alcohol alone. More importantly, retrospective data suggest that the combination can potentiate the tendency towards violent thoughts and threats, which may lead to an increase of violent behaviors.

Overall, there are several significant harms that are associated with alcohol and cocaine SPU. The current research further investigates the potential harms associated with alcohol and cocaine SPU in a treatment population.

Gaps in knowledge /Future Directions

Overall, there are many gaps in knowledge in the current literature investigating SPU. There is substantially more literature on patterns of use than on settings, associated activities, functions, and harms of SPU. Despite this, the literature on patterns of use is still relatively undeveloped in certain respects. The majority of researchers describing patterns of alcohol and illicit substance SPU only go so far as describing the percentage of their sample that use specific substances simultaneously. For a better understanding of polysubstance use the investigations on patterns, functions, harms, and contexts need to be stratified by method (i.e. smoking, snorting), dose, and by order (i.e. using alcohol after cocaine or vice versa). Additionally, patterns of use should be reported with respect
to gender and age. Research studies of the combined use of cocaine and alcohol should distinguish explicitly between the use of cocaine by different routes of administration, and this should be specified in the description of subject samples (Gossop, Manning, & Ridge, 2006).

Research should investigate the settings and associated activities in further detail. This information can be collected using more comprehensive measures of SPU. The investigation of settings and associated activities should be stratified by method of use for each type of substance combinations. Contextual and motivational factors surrounding specific patterns of polysubstance use such as the presence or absence of drug using peers, desire to achieve certain psychoactive effects and the availability of different substances, should be investigated (Barrett et al., 2006). It is also apparent that research on functions of simultaneous use is limited. Gaining a better understanding for why individuals use alcohol and cocaine in combination could inform treatment, policy, and procedures. This research may benefit from gender and sex based analysis because of the possibility that each gender may have different reasons for simultaneously using alcohol and cocaine (McCance-Katz et al., 2005). Further, settings and functions should be investigated jointly because the functions and patterns of combined use may differ depending on the setting in which the individual is using.

The literature on harms related to alcohol and cocaine SPU is also inadequate. Harms related to SPU must be investigated along with the investigation of functions and settings. There may be certain harms that are associated with simultaneously using substances for certain reasons or in certain settings. For example the simultaneous use of alcohol and cocaine should be investigated regarding its association with driving.
Currently, there is generally a lack of data regarding alcohol and cocaine co-use and driving. There is also a need for both physical and psychological harms associated with SPU to be investigated. Further, the order of administration of alcohol and cocaine SPU should be investigated because of the potential harms that may be associated with certain orders of administration. For example, research indicates that compared to when taken alone, cocaine given at the same time as alcohol resulted in an up to 30% increase in blood levels of cocaine which was not seen when cocaine was taken first (Pennings, Leccese, and de Wolff, 2002).

*Functional Analysis*

Functional analysis is a type of behavioural analysis where antecedents and consequences to a behaviour, like substance use, are identified with the goal of being able to use this information to reduce (or increase) the probability of performing the specific behaviour (Higgins, Heil, & Sigmon, 2007). Functional analysis, using behavioral assessment techniques can be used to identify the situational, cognitive, and behavioral factors that influence some dimension of a particular phenomenon, such as the quantity and frequency of substance use (Wolfe & Maisto, 2000). It is used to achieve a greater understanding of behavior, of a set of behaviors, or of the relationship among behaviors. The implicit acceptance of multiple and reciprocal influences on behavior that characterize a functional analysis (Wolfe & Maisto, 2000) makes this approach well suited for investigations into the relationship between cocaine and alcohol simultaneous polysubstance use and risk taking behaviors and related harms.

Functional analysis involves analyzing the antecedent and consequent events surrounding any episode of substance use (Monti et al., 1997). In functional analysis one
identifies situations and responses that lead to substance use, including types of
cognitions and emotional responses that that occur in reaction to a triggering situation as
antecedents to use (Monti et al., 1997). Functional analysis was used in the current study
in order to achieve a greater understanding of cocaine and alcohol simultaneous
polysubstance use.

*The Current Study*

The current research explored the psychosocial functions of particular multiple
substance use combinations. This research attends to the aforementioned gaps in
knowledge through an in-depth investigation of self-reported patterns, contexts,
functions, motivations, and harms of SPU in a sample of substance abuse treatment
clients. Specifically, this project focused on the combined use of alcohol with cocaine.

This research identifies typical settings and related activities of alcohol and
cocaine SPU within a small group of men and women in an Ontario substance use
treatment centre in order to begin to understand functionality. The investigation of
functions of use of different substances has relevance to a diverse range of prevention and
policy issues (Manski, Pepper & Petrie, 2000). The overall objective of this research was
to explore the combined use of alcohol and cocaine with the goal of contributing towards
a fuller understanding of this emerging pattern of SPU which ultimately will inform the
development of better policies, programs and treatments. In-depth qualitative interviews
with a small, highly selected group of individuals with much relevant experience of the
phenomenon yields insights regarding the widespread and growing pattern of combined
alcohol and cocaine use. Substance use research over the last decade has recognized the
importance of measuring different patterns of substance use in order to predict different
kinds of harmful outcomes. The current research investigated if multiple substance use is associated with extra risk taking behaviors or harmful behaviors in this sample of alcohol and cocaine simultaneous polysubstance users and investigated any links that can be established between functions/motives and particular risk behaviors, with an increased understanding for the implications for harm reduction. Additionally, this study enabled investigation of the relative contributions of various settings and substance use pattern variables in the genesis of acute harm from substance use – which is the most prevalent form of substance-related harm after lung cancer from cigarette smoking (Single, Robson, Xie, & Rehm, 1998).

Research Questions:

Participants in this research were a highly selected group of individuals, selected for their much relevant experience with alcohol and cocaine SPU. This formative investigation aimed to contribute to a fuller understanding of the phenomenon more generally. The research questions were designed to guide the investigation.

This research addresses four research questions:

1. What are the use patterns (frequency, variability, quantity, drug type, temporal ordering, and methods of use) in this sample of SPU treatment clients using alcohol and cocaine in combination?

The purpose of investigating the patterns of alcohol and cocaine SPU is to identify regularly occurring or embedded patterns of combined use in order to then understand their functional relationships with context, reasons for combined use, and risk potential.
2. What contexts are associated with the simultaneous use of alcohol and cocaine, compared to the use of alcohol or cocaine alone, in this sample of SPU treatment clients?

Contexts of substance use can offer powerful inducements and modeling that enhance the likelihood of substance misuse (Moos, 2006). The purpose of investigating contexts of alcohol and cocaine SPU is to get an understanding of how the contexts contribute to the functions and risk of harm of SPU.

3. What self-reported functions and motivational factors are associated with the simultaneous use of alcohol and cocaine, compared to the use of alcohol or cocaine alone, in this sample of SPU treatment clients?

The purpose of investigating functions and motivational factors associated with alcohol and cocaine SPU is to provide insight which may inform prevention, treatment, and harm reduction initiatives.

4. What are the harms and risk-taking behaviors associated with simultaneously using alcohol and cocaine, compared to the use of alcohol or cocaine alone, in this sample of SPU treatment clients?

Finally, the purpose of investigating the harms and risk taking behaviors is to get an understanding of what harms are specifically associated with alcohol and cocaine SPU and to understand how particular patterns of use, in certain contexts, for particular purposes may increase the risk of harms and risk taking behaviors. This information could also provide insight which may inform prevention, treatment, and especially harm reduction initiatives.

Method
Participants

Ten in-depth, semi-structured interviews with simultaneous cocaine and alcohol users were conducted at the Niagara Health System in Ontario. Participants in the study were simultaneous users of cocaine and alcohol, aged 18 years and older, drawn from a residential treatment centre in Ontario, Canada. All subjects had used cocaine and alcohol simultaneously (defined as having used cocaine and alcohol either together or within three hours of each other) in a normal month before their decision to enter treatment. Additional eligibility questions for the study were: (1) “In a normal month before your decision to enter treatment, how much cocaine would you use?” (10 grams, 10 times per week or $700 needed to qualify); and (2) “In a normal month before your decision to enter treatment, how many drinks would you have?” (at least 30 drinks needed to qualify). These eligibility criteria were used to ensure the participants had sufficient exposure to using cocaine and alcohol simultaneously.

Participants (5 male, 5 female) ranged in age from 18-46 years old ($M = 30, SD = 7.63$). Participant’s demographic information can be found in Table 1 (below) including the participant’s gender, whether they have children in their care, age, and source of income. In an attempt to protect the identity of the respondents, their place/type of employment is not matched with the rest of their demographic information. Of those who described being employed, the following places of employment and job positions were noted: manager of a bank, waitress, management position in electricity production, roofing, and working at a car dealership. Others described gaining income from selling drugs, being on welfare or disability, and borrowing from family and friends.
Table 1. Participant demographic information

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Gender</th>
<th>Children In Care</th>
<th>Age at interview</th>
<th>Source of Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>F</td>
<td>Y</td>
<td>34</td>
<td>Employment</td>
</tr>
<tr>
<td>R2</td>
<td>F</td>
<td>N</td>
<td>23</td>
<td>Employment</td>
</tr>
<tr>
<td>R3</td>
<td>M</td>
<td>N</td>
<td>28</td>
<td>Selling Drugs/ Disability for 10 years</td>
</tr>
<tr>
<td>R4</td>
<td>F</td>
<td>Y</td>
<td>27</td>
<td>Refused to answer</td>
</tr>
<tr>
<td>R5</td>
<td>M</td>
<td>N</td>
<td>31</td>
<td>Employment(past)/ Selling Drugs (past)/ Currently Unemployed</td>
</tr>
<tr>
<td>R6</td>
<td>M</td>
<td>N</td>
<td>30</td>
<td>Employment</td>
</tr>
<tr>
<td>R7</td>
<td>M</td>
<td>N</td>
<td>27</td>
<td>Employment/ Family</td>
</tr>
<tr>
<td>R8</td>
<td>F</td>
<td>N</td>
<td>36</td>
<td>Employment/ Welfare/ Borrowing from friends</td>
</tr>
<tr>
<td>R9</td>
<td>M</td>
<td>N</td>
<td>18</td>
<td>Employment/ Selling Drugs</td>
</tr>
<tr>
<td>R10</td>
<td>F</td>
<td>Y</td>
<td>46</td>
<td>Employment</td>
</tr>
</tbody>
</table>
Measures and Procedure

The interviews were conducted in a confidential manner at the treatment agency in a way that ensured that treatment staff were not aware of the subjects’ participation. In addition, recruitment, consent, and data collection were carried out by persons with no connection with the treatment program. A research assistant approached the clients, either at the beginning or end of a group therapy session, provided them with information about the study, and asked whether they will participate in the study. Those who expressed interest in participating arranged an interview. The interviewer went over the details of the consent form with the clients and the clients signed the consent forms before the interviews were conducted. The interview consisted of both open-ended and fixed response option questions regarding explanations for and patterns of simultaneous cocaine and alcohol use (Interview form in Appendix A). Simultaneous use was defined as the use of multiple substances occurring within 3 hours of each other (Barnwell & Earleywine, 2006). The interviews were about an hour long, and were conducted at the treatment agency. Participants received a $30 gift certificate to a chain grocery store for their participation.

The entry criteria specified that participants must have used cocaine and alcohol in combination in a normal month before their decision to enter treatment. Despite this, the recall of drug use occasions described by the participants was in the form of retrospective reports and in some instances these may have been reports of occasions that occurred several years earlier.

The principle investigator, Scott Macdonald, co-investigators, Tim Stockwell, Eric Roth, Samantha Wells, Russel Callaghan, Guilherme Borges, and study coordinator,
Basia Pakula, developed the interviews used in this study. The aims of the interview were to describe explanations, contexts and patterns of simultaneous alcohol and cocaine use among clients in treatment. The interviews were conducted as part of a pilot project for the development of a questionnaire for a larger CIHR study that seeks to describe the explanations and patterns of alcohol and cocaine use among clients in treatment and identify differential acute and long-term impacts of simultaneous use versus use of cocaine alone.

The aims of this pilot project were threefold: 1) identify and describe patterns of and explanations for simultaneous use of cocaine and alcohol; 2) determine the health profiles of alcohol only, cocaine only, and simultaneous users in treatment; and 3) examine gender differences in the patterns, explanations, and health indicators associated with simultaneous use of cocaine and alcohol. The interview consisted of broad open-ended questions in order to identify major themes. The range of health outcomes investigated were based on the four dimensions outlined by the World Health Organization (2006) and include physical harms, psychological problems, social harms, and economic harms.

During each interview the interviewer recorded the participant’s responses on a questionnaire document. All interviews were also tape-recorded and later transcribed. Each transcript was read in conjunction with the audiotape and the questionnaire document. The transcripts and questionnaires were examined by three researchers at the Centre for Addictions Research of BC (CARBC) (Richa Sharma, Basia Pakula, and myself) and the participant’s answers to each question on the questionnaire and
associated quotes were copied into one master word document. This document is extremely inclusive and includes many quotes from the participants.

Basia Pakula, who was part of collecting the interview data, has described to me that there was some difficulty with the interviewer when collecting the data. The interviewer was, at times, asking the participants about specific reasons, contexts, and patterns, instead of allowing them to more generally describe their experience. Reportedly, this was discussed with the interviewer, and her behaviour somewhat diminished. When reading the transcripts and listening to the tapes, this manner of questioning can be noticed. Despite this, the interviews were still contained highly valuable descriptions of alcohol and cocaine simultaneous use because of the richness of the interviews, and the many participant descriptions regarding simultaneous use occasions that were clearly not influenced by the interviewer. In an attempt to limit the use of responses to poorly phrased questions by the interviewer, the responses to such questions were given less weight than responses that were more spontaneously given by the participants. When the interviewer asked questions in such a manner the participant’s response was recorded and still coded along with the rest of the data, but when describing the categories and the associated quotes in the results section below, those reasons more spontaneously produced by the participant’s were primarily used.

Although ethnography was not used in the current study, the practice of using ethnographic methods and qualitative research to investigate alcohol and cocaine use should be acknowledged (Bourgeois & Schonberg, 2007; Sterk, Dolan, & Hatch 1999). For the current study, data analysis was developed using functional analysis and comprised several processes to identify the most salient themes emerging from the data.
Principles of functional analysis as they have been applied to addictive behaviors are relevant here and help to understand drug use (Miller & Munoz, 1982). Functional analysis can help understand motivations for using substances by identifying antecedents and consequences of a particular behavior and yield information about situations in which substances have been used in the past, and the needs that alcohol/drugs typically meet (Daughters et al., in press). This framework directly informed the themes and coding categories that were applied to the data as well as the search for relationships between code categories. For example, codes were developed that code for antecedents to combined alcohol and cocaine use, such as the use of one of the drugs, the setting, or a situation where one has drank too much but is in need of driving home. Codes were also developed to code for consequences of combined use, such as promiscuous sexual activity, the use of larger amounts of alcohol, and gambling. Although the interviews were not designed with this type of analysis explicitly in mind, the interviews cover some aspects of functional analysis including descriptions of antecedents, substance use behavior, and consequences.

Each participant’s answers to the questions asked in the interview underwent content analysis. Content analysis is “a technique used to extract desired information from a body of material by systematically and objectively identifying specified characteristics of the material” (Smith, 2000, p.314). Through content analysis a large body of qualitative information can be reduced to a smaller more manageable form of representation, where coding by multiple raters is commonly used to classify the information. Richa Sharma, a researcher working for CARBC, and I created codes, formed a coding manual, and manually coded the master word document. In the coding
manual each code category was defined. Each of us separately created codes for each question and theme and only discussed the names of the codes and general types of responses they represented. The codes that each of us independently developed were put together to form one coding manual. This coding manual aided in clarifying our thinking about the concepts being studied and helped describe these concepts in terms understandable to others. The coding manual laid out coding criteria for all the key and secondary variables. The coding manual was sufficiently detailed for the coders to make all necessary distinctions, but sufficiently abstract to be applicable to an unlimited number of novel responses (Bartholomew, Henderson, & Marcia, 2000). The manual contained sections which were relevant to each of the interview questions. The coding manual was created with the input of both coders, who had already heard and read the interview transcripts several times. The codes came from both a priori (the categories are specified from previous research and the questions being asked) and empirical (the categories emerged from the material to be analyzed) approaches (Smith, 2000). The coding manual included (a) definitions of units of material to be analyzed (e.g. a theme unit: the expression of a single idea), (b) categories or dimensions of classification, and (c) rules for applying the system (See appendix B for an example). It also had examples of what to code and what not to code for each category or dimension (Bartholomew, Henderson, & Marcia, 2000; Smith, 2000).

After creating the coding manual Richa Sharma and I independently proceeded to code the text of the master word document. Any extra codes that needed to be added, their code names, and what they coded for, were discussed. Also, we discussed some existing codes, but only generally referring to what they were coding for and did not
discuss specific responses that we were coding. In the end we had 299 codes. After we had both finished coding we discussed the codes we gave to each piece of text and agreed upon the final codes used to categorize the text.

In total, Richa Sharma and I coded 1129 pieces of text. We organized the codes into four categories: (1) one where we both had the same code for the same piece of text (agree), (2) one where we had different codes, but both of our codes were appropriate and were both used (both), (3) one where one individual had coded the text and the other individual did not have any code attached to the section of text, but we agreed with the code the one individual had (one), and (3) one where we had different codes for the same piece of text, and together we decided which code is more appropriate (different). Our codes agreed 70.59% of the time. We used both codes 3.54% of the time. On 23.21% of occasions we used codes where one individual had coded the text and the other individual had no code, but we later, with discussion, agreed on the code given by the individual. We were coding every line in a great amount of detail in order to capture the full description of the SPU. Therefore, it occurred relatively often, where one individual would have a code on a piece of text where the other one would not. This was not because the one without the code was not coding diligently, but because they already had several codes on that line of text. Finally, 2.66% of the time we had coded the same piece of text with different codes. In these cases, we discussed the meanings of the codes, what they were meant to code for, and which code would be more appropriate for the piece of text. We then made a decision regarding which code would be most appropriate for the piece of text.
Reliability calculations for Cohen’s Kappa Coefficient, an index of agreement that takes chance agreement into account (Bartholomew, Henderson, & Marcia, 2000; Smith, 2000) when using only the number of times we agreed, resulted in $K = 0.71$, which is considered as good inter-rater reliability (Leive, Rios & Martinez, 2006). Overall, we felt our assessment of the meaning of the text was overwhelmingly consistent. There were no major disagreements regarding how a piece of text should be coded or interpreted. In the end, we produced a final document documenting the agreed codes for each piece of text. This final document was then used to organize and categorize each piece of text into its assigned code.

Each code was then ordered from those that were coded the highest number of times to the least number of times. A list of respondents who were coded with a specific code was also included in the categorization of the codes. The purpose of this was to determine not only how many times a code was assigned to a piece of text, but also to designate specific participants of each code. This was particularly helpful in recognizing trends in gender differences because it allowed the gender identification of participants (males or females) to be associated with certain codes. The codes were then grouped under the research question with which they pertained, and then further grouped into categories and subcategories. The research question on patterns was associated with 48 codes, context was associated with 52 codes, functions was associated with 171 codes, and harms and risk-taking was associated with 64 codes.

What follows in the results section is a description of the categories and an illustration of these categories with the use of specific quotes from the research participants. The analyses and summary describe the patterns of relationships between
these variables (patterns of use, contexts of use, functions of use, and associated harms and risk-taking behaviors), in order to obtain a fuller understanding of alcohol and cocaine SPU.

This was also done with the objective of gaining an understanding of what constellations of factors put people at risk for harm. Where possible, this involved investigating the relationships between these variables and the transitions that the participants describe (whether they are changing their method of cocaine use, or progressing to increased combined use) and how this affects their overall functioning, their quantity and pattern of alcohol and cocaine simultaneous use, and their experienced harms and risk-taking behaviors. Additionally, the interview responses were compared by gender to see if either gender reported answers consistent with an increased risk of harm, or reported different patterns, contexts or functions of combined use. The trends in responses will need to be investigated in a larger sample.
Results

The following results will contain many quotes from all of the participants. All of the quotes will be reported by gender, age, and preferred method of cocaine use when using in combination with alcohol.

**Patterns of Simultaneous use**

On average, in a normal week before entering treatment, participants reported using 15.53 grams of cocaine (range: 3.5-31.5g/week, $SD = 8.18$) and 45.8 drinks (range: 12-140 drinks/week, $SD = 39.87$). In a normal month before entering treatment all participants reported using alcohol and cocaine on the same occasion. Three participants reported always using cocaine and alcohol in combination when using in a normal month.

Although, for the purposes of this study we defined simultaneous use as using alcohol and cocaine “within three hours from each other,” some participants report a more loosely defined personal idea of simultaneously use. For example:

“it’s kinda hard to define it, ...we’ll we go for 3 -4 days…and not even realize it, you know, how much” (female, 23, snorting)

As is evident by some of the following quotes, the participants reported occasions of combined use that span much longer than three hours.

**Preferred method of cocaine use**

Participants reported on both the type of cocaine use they generally used and their preferred method of cocaine use when using simultaneously with alcohol. For their general method of use, several individuals reported snorting cocaine for their first years of cocaine use and then later switching to smoking or injecting. Interestingly, despite smoking and injecting as their general method of use, some of these individuals reported that they preferred snorting when using in combination with alcohol. For using with
alcohol, seven participants reported preferring snorting in combination with alcohol, two
reported smoking in addition to snorting, and one reported preferring injecting in
combination with alcohol (see Table 2). As this thesis will illustrate, although the
participants were asked their preferred method of use with alcohol, different methods
were associated with different patterns, contexts, and functions.
<table>
<thead>
<tr>
<th>Respondent</th>
<th>Weekly Cocaine use</th>
<th>Weekly alcohol use</th>
<th>Simultaneous Use</th>
<th>Length of Cocaine Use</th>
<th>Method of cocaine generally used</th>
<th>Preferred method of cocaine use in SPU</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>16g</td>
<td>25 drinks</td>
<td>Y</td>
<td>5 years</td>
<td>Snorting (3 years) but then switched to smoking</td>
<td>Snorting</td>
</tr>
<tr>
<td>R2</td>
<td>14g</td>
<td>56 drinks</td>
<td>Y</td>
<td>7 years and 4 months</td>
<td>Snorting 7 years but switched to injecting and smoking (4 months)</td>
<td>Snorting</td>
</tr>
<tr>
<td>R3</td>
<td>8.5-12g</td>
<td>25 drinks</td>
<td>Y</td>
<td>13 years</td>
<td>Snorting, smoking occasionally; Started smoking crack when 15, snorted until 19</td>
<td>Snorting</td>
</tr>
<tr>
<td>R4</td>
<td>14g</td>
<td>8-16 drinks</td>
<td>Y</td>
<td>12 years and 3 months</td>
<td>Snorting (10 years), then switched to injecting (3 months), and then smoking (2 years)</td>
<td>Snorting and Smoking</td>
</tr>
<tr>
<td>R5</td>
<td>24.5g</td>
<td>70 drinks</td>
<td>Y</td>
<td>11 years</td>
<td>Snorting (8 years), smoking crack (most recent 3 years)</td>
<td>Snorting</td>
</tr>
<tr>
<td>R6</td>
<td>6-7g</td>
<td>16 drinks</td>
<td>Y</td>
<td>6 years</td>
<td>Smoking (private), and snorting (public)</td>
<td>Snorting and Smoking</td>
</tr>
<tr>
<td>R7</td>
<td>3.5g</td>
<td>40-60 drinks</td>
<td>Y (All the time)</td>
<td>7 years</td>
<td>Snorting</td>
<td>Snorting</td>
</tr>
<tr>
<td>R8</td>
<td>17.5g</td>
<td>14 drinks</td>
<td>Y</td>
<td>16 years</td>
<td>Injecting; 1st time coke at 20, injecting for a year</td>
<td>Injecting</td>
</tr>
<tr>
<td>R9</td>
<td>17.5g</td>
<td>140 drinks</td>
<td>Y (All the time)</td>
<td>4 years</td>
<td>Snorting</td>
<td>Snorting</td>
</tr>
<tr>
<td>R10</td>
<td>31.5g</td>
<td>70 drinks</td>
<td>Y (always)</td>
<td>N/A</td>
<td>Snorting</td>
<td>Snorting</td>
</tr>
</tbody>
</table>
**Order of use**

The preferred order in which participants reported using alcohol and cocaine differed by method of use. Overall, when snorting, participants preferred using alcohol before cocaine:

“...I would usually have a few drinks before I got the stuff ...yeah, and then call the dealer” (female, 23, snorting)

“...you start with alcohol and you drink a lot, right, then you would, you would do a line of coke...” (male, 28, snorting)

“I’d always drink first. I didn’t like the feeling of just coke...” (male, 27, snorting)

“when I drink, I get to a point where I am so drunk you know, and after I do that cocaine,...” (male, 18, snorting)

They also reported using alcohol after cocaine, when snorting. For example:

“Like you just wanted to go get the cocaine, so you got the cocaine and then you were high and then it was like ok let’s go to the bar.” (male, 30, snorting and smoking)

When snorting, the respondents reported patterns of using both substances repeatedly; therefore alternating the orders of use:

“I would have a beer, do a line and then I would have to wash it down because the taste is at the back of your throat once you snort it.” (male, 31, snorting)

“I would drink, I would uh...take my shower, snort a few lines, and I would drink 2 beers before I showed up at work for a 7 or 7.30 shift. ... We would be drinking at somebody’s house first and already doing lines...once we get to the bar, it was the same thing, beer, snorting, beer, snorting” (male, 31, snorting)

“So throughout the day, I am using the, I am using the cocaine to come just a little smidge down from the drinking.... But then at the end of the day I have to use alcohol to bring me down from the cocaine because as the day progresses, one small line is not enough. I mean you know, it just gets bigger and you have to use it till it’s gone.” (female, 46, snorting)

When smoking participants also reported using alcohol before cocaine, cocaine before alcohol, and both repeatedly:
“I could either start off with crack and then with beer, or I can start with beer then crack, then beer” (male, 31, snorting)

Finally, when injecting, participants reported using alcohol after cocaine or both repeatedly:

“Depends if you can score or not right [away]. If you could score, you’d be running out the door and get the bag and you’d hit as soon as you can. You know, you’d go find a washroom or your house whichever you can get to first, but then you can chill out at the beer store right. But then if you can’t get the guy on the phone you will go to the beer store looking for him.” (female, 36, injecting)

Overall, the participants described using in a different order depending on function of use or setting of use. These descriptions will be illustrated with the respective function.

**Amount of use**

Participants reported much variability with regards to the relative amount of each substance used when using in combination. The majority reported that, when snorting, using in combination allowed them to use more alcohol than when drinking alone:

“you drink such excessive amounts... Crazy amounts, that you would never drink when you were not using drugs.” (female, 34, snorting)

“When you’re snorting you’ll drink that whole bottle and you don’t feel a thing.” (female, 34, snorting)

“I would say with using cocaine, snorting it, I would, you could drink, uh...you could drink like a fish.” (male, 30 snorting and smoking)

“cocaine would allow you to drink copious amounts of more alcohol. That’s a known fact.” (male, 27, snorting)

“If I just drank without using, I would become sloppy, drunk and my night would be over a lot quicker. And I drank maybe one third of what I usually do had I been using. You know what I mean.” (male, 27, snorting)

“I think that’s pretty much the only reason I use them together. ‘Cause I could drink more.” (male, 18, snorting)

“...people didn’t use drugs. They drank and drank very heavily and there are many alcoholics within my circle functioning you know. But there isn’t anyone
except for my cousin whom I always did it with, that did use cocaine you know, so I could drink a 300 pound man under the table and of course everyone just thought that was just so cool. That I could drink as much as they could and walk out of the bar.” (female, 46, snorting)

Participants reported using more cocaine when using in combination when snorting,

“More cocaine...’Cause you’re constantly—’Cause you’re constantly trying to get yourself sober.” (female, 34, snorting)

smoking,

“The alcohol makes me want to do more and more drugs... it makes you want to do more and you think you can do so much when you are drunk that you do. Like you get balls when you are drunk right? So you are like oh I can put a whole 20 piece, I can put a 40 piece on here and smoke it.” (female, 27, snorting and smoking)

and injecting:

“There are other times when you go out on a huge binge on both.” (female, 36, injecting)

As a result, when snorting, participants also reported that they could use larger amounts of both alcohol and cocaine when using in combination.

Overall, fewer participants reported that using alcohol and cocaine in combination allowed them to use less alcohol,

“I power drink to start and then you are feeling pretty good and kind of lazy and then you do a round [of cocaine] and then you are kind of back on the ball. I use it as a tool to monitor to moderate my drinking almost, do you know what I mean?” (male, 27, snorting)

“Generally you drink less ’cause you weight your money on blow or something.” (female, 36, injecting)

or cocaine,

“...when I am using [cocaine] with alcohol, after I do that line, I follow it by the alcohol so I don’t have to do another line right away. So it spreads it out for me... So if I am, if I don’t have any alcohol, and I only have cocaine to use I have it on me or whatever like that, I am going to keep wanting to do it” (male, 18, snorting)
or both:

“for myself I would say almost less because if you were just doing cocaine then you do it more and more and more because a line only lasts so long right...but if you’re drinking and doing that you have like a double buzz kinda going on, so you might have a couple beers and then go do a line and then have maybe that time you have one drink then do a line, then you would have 3 drinks...then do a line. It was more spread out because you’re using two different drugs at the same time, right. So you had less of each using together yeah, because you’re working on two different buzzes so you don’t even want to keep going” (female, 23, snorting)

When smoking and injecting, a few participants reported that there was no difference in the amount of use:

“So smoking for me the amounts were the-there was the same pattern every day...It didn’t make me use more. Not for me, no.” (female, 34, snorting)

“we used cocaine [injecting] the same amount whether or not we were drinking” (female, 23, snorting)

Some also compared the amount of alcohol and cocaine used depending on method of cocaine use:

Smoking:

“Well, when you’re snorting it, I would say that I would drink ten times more the amount than I would when I was smoking it. I drink less now than I did when I was snorting it.” (female, 34, snorting)

“I can definitely tell you that I drank every day when I was snorting it. Whether it was just a couple but then you had to make yourself stop. But with the smoking, because I said I did both right? But now my addiction’s ended up with the smoking. I didn’t drink as much. Not even close. Like there was days and days and days when I didn’t. You just don’t feel like it. Like I didn’t drink at all when you were smoking it.” (female, 34, snorting)

“The beer would last me hours while smoking crack, but I can drink, I would drink before the crack, but while on crack, couldn’t drink.” (male, 31, snorting)

“Yeah I mean I have made attempts to get the beer, it just wouldn’t go down. The same beer would just sit in my hand while somebody drank 4. So, and I have seen people smoke crack and drink beer, but it’s just not for me.” (male, 31, snorting)

Injecting:
“and then, when I started injecting, I needed it to function, basically, whether I had a drink or not it didn’t matter.” (female, 23, snorting)

“Um…I don’t think I would inject while drinking… I have never injected while I have been drinking actually to be honest.” (female, 27, snorting and smoking)

Overall, the responses demonstrated that when snorting and using alcohol in combination, more of each substance was generally used. Contrarily, it appears that when smoking or injecting, less (if not no) alcohol is generally used.

These descriptions help confirm the importance of taking method of cocaine use into account when investigating alcohol and cocaine SPU. Even the same respondents report drastically different patterns of combined use when describing different methods of cocaine use. These quotes also shed light on potential reasons why one would report a different preferred method of cocaine use when using alcohol and cocaine in combination, compared to the method they generally use.

**Length of use**

Participants generally reported that using alcohol and cocaine in combination, when snorting, allowed them to use for a longer period of time. This longer use occurred for several reasons, including allowing them to remain coherent for longer, allowing them to drink for longer, and allowing them to spread out their use:

“But even if you went to the bar, I mean you could only spend so much money drinking and you get drunk and pass out and fall asleep. Cocaine you can keep going, going and going.” (male, 28, snorting)

“I always find myself using longer periods of time than intended but it has nothing to do with the alcohol.” (male, 28, snorting)

“I could go longer, stay up. I can have more time to drink more.” (male, 31, snorting)
“If I just drank without using, I would become sloppy, drunk and my night would be over a lot quicker.” (male, 27, snorting)

“Stay awake, stay in the party kind of thing” (male, 18, snorting)

“Because when I am using it with alcohol, after I do that line, I follow it by the alcohol so I don’t have to do another line right away. So it spreads it out for me.” (male, 18, snorting)

“And I wouldn’t black out or pass out first. You know, it’d keep me up too. I’ll be able to keep going.” (male, 18, snorting)

“You know I could, I could, my party could last longer. That feeling of wonderful feeling would last for hours and hours and other people would be passing out. You know” (female, 46, snorting)

A few participants reported that they did not really use for longer when snorting and using alcohol in combination. For example, one participant explains why using in combination didn’t mean using longer for her:

“didn’t really effect, like I just went by the bar clock, right so…and I had to go to work the next day, normally, um so…no, because basically I’d make, like whatever money I had, if I got a half gram or gram or whatever, I’d make it last from the time I got it until the bar closed…and then, more often than not I’d go straight home…there are the odd times where you’d pool all your money together, get another gram, let’s keep going, but for the most part I would drink till the bar was closed and go home.” (female, 23, snorting)

Instead of the combination allowing her to use longer, it appears that the bar setting, and having the bar close at a certain time regulated the length of her use.

**Frequency of use**

The reported frequency of combined use was somewhat variable with more participants reporting snorting and using alcohol daily and one participant injecting and using alcohol daily. Some participants report snorting and using alcohol in combination all day and night. Others reported using slightly less often, where they report only using in combination 3-4 times per week.
The Combination

Of specific interest, the participants report that there is something about using alcohol and cocaine in combination that is more desirable than the use of either substance alone, particularly when snorting:

“...if I wasn’t drinking and I was just snorting cocaine I would want to have a drink. If I was just drinking and didn’t have no drugs yet or I didn’t want to get high today, as soon as I’d had a couple of drinks, you were getting cocaine. They just go hand in hand.” (female, 34, snorting)

“...so even after drinking absolutely, can’t do one without the other” (female, 23, snorting)

“yeah, they go hand in hand right” (female, 23, snorting)

“I have never done sober lines” (male, 28, snorting)

“I have never used them apart...Like I have but I mean it’s just not, usually they go hand in hand.” (male, 28, snorting)

“...Went hand in hand. I would be at the bar drinking and run to the bathroom and do some lines, come back out, drink and that was in the early stages.” (male, 31, snorting)

“Um...I wouldn’t do cocaine sober just ‘cause I found it made me too anti-social and jittery. And um...the shakiness, the jitteriness and the anti-socialism kicks in very very strong.” (male, 27, snorting)

“Um...like I said earlier, I wouldn’t want to do coke without drinking” (male, 27, snorting)

Again, the method or cocaine use appears to be important with regards to the desirability of using in combination. For example, a respondent is explaining about how she feels about using alcohol when injecting, and is contrasting this with when she is snorting:

“Not drink when using? No. You pretty much always drink. Well, you try and find a way to drink...But then again, if you didn’t have it, it wasn’t as bad as if I would have been snorting and I didn’t have a drink or beer or something...Why did I want to? Well, I needed to when I was snorting...Injecting, it didn’t matter...yeah, it was more of a, yeah, sitting around watching TV, getting high and have a beer. It wasn’t “I need a beer”. It was “oh there is a beer”. And that’s
why I said though a glass of water, a glass of diet coke would have been alright. It's just the act of doing that.” (female, 23, snorting)

In this next example a respondent describes the difference when snorting and smoking cocaine:

“Yeah, um...yeah. It just uh...I don’t, yeah I don’t really know what else to say. It just started off like cocaine snorting, as a party drug...going out and drinking and mixing the two. They were a good combination and then it reverted into the crack smoking which didn’t, nothing mattered but the crack.” (male, 30, snorting and smoking)

Overall, from both the reported preferred method of combined use and the descriptions about the importance of the combination of alcohol and cocaine when snorting, it appears that snorting and using alcohol in combination provide a unique favored experience.

Transitions

Importantly, some of the participants described how their method of cocaine use changed over their years of substance use. They describe how this impacted their ability to function, their quality of life, and their desired high. Because of the preferences to snort cocaine and use alcohol in combination, described by the majority of the participants, it is important to keep in mind how these transitions to different methods of cocaine use may affect combined alcohol and cocaine use. When investigating combined alcohol and cocaine use one must also keep in mind the individual's preferred method of cocaine use, with or without alcohol, and how this method of use interacts with their combined use patterns.

One participant describes in detail the differences she experienced when snorting or smoking cocaine:

“I was snorting cocaine for three years. I would say two and a half to three years and then as soon as I tried smoking it, I was done. I still do the odd line but I’m a smoker. I free-base it... I tried it with a friend and even...I can say I was addicted
to the lines...the powder. I was definitely addicted to the lines but when you try the smoke like it just... It's a complete different high and you think nothing but about that drug. It just overcomes everything. It's horrible. It is, it's way addictive...I don't know if it makes sense that it's way more addicting. It grabs you way more...I only stopped smoking before I came into treatment. Now would you go back to snorting? No one goes back to snorting because the high is more intense when you smoke. Now, I've never done the needles but from what I've heard the needle injection is even a higher of a high than even smoking it. So if I were to try needles you would probably be able to guarantee you’d be in that class...My preferred method...I know this sound crazy but...if I could have stayed on snorting it, I would have stayed on snorting it. I hate to say that you can function but you do all the chores that you need to be doing. I would talk and giggle and live life even though I was an addict. When I got converted to smoking, there was nothing to be done but to get high. I didn’t do nothing. Work was even getting up to go to work was even a challenge. Like obviously I had a hard time getting out of bed period. Whether you're smoking it or snorting it. But you’re – there’s no ambition left, zero. Whereas with cocaine, when I was snorting it, I was invincible. I went to work. I ran both [store locations at work]. I went to the hospital with my husband every day. I went – I took of the house, my kids, the garden. I was supermom. Down the smoke and you are doing nothing but sitting there hiding by yourself. It’s horrible... When I was just snorting cocaine, I would just snort and use[alcohol]. When I converted to smoking, I would just smoke. The only time I ever snorted it was when I was out in public because it kept me social and I had to hide what I was doing.” (female, 34, snorting)

The same participant describes how she felt when she was snorting

“Oh, I was functioning. I was in the top three, for four years, in sales and I took care of everything until I flipped over to smoking...That’s when I pummeled and I went downhill fast.” (female, 34, snorting)

Another participant describes her transition from snorting, to smoking, to injecting:

“Snorting doesn’t work. Once an addict starts...smoking daily, the snorting doesn’t have the effect that it would if you were not to smoke...I moved to injection because the high isn’t as good anymore...’Cause you just couldn’t, [smoking] becomes just in your normal life. In your normal, like you don’t get that high. You don’t get high anymore. You just function...It’s not, it lasts for like 2-3 minutes but once you start inject, the high when you get, you actually get high...So, after [smoking] for so long, the high wears off because your body is so immune to it.” (female, 27, snorting and smoking)
The participant describes the effects of cocaine tolerance on their desired high and how changing methods of cocaine use was an attempt to achieve their desired high. Again, another participant describes the transition from snorting to smoking cocaine:

“Well, I originally choose it because I started out snorting and then after I ran out of snorting, the only place I could find it was on the streets from street women and I found [with smoking], in the long run, that I was getting higher...I started with lines and when I ran out... and then the only way I could find more in nighttime...was on the street, through street women and they introduced me to smoking it, which I liked much better.” (male, 30, snorting and smoking)

The multitude of factors that determine one's preferred method of cocaine use may also determine one's patterns of combined alcohol and cocaine use because of the described preference for snorting and using alcohol in combination.

**Contexts of Simultaneous Use**

**Location of Use**

There was a large variability in the reported locations where participants would use alcohol and cocaine simultaneously, in both private and public settings. Despite this, the location most often reported where participants would use alcohol and snort cocaine simultaneously was at the bar:

“I always, always used at the bars,” (female, 23, snorting)

“Went hand in hand. I would be at the bar drinking and run to the bathroom and do some lines, come back out, drink” (male, 31, snorting)

“Cause uh...really it was, everybody was doing it and it didn’t matter. Like you just wanted to go get the cocaine, so you got the cocaine and then you were high and then it was like ok let’s go to the bar.” (male, 30, snorting and smoking)

“...same thing, go to work you know, I got breaks, I go to the bar for a drink, saying while I am at the bar I’d do a line. And go back to work, nobody would notice, you know.” (male, 18, snorting)

Other locations that were often reported were using at work,
“Uh...I used it to get through my days when I am on the job.” (male, 31, snorting)

“...same thing, go to work you know, I got breaks, I go to the bar for a drink, saying while I am at the bar I’d do a line. And go back to work, nobody would notice, you know.” (male, 18, snorting)

“So....and begin to get ready for my day at work. Um...before I went to work, then I would need to do a line of coke. Um...and I always had a couple of water bottles, I would fill half with vodka and half with water and I would freeze them. And so I would take those to work with me. Um...I would put uh...slices of lemon in it, so that you can’t smell vodka right... Um...and so my day, you know within a few hours I would be drinking vodka at work and then of course, you would start to feel down, get a little tired. So I would go to the bathroom at work and uh do a line of coke. Sometimes I would do a line, sometimes then another, because once you start, and then another and then you realize you maybe a little too high so then drink to come down.” (female, 46, snorting)

at home,

“More of a social scene or at home” (female, 34, snorting)

“I would start off at my house” (male, 31, snorting)

“Yeah at home.” (male, 30, snoring and smoking)

“I would like to just do it at home with like maybe one friend if I could.” (female, 36, injecting)

and in public settings, like at parties:

“The trigger would just be there because I didn’t want to-because if I was in public you didn’t want to be drunk. I wanted to make sure-to make sure that...It sobers you up. When you snort it, it sobers you up. So there was lots of times where you don’t want to get high but you start to feel those first couple of drinks and you want to straighten out...Cause I’m in public and I don’t want to look like, “oh look at her she’s drunk!”. There’s many a times that I’d go to the bar with no drugs and I’d have to-and I was like I...I have to-I want to get high because I don’t want to be in public, staggering.” (female, 34, snorting)

“Bar, club didn’t matter. Or a gathering.” (male, 31, snorting)

“I did those in the early stages which I was at clubs and partying. ” (male, 30, snorting and smoking)

“It just started off like cocaine snorting, as a party drug” (male, 30, snorting and smoking)
“*Yup, parties or...always socializing.*” (male, 27, snorting)

Several individuals described using in a public setting, but going to the bathroom when using the cocaine, whether snorting,

“*Went hand in hand. I would be at the bar drinking and run to the bathroom and do some lines, come back out, drink*” (male, 31, snorting)

“*You know, so, you are just craving a higher and higher buzz, so you just want to-and plus you go to the washroom, you don’t want to go back so often and you are doing more, you know what I mean? So, and you just come out.*” (male, 30, snorting and smoking)

or injecting:

“*But I used to inject in public bathrooms sometimes too. There are certain bathrooms I could not go into for like almost a year. There were like certain bathrooms that I used to shoot up in ‘cause we would score and it was the closest thing to the guy right... they were just a couple of certain ones that we knew like. They weren’t monitored as well [laughs]... public washrooms, like at McDonalds or whatever. That anything you can lock a door on. ..Restaurants, or public washroom or just anything you know you can lock the doors and doesn’t have a lot of traffic. Bars are probably harder to hit up in ‘cause the staff know more what you are doing.*” (female, 36, injecting)

Other reported locations of use were both snorting and injecting in combination with alcohol in private and public settings, in friend’s homes, in a restaurant, or in a hotel.

One location of combined use that is particularly interesting, because of the associated risks with such behavior, was using while driving.

“*Yeah, or the road trip too.*” (male, 27, snorting)

“*usually in my house but I can be out with friends or I can be in the bar or I could be driving the car it doesn’t matter.*” (male, 28, snorting)

“*Usually in the car...Yeah, we would find somewhere to park.*” (male, 30, snorting and smoking)
Overall, participants described many places, both public and private, where they would use alcohol and cocaine in combination. Importantly, some participants described the ways in which they would hide their substance use in various settings:

“The only time I ever snorted it was when I was out in public because it kept me social and I had to hide what I was doing.” (female, 34, snorting)

“...so if you drink, you get depressed. Then you do lines, you get happy and then if you did too much lines and not enough drinking then you’d be off the wall and everyone would know you are screwed up and then because see I was trying to hide eh” (female, 23, snorting)

“go to work you know, I got breaks, I go to the bar for a drink, saying while I am at the bar I’d do a line. And go back to work, nobody would notice, you know. I would have sunglasses on or something like that.” (male, 18, snorting)

“Um...normal day I would, normal week day I would get out of bed, I would uh...generally have a couple of shots of vodka just for the shakes...First...So...and begin to get ready for my day at work. Um...before I went to work, then I would need to do a line of coke. Um...and I always had a couple of water bottles, I would fill half with vodka and half with water and I would freeze them. And so I would take those to work with me. Um...I would put uh...slices of lemon in it, so that you can’t smell vodka right...Um...and so my day, you know within a few hours I would be drinking vodka at work and then of course, you would start to feel down, get a little tired. So I would go to the bathroom at work and uh do a line of coke. Sometimes I would do a line, sometimes then another, because once you start, and then another and then you realize you maybe a little too high so then drink to come down.” (female, 46, snorting)

Two additional variables that appeared to be associated with the location and context of combined use were the social elements to the situation and the convenience of use. Participants reported that social elements in a context encouraged combined use:

“Yup, parties or...always socializing.” (male, 27, snorting)

“Just to socialize.” (female, 46, snorting)

Participants also described that the convenience of a certain method of cocaine use influenced in what location they would use. For example, participants described the convenience of snorting when using in different locations:
“it was easy to do in the bars and stuff” (female, 23, snorting)

“Well, smoking has an odor to it of course...Right, you smoking it, you can’t really sneak in your bathroom and do that when your 90 year old aunt is at the dining room table right? ... And injecting, you know, true that you can do it between your toes, but that’s pretty painful” (female, 46, snorting)

“Yeah, if I am in public, you can just usually crush up the bag and do a bump here, so, I mean snorting it is easier for that fact.” (male, 30, snorting and smoking)

In sum, there is a variety of locations where individuals reported using in combination, but bars appear to be especially prevalent when snorting cocaine and using alcohol. The location of use appears to depend on the convenience of the method of use and the social context.

People to use with

Again, there was a lot of variability regarding the people the participants reported using with. The majority of participants reported using with friends when snorting, smoking, or injecting, and using alcohol. Other people they report using alcohol and cocaine with were coworkers, partners, or family. For example,

“But there isn’t anyone except for my cousin whom I always did it with, that did use cocaine you know...” (female, 46, snorting)

A few reported that they would use alone, and a few reported that they would use with anybody:

“Anytime, anywhere, with anybody.” (male, 28, snorting)

“With whoever.” (female, 36, injecting)

“...everytime I go to the bar, by the end of the night I am hanging out with people who do it.” (male, 18, snorting)

One individual reported that he would smoke cocaine and use alcohol with sex-workers:
“Well, I, I originally choose it because I started out snorting and then after I ran out of snorting, the only place I could find it was on the streets from street women and I found, in the long run, that I was getting higher—smoking... I started with lines and when I ran out, and the only way I could, this was in the beginning and then the only way I could find more in nighttime...More drugs...was on the street, through street women and they introduced me to smoking it, which I liked much better.”” (male, 30, snorting and smoking)

He also expands on the circumstances and setting where he would smoke cocaine and use alcohol:

“smoking I only did it with like street women...On the street. Yeah. And the friends that I started out with, I couldn’t tell them that I was smoking because crack was the bad thing to do, but coke was ok...Um...I would say in the, at the end of it, like in the last year or so, I was mainly smoking and just drinking. So I would be at home you know, or in a hotel room and I would smoke and then drink. Have a couple of drinks.” (male, 30, snorting and smoking)

**Time of use**

In general, the participants reported both daily and weekend use. The individuals who reported using daily preferred snorting cocaine with alcohol and one preferred injecting cocaine with alcohol daily. The participants also reported snorting and smoking with alcohol on the weekends:

“All weekend...We just kept going right till Saturday and then sleep Saturday, late Sunday morning.” (female, 27, snorting and smoking)

“I am off Fridays, so Thursday night I start giving her. I give her all day Friday. And of late, the last 6 to 8 months, give her Saturday too, and then Sunday of course, you know, I am going to, my partner always goes to Church. Well I couldn’t wait for her to leave because then I could get blasted before she got back and got out by the pool. You know” (female, 46, snorting)

Further, some participants reported that they tried to refrain from using alcohol on weekdays:

“I would try and refrain from the alcohol especially through the week” (female, 34, snorting)
The participants also reported several times of day where they would use in combination. The majority of respondents reported using at night, or after work:

“At night. Or if you’re out” (female, 34, snorting)

“uh, snorting was after work because I worked the nightshift at a restaurant, so I was working from 3 to about 10, 11 o’clock at night and then the crew from work goes to the bar, has some drinks” (female, 23, snorting)

“Generally after work.” (male, 30, snorting and smoking)

“after work. So this would be around um…4 till 6, 6.30. I probably would have had 3 pints of lager, maybe 4. And at that point, I notice that the alcohol takes it effects because it’s been a long time since I have eaten and I feel lethargic. And I notice that there is a hard craving for cocaine at that point. And that’s when I go and use or make calls to use.” (male, 27, snorting)

“As soon as the [dealer] gets on. Like in the afternoon or usually evening or something.” (female, 36, injecting)

A few individuals also reported even using before work began:

“I would drink, I would ah…take my shower, snort a few lines, and I would drink probably 2 beers before I showed up at work for a 7 or 7.30 shift.” (male, 31, snorting)

“So….and begin to get ready for my day at work. Um…before I went to work, then I would need to do a line of coke. Um…and I always had a couple of water bottles, I would fill half with vodka and half with water and I would freeze them. And so I would take those to work with me.” (female, 46, snorting)

**Contexts where one would not use**

There were certain situations where some participants would report that they would not use in combination. These included not using while at work or because of work, while driving, or because they wanted to experience the effects of only one of the substances:

“I was at work snorting cocaine but I wasn’t drinking at work.” (female, 34, snorting)
“Um…just those times where you know like, um…we’ll find it at 2 am, I gotta work at 7, and I know there is an old saying that goes, “one’s too many and a thousand’s never enough”… You know what I mean. I really did that. I could never do just one line of coke… You know, I very rarely went to bed with some left over…I have flushed lots because my heart was going so heavy that I knew I’d probably have a heart attack if I kept doing it that I had to flush it to get rid of it. You can’t just put it away somewhere.” (male, 27, snorting)

“yeah, or I just didn’t feel like doing coke that day… Maybe certainly people I was around or maybe I just wanted to get drunk that time” (male, 28, snorting)

“even if I was doing cocaine like even if I was snorting it, like no I wouldn’t have a drink in the morning.” (female, 34, snorting)

“Sometimes I just wanted to be high but didn’t want any drink at all… Umm…I don’t know if alcohol takes away or heightens the effect of cocaine, I just think you know things should be done separately so you can enjoy the experience of that individual substance.” (male, 28, snorting)

Finally, some individuals reported not using in combination because of their children. In this sample only females reported having children in their care. Importantly, this variable seemed to have a significant impact on the females’ patterns and contexts of combined use.

“I consciously chose not to drink when I was using cocaine when at work or if my children there. Not that it makes it better if I was doing cocaine but I—the liquor was a big—I know it sounds crazy but that’s how you think. But this way if something happened I could drive because I’m not drunk even though I was high.” (female, 34, snorting)

“Because that’s when I had time off. My son would be gone…Time off work, my son wouldn’t be there.” (female, 27, snorting and smoking)

Overall, there's a wide variety of locations, people, times, and contexts where the participants would choose to use in combination. These variables interact with the participant’s reported reasons for using in combination, their method of cocaine use, and their patterns of use.

*Functions of Simultaneous Use*
Participants reported a wide variety of reasons and motivational factors associated with using alcohol and cocaine simultaneously. The reported reasons for use can be broadly grouped into psychological (both cognitive and emotional reasons), social, sexual, physical, practical, and financial reasons. A prominent theme across the reports of functions of simultaneous use is the notion that both substances are used simultaneously in order to help the individual function in their environment. Importantly, these descriptions differ as a function of the method of cocaine use, the order of alcohol and cocaine use, and the context in which the individual is using. The following will describe the functions of simultaneous use taking these variables into account.

**Functioning in general**

Many of the specific reasons that participants reported using were related to their ability to function in their environment. These will be described under each heading below. First, some participants reported how simultaneous use influenced their ability to function in general when snorting and using alcohol:

“Uh...I used it to get through my days when I am on the job.” (male, 31, snorting)

“Um...just so that I am not, you know like, it’s like some people have coffee, it wakes them up in the morning, you know go to work after that” (male, 18, snorting)

Importantly, this ability to function is in contrast to their ability to function if they were just using alcohol. The participants described that while only using alcohol they may experience difficulties functioning in their environment:

“Really really drunk. Um...my motor skills can’t keep up with my head skills...That’s a big thing that I have noticed now, like I want to put my foot there and adjust it a little bit and I am like whoa... Um...my speech isn’t as quick as I would like it to be...Um...nausea...Um...blurred vision...Apparently I make an ass of myself, that’s a given too.” (male, 27, snorting)
“Um...yes. Because I would um...drink and then you get a little out of control. You know you go wobbly and I would get extremely depressed. You know, my core issues. Not always but usually. Um...and I wouldn’t be able to fulfill my duties properly in my mind. So the cocaine, I felt like I could think better, think clear, you know and I could never sit still.” (female, 46, snorting)

“The trigger would just be there because I didn’t want to-because if I was in public you didn’t want to be drunk. I wanted to make sure-to make sure that” (female, 34, snorting)

The remainder of this section describes a wide variety of reported reasons for using alcohol and cocaine in combination. Importantly, many of these reasons are related to functioning within one's environment.

**Psychological**

There are several different psychologically related reasons that participants reported using alcohol and cocaine in combination. These include using to obtain a desired high, to satisfy certain cravings, or for certain desired cognitive or emotional states.

**Different high**

Several participants reported using alcohol and cocaine in combination, because it resulted in a different type of high. This high was described as being more intense, better and simply different:

“Um...it's a combination, it really is...Yeah it's a chemical that comes out right” (male, 27, snorting)

“Well in my eyes yes because I liked that high. It's a different high than if you just drink or just do coke...But the high you get when you do just coke is more intense in a different way.” (female, 46, snorting)

“Um...it will be more intense, but it'll just be kind of a better buzz...You know, the coke can make you a little bit rainy and the alcohol relaxes you....Just feels better.” (female, 36, injecting)

“It enhances the buzz all together.” (male, 30, snorting and smoking)
“well, obviously, what’s the word, made your buzz better… well, if you’re already drunk and you do a line, you’re like...you know what I mean, if you already have an alcohol buzz and then you did a rail, whatever, then you’re like that much better, that much happier” (female, 23, snorting)

From these descriptions it is already evident how the individuals described using in combination in order to feel a certain way, perhaps better or happier, because of the different type of high.

**Cravings and Desires**

One of the reasons individuals reported using in combination was because each drug served as a cue or triggered the use of the other drug. When snorting, the participants described how drinking would trigger cocaine use:

“Oh yeah, if I had a couple of drinks, it automatically triggered me to want to use cocaine.” (female, 34, snorting)

“Oh, intensified my cravings...well alcohol is a trigger for me. I mean after a couple of beers, I can tell myself all day long I am not going to use it, use it at work or whatever you know three four beers in and you are like” (female, 23, snorting)

“The alcohol makes me want to do more and more drugs.” (female, 27, snorting and smoking)

“Generally, every time I drank, I could hear it calling. Like it was there, it was saying “let’s go get a little bit”. ” (male, 30, snorting and smoking)

“My cocaine craving gets stronger the more I drink.” (male, 27, snorting)

“and it just sneaks up on you where every time you are drunk you want to get it.” (male, 27, snorting)

“You are always craving for a buzz. And then booze too. I don’t, I don’t see there being a, like isn’t it all part of parcel of addictive personality? You know especially with alcohol they so easily accept it. You know. Then alcohol looks so much more benign when you are using blow you know ‘cause it’s legal and stuff. I don’t know. And, and, and, I think, blow people, alcohol makes people a lot more likely to use blow ’cause you are like, if you are at a bar in a party situation and you are drinking and someone’s like “do you want to do a hit?” like as opposed
to you are at work and you are sober and you are working you know. Like of course you are going to be like “that looks really good” ‘cause you are already fighting it.” (female, 36, injecting)

“I could manage cocaine without alcohol if I had to. Manage the thought and the desire but I couldn’t manage the craving for cocaine while I was drinking.” (female, 46, snorting)

This desire was also evident when drinking and smoking in combination:

“Drinking would lead me to crack smoking” (male, 31, snorting)

“I would drink and then get into the crack” (male, 30, snorting and smoking)

“yeah, well the more you drink the more dope you crave” (female, 23, snorting)

These descriptions clearly illustrate how the association between alcohol and cocaine use in these participants is so strong that even the very use of alcohol, would bring about very strong cravings for cocaine. Interestingly, there is some evidence that the method of cocaine use interacts with cravings for using alcohol and cocaine in combination. For example, one participant described their cravings for cocaine when drinking, if snorting cocaine:

“For the snorting, definitely. Increased cravings for both…But the craving for the cocaine when you add the alcohol were just unbearable. Like that’s just-when you ran out, you were looking for more…If you ran out of the booze well, oh well. You’d love to have another drink of whatever you’re drinking but no, the craving would be for the cocaine.”

They then described their cravings for combined alcohol and cocaine use when smoking:

“No, because it didn’t matter about the alcohol as long as I had the coke.” (female, 34, snorting)

Clearly, this individual experienced different cravings for combining alcohol and cocaine when using different methods of cocaine.
Participants also discussed drinking as being used as a tool to stop the cravings for cocaine once cocaine use had already occurred. Both when snorting, smoking and injecting participants described using alcohol for this reason:

“um, well basically because of the situation, like that specific situation, it’s like if we didn’t have alcohol we just want more and more dope, right?” (female, 23, snorting)

“Oh. To mellow off or kill the cravings... And alcohol would help bring down gradually... Instead of that in and out of that intense urgings [for cocaine]” (male, 31, snorting)

“It just makes me come, it makes me drunk after the high goes away, after I have no more crack or anymore, no more money to get coke. But you become drunk so you don’t think about the coke so much anymore.” (female, 27, snorting and smoking)

Further, when snorting cocaine, participants also described their cravings and their desire for alcohol:

“The desire to drink was huge.” (female, 34, snorting)

“You would have a dry mouth from the cocaine and you have to wash it down” (male, 31, snorting)

“Because it just went hand in hand. It was an automatic trigger. You wanted to have a drink. They trigger each other.” (female, 34, snorting)

Generally, participants reported that using alcohol triggered their desire for cocaine and that using cocaine triggered their desire for alcohol:

“Well if you are doing blow, you are going to really want that drink to come down with... Right and if you are drinking and somebody’s like “do you want some blow” you are going to be like “yeah sure”. If you are totally sober, you might be like “no I could just really go for a drink”. But once you get up to blow, it’s a nasty thing. You are actually always kind of craving.” (female, 36, injecting)

“So of course alcohol is going to contribute to how much coke you are using. And it will probably go both ways ‘cause if you are high, it’ll help you come down with. And then, already, on your mindset of getting wasted.” (female, 36, injecting)
When snorting, this desire for the combined use of alcohol and cocaine is one of the many reasons why participants reported using in combination. Alternatively, some participants indicated that when smoking or injecting cocaine, there is a reduced craving or desire to use alcohol:

“You just don’t feel like it. Like I didn’t drink at all when you were smoking it. You get very dehydrated very fast because you don’t do nothing but sit there and—yep. It might take up too much time to walk to the fridge.” (female, 34, snorting)

“Injection is like a whole different thing on its own and alcohol is like I said, take it or leave it.” (female, 23, snorting)

As illustrated, the participants reported cravings for combining alcohol and cocaine varied as a function on the method of cocaine use.

**Cognitive**

Participants reported, remarkably often, using alcohol and cocaine in combination to achieve a desired cognitive state, whether to be more coherent or more sober. This reason for using in combination is related to the order of use, where alcohol is used first, followed by cocaine. It is also related to the amount of use, where participants describe being able to use more alcohol because the cocaine allows them to feel relatively coherent or sober. The following are several participant’s descriptions of how snorting cocaine after using alcohol would allow them to feel more coherent or more sober:

“It just seemed to hand in hand. It’s just something that you crave. Like for me, I’ve always drank and when you—it just intensifies it, I guess. When you’re snorting you just...you’re constantly with something in your—constantly, you’re thirsty, maybe that’s what it is but you can drink at excessive amounts and snorting it keeps you so straight. That’s probably why you drink such excessive amounts because you don’t—you can get me sitting here with nothing and I’ll have two to three drinks and I’ll start getting red cheeks. When you’re snorting you’ll drink that whole bottle and you don’t feel a thing. You’re totally coherent. It’s weird.” (female, 34, snorting)
“It would make you feel sober. It would make you feel sober. Were you sober? No, but it would make you feel coherent.” (female, 34, snorting)

“Just to, yeah just to straighten out.” (male, 27, snorting)

“So the cocaine, I felt like I could think better, think clear, you know...” (female, 46, snorting)

“You want to do a line to sober up. If I was getting really drunk or whatever, then I did a line, you feel less drunk. You feel more alert even though you are probably not.” (female, 23, snorting)

It was reported that using cocaine for this purpose would allow one to feel as though they had just woken up in the morning and it would allow them to stay out longer as opposed to going home, because they are inebriated from alcohol:

“snorting was to, because you’re getting kinda drunk whatever and you want to wake up, so you blast a line” (female, 23, snorting)

“I am probably pretty much drunk by like 5, 6 o clock at night...So that’s when you know I don’t want to go to home and go to bed at 5 or 6 o clock. I do a line or two and it’s, I am back up like I just woke up in the morning again.” (male, 18, snorting)

A few participants reported using cocaine for this purpose because they didn't want to appear inebriated and unable to function from the alcohol:

“It sobers you up. When you snort it, it sobers you up. So there was lots of times where you don’t want to get high but you start to feel those first couple of drinks and you want to straighten out...’cause I’m in public and I don’t want to look like, “oh look at her she’s drunk!”. There’s many a times that I’d go to the bar with no drugs and I’d have to-and I was like I, I have to-I want to get high because I don’t want to be in public, staggering...Or they’d call them stringer-uppers because you know, you’d better have a couple of lines before you leave here so that you’re coherent...” (female, 34, snorting)

“And I was hammered, that’s what happens. My buddy put me in the bathroom and said, we gotten straighten you out. I said what’s going on [and he gave me a line] and it’s like zero to here on point two you know...Back in the game. I feel like I just had those two drinks. You know, you just feel good.” (male, 27, snorting)
Participants also reported using cocaine after using alcohol for the purpose of sobering up or becoming more coherent before driving:

“...if I was drinking a lot and planning if I was going to use tonight and I get really drunk, oh I got a drive home...so you find someone with something and do a little bit to make you a little bit more alert I guess to drive... we all know that doesn’t really work! (laughs)... no, no it does because you feel like you’re more alert, your senses just open up when you are...if you’re starting to dose, like on the alcohol, when you do one [line], and everything opens up, you’re more aware” (female, 23, snorting)

“... when you are drinking you get a buzz an alcohol buzz and then you do a line of cocaine it takes away the effects of the alcohol so that you are not drunk...It makes you sober” (male, 28, snorting)

“Like for example if I am at a bar and I drink couple of pitchers before I get in my car just to straighten up, I would need a few lines...To sober me up... As strange as that sounds.” (male, 31, snorting)

“So say you get drunk at the bar and you have to drive home and you can’t, you snort a line and you can drive home. Now is that appropriate, no it’s not, but I mean, you know, I would rather have somebody drive home drunk with a line in them than I would just have them drive home drunk. Period.” (male, 28, snorting)

Finally, there is some evidence to suggest that using cocaine after alcohol to sober up or become more coherent may not apply when smoking:

“Only with snorting though. The smoking is like night and day. The smoking just makes you... you are not coherent whether you’re drinking or not.” (female, 34, snorting)

Another reported reason for using alcohol and cocaine in combination was that participants reported that it gave them more confidence. This confidence is sometimes described as having confidence in their ability to use cocaine initially or to use an increased amount of cocaine. This confidence was described whether snorting, smoking, or injecting:

“That, that’s what made me brave enough to smoke actually, was the alcohol... I wouldn’t normally smoke crack ’cause it scared me” (male, 28, snorting)
“Like you get balls when you are drunk right? So you are like oh I can put a whole 20 piece, I can put a 40 piece on here and smoke it.” (female, 27, snorting and smoking)

“It makes you ballsier.” (female, 27, snorting and smoking)

“Some of my older girlfriends from my job... So that was the first time and then I liked it and then it just spiraled from that I guess... I was drinking.... I was drinking first because they told me they were like “oh guys, do you want to try it” and I was like “no no no” and then I had a couple of drinks ‘cause at the back of my mind I wanted to try it but when I was sober I didn’t have the balls to do it I guess. So I drank drank drank, and once I was drunk enough I was like, yeah I’ll try it.” (female, 23, snorting)

Participants also reported their confidence as increasing when using in combination:

“Um...like I said earlier, I wouldn’t want to do coke without drinking, but like when I have 4 or 5 drinks, I mean I have to inebriated to like sloppy drunk and it’s just like you are feeling tired and you need a pick me up you know...To stay out, to stay social. I mean your confidence...you know when you have a couple of drinks, your confidence level goes up I mean you add a little more and your confidence level just goes up you know.” (male, 27, snorting)

“But at the 4th drink, or there is a point and I can’t really tell you where that is...Where you sort of go over that thing, where you are feeling unsure and if say something stupid, you know my eyes are getting all droopy and then so then I could do the coke and I could go back and do that again.” (female, 46, snorting)

This reported confidence also appeared to decrease as participants described their increased use or increased addiction to cocaine:

“The mental thoughts and feelings are so different when you just do cocaine. You can begin to really dislike yourself and be so hyper sensitive to the bark that’s coming out of your mouth. You don’t even think you are saying, and but when you do both, when I did both, my personal experience, I just felt like king of the world... Because with coke, as you do more more more, in my experience, you know by the time you get to the end of the 8 ball, I don’t feel like king of the world anymore. I am really anticipating the next one and not, yeah, it’s um...how am I going to sleep tonight. But, when I do both I feel like king of the world.” (female, 46, snorting)

“At first especially...Like I remember having just some of the most brilliant ideas I have had about businesses I want to start and stuff I want to do. But when you start losing control over that coke habit, then you know the confidence isn’t just
quite what it was when you realize it’s starting to get you, you know...” (female, 36, injecting)

In addition to feeling more confident, participants also reported feeling more powerful when using in combination:

“But yeah, it’s the balance ‘cause you are not too happy you are not too sad and you just feel kinda in the middle and you feel like you can conquer the world if you want to.” (female, 23, snorting)

“Um…I could feel like I do more...Stronger, tougher.” (male, 31, snorting)

“Um...from a sexual point of view and stamina, speed, strength...There is not inhibition there or anything. So there is a sense of power.” (male, 27, snorting)

“Because, when I am, like I said when I am using cocaine, I feel more, I feel more powerful than the person I will be talking to...” (male, 18, snorting)

This increased power appears to be attractive to participants from a cognitive, sexual, physical, social and emotional view.

**Emotional**

In addition to participants using alcohol and cocaine for cognitive reasons, participants reported several emotional reasons to use these substances in combination. These include using in combination to alleviate depressive, aggressive, irritable, anxious and paranoid feelings.

Some participants reported that using in combination allowed them to alleviate feelings of depression. Mostly, they described that using cocaine after using alcohol helps take away some of the depression induced by alcohol. Further, participants reported trying to keep their emotions balanced so that they never became too depressed:

“...if you’re drinking and you get a little bit depressed or something, you blast a rail-and it takes away the depression” (female, 23, snorting)

“it was more balanced like you would drink and keep balanced, right because if you do too much blow then you’re going to be all too hyper and if you drink too
much you’re going to be too depressed, so you’d do it all, try and balance yourself out.” (female, 23, snorting)

“...was pretty bummed there that, and the cocaine really could cut through the depression... But yeah I was depressed and really I find it helped the depression... the cocaine. You can be depressed and get drunk and feel a lot worse...” (female, 36, injecting)

“Um...yes. Because I would um...drink and then you get a little out of control. You know you go wobbly and I would get extremely depressed. You know, my core issues. Not always but usually. Um...and I wouldn’t be able to fulfill my duties properly in my mind. So the cocaine, I felt like I could think better, think clear, you know and I could never sit still.” (female, 46, snorting)

“You start to go down right? So, you start to get depressed or whatever and then it’s like whoa if I do one more line, just one more line then I will go home happy and I’ll go to bed.” (female, 23, snorting)

In addition, a few participants reported that using in combination helped to numb the emotional pain of things they had experienced in their past:

“It did create worse problems, whether it was together or not, because the substance use- because I used the substance on myself so that I didn’t feel anything because of him...He had cancer. So between dealing with that –the thing for me, why I started using- I mean I didn’t start using until I was twenty-nine, so I wasn’t a child. I tried it and so it was at a part of my life, where he had just found out, we didn’t know he had cancer yet but he had just got sick. I found this drug that numbed me. I didn’t feel nothing. It was wonderful in the beginning. And our marriage- I had left him and I didn’t want to go back but when he got sick, I went back. So not only did it help me numb myself, but I was tired, I was going to work and I was taking care of the boys and... It was very tiring, obviously and then I found this drug that “ppppppp!” [spitting noise] I can do everything. I did, for a long time. And it was just the more the problems got worse the more I started.” (female, 34, snorting)

“Well, yeah, the reason I started using way back was to you know bury the pain and all that crap that everybody talks about...like the specific reason the first I used, um, I was raped when I was 15... And then I did my first line like weeks after that.” (female, 23, snorting)

Interestingly, with the exception of one male, it was the women who focused on and described how using in combination would alleviate depressive and painful emotional feelings.
The participants described how using in combination would help reduce irritability and anxiety. For example, a participant compares using in combination to using cocaine alone. When using cocaine alone, she describes how she feels:

“... easily irritated, if you know what I mean. Like, people really bug you like if they rub you the wrong way. You are just like “go away, leave me alone”. Like for sure”

And she compares this to using in combination:

“You are not going to get irritated as easily.” (female, 36, injecting)

Other participants describe using alcohol after smoking and snorting cocaine to help reduce their anxiety:

“Just to come down easier so I am not, uh...anxious I guess.” (male, 31, snorting)

“... the palpitations aren’t as strong. You are numb from the booze right. You know what I mean... The anxiety is not there.” (male, 27, snorting)

Consistent with this anxiety reduction, participants report being able to relax more easily when using in combination, whether smoking, snorting, or injecting:

“Well, it just made you feel so free and not caring” (male, 30, snorting and smoking)

“Yeah 'cause there are no worries right” (male, 27, snorting)

“But, when I do both I feel like king of the world... I am just so relaxed and I don’t even know if people say stuff, I don’t care and you know I am fun to be with but just drink, I can get very nasty. Just do coke, I can definitely get nasty.” (female, 46, snorting)

“Yeah, and for the sexual experience, when you’re not totally coherent you tend to be more relaxed when you’re in the bedroom.” (female, 34, snorting)

The order of use also appears to play a role in helping relax, particularly when alcohol is used after using cocaine:

“It helped me relax.” (female, 34, snorting)
“um, well for one thing, you’re always busy with your hands so if you have a drink...you’re always fidgety, and the easiest thing to do is drink or smoke a cigarette, right” (female, 23, snorting)

“You know, the coke can make you a little bit rainy and the alcohol relaxes you...Just feels better.” (female, 36, injecting)

For some, using in combination may help them relax by allowing them to become less “hyper.”

“it was more balanced like you would drink and keep balanced, right because if you do too much blow then you’re going to be all too hyper and if you drink too much you’re going to be too depressed, so you’d do it all, try and balance yourself out.” (female, 23, snorting)

Along the same lines, participants describe how using in combination when snorting cocaine allowed them to be less paranoid when compared to just using cocaine:

“... on both, very little. But just cocaine by itself, paranoia is huge.” (male, 27, snorting)

A participant describes her paranoia when using in combination:

“Or people who are just using coke have become paranoid and all freaked out right...And I didn’t... I was doing both.” (female, 46, snorting)

and her paranoia when just being high on cocaine:

“Oh my paranoid... I Am watching the shadows man... Just someone coming, someone going to know. I am back in the bathroom ten times, checking to make sure I have not left any residue or and I am checking how much I have, how much more do I have, am I going to be able to use. If the phone rings I am like [gasps]. You know... I don’t really know what I am afraid of to tell you the truth. I am not really sure what I am afraid of... I am always paranoid there is stuff on my nose, like I am always you know...” (female, 46, snorting)

In contrast, some participants report that they are paranoid at all times, whether using in combination or using alone,

“I was paranoid for sure at all times, looking in the mirrors, cops, keep it low, keep everything hidden, put everything away after each use and you know” (male, 30, snorting and smoking)
and one participant reported being the most paranoid when using both:

“And that’s when I get really big paranoia...When I am on both. Yes... And when I am on both, I do more things that I should feel paranoid about like...Illegal activity or dealing on the street and you know giving somebody something and then walking away from them you know.” (male, 18, snorting)

This description of feeling more paranoid when using both substances appears to be related to the participant’s illegal activities when using both as opposed to the paranoia being simply due to the effects of the drugs themselves. Further, the paranoia reported appears to be a heightened fear of being caught and non-delusional in nature. Finally, how paranoid one feels may be related to the method of cocaine use, and the amount of alcohol one consumes. For example, a participant describes that when smoking crack they would not drink much, and they would experience paranoia with some delusions:

“I would hide in my bathtub, and I would shut the doors. I would put a water bottle on top of the doorknob just in case the doorknob moved. I was scared of the police breaking in my house. I would look under the doors to see if I could see footprints, people’s feet. I would check all the closets uh...I wouldn’t open them...And I would look out the window to see if there were any snipers in the trees. I would look on the walls to see if there is any red dots. Um...one day um...I thought the police could be in my house and they were just waiting, I thought the house was bugged. Um...I thought the police were in my house and they were going to bust me. Um... cocaine never made me paranoid.” (male, 31, snorting)

This participant described that they would not experience this paranoia when snorting cocaine.

From the descriptions of the paranoia, it is clear how debilitating these feelings become to the participant. It is then understandable why those who experience less paranoia when using in combination would choose to do so.

Several participants described how using alcohol and cocaine in combination is like a balancing act, where one is trying to maintain a certain homeostasis, whether emotional or physical:
“...just what I said before. Like the balance thing so if you drink, you get depressed. Then you do lines, you get happy and then if you did too much lines and not enough drinking then you’d be off the wall and everyone would know you are screwed up and then because see I was trying to hide eh... Up down up down up down you can’t find a balance which you never find” (female, 23, snorting)

“The first line no, ‘cause you enjoy the rush... and after that, you want to stay, it’s almost like a chemist’s act is. You find what your system likes and you want to moderate that.” (male, 27, snorting)

“So throughout the day, I am using the, I am using the cocaine to come just a little smidge down from the drinking...But then at the end of the day I have to use alcohol to bring me down from the cocaine because as the day progresses, one small line is not enough. I mean you know, it just gets bigger and you have to use it till it’s gone.” (female, 46, snorting)

By using alcohol and cocaine in combination, where one is a stimulant and one is a depressant, participants have an ability to use these drug properties to create a desired effect.

Of note, one participant, when asked if using in combination would relieve some anxiety or stress, described how adding alcohol and cocaine would alleviate his aggressive personality:

“Yes, yes. Aggressive personality, sleeping problems, yes, all that.” (male, 31, snorting)

Although this was not mentioned by other participants it may be of importance to explore in the future as other individuals may also be using alcohol in combination with cocaine to subdue an aggressive personality.

Social

Several participants reported using alcohol and cocaine in combination because it allowed them to be more social, and more socially comfortable. This was described often in individuals who preferred snorting cocaine in combination with alcohol:
“The only time I ever snorted it was when I was out in public because it kept me social and I had to hide what I was doing.” (female, 34, snorting)

“More of a social scene” (female, 34, snorting)

“Allows me to be more comfortable in social situations, yes. When you’re snorting it yes, it definitely does.” (female, 34, snorting)

“I am, believe it or not, quite a shy person. So when I started to be more social and go out with my coworkers and stuff, I needed something to bring me out of the shell or I’d just be the little one sitting in the corner...I mean, I started before, I used before that but I mean it was a big part when I started to use regularly... But I would be nervous and anxious going out with people because I am kind of shy and whatever so I think that, I mean I liked it, I used it beforehand when I found out they used it, sweet we got something in common right?” (female, 23, snorting)

“Um...I wouldn’t do cocaine sober just ‘cause I found it made me too anti-social and jittery. And um...the shakiness, the jitteriness and the anti-socialism kicks in very very strong.” (male, 27, snorting)

“To stay out, to stay social. I mean your confidence... you know when you have a couple of drinks, your confidence level goes up I mean you add a little more and your confidence level just goes up you know...I mean your confidence level goes up, so therefore your social” (male, 27, snorting)

“Exactly. You don’t hold back or anything. Your social skills are through the roof. Conversation is a lot more interesting. Your listening pattern is a lot bigger you know what I mean. You want to pay attention to what people are saying as opposed to just trying to get your word in sometimes you know.” (male, 27, snorting)

“I feel more confident. Like I can talk to people, like I am not so scared to talk to people ‘cause really I am not even knowing what I am doing pretty much. I can walk up to somebody I don’t even know, start a whole conversation with them.” (male, 18, snorting)

“Oh why do I bring the [alcohol]...I don’t know. Because I liked to have a drink with my friends here and there.” (female, 27, snorting and smoking)

As described, participants reported that their social skills improved and their ability to be competent and comfortable in social situations increased. This appeared to be particularly relevant for individuals who described themselves as being initially shy.

When using cocaine alone is contrasted with using cocaine and alcohol in combination
some describe how cocaine alone makes them more antisocial. The order of combined use in relation to being social was also described by some individuals. One individual reported using cocaine and then alcohol:

“Just to socialize.” (male, 18, snorting)

Another individual reported using alcohol, and then cocaine to be social because they did not like their social abilities when being high on cocaine alone:

“Um…like I said, I am a very social individual and I found myself becoming very inhibited and um…lack of social ability and jittery. You know like I didn’t like the edgy, kind of cringy feeling [when only snorting].” (male, 27, snorting)

Along with allowing the ease of socialization, a few participants also reported using alcohol and snorting cocaine in combination to impress others:

“…people didn’t use drugs. They drank and drank very heavily and there are many alcoholics within my circle functioning you know. But there isn’t anyone except for my cousin whom I always did it with, that did use cocaine you know, so I could drink a 300 pound man under the table and of course everyone just thought that was just so cool. That I could drink as much as they could and walk out of the bar.” (female, 46, snorting)

“There would be the odd times where someone would have like an insane amount and they are like “Oh I bet you can’t”. And you are like “yeah I can”. And then you use more than normal. But I didn’t do it everyday to impress people. No.” (female, 23, snorting)

Their descriptions about impressing others are both related to their ability to consume more of a substance than when using alone.

There were some situations where participants did not feel that using combination is associated with being social. For example, when smoking cocaine and using alcohol in combination a few participants described that it did not make them feel social. One participant described whether they would smoke cocaine and use alcohol in a social situation:
“Never…Away from everybody” (male, 30, snorting and smoking)

Another participant described how their desire to be social, and their social activity, changed as a function of how long they had been using cocaine and alcohol in combination. They described that at first, it helped their social abilities, but later on it hindered their desire to be social:

“I think in the early, in our early relationship, it helped. It helped for long conversations and and, um…took away inhibitions intimately. You know, let’s face it, I thought I was a straight woman, so the intimacy was a little difficult…It, and um…and to just have long conversations, you know we would sit with practically a bottle of vodka, she would drink two but I would only do the cocaine and she wouldn’t know and we would have long in depth conversation about things we would never tell anyone… So in the very very early of the relationship, I think it helped… eventually no. It certainly caused problems, you know money…Sexual relationships… And the fact that I wouldn’t I didn’t want to go anywhere. My outdoor social life became non-existent. I made sure that I always invited people to the house. And you know she has missed the going out.” (female, 46, snorting)

This change in the reasons for using in combination and the individual’s behavior may be related to their level of dependence on alcohol or cocaine, and appears to change as their level of dependence increases.

Generally, participants reported that using in combination increased their social abilities and this was a particular motivator for combined use.

**Sexual**

The combination of alcohol and cocaine is described as having a positive effect on sexual activity. This positive effect includes a reported enhanced sexual experience, increased libido, and lower sexual inhibitions. When participants were both smoking and snorting cocaine in combination with alcohol they described enhanced sexual experience:

“It obviously enhanced it but did I do it on purpose so that my sexual experience was better? No.” (female, 34, snorting)
“Ok, I slow down on the drinking but I still am sipping, like I said the straight alcohol, so it has a bit of a heavier effect. Um... I don’t get too, I don’t get drink too much while I am smoking crack, but I will do a shot and fire off a big one here and there and it does intensify...Everything. Yeah, yeah. But yeah, the sexual stimulation is like the major priority.” (male, 30, snorting and smoking)

“Um...I have used it to enhance sexual experiences.” (male, 31, snorting)

“Because it’s so intensified that I just wanted to keep it going, keep it going again and again and again.” (female, 46, snorting)

“well, I found it, I found it much easier to come” (female, 46, snorting)

Whether purposeful or incidental these participants reported an enhanced sexual experience. Participants also reported an increased desire for sexual activity that, for some, became quite intense:

“Yeah, it probably intensified. It made it more-wanting to have sexual ability. You just wanted to have sex. I’ll just tell you the way it is. [laughs] Yeah, it made you more-you wanted to-you wanted to.” (female, 34, snorting)

“Right. But drinking, drinking and like snorting um... I did get like horny. Whatever you want to call it.” (female, 23, snorting)

“Huge, huge. Your sexual appeal goes through the roof.” (male, 27, snorting)

“I have never remembered it to be so, so intense and I could almost see where a man would rape a woman.” (female, 46, snorting)

Consistent with an increased desire for sexual activity, participants reported an increased likelihood of having sex:

“I am more sexually active.” (female, 27, snorting and smoking)

“Oh well yeah, jeez you know, yeah, sometimes in a pressure situation where you are addicted and people are offering you coke like that...that you are already, well if it’s something that you are already kind of involved with or something like that, then you know you are probably more likely to have sex if they give you coke [laughs]. You are drunk right, you want it. But it’s, but it would be, it wouldn’t be like, it would be with someone you would have had sex with anyways... you just hoe for it, I wouldn’t hoe for it anyways. I would go out and steal before I would go out and hoe.” (female, 36, injecting)
One participant compared their likelihood of having sex when using cocaine alone with using in combination with alcohol. They described that using in combination would increase their likelihood of participating in sexual activity:

“But you know, when it comes to cocaine use, I am not saying I don’t get horny or whatever but I stopped having sex just because cocaine was more of my ride. I mean I could have a naked woman beside me saying “Touch me” and I am like, I want to but I can’t because I am high. I am so fucking high that I can’t. I can’t do it. Can’t. I want to just do more coke ...If I have some alcohol in there, I might be able to- you know.” (male, 28, snorting)

Specifically, participants reported that their sexual activity was affected because it lowered their inhibitions and increased their stamina:

“Um...like I said, stamina, strength, no inhibition whatsoever. Um...there is no feeling of... “should I?”, you know what I mean. You don’t second guess and you are maneuvering” (male, 27, snorting)

“I think in the early, in our early relationship, it helped. It helped for long conversations and, um...took away inhibitions intimately. You know, let’s face it, I thought I was a straight woman, so the intimacy was a little difficult.” (female, 46, snorting)

“Um...like I said, your stamina has increased big time. For myself anyways... Um...to the point where you go as long as they want you to. You know what I mean.” (male, 27, snorting)

“'cause just high, well snorting, I had no sex drive...Right. But drinking, drinking and like snorting um...I didn’t have, I did get like horny. Whatever you want to call it...and then, but also like, guys would come on to me... And when I am drunk and high, it’s like “hey”, normally I would be like “you are a scumwad” and not wanting anything to do with them. But when I am drunk and high and it makes me feel good then all of a sudden I am going to go for it. So, it did affect...Broke down my walls, my inhibitions.” (female, 23, snorting)

Overall, participants described how the combination of alcohol and cocaine increases the likelihood and enjoyment of sexual activity when compared to using cocaine alone. Some participants appeared more comfortable discussing combined use in relation to their sexual activity than others, but overall, it appears that using in
combination to improve the sexual experience was a particular motivation to use in combination.

**Physical**

Participants reported several physical reasons that motivated them to use alcohol and cocaine in combination. These include using in combination to help come down from the cocaine high, to sleep, to be able to ingest more alcohol, to increase energy, to eat or drink, and to alleviate physical pain.

One of the most often reported reasons for using alcohol and cocaine in combination was to help come down from the cocaine high. Alcohol tended to be used after cocaine because the alcohol was reported to help with the comedown. This was reported for all three methods of cocaine use (snorting, smoking, and injecting):

“When you come down it, you just come drunk. You don’t, when you come down off the cocaine, you are drunk so that you don’t feel that gross feelings and just want more and more and more [cocaine].” (female, 27, snorting and smoking)

“Well if you are doing blow, you are going to really want that drink to come down with.” (female, 36, injecting)

“I think we take alcohol so that once the high wears off you are still drunk and you are not so fucking...” (male, 28, snorting)

“But you still want you know those loose drinks to come down with.” (female, 36, injecting)

“So of course alcohol is going to contribute to how much coke you are using. And it will probably go both ways ‘cause if you are high, it’ll help you come down with. And then already, on your mindset of getting wasted.” (female, 36, injecting)

“Well the drinking is really good when you are coming down because you get all shaky right. You feel horrible.” (female, 36, injecting)

“Just to come down easier so I am not, uh...anxious I guess. I don’t know the right word for it but just didn’t want to feel the regular feeling of coming down after crack without anything.” (male, 31, snorting)
“I mean when you come off of the coke, I hate it the way it made me feel when I was smoking it. I hated all of it but I was addicted to it. So when it wore off and I just had a couple of drinks, you’d be smiling again and giggly and I liked that.” (female, 34, snorting)

At times, the order of cocaine and then alcohol use to help with the comedown was not so clear-cut. This is because participants reported using both alcohol and cocaine throughout their drug using occasions to help them come down. In addition to using alcohol to help comedown throughout the drug use occasion, participants consistently described using alcohol at the end of the drug using occasion to help with the comedown:

“Um...and so my day, you know within a few hours I would be drinking vodka at work and then of course, you would start to feel down, get a little tired. So I would go to the bathroom at work and uh do a line of coke. Sometimes I would do a line, sometimes then another, because once you start, and then another and then you realize you maybe a little too high so then drink to come down.” (female, 46, snorting)

“Alcohol played a factor. After I would smoke crack, it would uh...it would serve two purposes. Drinking would lead me to crack smoking and after when I run out of crack and I am coming down, I would need the beer to get me down...Help, help me come down.” (male, 31, snorting)

Using the alcohol to help with the come down was also described by the participants as a particular motivator so that they would not continue to use cocaine in order to avoid the comedown.

“... if you are using cocaine alone, you would use the cocaine longer ‘cause if you don’t have, if you can, if you got like enough money to keep using more coke ‘cause you don’t, you are not drinking so you don’t have anything to get down on so you want to stay up. So you will keep using. Do you know what I am saying?...But the alcohol kind of helps you land...Oh yeah. It’s really painful coming down... On blow, like it feels awful. You just feel so brutal without that drink it’s really harsh like, really harsh...but god it feels better if you can have a drink. Like a couple of drinks, just enough you know to make you feel better. Yeah.” (female, 36, injecting)
Not only does alcohol played a useful role with helping one come down off the cocaine, it also helps one to be able to sleep after using cocaine. This combined use appears to help the substance users continue to partake in daily activities such as sleeping:

“Once a month I could go to my doctor and I would get Demerol, valium something to sleep and I could use those sometimes with the alcohol. So at the end of the day, at the end of let’s say Friday, I know I have to work Saturday, I am so high I can’t drink enough to bring me down so I can get to sleep. So now I can, I can take a handful of either an opiate, or a valium or Demerol with a glass of vodka and I could get to sleep... So throughout the day, I am using the, I am using the cocaine to come just a little smidge down from the drinking... But then at the end of the day I have to use alcohol to bring me down from the cocaine because as the day progresses, one small line is not enough. I mean you know, it just gets bigger and you have to use it till it’s gone.” (female, 46, snorting)

“Helps me sleep, yeah” (female, 34, snorting)

“...if you are drunk and high usually your high buzz would wear off first and then because you are still drunk you can fall asleep better whereas you are just doing blow all day, you are not going to sleep for a very long time.” (female, 23, snorting)

“Helped the sleep problems.” (male, 31, snorting)

“Yeah, I needed to drink more at the end of the evening to be able to fall asleep.” (male, 27, snorting)

“Oh yeah. You may never go to sleep without those drinks.” (female, 36, injecting)

Participants also reported using alcohol and cocaine in combination, because it would allow them to eat. For example, a participant described how using alcohol would help them eat:

“it would help me regain my appetite.” (male, 31, snorting)

Others reported using alcohol and cocaine in combination simply because they become thirsty after snorting or injecting cocaine:
“When you’re snorting you just—you’re constantly with something in your—constantly, you’re thirsty…” (female, 34, snorting)

“Then I drink sometimes because I am thirsty...To quench my thirst” (male, 28, snorting)

“you would have a dry mouth from the cocaine and you have to wash it down” (male, 31, snorting)

“Injecting, it didn’t matter...yeah, it was more of a, yeah, sitting around watching TV, getting high and have a beer. It wasn’t “I need a beer”. It was “oh there is a beer.” And that’s why I said though a glass of water, a glass of diet coke would have been alright. It’s just the act of doing that.” (female, 23, snorting)

Another reported physical reason for combined use is that it allows one to physically be able to function, to continue drinking and to stay out:

“Mainly the tool... Like to be able to drink heavier...Um....because sometimes you are not moderating your consumption over the evening and you drink too much too fast right, right. So you don’t want to shut her down at 9 pm when the party’s going, you want to have a real straight, no, keep going, straight, no, keep going, straight, no...Just to, yeah just to straighten out.” (male, 27, snorting)

Others report using in combination because they feel as though they have more physical energy:

“But usually just great conversations and I have lots of energy.” (female, 46, snorting)

“Uh...energetic.” (male, 30, snorting and smoking)

Finally, participants reported using a combination to help with physical pain:

“It would help, I, my back was hurting. I had some pains and the only thing that would help was either more lines or more drinking. I don’t know if it cured my depression or not.” (male, 31, snorting)

In sum, participants reported using alcohol and cocaine in combination for physical reasons. Helping them function physically whether to come down, sleep, eat, stay out, have physical energy, or alleviate pain would motivate individuals to use alcohol and cocaine in combination.
Financial

Several participants reported that using both alcohol and cocaine simultaneously reduced their overall costs. Participants reported that, when snorting, using simultaneously would reduce the cost because it allowed them to drink less:

“...if I was drinking and using, I’d probably spend less than if I were just drinking... ‘cause like I said, I’d have days where I am like, I am not going to use. Then I’d have a couple of drinks and I’d be like ok I am going to drink for the next three hours and it’s going to cost me a lot so I’ll go grab a halfer or I’ll grab a gram.” (female, 23, snorting)

or because it allowed them to use less cocaine:

“... ‘cause when I am using both together, I don’t need as much cocaine to make it last my whole whatever 6 hour bender I am going on or between 12 and when I go to bed ‘cause I can spread it out... It would be more than $3000 a day if I didn’t have alcohol.” (male, 18, snorting)

Whether or not using in combination reduces financial cost may be individually determined. This appears to depend on the amount of a substance one can use alone, perhaps relating to their dependence on that substance. Their ability to use one substance to help mediate their use of the other substance appears to be vital to reducing the financial cost when using in combination; thereby reducing the cost of what is perceived to be the more expensive substance.

Despite several individuals reporting that the reduced cost is a motivation for using simultaneously, some individuals report that that there is no difference in cost or that simultaneously using is actually more costly:

“So that I wouldn’t spend as much money on cocaine? No because I always used about the same amount of cocaine. It never made a difference.” (female, 34, snorting)

“Uh...I definitely spent more money using cocaine and alcohol compared to just alcohol alone... ’Cause you could use so much more alcohol with your er, cocaine
when you are using alcohol and alcohol when using cocaine.” (female, 46, snorting)

“Yeah, you can drink a lot more. That doesn’t reduce financial cost.” (male, 28, snorting)

“It costs more money... that’s just common sense... but I think my uncle said, you know, why would you drink six beer and get a nice little buzz that you paid for and do a line of coke that cost you more money and totally alleviate the six drinks that you just had. Like that makes no sense to him....And then you go and buy six more drinks... It’s 'cause we are retarded... It’s brain damage... But it did cost more money to use them together.” (male, 28, snorting)

“Combining is expensive.” (female, 27, snorting and smoking)

“You can’t reduce financial costs.’”(female, 36, injecting)

The ability for cocaine to allow one to drink more, or using alcohol to allow one to use more cocaine, appears to increase the financial cost of using simultaneously. There is disagreement whether using in combination reduces the overall financial cost. Again, perhaps this is individually determined and depends on one’s level of dependence on each substance, where the use of the substance one is most dependent on is mediated by the use of the other substance.

**Practical**

There are several practical reasons why individuals reported using in combination. These include using because of availability and using to help sell drugs. Participants report using in combination, in a certain order, because of availability of each substance. This occurred for injecting, snorting, and smoking methods:

“and then shooting and drinking... if it’s there, yes you’ll drink, but if it’s not, it’s not a big deal” (female, 23, snorting)

“It depends actually what you have got first. But usually we already had the coke... 'cause I always had it. I had it on hand.” (female, 27, snorting and smoking)
“The alcohol...Well 'cause you just keep drinking as you are going along...Just because the alcohol is there.” (female, 27, snorting and smoking)

Additionally, one participant reported using it to help them sell drugs:

“I had to use it around people so I could market it...It was good... It was easier for somebody to buy it when it was right there in front of them...I used what I sold.” (male, 31, snorting)

Finally, even practical reasons are described as motivating individuals to use in combination.

**Risks & Harms Associated with Simultaneous Use**

The participants described several harms and risk-taking behaviors that were associated with simultaneously using alcohol and cocaine. The harms include detrimental effects to their financial, work, income, housing, transport, partner and family relationships, and mental health. Participants also reported taking part in certain risk-taking behaviors like driving impaired and conducting illegal activity.

**Financial problems**

Many participants reported experiencing negative financial consequences from the combined use:

“All certainly caused problems, you know money” (female, 46, snorting)

“It doesn’t matter whether I was drinking or snorting or smoking. The financial problems are out of control with cocaine. Like there is no ration to it at all. You sit there and you ration, like if I scrimp something, groceries or if I swing this bill next week so I can get another bag.” (female, 34, snorting)

“Oh hell yeah. Your income, your all of it...Obviously affected I mean 'cause you are out of whack. You are not like stable, you know. I hate that word [laughs]. But well you know, it’s true. You are not as stable. I know they have functional addicts and stuff out there, I don’t know how they function. You know, ‘cause if you are up ‘til 4 in the morning getting high, I don’t know how you go to work and do your job well. I know people who do it, I don’t know how they do it.” (female, 36, injecting)
These consequences were both direct and indirect consequences of the cost of purchasing alcohol and cocaine. One participant even reported a reduced income because they had gotten to a point where they were lending other addicted individuals money:

“Like I was at a point where I was lending money to other addicts. You know and one in particular, I lent my rent to and he didn’t give it back. He went out and blew it on blow.” (female, 36, injecting)

Participants described that they spent their savings and went into debt because of their substance use:

“I can count on paper of what I can account for a 150 grand. 3 years. I have uh…cashed in about 50 grand in RRSPs that I was saving to buy my first house.” (male, 31, snorting)

“I ran into debt-huge.” (female, 34, snorting)

Further, they described that they would spend more money than they made and had difficulty paying the bills:

“Well, when I was using cocaine it was double what I made in a month…I just racked up bills. Like credit cards and lines of credit and that sort of thing.” (female, 34, snorting)

One individual reported that an indirect financial consequence of using alcohol and cocaine in combination was gambling:

“...these things leave me at the casino a lot eh...And I don’t gamble unless I am wired up from cocaine and booze... mmmmm. Like after the girls, after when the booze starts, the coke follows, the girls come and the party is done at 3 am, I am taking a $100 cab ride to the casino. You know what I mean. By myself, I do this all by myself. Or sometimes the girls would come...Huge problem, huge problem. I have lost like almost a million dollars in the last like 7 years you know what I mean. It’s insane...” (male, 27, snorting)

Not only did the participants describe experiencing difficult financial consequences from using in combination, they also described conducting illegal activities, like dealing drugs, to get the money they needed to use:
“...what I did, I drove my dealer for a long time. Like I’d pick him up...And drive him all around town for drop off and pick ups or whatever. Which I wouldn’t, obviously have normally done if I were ...Yeah... I’d always drive him or take him here and there or drop stuff off. Or he’d give me whatever and I’d go do the deal for him.” (female, 23, snorting)

“If I don’t have the money then I try and find ways if I can sell drugs or something like that to make the money...” (male, 28, snorting)

“I was selling it so I was...Just, just profit pretty much. Like I never paid for it.” (male, 18, snorting)

Participants described that their work and income were also affected by their combined use and, in turn, their financial situation. Some participants described being on leave from their job and being on disability:

“I ran into debt-huge. And my employment status? I went on a leave. I’m still employed, but I’m on leave. A health leave. Disability.” (female, 34, snorting)

Others describe that they lost their jobs and missed work:

“Um...I did lose my job.” (male, 30, snorting and smoking)

“...you start missing work. I had a great job..., making a $100,000 a year and then um...you know you are finished and laid off when it comes down ‘cause you are missing Friday mornings, or um...Monday mornings you know admitted Fridays you don’t want to go. You know what I mean.” (male, 27, snorting)

One individual described that his ability to function in life and at work is a function of the method of cocaine use. For example, he first describes his ability to function when snorting cocaine:

“Crack took, crack took, crack was the problem. When I was dealing coke and I would deal small quantities of coke. I would rarely get into the quarter pounds and things like that. I was more ounce and under for that because I was trading marijuana. I would see a better value for the dollar. For example, I would spend, having such a large quantity of weed, it would cost me about 80 dollars per one ounce. And if I trade that for an 8 ball and sell that 8 ball for 200 my profit margin is that much greater...That’s how I was able, I was a functioning drug addict while I was on cocaine ’cause I held a management position at a company...For 7 years...And my income was 50 grand a year.”
He then goes on to describe his inability to function at work once he began smoking cocaine:

“That sucked everything. Yeah, I couldn’t function at work, I was very angry, any little thing would set me off, I quit for no reason.” (male, 31, snorting)

Despite some participants reporting that they lost their jobs, other participants reported that their jobs are supportive of their recovery:

“…if anything, my job is more secure. His father was an alcohol, a severe alcoholic… And he has seen his father go through recovery in 12 steps and said he became a much better man. He is actually saying he is expecting me to come back and be better at my job. And you know I am saying “oh no” you know.” (female, 46, snorting)

“Still have my job. They know where I am… They are supportive” (female, 23, snorting)

Overall, the participants reported that their income was negatively affected, because of their combined use, although a few participants reported that their income remained the same.

**Housing and Transport**

Several participants described that they had lost their own housing due to their substance use. Several of the participants described that they have had to move back with their parents.

“I am living back at home now.” (female, 23, snorting)

“I moved back into my family’s house.” (male, 31, snorting)

“Um… my father. Just moved in with my father.” (male, 27, snorting)

“You know, and I lost my place. It was terrible…” (female, 36, injecting)

One participant described losing his license because of impaired driving, and in the end losing his transportation because of his substance use:
“Um...I lost my license to 2 impairs. While, and I had to plead guilty to it while incarcerated and 'cause I was facing different charges but um... So I had a uh...brand new Infinity G35 and I sold that, um...smoked that away. There was loss, the major major losses, I mean I played in the big times and I lost big time.” (male, 31, snorting)

Illegal Activities

By far, the most common illegal activity reported by the participants, other than using illegal substances, was stealing. Participants often reported stealing, whether sober or already high on alcohol or cocaine, in order to obtain cocaine, alcohol, or more of either:

“Maybe when I was drinking. If I was really really really really drunk and I hadn’t done any coke and wanted to get some coke I went and stole a saw from some guy’s garage. But you know, whatever. And the cocaine ended up being shit [laughs]. I was pissed, but that’s a situation neither here nor there. But no, normally I am not, I am not that kind of a person anymore. Even though I was you know. I stole money once from my mom and I have given her and like I gave back...” (male, 28, snorting)

“Because you got balls with the alcohol and with the alcohol you want more cocaine, so therefore you are going to go rob something if you don’t have the money or if you want more alcohol as well, so you will go rob alcohol.” (female, 27, snorting and smoking)

“I would be with a guy, and they call it a boost, and that’s where they would go to the supermarket or something. Next thing, all I knew was I had to give a ride to the store. Next thing I know, he comes out with things pulling, like “go go go”. And I am like “Oh my god”... So he stole... And I was the driver. I couldn’t believe what I did... Now, illegal activity, this is the worst part, this is the worst thing somebody can do and it’s stealing. And that was, twice I had broken into my grandmother’s house looking for money. All I took was really alcohol...And my mom, I stole from her. It almost made me say it was ok because I could pay her back but I was stealing, but I was, one time I stole her whole little wallet. I took her whole wallet right and they could have charged me. Um...one time, this is what made me lose my job couple of years back was um....I, I started borrowing money from the cash register right, and putting it back the next day and then I'll, oh my god, like $1600 this one time and I was 20 minutes too late. By the time I closed my GIC, that morning, and that’s what delayed me at the bank, and then, by the time I got back, that’s it, I confessed. Better I confess.” (male, 30, snorting and smoking)
“Like someone taught me how to steal booze and sell it if I had to to get a hit.” (female, 36, injecting)

“To go get alcohol, oh yeah... ‘cause you are wasted. Well you know, like yeah. And cocaine alone, you actually might not, like alcohol alone, you might be drunk and decide to go steal and then buy the coke. But if you are already on the coke, well you might go steal a bottle of booze to calm down from the coke. More likely...Like usually like with two of these, with either one, because of the other. Do you know what I am saying?” (female, 36, injecting)

“So, you know after the bar, it’s...I tend to think of things to either make more money, and make more drugs or, engage in robbery or stuff like that.” (male, 18, snorting)

“Um, one time for work I didn’t have any cash left after, I had snagged a bank card, the card could get cash in my car... But nothing serious, no.” (female, 46, snorting)

Their willingness to perform illegal activities in order to obtain the other substance, whether alcohol or cocaine, provides consistent evidence that there is something about using the combination that is more attractive than using either substance alone.

Interestingly, several participants would initially report that they did not perform illegal activities, but they would then describe their stories about stealing. Perhaps this was an attempt to minimize the seriousness of their crime. Further, some participants reported having more confidence to perform illegal activities when they were using both substances in combination:

“Yes, more likely ‘cause it gives me that confidence of I can do it...like robbery” (male, 18, snorting)

A few participants reported that they did not have to perform illegal activities.

One participant describes that this was due to his circumstances:

“Um...well apart from the purchase and use of drugs, no. Never stole from anyone, never broken in anywhere. Really fortunate. My father’s been, my father’s like worth millions and millions and he has always bailed me out you know what I mean so... he has bailed me out. He makes my car payments if I am
screwed, you know what I mean... So I am really fortunate that way.” (male, 27, snorting)

Partner problems

All participants reported experiencing some type of problems with their partners because of their combined use. These problems included hiding their substance use from their partner, not being around, lying to their partner, and splitting up with their partner.

Often participants reported that they were simply not around for their partners, and that they would not be around when they would normally go to sleep with their partners:

“Than either alcohol or coke, yup definitely... ’cause I mean when you mixed it, when you mixed the drugs, like the alcohol and the drugs, obviously when you’re mixing it when you’re snorting it, actually it doesn’t matter in this situation whether snorting or smoking, you’re up for hours. So I wouldn’t come home. But my husband was still there or most of the time, I didn’t come home-I wouldn’t say that I didn’t come that often because I was often home with my kids because he was sick.. I would be outside and I had my family over and we would stay up all night. So it definitely affected your relations because it just made me sick.” (female, 34, snorting)

“Definitely absolutely yeah... ‘cause you are not going to bed at the same time. When you drink, you usually go to bed around 10, 11 with a couple in you. When you start doing lines you start to go to bed before 4, 5 am.” (male, 27, snorting)

“Yes 100%. 100%... Um... in a sense, you become dishonest. I hid it from, there was one great girl I had. She was a high school teacher...And I uh started not showing up for dates. I had friends calling and say I wasn’t feeling well or whatever. I was just too high and barely called her. You know, I, I hid it. I ran a Jekyll and Hyde operation. That’s what it is. And Hyde takes over after a period of time.” (male, 27, snorting)

Further, the participants reported that they were not able to be open and honest with their partners about their substance use. Their partners also disliked their substance use, substance use patterns, and their personalities when using both substances, which troubled their relationships:
“Um…it split me and my partner up, the cocaine alone…He didn’t like me drinking either actually, he didn’t like either one of them. Because he wasn’t a drinker or a cocaine addict… So, it split us up using them together. Yes.” (female, 27, snorting and smoking)

“Yes. First the alcohol. Um…she did not know about cocaine... She did eventually, but we were fighting and then, she went her way and I went mine... When she found out [about the combined use], she was already out, on her way out to the door anyway.” (male, 31, snorting)

“He is going to leave me if I get too... 'cause I was turning into a scary monster.” (female, 36, injecting)

“Um…no, not really... we are together...But uh...she was doing the same thing with me... She was user too and uh...and you know same thing. Both substances, both alcohol and ...but uh...since I went off to a prison, she, from that point on from there, she stopped doing it. Like she wasn’t addicted to it kind of thing...But she hasn’t touched it since... Um...we used to yell back and forth, “ok you got a problem you got this you got that.” But other than that, we never even talked about it... We found it hard to talk about it ‘cause the amount that I was doing compared to the amount that she was doing was... I was lying to her at the time... ’Cause I had told her I was only doing it with her.” (male, 18, snorting)

“my partner always goes to Church. Well I couldn’t wait for her to leave because then I could get blasted before she got back and got out by the pool. You know” (female, 46, snorting)

One participant reported that the combined use had a differential effect on her relationship with her partner, depending on the stage of their relationship and her substance use:

“I think in the early, in our early relationship, it helped. It helped for long conversations and and, um...took away inhibitions intimately. You know, let’s face it, I thought I was a straight woman, so the intimacy was a little difficult...It, and um...and to just have long conversations, you know we would sit with practically a bottle of vodka, she would drink two but I would only do the cocaine and she wouldn’t know and we would have long in depth conversation about things we would never tell anyone...So in the very very early of the relationship, I think it helped... eventually no. It certainly caused problems, you know money...Sexual relationships yeah... And the fact that I wouldn’t I didn’t want to go anywhere. My outdoor social life became non-existent. I made sure that I always invited people to the house. And you know she has missed the going out.” (female, 46, snorting)


Sexual problems

Some participants reported partaking in risky sexual practices when they were using alcohol and cocaine in combination. Participants reported having sexual relations with more partners, having sex with “street women” or prostitutes, and having unprotected sex, because they were using in combination:

“Little more promiscuous. Yeah. I mean I had normally 4 or something like that. I kinda was and kinda wasn’t, but when I was drunk and high, it was like you know, let’s go. I am on the pill, so... As for pregnancy, it wasn’t a problem but...I am clean which I am proud of. It’s good good... But I mean yeah, sober, sober I’d be like obviously safe sex. But when you are high and drunk or whatever, it’s like who cares you don’t really think about it.” (female, 23, snorting)

“Well, I mean I had numerous threesomes and things like that... I have never had it, I have never done a threesome sober” (female, 23, snorting)

Participants also reported experiencing some sexual problems when using alcohol and cocaine in combination. When snorting cocaine and using alcohol in combination, a participant described:

“You know we get to a certain age where my partner is much more physical than I am. And I am mindful of that or was before I got heavy into this round of addiction and uh...she would always go to bed first of course ‘cause she’s been drinking. And I might go to bed 3, 4 o clock in the morning and I can’t help but wake her up and it would be a marathon. She has shared with me, I feel a little weird talking about...She has shared with me that she hated that sex. She didn’t like it...Well I couldn’t stop... Because it’s so intensified that I just wanted to keep it going, keep it going again and again and again...And for the past couple of years, she has just gone through the motions I find out simply because in my normal space, my libido is very low. So you go to bed, you have sex, you get satisfied, it’s done and everybody’s happy for a few days right...But when I am drinking and and, doing cocaine, I am just like a machine. And she found that offensive, and it actually towards the end of my addiction started to get, not hurt, but a little rough. Which was so not like me you know because, yeah, it changed my sexual personality completely, very slowly especially in the last couple of years. The last 6 months really changing it and she found it uh...” (female, 46, snorting)
When smoking cocaine and using alcohol in combination another participant indicated that their sexual experiences worsened:

“At first, it enhanced it...And then, as it progressed...Nope.” (male, 31, snorting)

Using alcohol and cocaine in combination appears to enhance some sexual activity, but may also be problematic for sexual activity in others, perhaps depending on the state of substance dependence. In addition, using in combination may increase the likelihood that individuals will partake in risky sexual activities.

**Family problems**

In addition to partner problems, participants also described experiencing family problems:

“Oh, yes, dramatically so...Because I wasn’t a parent. They have-they were neglected. They were dressed and they were fed and the house was clean and they have toys. But do they have a mother? No. Emotionally, they were neglected, for sure.” (female, 34, snorting)

“Because drinking, it doesn’t really bother my family. But just cocaine, and probably if I was using it with alcohol, they’d be extremely upset... Cocaine alone? That’s upsetting too. They don’t like the cocaine at all...Just, it’s just the cocaine mainly.” (female, 27, snorting and smoking)

“...ah I don’t know about problems. I am not sure but I know it has affected him...But he has learnt to know my predictability. He knows he would know when he looked at me, depending on how, of course in his eyes I am kind of just drunk...And then I would go to the stereo and put on sad, comfort songs and cry and you know he would know that...And he stopped bringing friends on the weekend.” (female, 46, snorting)

It appears that the family problems may be largely due to the use of cocaine, as several families are described as particularly disliking the cocaine use. Despite this, it may be difficult to determine whether the problems are only due to one substance as some of the participants report always using the substances in combination.
Participants also described experiencing family problems, because they would hide their substance use from their family:

“Um...I would isolate myself more, I would drink they would know it and that’s ok, but it wasn’t because I was starting to get very angry, violence um...when adding cocaine to it, I didn’t want them to know that I was using cocaine, so it would be a private thing. Um...my parents weren’t, they are not accustomed to the drug lifestyle, they didn’t know what a rolled up bill meant, they had no idea what a scale looked like, they didn’t know any of that stuff. So they were blinded to it so I was white residue would be on a table, they wouldn’t have a clue.”
(male, 31, snorting)

They described experiencing family problems, because they were not around:

“you know when I just use alcohol, it doesn’t causes much problem for my family because I can, you know, I wasn’t an alcoholic and drunk all the time. Now I am stoned all the time and I pay no attention to them, I don’t spend any time with them.”
(male, 28, snorting)

“Um...alcohol is accepted. Ok, in both families...When the drug, crack or cocaine come into play, I hurt everybody by, I go missing and I go missing and I don’t answer the phone and I don’t call and I am gone for as long as it takes...It’s the problem...if I am in a safe area, like I said up north in my cottage, or if my girlfriend is there and I am with her family drinking, I generally, I am well-behaved. I can be funny, the life of the party. I am not violent by all means... If I combine it, that’s it, I am, I am gone.”
(male, 30, snorting and smoking)

“Oh hell yeah. Of course it does...Well you are not there as much. You know, you are not even around.”
(female, 36, injecting)

“Like you know, like alcohol, drinking too much were [accepted] but cocaine, that was just unthinkable... It’s brutally straining you know...It just really hurt.”
(female, 36, injecting)

Again, several participants reported that they do not have partner and family problems but then went on to describe problems such as not being around, lying, and hiding use.

For example, a participant described that he does not think his substance use had affected his family:

“I don’t think it affected them at all ’cause they had no clue... They had no clue...Parents, my siblings maybe yes. But they wouldn’t say nothing... So, it
Despite denying problems, he does say that it might have affected his family, and he later describes that because of his combined substance use he was stealing from his family.

**Physical problems**

Participants described that they experienced some physical problems from the combined use, such as not sleeping:

“I would be up. Like you would be up all day, all night”  (female, 34, snorting)

As described above, the inability to sleep during normal hours was also causing partner problems.

Although not explicitly asked, one participant reported overdosing from the combined use:

“They didn’t know I was using alcohol for 7 years... So. They were a little shocked when I overdosed and at the hospital... Like they had no idea whatsoever, they didn’t even know I drank or anything. They knew I had a few drinks... Every so often after work.”  (female, 23, snorting)

This type of report indicates the seriousness of combined use, especially given the tendency to use larger amounts of alcohol or cocaine when using in combination. Future research should investigate reports of accidental overdose when using in combination.

**Mental health problems**

Participants described experiencing several psychological and emotional problems from their combined use. A few participants described that when using in combination they were aggressive and anxious:

“Adding the cocaine and the alcohol like especially the cocaine. Like it made the anxiety a hundred times worse. The stress level, because you’re not sleeping, you know, so I couldn’t handle my stress. Aggressive personality, well, it definitely brings that on because you haven’t slept and you’ve got anxiety because you...”
haven’t slept. It just intensified everything every emotion was intensified.”
(female, 34, snorting)

“Yeah, I couldn’t function at work, I was very angry, any little thing would set me off” (male, 31, snorting)

“Um…I would isolate myself more, I would drink they would know it and that’s ok, but it wasn’t because I was starting to get very angry, violence um…when adding cocaine to it…” (male, 31, snorting)

A few participants also reported being more paranoid (described above), or more depressed when using in combination:

“It helped me relax. I don’t think it made things worse truthfully. Maybe just the depression part. Because I know when I felt really, really down, that’s when I would not drink.” (female, 34, snorting)

Overall, participants described a wide variety of harms they experienced from using alcohol and cocaine in combination. Over and above the self-reported harms and risk-taking behaviors, participant’s patterns of simultaneous use, such as using an increased amount of both alcohol and cocaine, could be also having additional detrimental effects that were not self-reported. These could be simply the physical consequences of using both substances in a large quantity.

Summary

Overall, the majority of participants preferred snorting cocaine and using alcohol in combination. When snorting, participants tended to use alcohol before, after, and both repeatedly when using cocaine. When snorting, the majority of participants reported using more alcohol and for longer periods of time when using in combination with cocaine than when using alcohol alone. Contrarily, when smoking or injecting, it was reported that less alcohol was generally used. The frequency of combined use was
variable with some participants using daily and others using about three to four times per week.

A wide variety of contexts of simultaneous use were reported by the participants. The location most often reported when snorting cocaine and using alcohol was at the bar. Other locations included using at work, at home, while driving, in public settings, and in private settings. Participants reported using in combination with their friends, coworkers, partners, family, or anybody. In general, the participants reported daily or weekend use, where combined use would mostly occur in the evenings. Some participants reported choosing not to use in combination while they were at work, when they might need to drive, because of their kids, or because they simply wanted to experience the effects of only one of the substances.

Both the patterns and the contexts of use appeared to interact with the reported reasons for using in combination. Participants also reported a wide variety of reasons and motivational factors associated with using alcohol and cocaine in combination. Some of the most common of these reasons includes using to experience a different high, because of intense cravings or desires for the other drug, to achieve a desired cognitive or emotional state (e.g. more coherent, confidence), to be more social, to enhance a sexual experience, to help with physical functioning (e.g. comedown), and to reduce the financial costs.

The harms associated with simultaneous use appear to affect a broad range of domains. These include having negative consequences on their financial, work, housing and transport, partner (including sexual) and family relationships, and physical and mental health. The combined use was also associated with risk-taking activities, like
performing illegal acts, particularly stealing to obtain one of the substances, driving while under the influence, and using a large amount of both substances (which is a particularly concerning finding due to the many negative health consequences related to using both substances in large quantities).
Discussion

In the current study a content analysis was performed on 10 interviews which were designed to investigate alcohol and cocaine simultaneous polysubstance use in treatment clients. A coding system was created using functional analysis principles and comprised several processes to identify the most salient themes emerging from the data. The goal was to summarize themes and investigate the relationships between patterns, contexts, and functions of use and associated harms and risk behaviors. This study generates many themes about alcohol and cocaine SPU patterns, contexts, functions, and harms that may apply to treatment clients.

With regards to investigating gender differences, it was quite difficult to distinctively determine gender specific patterns, contexts, functions, and harms. This may have been due to the small sample size or it may be because many gender differences may not exist or may be too small to indentify in this sample. However, it was observed that in this sample only females reported having children in their care. Importantly, having children in their care appeared to have a significant impact on the females’ patterns and contexts of combined use. The women described that they would alter their substance use patterns when their children were present, either not using substances at all or only using cocaine. Further, with the exception of one male, it was mostly the women who focused on and described how using in combination would alleviate depressive and painful emotional feelings. This was a recurring theme for women where SPU seemed to have particular potency for temporary relief of depression. This finding is consistent with the gender difference found by McCance-Katz et al. (2005) where the perception of well-being when using alcohol and cocaine in combination was increased for women
compared to men. These trends in responses and other gender differences will need to be investigated in a larger sample, either qualitatively or quantitatively, and it would be beneficial to have increased power for determining such differences.

Despite the large amount of variation in reasons given by the participants for using alcohol and cocaine in combination, the evidence presented suggests that there are some fundamental similarities. These similarities include using substances in combination to function within their environment, to modulate biological rhythms, to achieve a desired feeling or state, and to achieve a balance between both drugs in an attempt to negate the negative effects of each drug. Participants were motivated to use in combination in order to function within their environment. For example, participants described using in combination to drive when necessary, to work, to be able to continue partying or drinking at the bar, and to become more coherent when necessary.

Participants also used in combination to modulate their biological rhythms and physical functioning, such as, using to be able to sleep, eat, function sexually, and increase their energy. Further, participants were motivated to use in combination to achieve a desired feeling or state, where the combination of alcohol and cocaine together allowed for this unique high. For example, they reported using to feel less depressed, less anxiety, less paranoia, more relaxed, more powerful, less emotional pain, less inhibition, and to be more social.

Finally, participants used in combination to achieve a balance between both drugs in an attempt to negate the negative effects of each drug. For example, participants described using alcohol to help them come down from cocaine or to help reduce their intense cravings for cocaine. Participants also described using cocaine to help them
become more coherent after consuming too much alcohol and to help them manage their depression from alcohol. The different individual properties of each drug appear to allow the user to control or attempt to balance the effects of each drug in an attempt to optimize the drug use occasion. Alcohol, a central nervous system depressant, appears to be used in combination with cocaine to help lower inhibitions and help relaxation, while reducing the paranoia and agitation experienced with cocaine use. Cocaine, a central nervous system stimulant, appears to be used to increase energy and mood while reducing the effects of alcohol that make one incoherent. Importantly, these fundamentally different drugs both affect the reward systems, when taken individually and together, through Dopamine, Gamma-aminobutyric acid, Opioid peptides and Edocannabinoids (Gossop, Manning, & Ridge, 2006b; Koob, 2006). Because of the reinforcing properties of both of these substances individuals who use alcohol and cocaine in combination may be at risk of needing to go to further extremes and use more of both substances in order to maintain the balance and achieve their desired physical state. The use of both substances may be fueling the developing mutual dependence and increased tolerance to both substances, especially with the increased use of both substances. Future research should investigate the potential links between dependence, amount of substance use, and the ability to achieve a balance in order to negate the negative effects of each drug.

The ability to use alcohol and cocaine in combination to achieve the desired goals described above appears to be a strong reinforcing motivator to continue such combined use. The participant’s descriptions reveal how using these two substances in combination allowed them to control their cognitive, emotional, and physical states in a predictable manner; therefore, allowing the participants to feel more in control of their functioning.
The participants clearly described how using only alcohol or cocaine would not allow for the same ability to achieve such desired states.

The participants’ descriptions of the patterns, contexts, functions, and associated harms appeared to be related to their level of dependence on each substance. It appears that where people are in the process of dependence may affect their reasons for using in combination. For example, when an individual is relatively highly dependent on cocaine, they may use alcohol in combination with cocaine to decrease the amount of cocaine used on one occasion, which may be related to reducing the financial cost associated with their substance use. Alternatively, if an individual is not highly dependent on cocaine or alcohol, their patterns of combined use and the related functions may vary from that of someone who is more dependent, like using to be more social. In addition, one's level of dependence appears to be related to the context (whether using in public or private), the method of cocaine use, and the associated harms described by the participants. The participants themselves described how these variables (patterns, contexts, functions, and associated harms) changed as their own substance dependence changed over time, which in some cases involved changing the method of cocaine use (e.g. less combined use for those who changed to smoking cocaine and did not like the combination when smoking). The simultaneous use appeared to be altered as the level of dependence on certain methods of cocaine use changed. Furthermore, as dependence appeared to increase, the reciprocal effects of using these substances in combination in order to function may have lead to the increased use of both substances. Consequently, the participants appear to have experienced more impaired control over their substance use. This indicates that future research should take into account one's level of substance dependence when
investigating alcohol and cocaine SPU, especially when investigating variables that may be affected by one's level of dependence, like those investigated in the current study.

Using a functional analysis approach when analyzing these data allowed for the identification of the situational, cognitive, and behavioral factors that influence the decision to use alcohol and cocaine in combination. It also allowed for the identification of the interaction of these factors. For example, a situational factor like being too inebriated from alcohol at the bar to be able to continue drinking, may lead one to use cocaine, which may lead to using an increase quantity of alcohol and to remaining at the bar and partying for longer. Using a functional analysis approach, allowed for a greater understanding of the relationships between using alcohol and using cocaine in combination and other behaviors that an individual may be involved in when using in combination (e.g. driving, sexual activities, illegal activity). The implicit acceptance of multiple and reciprocal influences on behavior that characterize a functional analysis (Wolfe & Maisto, 2000) made this approach well suited for investigations into the relationship between cocaine and alcohol simultaneous polysubstance use and the functions of use, risk taking behaviors, and related harms. This acceptance of multiple and reciprocal influences is particularly useful when investigating reasons for combined use because each participant described multiple reasons for using alcohol and cocaine in combination. Importantly, several of these reasons may be influencing their behaviors and drug use, on a particular occasion. Using functional analysis, the antecedent and consequent events surrounding the described episodes of polysubstance use were analyzed, which resulted in the identified contexts, reasons, and harms described above. See Figure 1 for examples. Using functional analysis, situations and responses were
identified that lead to alcohol and cocaine polysubstance use, including types of
cognitions (e.g. wanting to be more coherent) and emotional responses (e.g. feeling
depressed) that occur in reaction to a triggering situation (e.g. drinking too much
alcohol). The functional analysis approach was successful in allowing the achievement of
a greater understanding of alcohol and cocaine SPU.
Figure 1. Examples from Functional Analysis

**Function within the Environment**

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Behavior</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have drunk too much at a bar but would still like to be able to drive home safely</td>
<td>Do several lines of cocaine</td>
<td>Drives home while under the influence of cocaine as well as alcohol and feels more alert</td>
</tr>
</tbody>
</table>

**Modulate Biological Rhythms**

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Behavior</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late in the evening after using cocaine: would like to sleep but anticipates having difficulties</td>
<td>Drink a couple alcoholic beverages</td>
<td>Helps the individual fall asleep</td>
</tr>
</tbody>
</table>

**Achieve a Desired State**

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Behavior</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have worked all day and would like to relax and forget about all worries</td>
<td>Use alcohol and cocaine in combination</td>
<td>The combined use helps the participant achieve a state of relaxation</td>
</tr>
</tbody>
</table>

**Achieve a Balance**

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Behavior</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have been drinking for several hours and beginning to feel depressed and tired</td>
<td>Take some cocaine while continuing to use alcohol in order to avoid feeling too “hyper”</td>
<td>Using the cocaine after using the alcohol has relieved the depressive feelings and avoided the “hyper” feelings</td>
</tr>
</tbody>
</table>
Many of the findings are consistent with previous research on alcohol and cocaine polysubstance use. Similar to others, we found that greater quantities of alcohol are ingested when using in combination than when using alone and that alcohol and cocaine are reliably used over several administrations interspersed with cocaine drug use (Barrett, Darredeau, & Pihl, 2006; Gossop, Manning, and Ridge, 2006a; 2006b; Heil, Badger, & Higgins, 2001). The current research also provides support that there may be different patterns of combined cocaine and alcohol use, depending on the method of cocaine use (Gossop, Manning, and Ridge, 2006a; 2006b). In particular, when snorting, cocaine users reported more heavy drinking than when smoking cocaine, and when smoking cocaine, users tended to report drinking lower amounts of alcohol than usual. Also, when smoking cocaine, users tended to use alcohol at the end of the crack using session to help dampen the desire to use more cocaine and to help with the comedown. This consistent evidence provides even more support for future investigations of combined alcohol and cocaine use to control for the method of cocaine use. Further, because the method of cocaine use appears to be quite important with regards to combined use, the current study provides support that the preferred method of cocaine use and the transition to using different methods of cocaine use is of relevance when studying alcohol and cocaine SPU.

Consistent with previous research, our results revealed that those who snorted cocaine also reported using more alcohol (Heil, Badger, & Higgins, 2001). Further, we found that the combined use occurred in social settings and was related to diverse consequences such as missing work. The participants also reported that simultaneous use occurred at home, with friends, at work, and at organized drinking venues (e.g. bars) (Pakula, Macdonald, & Stockwell, 2009). In addition, but inconsistent with Pakula,
Macdonald, & Stockwell, (2009), the participants also reported using in combination when driving a car, at work alone, and using with “anybody.”

The current research strongly suggests that the combined use of alcohol and cocaine is not simply incidental to the use of the individual substances, unlike what some have argued (Hoffman, Barnes, Welte, & Dintcheff, 2000), but instead is a uniquely sought "high." Similar to Sussman, Dent, and Stacy (1999) our results suggest that alcohol and cocaine use may be used to “balance out” the effects of cocaine. Supporting previous research, the current study also found that alcohol is employed by cocaine users to attenuate negative effects of cocaine, especially when "coming down" from a cocaine binge (Magura & Rosenblum, 2000). The current results clearly indicate that it is not sufficient, when probing reasons for combined alcohol and cocaine use, to give simple statements such as “increased alcohol effect” or “increased cocaine effect” (Wiseman & McMillan, 1996). This research can attest that the reasons for combined use are much more varied.

Consistent with Midanik, Tam, & Weisner (2007) the current study found that simultaneous use of alcohol and cocaine was related to partner and family consequences. Also, given that several participants in the current study, reported using in combination in order to drive, and because Pennings, Leccese, & de Wolff (2002) found that cocaine consistently antagonizes the learning deficits, psychomotor performance deficits, and driving deficits induced by alcohol, perhaps alcohol and cocaine polysubstance users should be educated regarding such findings in an attempt to reduce their driving while under the influence of both substances.
Despite finding consistent findings with previous research, the results from the current study go far beyond what has been previously reported. The current study describes many reasons for combined use that were not previously reported (e.g. enhanced sexual experiences), and describes in detail the patterns, contexts, functions, harms and risk taking behaviors, from the perspectives of the polysubstance users. The current study, also illustrates how each of these variables are interconnected, through the descriptions from the participants.

Implications

Simultaneous alcohol and cocaine polysubstance users represent an important target group for prevention and treatment programs, as they may experience greater, more complicated health problems and addictions compared to single substance users. Simultaneous use may have significant treatment implications in terms of problem severity and treatment responsiveness (Oslin et al., 1999; Heil, Badger, & Higgins, 2001), as well as triggers for relapse (Pennings et al., 2002). Because of the wide variety of reported reasons for using alcohol and cocaine in combination, and the apparent complexity of how contexts and patterns of use tie into simultaneous alcohol and cocaine use occasions, treatment may be particularly complicated for this population. The multitude of reasons for combined use and the ability for such use to help an individual function within their environment may increase the difficulty for an individual to stop using both substances, especially without professional help. Understanding the multiple triggers for relapse in this population may also be key factors for treatment and relapse prevention.
Education about the harms of this type of substance use may be important in preventing alcohol and cocaine polysubstance use. Education regarding the biological effects of such combined use may be effective in altering or reducing some of the reasons for combined use (e.g. to drive) and some of the harmful patterns of use (e.g. using more of both or one substance). Prevention programs and future research should incorporate and evaluate the usefulness of such education programs.

**Limitations**

The current data are limited by its self report nature. Recall of drug use occasions described by the participants was in the form of retrospective reports and in some instances these may have been reports of occasions that occurred several years earlier. Despite this, these participants were selected because of their much relevant experience with alcohol and cocaine SPU. The participants appeared to be able to describe in detail the patterns, contexts, functions, and harms associated with their combined use, including descriptions of specific combined use occasions, the changes in their combined use over time, and gave detailed accounts and explanations of their behaviour.

The data is limited because of the small sample size, which may have made it more difficult to identify gender differences in the sample. Although the sample size was small, the interviews were rich with descriptions and full of relevant, new information. Choosing a small sample group with much relevant experience with alcohol and cocaine SPU, and using an in-depth interview, allowed the generation of themes and hypotheses about patterns, contexts, and functions of alcohol and cocaine SPU, and related harms, which may be more generally applicable. The current investigation is formative and, as intended, provides a fuller understanding of this phenomenon. The small sample size
limits the generalizability of the findings. Despite this, some of the findings may be
generally applicable to the wider population of people combining alcohol and cocaine,
including less dependent populations. Reasons or patterns of combined use may be more
generally applicable, especially given that participants in the current study also described
their reasons for combined use at different stages of dependence. Future research should
investigate the applicability of these findings to this wider population.

The data is to some extent limited because of the way the interviewer sometimes
asked leading questions. As described above, measures were taken to minimize this
influence. Despite this, the interviewer did an outstanding job in clarifying what method
of cocaine use the participants were talking about when describing their combined use
throughout the interview. When investigating alcohol and cocaine SPU using alternative
methods, it may be particularly difficult to clarify what method of cocaine use the
participant is referring to because in many cases the participants would change what
method of cocaine use they are referring to when describing their combined use
occasions. Future research should take steps to avoid this confusion.

**Future Directions**

This study has generated many themes about alcohol and cocaine SPU patterns,
contexts, functions, and harms in treatment clients that may be applicable to the wider
population of people combining alcohol and cocaine. Future research is needed to
provide additional support for the current findings in treatment populations and the wider
population, and to further investigate potential gender differences. Specific populations
that may be of interest are non-treatment seeking alcohol and cocaine users, alcohol and
cocaine using mothers with children in their care, alcohol and cocaine using
bar/party/rave populations, and combined use in a working professional population. Data collection should incorporate both qualitative and quantitative methods, including the ability for the substance user to report on different methods of cocaine use. Data collection could occur through interviews, questionnaires, focus groups, longitudinal reporting of changes in combined use, functional analysis of a specific combined substance use occasion and more. The next stage of research on this topic should also focus on the harms that may arise from using these substances in combination including driving while under the influence, overdose, risky sexual behavior, and excessive gambling and substance use. Finally, using the enhanced understanding of alcohol and cocaine SPU from this study and others, intervention and prevention strategies should be formulated, implemented, and evaluated.

The current research is being used to develop a questionnaire for a larger study (n = 600) investigating the patterns, contexts, functions, and harms, of simultaneous alcohol and cocaine use in treatment populations. The current research has several implications for this larger CIHR study. This research has informed the development of the questionnaire for that study by adding relevant questions regarding patterns, contexts, functions, and harms of use which were not originally in the questionnaire. For example, questions were added regarding using more of each substance when using in combination, locations of use (e.g. hotels), reasons participants would use in a certain order or use at all, and harms and risk taking behaviors (e.g. risky sexual behavior, stealing). The questions were also developed using the language that the participant’s used in this study. The current study can also inform the analyses of the larger study. Analyses should take into account the method of cocaine use, the level of dependence,
and the order of cocaine and alcohol use. Gender differences should also be investigated in this larger sample. Importantly, relationships between variables that are illustrated in this thesis should be tested in this larger study. For example, it should be tested whether individuals report using cocaine after using alcohol at a bar or organized drinking venue in order to drive home. Many hypotheses could be developed, informed from the current research, and then tested in this larger sample.

In conclusion, this research has contributed to a better understanding of the patterns, functions, and contexts of simultaneous use, along with the corresponding risk taking behaviors and harms in treatment clients. This understanding is essential for formulating effective policies and treatment programs.
References


Appendix A: Interview Form

Patterns and consequences of alcohol with cocaine use for substance abuse treatment clients

In this study, we are interested in learning about your experiences with alcohol and cocaine used on the same occasion. The term “on the same occasion” means that cocaine and alcohol were either taken together or within three hours of each other.

Eligibility questions:
1. In a normal month before your decision to enter treatment, how much cocaine would you use?
   ______ (10 grams, 10 times per week or $700 needed to qualify)

2. In a normal month before your decision to enter treatment, how many drinks would you have?
   ______ (at least 30 drinks needed to qualify)

3. In a normal month before your decision to enter treatment, have you used cocaine and alcohol on the same occasion?
   ▼ Yes (needed to qualify)
   ▼ No

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We are preparing a study on the patterns and effects of simultaneous use of cocaine and alcohol compared to the use of either cocaine or alcohol alone. We are currently in the preliminary stages of the project and are interested in getting your feedback on some of our survey questions and how to best ask questions. If at any time, you don’t understand the question, please let me know and I will clarify it to you. You may also provide additional feedback on the questions at any time during the interview.

I will first begin by asking some general questions related to your cocaine use.

<table>
<thead>
<tr>
<th>A) General cocaine questions</th>
<th>Response</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In a normal week, how much cocaine did you use?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. How many grams of cocaine did you normally use on one occasion (meaning within 3 hours from each other) and how much did it cost? (If you normally sell cocaine, estimate the cost if you sold it).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. How do you typically measure or think of the amount of cocaine you used? (e.g., grams, rocks, injections, money)</td>
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<td></td>
</tr>
<tr>
<td>A) General cocaine questions</td>
<td>Response</td>
<td>Comments</td>
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<tr>
<td>--------------------------------</td>
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<td>----------</td>
</tr>
<tr>
<td>4. Which method of using cocaine is the one you generally used? (e.g., snorting, injecting, smoking, etc).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Why did you prefer this method?</td>
<td>Snorting:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoking:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injecting:</td>
<td></td>
</tr>
<tr>
<td>6. Which method of using cocaine is the one you generally used when using alcohol on the same occasion?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Why did you prefer this method when also using alcohol?</td>
<td>Snorting:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoking:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injecting:</td>
<td></td>
</tr>
<tr>
<td>8. In a normal month, how often did you use cocaine and alcohol on the same occasion (i.e., together or taken within 3 hours from each other?).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This section is concerned with patterns of your cocaine and alcohol use on the same occasion. Please indicate your answers based on the method of cocaine you generally used when also using alcohol.

<table>
<thead>
<tr>
<th>B) Patterns of cocaine and alcohol use</th>
<th>Response</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Can you describe the circumstances when you typically used cocaine and alcohol on the same occasion?</td>
<td>Snorting: Bfr cocaine, After cocaine, Both</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoking: Bfr cocaine, Aft cocaine, Both</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injecting: Bfr cocaine, Aft cocaine, Both</td>
<td></td>
</tr>
<tr>
<td>2. Did you typically use alcohol before or after using cocaine?</td>
<td>Snorting: Bfr cocaine, After cocaine, Both</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoking: Bfr cocaine, Aft cocaine, Both</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injecting: Bfr cocaine, Aft cocaine, Both</td>
<td></td>
</tr>
<tr>
<td>3. Why did you choose to use these substances in a specific order?</td>
<td>Snorting:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoking:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injecting:</td>
<td></td>
</tr>
<tr>
<td>4. When and where did you typically use cocaine and alcohol in combination? (i.e., time of day and setting)</td>
<td>When</td>
<td>Where</td>
</tr>
<tr>
<td>With whom did you normally use these substances?</td>
<td>Snorting:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoking:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injecting:</td>
<td></td>
</tr>
</tbody>
</table>
### B) Patterns of cocaine and alcohol use

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. When using cocaine and alcohol on the same occasion –</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Did you find yourself using larger amounts of cocaine or alcohol than you intended to, compared to using cocaine alone or alcohol alone?</td>
<td>Snorting:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoking:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injecting:</td>
<td></td>
</tr>
<tr>
<td>b) Did you find yourself using for longer periods than you intended?</td>
<td>Snorting:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoking:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injecting:</td>
<td></td>
</tr>
<tr>
<td>c) Did you have an increased desire to drink alcohol?</td>
<td>Snorting:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoking:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injecting:</td>
<td></td>
</tr>
<tr>
<td>d) Did you have increased cravings or uncontrollable desire for more alcohol or cocaine?</td>
<td>Alcohol</td>
<td>Cocaine</td>
</tr>
<tr>
<td></td>
<td>Snorting:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Smoking:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Injecting:</td>
<td></td>
</tr>
<tr>
<td>6. Are there any other aspects of your use of alcohol and cocaine you would like to describe?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I would like to learn more about the reasons you used alcohol and cocaine together.

<table>
<thead>
<tr>
<th>C) Functions of cocaine and alcohol use</th>
<th>Response</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 1. Did you both cocaine and alcohol at the same time for particular reasons? | ↓ Yes  
↓ No |         |
| 2. What are those reasons? | Snorting  
↓ Yes  
↓ No | Smoking  
↓ Yes  
↓ No | Injecting  
↓ Yes  
↓ No |
| a) More intense high |           |         |
| b) Prolonged high | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| c) Reduce discomfort when stopping cocaine use | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| d) Mellow off/kill cravings | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| e) Less intense feeling of alcohol inebriation | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| f) Makes me feel good | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| g) Makes me feel confident | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| h) Makes me feel powerful | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| i) Helps me sleep | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| j) Enhances my sexual experiences | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| k) Allows me to be more comfortable in social situations | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| l) To impress others | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| m) To reduce financial costs | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
| n) Accidentally | ↓ Yes  
↓ No | ↓ Yes  
↓ No | ↓ Yes  
↓ No |
<table>
<thead>
<tr>
<th>C) Functions of cocaine and alcohol use</th>
<th>Response</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Are there any other reasons you combined alcohol and cocaine together? Explain.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Did you ever consciously choose not to use cocaine when you have been drinking?</td>
<td>Snorting  Smoking  Injecting  Yes  No</td>
<td></td>
</tr>
<tr>
<td>5. Did you ever consciously choose not to drink when using cocaine?</td>
<td>Snorting  Smoking  Injecting  Yes  No</td>
<td></td>
</tr>
<tr>
<td>6. Why not?</td>
<td>No cocaine  No alcohol</td>
<td>Snorting:  Smoking:  Injecting:</td>
</tr>
</tbody>
</table>
We are interested in learning about how alcohol and cocaine have affected your mental health.

<table>
<thead>
<tr>
<th>D) Mental Outcomes</th>
<th>Response</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you have a mental health diagnosis? If yes, what is the diagnosis?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I will now ask you about a number of social and economic outcomes associated with your cocaine and alcohol use. Please indicate your answers based on the method of cocaine you generally used when also using alcohol.

<table>
<thead>
<tr>
<th>E) Social Outcomes</th>
<th>Response</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you have any children in your care?</td>
<td>↓ Yes</td>
<td>No</td>
</tr>
<tr>
<td>2. In relation to your family, how does your use of cocaine and alcohol on the same occasion affect your life compared to using just alcohol or just cocaine?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Do you feel your use of cocaine and alcohol on the same occasion ever created worse problems between you and your partner(s) than just alcohol or cocaine alone?</td>
<td></td>
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</tr>
<tr>
<td>4. Do you find your sexual behaviours are impacted differently when you use cocaine and alcohol on the same occasion?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. How are your sexual behaviours impacted differently?</td>
<td></td>
<td></td>
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</tbody>
</table>
### F) Economic Outcomes

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you feel you spend more money when using both cocaine and alcohol together, compared to using cocaine or alcohol alone? Explain.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Did you find that you were more likely to engage in illegal activities after using cocaine and alcohol together, compared with cocaine or alcohol alone? Explain.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Have your income, housing or employment status been affected because of your cocaine and alcohol use? How so?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Can you talk about other financial implications of using alcohol and cocaine together, compared with alcohol or cocaine alone?</td>
<td></td>
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</tr>
</tbody>
</table>

### G) Combined cocaine and alcohol use compared with either substance alone
The next set of questions asks you to compare your own behaviour and effects when you are **very high** cocaine alone, alcohol alone, and cocaine and alcohol used in combination with each other.

Could you please describe in your own words what it means to be very high on alcohol only, cocaine only, and alcohol in combination with cocaine? What terms do you use in your own mind to describe the different states? **Please indicate your answers based on the method of cocaine you generally used when also using alcohol.**

<table>
<thead>
<tr>
<th></th>
<th>Response</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Very High</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine and alcohol</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine alone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol alone</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Now, please indicate how much you agree or disagree with the following statements, which ask about your behaviour when very high on alcohol alone, cocaine alone or alcohol and cocaine combined. Please indicate your answers based on the method of cocaine you generally used when also using alcohol.

<table>
<thead>
<tr>
<th>Response</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would drive a car when very high on</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Cocaine only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Combined effects of alcohol and cocaine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driving a car is dangerous when I am very high on</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Cocaine only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Combined effects of alcohol and cocaine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>I would be likely to lose my temper when very high on</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Cocaine only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Combined effects of alcohol and cocaine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither</td>
<td>Agree</td>
<td>Strongly agree</td>
<td>Comments</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>I like to have sex when <strong>very high</strong> on</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol only</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Cocaine only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
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<tr>
<td>Combined effects of alcohol and cocaine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I would be more likely to engage in unprotected sex (i.e., sex without a condom) when <strong>very high</strong> on</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Cocaine only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Combined effects of alcohol and cocaine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>I would likely become paranoid when <strong>very high</strong> on</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Cocaine only</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Combined effects of alcohol and cocaine</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neither</td>
<td>Agree</td>
<td>Strongly agree</td>
<td>Comments</td>
</tr>
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<td>------------------------------------------------------------------------</td>
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<tr>
<td>I would likely become depressed when <strong>very high</strong> on</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Alcohol only</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine only</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Combined effects of alcohol and cocaine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compared to when I am sober, I would be more likely to have disagreements with my friends when I am <strong>very high</strong> on</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Alcohol only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined effects of alcohol and cocaine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My finances are difficult to manage when I am using on a long-term basis</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Alcohol only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cocaine only</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combined effects of alcohol and cocaine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>H) Demographics</strong></td>
<td><strong>Response</strong></td>
<td><strong>Comments</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>---------------------</td>
<td>--------------</td>
<td>--------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Year of birth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. What is your major source of income?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix B: Example of the Coding Manual

The entire coding manual contained 299 codes. The following is an excerpt from the coding manual for the purpose of illustrating what this looked like for the reader:

<table>
<thead>
<tr>
<th>Question</th>
<th>Code</th>
<th>Symbol</th>
<th>Example</th>
<th>When to Use</th>
<th>When not to Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial implications of using alcohol and cocaine together, compared with alcohol or cocaine alone</td>
<td>Spend Less Money</td>
<td>LESS$snortalc LESS$smokealc LESS$injalc</td>
<td>I could spend less money if I used cocaine (snorting) and alcohol together.</td>
<td>When someone uses less money when using together</td>
<td>Do not use if someone uses less money when using just one</td>
</tr>
<tr>
<td>No Cost Difference</td>
<td>NODIFF$snortalc NODIFF$smkalc NODIFF$injal</td>
<td>I always used about the same amount of cocaine. It never made a difference</td>
<td>When there was no difference in cost whether using together or alone</td>
<td>If they do report a difference in cost when using together or alone</td>
<td></td>
</tr>
<tr>
<td>Spend More Money</td>
<td>MORE$snortalc MORE$smokealc MORE$injal</td>
<td>Costs more to use both</td>
<td>When someone uses more money when using together</td>
<td>Do not use if someone uses more money when using just one</td>
<td></td>
</tr>
<tr>
<td>Problem Paying Bills</td>
<td>PROBPAY</td>
<td></td>
<td>Problem with paying the bills</td>
<td>Has trouble paying the bills</td>
<td>Does not have trouble paying the bills</td>
</tr>
<tr>
<td>Functioning when Snorting Cocaine</td>
<td>FUNCFsnort</td>
<td></td>
<td>I was a functioning drug addict while I was on cocaine</td>
<td>Could function financially when snorting cocaine</td>
<td>Could not function financially when snorting cocaine</td>
</tr>
<tr>
<td>Not Function when Smoking Crack</td>
<td>NTFUNCFsmoke</td>
<td></td>
<td>crack was the problem</td>
<td>Could not function financially when smoking</td>
<td>Could function financially when smoking</td>
</tr>
</tbody>
</table>
Further, when organized under each category and research question these codes would appear in a table similar to that below:

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-category</th>
<th>Code</th>
<th># times coded</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial-</td>
<td>Costs more overall</td>
<td>SPENDSAV</td>
<td>7</td>
<td>1,5,6,7,</td>
</tr>
<tr>
<td>The combination</td>
<td></td>
<td>NOTCHEAP</td>
<td>2</td>
<td>3,8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MORE$snortalc</td>
<td>9</td>
<td>3,4,10</td>
</tr>
<tr>
<td>Costs less overall</td>
<td></td>
<td>LESS$snortalc</td>
<td>4</td>
<td>2,9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LESS$inj</td>
<td>4</td>
<td>2,8</td>
</tr>
<tr>
<td>No difference</td>
<td></td>
<td>NODIFF$snortalc</td>
<td>5</td>
<td>1,3,6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NODIFF$injalc</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NODIFF$smokealc</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>More $ than when drinking alone</td>
<td></td>
<td>MORE$vsDRINKal</td>
<td>3</td>
<td>8,9,10</td>
</tr>
<tr>
<td>Less $ than when drinking alone</td>
<td></td>
<td>LESS$vsDRINKal</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>More $ than when using cocaine a lone</td>
<td></td>
<td>MORE$vsCOCal</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Less $ than when using cocaine a lone</td>
<td></td>
<td>LESS$vscoocalone</td>
<td>4</td>
<td>6,9</td>
</tr>
<tr>
<td>General Costs</td>
<td></td>
<td>SPROB</td>
<td>3</td>
<td>1,5,10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MORE$THANMADE</td>
<td>3</td>
<td>1,5,9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PROBPAY</td>
<td>4</td>
<td>1,2,4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DEBT</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GAMBLING</td>
<td>3</td>
<td>5,7</td>
</tr>
</tbody>
</table>