# SETTINGS AND FUNCTIONS RELATED TO SIMULTANEOUS USE OF ALCOHOL WITH MARIJUANA OR COCAINE IN SUBSTANCE USE TREATMENT CLIENTS

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## ABSTRACT

**Objectives:** The paper identifies the central theoretical components for developing a typology of alcohol use with other substances. The settings and functions related to the simultaneous use of alcohol with marijuana or cocaine are examined using a dataset from a study of treatment clients in Ontario, Canada.

**Methods:** Treatment clients who reported using marijuana (n=499) or cocaine (n=375) in the past year completed a self-administered questionnaire on substance use.

**Findings:** Simultaneous use is very common among treatment clients, with differences in the settings and functions associated with alcohol use in combination with cocaine or marijuana, and by various socio-demographic characteristics.


**Running Head**: Simultaneous use of alcohol with marijuana or cocaine


**Keywords:** polysubstance use, simultaneous use, alcohol, cocaine, marijuana

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## Introduction

Theoretical models for explaining the use of alcohol and other drugs have historically focused on the mechanisms underlying single substance use (Barnwell & Earleywine, 2006). In recent years, increased recognition has been given to the fact that substances are often co-used. Polysubstance use is very common, with subjects across studies found to be using drugs in combination, and it is particularly prevalent in treatment populations (Brown University, 2002; Macdonald *et al*, 2005; Martin *et al*, 1993). Simultaneous use, a subset of polysubstance use, is defined here as the administration of two or more substances where the effects overlap. It may be a particularly harmful form of substance use because of the additive, synergistic or interactive effects on intoxication and impairment (Earleywine & Newcomb, 1997; Martin *et al*, 1996).

Specific studies, such as those on dance and party culture, have demonstrated the inadequacy of current definitions of polysubstance use (Schensul *et al*, 2005). They have pointed to the importance of multi-causal factors in describing and understanding simultaneous use and the associated health outcomes. These investigations have been limited to particular substance combinations, however, and the literature integrating the emerging key theoretical constructs remains scant.

This paper identifies the central theoretical components for developing a typology of how alcohol is used with other substances. It offers a framework incorporating circumstantial and functional aspects of simultaneous substance use. A dataset from a study of clients in treatment in Ontario, Canada, is used to better understand the settings and functions associated with simultaneous use of alcohol with cocaine or marijuana. A

secondary objective is to investigate gender differences in the functions of simultaneous use. The discussion is performed within the context of the proposed theoretical framework to illustrate how the concepts can be applied to other examinations of simultaneous substance use.

**Etiology of Simultaneous Use**

A comprehensive review of research was conducted using PubMed and BioMed Central, Academic Search Full Text Elite and Web of Science databases, with search terms including multiple substance, polysubstance, concurrent, simultaneous and combination use. The review of literature was used to develop a conceptual model for describing simultaneous substance use. This framework, presented in *Table 1*, incorporates both circumstantial and functional aspects of why substances are used in combination.

Functional and circumstantial models can be conceptualized as a continuum of active and passive explanations. In functional models, the individual is viewed as an active-decision maker, choosing substances and temporal order based on functions of use. Functions can be viewed as expectancies, where use is directly linked to perceived outcomes. In circumstantial explanations, substance combinations are examined within the context of settings, environmental constraints and influences. Although the proposed framework can be applied to various forms of polysubstance use, this paper focuses on simultaneous substance use.

Earleywine and Newcomb (1997) have previously described the need to distinguish between concurrent polydrug use (various drugs used on separate occasions) and simultaneous polydrug use (the use of more than 1 drug on the same occasion, with

overlapping effects). The potentially greater health consequences of simultaneous use on traffic accidents, psychomotor impairment, toxicity and overdose have been documented elsewhere (Collins *et al*, 1998) and are considered to arise from multiple biochemical processes such as drug synergy, cross-tolerance and additive effects.

The investigation of temporal order, modes of administration, drug form and dose is not the focus of this paper; however, the importance of these factors in understanding simultaneous use should not be understated (see Schensul *et al*, 2005). Studies on the role of alcohol in simultaneous use have found that alcohol use tended to precede the use of most other substances (Barrett *et al*, 2006). This pattern of use may be due to pharmacological effects (e.g., increased plasma concentrations), as well as situational reasons (e.g., alcohol may prohibited or controlled at events, such as raves or sporting events) (Barrett *et al*, 2005). Dose of use is also likely to be affected if other substances are involved. Barrett *et al* (2006) found that alcohol used with cocaine/methylphenidate was ingested in greater quantities than when used alone. Substitution or complementary effects are likely associated with simultaneous use and may result in differential health consequences, compared with concurrent or single substance use.

Few etiological theories have been advanced to explain polysubstance use (Barnwell & Earleywine, 2006). Explanations for why people use substances together typically focus on particular drug and alcohol combinations, or specific groups of users. Lankenau and Clatts (2005), for example, examined the patterns of polydrug use among ketamine users and found that much of polydrug use was a result of unexpected opportunities to use ketamine after already having consumed other drugs.

Boys and Marsden (2003) investigated polydrug use in a sample of young non-treatment users and found that the functions, understood as specific purposes, for substance use strongly predicted intensity of use in all substances. Barnwell and Earleywine (2006) found that simultaneous expectancies predicted simultaneous use of alcohol and marijuana beyond individual drug expectancies. Expectancies can also be characterized as functions, where users combine substances intentionally to achieve particular pharmacological or social effects. Some studies found that gender differences may exist in use patterns and perceptions of the expected effects of simultaneous use (e.g., McCance *et al*, 2005).

Economic models based on concepts such as substitution, price, and demand elasticity to explain substance use behaviour have also been advanced (e.g., Bickel *et al*, 1995). Kaufman (1976) found that diminishing availability affects a user's choice of other drugs. In a related study, Kaufman examined substitution effects in substance use within a functional framework (1982). Wesson *et al* (1978) found that the choice of a particular drug appeared incidental, dictated primarily by availability.

Findings from other studies supported circumstantial/environmental explanations. Models of substance use that stress the influence of the setting or environment where use occurs, consider individuals as relatively passive in that their use is influenced by social and environmental circumstances (Boys *et al*, 1999). In a longitudinal study of simultaneous polydrug use among adolescents, Collins *et al* (1998) found that environmental factors were the best predictors of simultaneous alcohol and marijuana use, and included exposure and peer effects. In classifying multiple drug abuse, Kaufman (1976) described patterns of use that arise as a result of being sanctioned by social

groups. Finally, Hoffman *et al* (2000) found that trends in combinational use are largely incidental to the use of individual substances.

The above theoretical concepts provide an important context for examining simultaneous substance use. In the following section, an existing database from a study of clients in treatment in Ontario, Canada, is used to examine the settings and functions associated with the simultaneous use of alcohol with cocaine or marijuana. Although the database did not contain detailed questions for effectively testing the proposed framework, the analysis aims to shed more light on the patterns and associations of alcohol use with marijuana and alcohol, and to illustrate how the various theoretical concepts can be applied to other examinations of simultaneous use.

Research Questions

1. What settings are associated with the simultaneous use of alcohol with cocaine or marijuana, compared to the use of cocaine or marijuana alone?
2. What functions are associated with the simultaneous use of alcohol with cocaine or marijuana, compared to the use of cocaine or marijuana alone?
3. Are there gender differences in the functions associated with the simultaneous use of alcohol with cocaine or marijuana?

## Methods

Research Design and Sample

Quantitative analyses were conducted using a dataset from a larger study of clients in various treatment programs in Ontario, Canada (N=1021). A cross-sectional design was used where patients 18-years or older completed a self-administered

questionnaire upon admission to various treatment programs. The questionnaire focused on substance use in relation to violence and injuries. The response rate was 93.6%. The study was approved by the ethics committee of the Centre for Addiction and Mental Health as well as by ethics committees at the individual treatment sites where applicable.

In this paper, quantitative analyses included only those clients who reported using marijuana (n=499) or cocaine (n=375) in the past year. The sample for the larger study was initially drawn from cocaine and marijuana clients, with those in gambling and tobacco cessation programs used as controls. In the data collection process, these criteria had to be relaxed to include alcohol clients with a secondary marijuana problem, as few clients had a primary problem with marijuana. Data collection procedures were identical for all clients to ensure comparable data quality, and respondents received a $20 gift certificate to a local grocery store for their participation.

Measures

The dependent variables, simultaneous use of marijuana or cocaine with alcohol, were obtained from a question that asked how often patients used marijuana or cocaine in combination with alcohol within the past year. Those who answered “sometimes,” “often” or “very often” were coded as simultaneous users while those who answered “never” or “rarely” were coded as cocaine- or marijuana-alone users. Consequently, analyses involved the two formed groups of users: 1) the simultaneous users of marijuana with alcohol, compared to users of marijuana alone; and 2) the simultaneous users of cocaine with alcohol, compared to users of cocaine alone.

Covariates included the setting where cocaine or marijuana use occurred and the self-reported functions of use. These variables were recoded from 5-point scale responses (from “never” to “always”) to dichotomous variables (yes/no) using the same procedures that were employed for the dependent measures. Demographic characteristics included age (18-29, 30-39, 40-49, and 50+) and gender (male/female), as well as problem group based on the primary and secondary substance for which clients were receiving treatment.

**Results**

Descriptive Statistics and Demographics

The first analyses consisted of descriptive statistics. *Table 1* provides a description of the sample by demographic characteristics and problem group. As many as 70.4% (264) of cocaine subjects used cocaine simultaneously with alcohol, compared to 63.7% (318) of cannabis users. The mean age was 33 for marijuana users (range 18-62) and 34 for cocaine users (range 18-67). Chi-square analyses were also performed and describe associations with simultaneous use. It can be seen that males were significantly more likely to be simultaneous users of alcohol with marijuana ($p<0.01$), but not cocaine. Although age group was associated with simultaneous cocaine and alcohol use, the low cell count in some groups should be noted.

The problem group was significantly associated with simultaneous use of alcohol with both marijuana and cocaine ($p<0.001$). Simultaneous use of alcohol with marijuana or cocaine was highly prevalent among all clients even if they were not in treatment for a primary problem with those substances. The highest prevalence of simultaneous use was found among clients in treatment for alcohol, at 79.6% for simultaneous use with marijuana and 87.5% with cocaine.

Setting variables

*Table 2* presents the results of logistic regressions for the simultaneous use of marijuana and alcohol with setting variables, displaying unadjusted and adjusted odds ratios. Simultaneous use of these substances was more likely to occur across all settings, with prevalence ranging from 71.1% at home alone or with friends to 76.6% when driving a car. The highest odds ratios for being a simultaneous user, adjusted for age group and gender, are noted for those who use marijuana at home with friends and in locations such as bars, taverns, parties, clubs, concerts, and sporting events, with ratios of 4.19 and 3.25, respectively.

*Table 3* presents the results of logistic regressions with setting variables and the simultaneous use of cocaine and alcohol. After controlling for age group and gender effects, simultaneous use was significantly more likely to occur at home alone ($p<0.01$), at home with friends ($p<0.01$), at work/school with friends ($p<0.05$), and at bars, taverns, etc ($p<0.001$). Those who reported cocaine use in organised drinking venues (bars, taverns, parties, clubs, concerts, or sporting events) were the most likely to be simultaneous users of cocaine and alcohol (OR 2.96). Some of the other setting variables, including at work/school alone, with strangers, and when driving a car, were not significantly associated with simultaneous cocaine and alcohol use.

Function variables

*Table 4* shows the results of logistic regressions with function variables and the simultaneous use of marijuana with alcohol. It can be seen that simultaneous users are significantly more likely ($p<0.001$) to use across all functions. Clients reported using marijuana functionally for self-medication reasons, such as to calm themselves down and

when they were angry, with odds ratios of being a simultaneous marijuana and alcohol user at 3.99 and 3.52, respectively. In contrast, only two functions were significantly associated with simultaneous cocaine and alcohol use: “when I was angry” ($p<0.001$) and “when I was tired” ($p<0.01$) (*Table 5*). Patients who reported using cocaine when angry had the highest odds of being a simultaneous user with alcohol (OR 2.45).

Additional analyses were conducted to investigate gender differences in the functions of simultaneous use. The results show that women were significantly more likely than men to use cocaine with alcohol in order to calm themselves down, in stressful situations, and when they were angry or felt the situation was out of their control (*Table 6*). In the case of marijuana and alcohol, gender differences were noted for only one function (“when I felt the situation is out of my control”).

**Discussion**

Descriptive analyses indicated that simultaneous use of alcohol with marijuana or cocaine was highly prevalent among all clients even if they were not in treatment for a primary problem with one of those substances. The high prevalence of simultaneous marijuana and alcohol use may be due to the fact that the sample criteria for marijuana clients were relaxed to include those with any marijuana problem. As a result, the sample includes many alcohol clients with a secondary marijuana problem. Nonetheless, simultaneous use was noted across all treatment groups and suggests that polysubstance use is an important factor to consider in prevention and treatment, because of possible triggers and reinforcing effects.

The high odds ratios of being a simultaneous user of alcohol with either marijuana or cocaine in bars, taverns, parties, clubs, concerts, and sporting events can be explained

with both circumstantial and strategic factors. Alcohol is largely available in these settings and it is likely that alcohol use has already begun when an opportunity to use another substance arose. On the other hand, the substances may have been combined functionally, with the goal of enhancing social relationships and occasions. The high proportion of simultaneous users, who report marijuana use while driving a car is alarming: it suggests that subjects may have been driving under the combined effects of alcohol and marijuana.

The setting in which substance use occurred is also an indication of the range of functions that may be guiding the users. For example, the fact that both cocaine and marijuana are used with alcohol at home alone may point to pharmacological explanations. Few pharmacological functions were expected to be significantly associated with marijuana and alcohol use, which is considered in the literature to be primarily socio-environmental, both in the strategic and circumstantial categories (e.g., Barrett *et al*, 2006; Wesson *et al*, 1978). Simultaneous cocaine and alcohol use, on the other hand, is primarily viewed as driven by pharmacological effects associated with using the two substances in combination (Pennings *et al*, 2002).

Analyses with functional variables confirmed that clients used marijuana functionally for self-medication reasons, such as to calm themselves down and when they were angry. Although fewer functions were associated with simultaneous alcohol with cocaine use than with marijuana, the analyses were limited by the available function variables. These did not include factors frequently found to be associated with cocaine and alcohol use, such as better/longer high, ease of cocaine withdrawal, and less intense feelings of alcohol inebriation (Pennings *et al*, 2002).

Although males were more likely than females to be simultaneous users, some studies found that gender differences may exist in the patterns of use and perceptions of the expected effects of simultaneous use. In a recent study on cocaine and alcohol, for example, McCance *et al* (2005) found that women reported a significantly increased perception of well-being associated with simultaneous use compared to men. Although further analyses by gender are beyond the scope of this paper, the preliminary results are consistent with the current literature on the differences between men and women in the functional use of cocaine and alcohol.

Limitations

Future studies should consider other factors, such as dose, temporal ordering, and mode of administration. The dataset did not contain information on price and availability to examine substitution effects. Although these variables were unavailable, the review of literature showed that these are central factors in understanding polysubstance use. Further research in this area is needed.

The measure of simultaneous use should be improved in future studies to ensure that the effects of substances overlap. Because this study did not aim to examine whether the pharmacological effects of combining substances are associated with differential health outcomes, the measures employed are considered to be adequate proxies of simultaneous use for the preliminary analyses conducted here. Finally, the selection of the sample to include alcohol clients with any marijuana problem may help explain the high prevalence of simultaneous alcohol and marijuana use across all setting and function variables, and represents a limitation of the study.

## Conclusion

Although drugs and alcohol are frequently used together, few theoretical frameworks have been developed for examining simultaneous substance use. A review of literature pointed to the importance of considering multiple factors in investigating simultaneous use, including temporal patterns, mode of administration, drug form and dose. This paper aimed to identify and integrate the central theoretical components that need to be considered in developing a typology of how alcohol is used with other substances. In the context of the proposed framework incorporating both circumstantial and functional aspects of simultaneous substance use, a dataset from an Ontario study of treatment clients was used to better understand the functions and settings related to the simultaneous use of alcohol with cocaine or marijuana.

The functionality of substance use can also be understood in terms of a) improved performance of various kinds of activities, for example increasing success in sport, work or social relationships, or b) enhancing the experience of social and recreational activities. Pharmacological effects can also be understood in terms of central nervous system depression or stimulation as well as in terms of the perceptual effects associated with hallucinogenic drugs. Arguably a full understanding of the social and psychological functions of substance use needs to incorporate measurements of these additional dimensions into the future studies.

Quantitative analyses showed that simultaneous use is very common in treatment samples, with differences in the settings and functions associated with alcohol use in combination with cocaine or marijuana, and by various socio-demographic characteristics. Discussion of the results suggests that the framework offers a number of

useful theoretical concepts that can be applied to other examinations of simultaneous use. Further research is needed to determine how such a framework can be used in the development of user profiles for designing health and policy interventions. Conceptual models, which incorporate the multiple dimensions of polysubstance use, are essential for effective prevention strategies that aim to minimize the harms associated with simultaneous use.

**Appendix**

Figure 1: A conceptual model for understanding polysubstance use

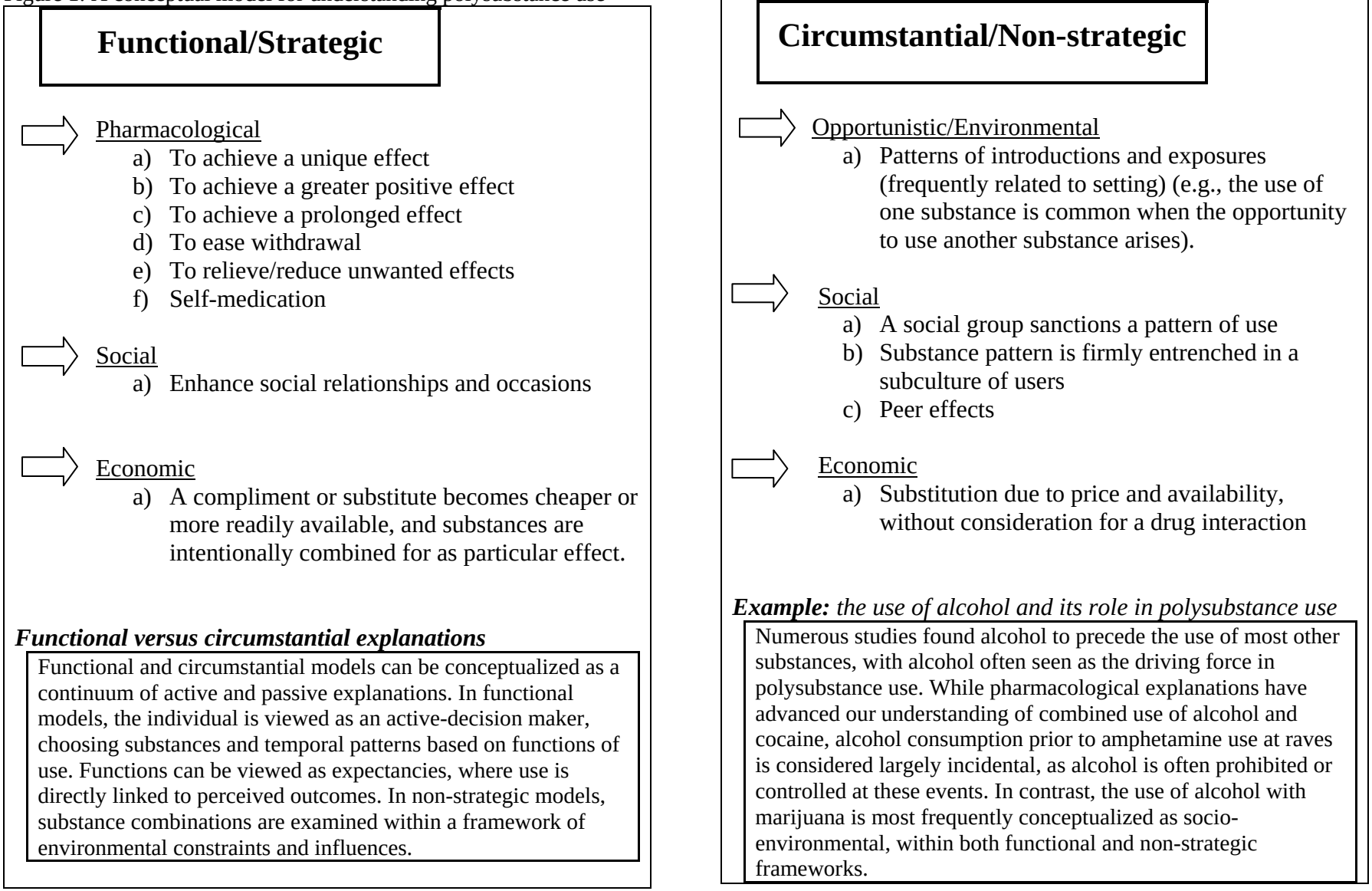

Table 1: Percent reporting simultaneous use of alcohol with marijuana or cocaine, among treatment clients in Ontario.

| Variable | Simultaneous use of marijuana and alcohol | | Simultaneous use of cocaine and alcohol | |
|---|---|---|---|---|
| | Yes (%) | Total (N=499) | Yes (%) | Total (N=375) |
| Age groups | | | * | |
| 18-29 | 124 (67.0) | 185 | 106 (76.3) | 139 |
| 30-39 | 71 (57.7) | 123 | 54 (58.7) | 92 |
| 40-49 | 90 (61.2) | 147 | 94 (71.8) | 131 |
| 50+ | 33 (75.0) | 44 | 10 (76.9) | 13 |
| Gender | ** | | | |
| Female | 107 (56.3) | 190 | 92 (68.1) | 135 |
| Male | 211 (68.3) | 309 | 172 (71.7) | 240 |
| Problem group | *** | | *** | |
| Cocaine alone | 34 (50.7) | 67 | 52 (54.2) | 96 |
| Cocaine + other | 73 (60.8) | 120 | 118 (77.6) | 152 |
| Cannabis alone | 27 (65.9) | 41 | 8 (53.3) | 15 |
| Cannabis + other | 49 (76.6) | 64 | 23 (74.2) | 31 |
| Alcohol | 82 (79.6) | 103 | 42 (87.5) | 48 |
| Other drugs | 17 (56.7) | 30 | 14 (70.0) | 20 |
| Tobacco/Gambling | 36 (48.6) | 74 | 7 (53.8) | 13 |

Notes: $X^2$ test: * $p<0.05$ ** $p<0.01$ *** $p<0.001$.

Table 2: Clients reporting simultaneous use of marijuana and alcohol by setting, unadjusted and adjusted odds ratios.

| Variable | Simultaneous marijuana and alcohol use (N=499) [2] | Unadjusted | | Adjusted [1] | |
|---|---|---|---|---|---|
| | Yes (%) | OR | 95% CI | OR | 95% CI |
| At home alone | | | | | |
| Yes | 244 (71.1) | 2.46 | 1.64-3.69 *** | 2.56 | 1.69-3.88 *** |
| No | 70 (50.0) | 1.00 | | 1.00 | |
| At home with friends | | | | | |
| Yes | 280 (71.1) | 3.75 | 2.33-6.02 *** | 4.19 | 2.57-6.85 *** |
| No | 36 (39.6) | 1.00 | | 1.00 | |
| At work/school alone | | | | | |
| Yes | 130 (74.7) | 2.02 | 1.34-3.04 *** | 1.99 | 1.30-3.03 *** |
| No | 184 (59.4) | 1.00 | | 1.00 | |
| At work/school with friends | | | | | |
| Yes | 143 (73.7) | 1.97 | 1.32-2.93 *** | 1.97 | 1.29-3.00 *** |
| No | 169 (58.7) | 1.00 | | 1.00 | |
| With strangers | | | | | |
| Yes | 103 (73) | 1.67 | 1.08-2.57 * | 1.59 | 1.02-2.49 * |
| No | 209 (61.8) | 1.00 | | 1.00 | |
| Bars, taverns [3] | | | | | |
| Yes | 243 (73.2) | 3.11 | 2.08-4.63 *** | 3.25 | 2.15-4.90 *** |
| No | 72 (46.8) | 1.00 | | 1.00 | |
| When driving a car | | | | | |
| Yes | 183 (76.6) | 2.81 | 1.90-4.16 *** | 2.67 | 1.79-3.98 *** |
| No | 130 (53.7) | 1.00 | | 1.00 | |

Notes: Wald test: * $p<0.05$ ** $p<0.01$ *** $p<0.001$.

[1] Adjusts for age group and gender.

[2] Some percentages may not add up to total sample because of missing values for some variables.

[3] Includes parties, clubs, concerts, and sporting events.

Table 3: Clients reporting simultaneous use of cocaine and alcohol by setting, unadjusted and adjusted odds ratios.

| Variable | Simultaneous cocaine and alcohol use (N=375) [2] | Unadjusted | | Adjusted [1] | |
|---|---|---|---|---|---|
| | Yes (%) | OR | 95% CI | OR | 95% CI |
| At home alone | | | | | |
| Yes | 200 (74.1) | 1.81 | 1.12-2.93 * | 2.10 | 1.27-3.48 ** |
| No | 63 (61.2) | 1.00 | | 1.00 | |
| At home with friends | | | | | |
| Yes | 189 (76.5) | 2.21 | 1.39-3.51 *** | 2.16 | 1.34-3.47 ** |
| No | 75 (59.5) | 1.00 | | 1.00 | |
| At work/school alone | | | | | |
| Yes | 88 (75.9) | 1.48 | 0.90-2.45 | 1.45 | 0.87-2.42 |
| No | 169 (67.9) | 1.00 | | 1.00 | |
| At work/school with friends | | | | | |
| Yes | 67 (81.7) | 2.17 | 1.18-4.01 * | 2.10 | 1.13-3.92 * |
| No | 193 (67.2) | 1.00 | | 1.00 | |
| With strangers | | | | | |
| Yes | 101 (76.5) | 1.61 | 0.99-2.62 | 1.58 | 0.97-2.59 |
| No | 159 (66.8) | 1.00 | | 1.00 | |
| Bars, taverns, et al [3] | | | | | |
| Yes | 170 (80.6) | 3.11 | 1.95-4.93 *** | 2.96 | 1.83-4.80 *** |
| No | 92 (57.1) | 1.00 | | 1.00 | |
| When driving a car | | | | | |
| Yes | 129 (75.4) | 1.59 | 1.01-2.53 * | 1.54 | 0.96-2.44 |
| No | 131 (65.8) | 1.00 | | 1.00 | |

Notes: Wald test: * p<0.05 ** p<0.01 *** p<0.001.
[1] Adjusts for age group and gender.
[2] Some percentages may not add up to total sample because of missing values for some variables.
[3] Includes parties, clubs, concerts, and sporting events.

Table 4: Clients reporting simultaneous use of marijuana and alcohol by function, unadjusted and adjusted odds ratios.

| Variable | Simultaneous marijuana and alcohol use (N=499) [2] | Unadjusted | | Adjusted [1] | |
|---|---|---|---|---|---|
| | Yes (%) | OR | 95% CI | OR | 95% CI |
| In stressful situations | | | | | |
| Yes | 255 (72.9) | 3.41 | 2.25-5.16 *** | 3.46 | 2.26-5.28 *** |
| No | 59 (44.0) | 1.00 | | 1.00 | |
| When I was angry | | | | | |
| Yes | 244 (73.7) | 3.32 | 2.22-4.96 *** | 3.52 | 2.32-5.35 *** |
| No | 70 (45.8) | 1.00 | | 1.00 | |
| When I felt the situation is out of my control | | | | | |
| Yes | 221 (72.7) | 2.46 | 1.67-3.62 *** | 2.66 | 1.78-3.96 *** |
| No | 94 (51.9) | 1.00 | | 1.00 | |
| To calm myself down | | | | | |
| Yes | 272 (71.8) | 3.78 | 2.42-5.91 *** | 3.99 | 2.52-6.33 *** |
| No | 43 (40.2) | 1.00 | | 1.00 | |
| When I was tired | | | | | |
| Yes | 206 (72.8) | 2.30 | 1.57-3.37 *** | 2.36 | 1.59-3.50 *** |
| No | 109 (53.7) | 1.00 | | 1.00 | |

Notes: Wald test: * p<0.05 ** p<0.01 *** p<0.001.
[1] Adjusts for age group and gender.
[2] Some percentages may not add up to total sample because of missing values for some variables.

Table 5: Clients reporting simultaneous use of cocaine and alcohol by function, unadjusted and adjusted odds ratios.

| Variable | Simultaneous cocaine and alcohol use (N=375) [2] | Unadjusted | | Adjusted [1] | |
|---|---|---|---|---|---|
| | Yes (%) | OR | 95% CI | OR | 95% CI |
| In stressful situations | | | | | |
| Yes | 186 (72.9) | 1.45 | 0.90-2.32 | 1.57 | 0.97-2.56 |
| No | 76 (65.0) | 1.00 | | 1.00 | |
| When I was angry | | | | | |
| Yes | 193 (75.7) | 2.13 | 1.34-3.40 *** | 2.45 | 1.49-4.00 *** |
| No | 70 (59.3) | 1.00 | | 1.00 | |
| When I felt the situation is out of my control | | | | | |
| Yes | 183 (72.9) | 1.43 | 0.89-2.29 | 1.60 | 0.98-2.61 |
| No | 77 (65.3) | 1.00 | | 1.00 | |
| To calm myself down | | | | | |
| Yes | 162 (72.6) | 1.28 | 0.82-2.02 | 1.38 | 0.86-2.21 |
| No | 101 (67.3) | 1.00 | | 1.00 | |
| When I was tired | | | | | |
| Yes | 208 (73.5) | 1.71 | 1.03-2.83 * | 1.99 | 1.18-3.36 ** |
| No | 55 (61.8) | 1.00 | | 1.00 | |

Notes: Wald test: * p<0.05 ** p<0.01 *** p<0.001.
[1] Adjusts for age group and gender.
[2] Some percentages may not add up to total sample because of missing values for some variables.

Table 6: Differences between male and female simultaneous users of alcohol with marijuana or cocaine in proportion scores of function variables.[1]

| Variable | Simultaneous use of marijuana and alcohol | | Simultaneous use of cocaine and alcohol | |
|---|---|---|---|---|
| | N=499 | Proportion (Yes) | N=375 | Proportion (Yes) |
| In stressful situations | | | | |
| Female | 106 | 83.0% | 91 | 80.2% * |
| Male | 208 | 80.3% | 171 | 66.1% |
| When I was angry | | | | |
| Female | 106 | 80.2% | 91 | 84.6% ** |
| Male | 208 | 76.4% | 172 | 67.4% |
| When I felt the situation is out of my control | | | | |
| Female | 106 | 78.3% * | 91 | 79.1% * |
| Male | 209 | 66.0% | 169 | 65.7% |
| To calm myself down | | | | |
| Female | 106 | 89.6% | 91 | 78.0% *** |
| Male | 209 | 84.7% | 172 | 52.9% |
| When I was tired | | | | |
| Female | 106 | 68.9% | 91 | 84.6% |
| Male | 209 | 63.6% | 172 | 76.2% |

Notes: [1] $X^2$ test: * p<0.05 ** p<0.01 *** p<0.001

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