

The Impact of a Substance Abuse Treatment for Offenders in Relation to the Time Spent in Treatment¹

by
Serge Brochu, Ph.D.^{2,3}
Fu Sun, Ph.D.⁴
Michel Landry, Ph.D.⁵
Jacques Bergeron, Ph.D.⁶

Recherche et intervention sur les substances psychoactives - Québec
International Centre for Comparative Criminology
University of Montreal

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 2. Full Professor, School of Criminology and Director, International Center for Comparative Criminology, Université de Montréal, C.P. 6128, Succ. Centre-ville, Montréal, Québec, H3C 3J7, Canada.
 3. To whom requests for reprint should be sent.
 4. Professional researcher, CICC, University of Montreal
 5. Director of professional services, Centre Dollard Cormier
 6. Full Professor, Dept. of Psychology, University of Montreal.

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ABSTRACT

The objective of this research is to evaluate the outcomes of a treatment for addicts. 123 subjects were tested before treatment and at 5, 8 and 11 months follow-up periods with a French version of the Addiction Severity Index (ASI). Exposure to treatment was based on the number of clients' contact-hours with a therapist. The sample was divided into three groups according to the number of hours spent in treatment. The data was analysed using MANOVA on the seven scales of the ASI for the three groups and the four time periods. Results showed that all groups improved significantly but that this improvement was not related to the number of hours spent in treatment.

INTRODUCTION

Drug abuse is often correlated with criminality (Brochu, 2006a; Huebner and Cobbina, 2007; Johnson, 2004; Liriano and Ramsay, 2003; Makkai and Payne, 2003; Mouzos, Smith and Hind, 2006; National Institute on Drug Abuse, 2006; National Institute of Justice, 2003; Pernanen, Cousineau, Brochu and Sun, 2002; Stohr, Hemmens, Baune, Dayley, Gornik, Kjaer and Noon, 2003). The level of drug use and abuse among offenders is striking (Borrill, Maden, Martin, Weaver, Stimson, Farrell, Barnes, Burnett, Miller and Briggs, 2003; Fazel, Bains and Doll, 2006 ; Huebner and Cobbina, 2007; Karberg and James, 2005 ; Liriano and Ramsay, 2003 ; Makkai and Payne, 2003 ; Mumola and Karberg, 2006 ; Mouzos, Smith and Hind, 2006; Pernanen et al., 2002 ; Robitaille, Guay and Savard, 2002) Most arrestees in United States test positive for at least one drug at the time of the arrest (ADAM, 2003; National Institute of Justice, 2003). Drug abusers commit a disproportionate amount of crime (Brochu and Parent, 2005; Huebner and Cobbina, 2007; Makkai and Payne, 2003; National Institute of Drug Abuse, 2006). Many of these drug users need services and treatment, not provided by the criminal justice system, to help them managing their drug use (Borrill et al., 2003; Mitchell, Wilson and Mackenzie, 2006; National Institute of Drug Abuse, 2006; Ramsay, 2003). The enormous costs linked to addiction among offenders (Collins and Lapsley, 2002) pushed the judicial authorities to look for new improved alternative to incarceration for drug addicts (Belenko, Patapis and French, 2005; Karberg and James. 2005; National Institute on Drug Abuse, 2006;

Office of National Drug Control Policy, 2004; Shaffer, Bechtel and Latessa, 2005). Treatment for drug addicts was certainly an interesting potential solution and was introduced inside detention centers. Studies showed that these types of treatment offered in correctional settings had major flaws: a very high rate of attrition (Bullock, 2003; Liriano, Martin and Player, 2003; Mason, Mason and Brookes, 2003). Other treatment programs were offered to offender during their probation of parole or even before being sentenced. It is the case of programs offered by the Drug courts in United States and in other countries (Anspach, Ferguson and Phillips, 2004; Gottfredson, Najaka and Kearley, 2003; Latimer, Morton-Bourgon and Chrétien, 2006; National Institute of Justice, 2006; Rempel, Fox-Kralstein, Cissner, Cohen, Labriola, Farole, Bader and Magnani, 2003; United States Government Accountability Office, 2005; Werb, Elliott, Fischer, Wood, Montaner and Kerr, 2007). Here again a high rate of attrition characterized treatment programs accepting clients referred by Drug courts (Anspach et al., 2004; Banks et Gottfredson, 2003; Freeman, 2002; Gottfredson et al., 2003; Hough, Clancy, McSweeney and Turnbull, 2003; Rempel et al., 2003; United States Government Accountability Office, 2005; Werb et al., 2007).

Thus a certain number of studies that aim to measure the impact of various treatment programs implemented for criminalized substance addicts point to a discouraging prognosis regarding the impact of such practices (Banks and Gottfredson, 2003; Brochu, Cournoyer, Tremblay, Bergeron, Brunelle and Landry, 2006; Huebner and Cobbina, 2007; Mitchell et al., 2006). This pessimistic outlook was attributed to the weak motivation of the clientele to remain in a given program for the length of time necessary to benefit from it (Skodbo, Brown, Deacon, Cooper, Hall, Millar, Smith and Whitham, 2007). However, when individuals remain in a treatment program on a consistent and sufficient basis, it seems that prognoses could improve considerably (National Institute of Drug Abuse, 2006; Rempel, et al., 2003; Skodbo et al., 2007). The success of a given intervention program seems to be related to the participant's perseverance within that therapeutic program (Huebner and Cobbina, 2007; National Institute of Drug Abuse, 2006; Rempel et al., 2003; Young, 2002). The aim of the present study consists of determining the impact of a treatment process for substance-criminalized addicts in relation to time spent in treatment.

METHODOLOGY

The study was realized at the Dollard Cormier Center (DCC), a Quebec's public rehabilitation facility for alcoholics and drug addicts serving the Montreal region population. Services offered at DCC are based on a bio-psycho-social approach to drug addiction. Its rehabilitation process deals not only with the consumption habits of psychoactive substances, as such, but also with the totality of areas that may have been associated with past, present and future over-consumption. A client goes through the treatment process according to an individualized plan based on the patient's strengths and weaknesses. This plan is elaborated through mutual therapist-patient consensus. Therapeutic activities include both individual and group counselling. These activities are not only intended for the drug addicts alone but for their family circles as well. DCC offers different specialized treatment services that group together similar addiction problems. Among those, is the Criminalized Substance Addicts (CSA) program.

At the patient's admission to the CSA program, a preliminary meeting with the client is required in order to explain the program's content while, at the same time, gathering clinical-based information that would optimize the clinician-client pairing. Depending of the client's needs, two types of services could be offered. The first type concerns an **adaptation** service. Four types of activities are offered within this service: (1) individual interviews; (2) workshop conferences made up of a series of educational and informative meetings; (3) a group therapies whose goal is to allow the clients to explore their past behaviours, the impact of these behaviours on the manner they establish relationships with others, and the links that combine such factors to their addiction and their criminal history; and (4) experimentations within their own milieu. The second type of service, **re-adaptation**, is made up of workshops and meetings in order to teach social skills and relapse prevention tools. In sum, such an approach allows for concordance between clients' expectations and needs and the nature of the services offered. More specifically, therapist try to get a broad picture of the client and the links their addiction have with the crimes they have committed. Based on their client's history, they try to identify the respective functions of drugs and crime in their life. If crimes are mainly committed in order to get their drugs, treatment will primarily focus

on addiction. Otherwise, therapist will also have to deal with delinquency aspects and the deviant context in which crime happens. Therapist will help their clients to perceive their drug problem, enhance their motivation to change and, eventually, create a therapeutic alliance without imposing any specific goals. Past experience exploration and positive reinforcement are key tools in the therapeutic process.

Subjects

Subjects were selected according to the criteria developed by the CSA program: 1) all users arrested and charged under the Criminal Code of at least four offences of three different natures; or 2) all users in accusation, awaiting trial or awaiting sentence in a Criminal Court; or 3) all users released on parole, in probation, residing in a halfway house and/or undergoing any other legal measures. These criteria allowed for clients subjected to judicial control to be oriented towards a special treatment program.

Subjects were contacted at DCC during their admission process to the CSA program by one of our research agents. Clients were entirely free to participate in the study and were told that the therapy would not be affected in any way by their decision to participate or not in the study. From the 168 persons who agreed to participate in the study, 4 clients were discarded from the research procedures at the initial stage due to lack of complete and valid information in their files, hence, leaving a total of 164 eligible participants. Of these, 9 subjects (5.5%) withdrew from the study for various personal reasons and 22 (13.4%) were not reached at one of the three follow-up periods despite efforts made by the interviewing team members. In total, 133 subjects were contacted both at pre test period and at the three follow up periods; this being a 81.1% follow-up rate. From this number, 10 subjects were discarded for various reasons related to the validity of the questionnaire (unanswered questions, etc.). As such, this study includes 123 subjects being followed three times over an eleven month period.

Treatment exposure definition (independent variable)

The main hypothesis of this study proposes that a subjects' improvement, observed on seven dimensions of their

lives, is proportional to the extent of treatment exposure. Treatment exposure could be a very complex variable. We tried to simplify it while keeping its dynamic process. The way to define treatment exposure was established by the number of total activity time during their treatment episode at CSA program. Only "significant contacts" were considered. These contacts were compiled from client files kept at the centre. The validity of this method relies on the ability of the chart to indicate exactly the nature and the quantity of treatments carried out at the centre. On one hand, it is important to know that it is in the counsellors' best interests to write in the client' file the truest account of services provided since these registered accounts are used to evaluate their productivity. Moreover, it is highly improbable that this data overestimates the treatment services that were provided. An overestimation would imply that counsellors have knowingly falsified data in the files, which would represent a serious breach of professional ethics. Since each activity reported in the file can be clearly defined within the centre programs, a standard duration can be attributed to each activity with reasonable reliability. Hence, making it possible to compile the total number of hour's activity for each subject. Table 1 shows the classification of activities (in hours) compiled from the subjects' file as well as the standard duration that was attributed to each.

Insert table 1 here

Three groups were thus defined according to the time elapsed between treatment entry and the moment subjects withdrew from treatment. The first group contains participants who were engaged in the initial information and evaluation sessions without following other clinical activities. They have spent 5 hours or less in the program (n=43; average time spent in the program: 1,91 hours, s.d. = 1.21). The second group includes subjects who participated in the initial information and evaluation sessions and some the clinical program activities (e.g. adaptation phase). They left after having spent between 5 and 15 hours in therapy (n=40; average time spent in treatment: 9,70 hours, s.d. = 2.98). The last group contains subjects who participated in all or almost all the

clinical activities of the two phases (e.g. adaptation and re-adaptation) of the treatment program (n=40; average time spent in treatment: 32,38 hours, s.d. = 20.07) (see Table 2).

Insert table 2 here

Dependent variables to be considered

As previously mentioned, services offered at DCC are based on a bio-psycho-social approach to drug addiction. This implies that the treatment goal is not only abstinence from alcohol or drugs but to improve other important facets of the individual's lifestyle, which are associated with drug addiction. Thus treatment effectiveness should not be evaluated in terms of abstinence only. Rather, this broader spectrum approach should be assessed in terms of a bio-psycho-social improvement.

For this study, the Addiction Severity Index (ASI) (McLellan, Luborsky, Woody and O'Brien, 1980) was used to measure the impact of the program. ASI is a psychometric tool that can be used for psychosocial evaluations as well as for diverse research purposes. The ASI dimensions relate to the severity of problems associated with alcohol, drugs, psychological status, medical state, legal situation and social/familial condition as well as employment/resources status. A composite score can be calculated for each dimension from the answers given by a subject. Studies carried out to evaluate the validity and reliability of the original English version of the ASI (Kosten, Rounsaville and Kebler, 1983; McLellan et al, 1980; McLellan, Luborsky, Cacciola, Griffith, Evans, Barr and O'Brien, 1985; Ockert, 1984), have demonstrated the value of this instrument (Jacobson, 1989). The ASI was translated into French and validated for its use on the francophone population of the province of Quebec (Bergeron, Landry, Brochu, Guyon, 1998). Validation procedures consisted in verifying the accuracy of the translation controlling for language and cultural biases as well as attesting many aspects of the psychometric

qualities of the questionnaire: internal consistency, test-retest reliability and construct validity. The results indicate that this tool is reliable and valid.

ASI is used by clinicians to assess the strengths and weaknesses of clients during the admission process and to establish treatment goals; it will then be used to assess changes made at the 5, 8 and 11 months follow-up periods. In this manner, the evaluation procedures respect treatment goals and treatment process.

Statistical Analysis

Analysis of co-variance (for variables such as age, sex, or psychological health, which at first glance could be related to the impact of treatment) was rejected since conditions stipulated by Lovell et al. (1987) and especially those proposed by Huitema (1980) and Frigon and Laurencelle (1993) were not respected. In fact, several simple and multiple regression analyses as well as several tests of slope equality were done. These tests indicated that none of the co-variables offered a valuable contribution to the analyses. In order to confirm the validity of this conclusion, all possible analyses of co-variance were carried out. In comparing these results to those of the analyses without co-variables, no true contribution was found and no result structure changes were observed. In conclusion, no co-variable was kept. In order to globally evaluate the impact of the program a multivariate analysis of variance (MANOVA) was carried out.

RESULTS

The present research used MANOVA as its main form of analysis. However, for a better understanding of our results, we will show the difference between the findings for the initial group as compared to the follow-up group as defined below. Moreover, a description of the follow-up sample is also quite relevant.

Differences between the initial group of subjects and the follow-up sample

In order to perform rigorous analyses, certain preliminary checks were necessary. Since not all subjects were contacted for the follow up study, it was important to compare the socio-demographic profile, the level of addiction and the number of hours spent in treatment between the initial group of clients contacted for the study and the final sample at follow-up. This comparison yielded only one difference: the follow-up sample spent more time in treatment than those subjects who were not followed-up (followed: mean=14.35, s.d.=17.37 hours; non-followed: mean=8.44, s.d.= 10.97 hours; $t=2.07$, $p = 0.04$).

Description of the follow-up sample

In order to have a good understanding of the results, it is important to look at possible initial differences between our three groups. Crossed tables concerning sex, schooling, net yearly income, type of occupation, marital status show no significant differences between groups. However, participants in group 3 (37.55 years old) are significantly older than the two other groups (group1: 33.95 years old; group 2: 32.67 years old) ($F= 4.81$; $p=.01$) (Table 3).

Insert table 3 here

The follow-up sample is composed of 107 men and 16 women. Mean age is 34.71 years (s.d. 7.52 years). On average, 71.5% subjects were unemployed ($n=88$); they had earned \$232.98 (s.d. \$570.76) (5 missing) during the month preceding their admission into the treatment program. From a matrimonial standpoint, 34 (27.6%) of the subjects had spouses while 89 (72.4%) were either single, widowed or divorced. With regards to schooling, 31.7% of the subjects in the study-sample had a grade 12 education as their very least.

Age of first crime was 14.8 years old (s.d. = 6.5). On average, they spent 18.7 months (s.d. = 29.5) in custody over a 4.7 detention period (s.d. = 4.8). The length of the last period of custody was 7.6 months (s.d. = 13.1). There are no significant differences between groups. One quarter of subjects were on probation (26.8%), and similar proportions were either waiting for Court decisions (25.2%) or in a half way house (22%). Charges were mainly for *Contempt of Court* (59.3%), *driving while impaired* (50.4%) or *theft* (47.2%).

Substances regarded as a major problem for most subjects was alcohol (26.0%, alcohol only) and one drug only (14.6%). 59.3% of subjects stated that they had problems with both alcohol and drugs, or more than one drug at the same time. Four-fifths of the subjects had received prior treatment for their alcohol and drug related problems. Of these, half were treated three or more times (see table 4).

Insert table 4 here

Main results

The general hypothesis is that the treatment offered at DCC is effective. This implies that subjects will be less afflicted by bio-psycho-social problems as measured by the ASI during the follow-up periods than at the beginning of treatment (time effect). It also means that subjects who stayed in treatment for longer periods of time will benefit more from the rehabilitation process than those who left earlier (group X time interaction).

Table 5 shows the results of the MANOVA and ANOVAs carried out with the three groups of subjects, each group categorized by time spent in treatment.

Insert table 5 here

From the MANOVA, we observe that there is a strong time effect, meaning that subjects change over time. There is neither statistical difference between groups nor interaction Group X Time. In other words, from the MANOVA, we could not observe any differential improvements relative to the number of hours spent in treatment. It is difficult to know the differences for each ASI scale from a mere MANOVA, so seven ANOVAs have been done (see table 5). We can observe a significant time effect for each scale except for the medical one. It seems that health problems are more difficult to resolve than other life difficulties. We could also see a small group effect for drug scale.

Table 6 clearly demonstrates a time difference on the majority of dependent variables (*for alcohol*: $F = 6.76, p < 0,0005$; *for drugs*: $F = 7,03, p < 0,0005$; *for psychological status*: $F = 9,14, p < 0,0005$; *for job/resources*: $F = 5,58, p < 0,01$; *for legal*: $F = 3,48, p < 0,05$; and *for family*: $F = 10,20, p < 0,0005$). Only the medical scale did not change. It must be noted, however, that changes in this aspect may be difficult to achieve considering chronic health problems affecting drug and alcohol addicts. On the other hand, this composite score was computed from a small number of items, thus reducing the scale's sensitivity.

More specifically, according to the Least Significant Difference Test (LSD), the alcohol scale at time 1 (.31) is significantly higher than at all other times (time 2 = .26, $p = 0.02$; time 3 = .24, $p = 0.006$; time 4 = .18, $p = 0.0005$). Time 2 is also significantly superior to time 4 ($p < 0.003$). Time 3 is also higher than time 4 ($F = 4,79, p = 0,05$). The only two periods where there are no significant differences are between time 2 and time 3 ($p = .42$).

(see table 6).

The drugs scale at time 1 (.14) is significantly higher than at all other time periods (time 2 =.11, $p = .007$; time 3 = .08, $p = .0005$ and time 4 = .08, $p = 0.0005$). Time 2 is significantly superior to the two later time periods in total at level of .02 and .01. No significant differences are observed between time 3 and time 4 ($p = .85$). This means that changes are made during the first 8 months after which the situation stabilizes.

In looking at the psychological scale, time 1 (.32) is significantly higher than time 3 (.23) and time 4 (.22) (both $p < 0.0005$), however, no difference is observed between time 1 and 2 (.30, $p = .28$) according to LSD. Similarly, time 2 is significantly different from the later two time periods (time 3 $p < 0.01$; and time 4 $p < 0.001$). Time 3 is not different from time 4 ($p = .76$) indicating that changes took some time to come after which the situation stabilized.

Insert table 6 here

For both the family and the social scales, only time 1 (.26) is significantly higher than all other time periods (time 2 = .16; time 3 = .14; time 4 = .12, all at $p < 0.0005$). No other differences are observed, indicating that changes happened earlier on in the process and remained throughout all follow-up periods.

For the job and resources scales, only time 4 (.68) is significantly lower than all other times (time 3 = .75; time 2 = .76 ; time 1 = .79 at levels of $p < 0.005$, according to LSD). The same observation appears for the legal scale, only time 4 (means = .20) is significantly different from all other times (time 3 = .26, $p = .009$; time 2 = .27, $p = .02$; time 1 = .28, $p = 0.007$; according to LSD). This indicates that job resources and legal problems take time to improve.

DISCUSSION OF RESULTS

Overcrowded prisons and high recidivism rate from addict offenders have persuaded some judicial authorities that treatment could be considered as an interesting solution for the rehabilitation of many offenders. However, these authorities are then confronted with the difficulties of referring an unmotivated person, more or less conscious of his/her state, toward treatment services. It is therefore interesting to note that clients referred by the justice system improved their situations after treatment. Moreover, their situation is still better 11 months after their admission to treatment. These changes are particularly impressive in areas targeted by the rehabilitation process: namely, alcohol and drug consumption. These results go well with a number of studies published during the last two decades. Those who intervene daily with drug addicts gladden the fact that these individuals who have a bad reputation, change for the better.

Changes in the job/resource and legal scales seem to take more time to produce than other types of life changes. In other words, social reinsertion is not guaranteed because clients settle their problems with alcohol and drugs. It is therefore necessary to look deeply into this problem of social reinsertion in order to adjust intervention strategies.

In many studies, the impact of rehabilitation programs in drug addiction has been linked to the perseverance of clients in treatment (Simpson et al., 1997). Simpson (1997) identifies “length in treatment” as one of the most powerful predicting factors of positive results from treatment with drug abusers. The subjects in the present study improved as a group; either they have had very little or they have had more. Are we facing a phenomenon of natural remission that breaks down our impact results? From past studies, we know that an important proportion of individuals who have developed addictions to psychoactive substances succeeded in liberating themselves from addiction without treatment (Vaillant, 1983; Sobell, 2000). Other factors such as disease or new love relations may be plausible reasons for this natural remission. Future studies will have to look more carefully at the impact of programs in relation to the time spent in treatment.

Finally, a last word concerning the socio-political context in which this study has been done. This study has been conducted in the Province of Quebec where there is free access to health services including addiction treatment in every region. Quebec does not have any institutionalized Drug Court, but many addicts, usually under the pressure of their own lawyers or the Judge, choose to go to addiction treatment ‘on a semi-volunteer’ basis during the Court process (Brochu and Schneeberger, 2002). Drug possession rarely conducts the offenders behind bars, but about one third of inmates are drug addicts condemned for other types of offence (Brochu, 2006a; Brochu et Cousineau, 2003; Pernanen et al., 2002). These inmates have an easier access to parole if they accept to go to treatment while on release; so many offenders will knock to the door of a treatment centre under such circumstances. Considering the number of drug addicts referred to treatment under more or less explicit constrains, researchers in sociology and criminology will have to look more deeply into the possible perverse effects of positive treatment impacts on

liberty of choice. One queries little about the rights and the limits of the treatment in such circumstances. However, forced treatment may become a privileged instrument of normalization; an attempt to help addicts despite their desire. Studies on treatment impact must not divert our attention from the ethical problems of improper usage of a treatment that would be "too" effective.

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Tables

TABLE 1
Average length of time for each activity offered
at the Dollard Cormier Centre

<u>Activities</u>		<u>Hours</u>
Initial information	Pre-initial meeting	0.50
	Initial meeting group	2.00
	Pre-residential group	1.00
	Nursing data collection	1.00
	Re-evaluation of initial meeting, initial evaluation and orientation	0.50
Evaluation and interview	Medical interview (including psychiatric interview)	0.75
	Criminal status evaluation	1.00
	External Rehabilitation Group I	2.00
	Personal external interview or personal internal rehabilitation interview or transition plus interview with psychologist	1.00
	Personal internal rehabilitation interview I	0.75
Data update	Follow-up nursing interview or nursing data update	0.50
	Clinical telephone call	0.10
	Administrative telephone call	0.10
Group works	Internal rehabilitation group I	1.00
	Matched groups or target groups or RIII groups plus optional external groups plus couples group	2.00
	Internal rehabilitation II matched groups	2.50
	Post-weekend group or internal rehabilitation II weekend planning group	1.50
	Internal rehabilitation II home environment group	2.00
	Transition group	0.75
	Back to the outside world group	1.50
	Relaxation group	1.00
	Help yourself group	1.00
Community And family activities	Community supper	2.50
	Family and couple interview	1.50
	Meeting over coffee	1.00
Case management	Other home environment activities	3.00
	Acupuncture	0.50
	Intensive weekend	6.00

Table 2
Time spent in treatment for the three groups

	Number of subjects	Percentage	Average time in treatment (hour)	s.d.
Group 1 (less than 5 hours)	43	35.0%	1.91	1.21
Group 2 (between 5 and 15 hours)	40	32.5%	9.70	2.98
Group 3 (More that 15 hours)	40	32.5%	32.38	20.07
Total	123	100	14.35	17.33

TABLE 3

Sociodemographic characteristics

	Group 1 n (%)	Group 2 n (%)	Group 3 n (%)	Total n (%)	Test
Sex					$\Pi^2=1.24$ (p=0.54)
Male	39 (90.7%)	35 (87.5%)	33 (82.5%)	107 (87.0%)	
Female	4 (9.3%)	5 (12.5%)	7 (17.5%)	16 (13.0%)	
Age					$\Pi^2=8.90$ (p=0.18)
18-24	6 (14.0%)	8 (20.0%)	1 (2.5%)	15 (12.2%)	
25-34	18 (41.9%)	13 (32.5%)	12 (30.0%)	43 (35.0%)	
35-44	15 (34.9%)	16 (40.0%)	23 (57.5%)	54 (43.9%)	
45- +	4 (9.2%)	3 (7.5%)	4 (10.0%)	11 (8.9%)	
Mean (s.d.)	33.95 (7.78)	32.67 (7.89)	37.55(6.05)	34.71 (7.52)	
Schooling					$\Pi^2=1.55$ (p=0.82)
1 to 7	5 (11.6%)	4 (10.0%)	5 (12.5%)	14 (11.6%)	
8 to 11	21 (48.8%)	23 (57.5%)	24 (60.0%)	68 (55.3%)	
12 +	16 (37.2%)	12 (30.0%)	11 (27.5%)	39 (31.7%)	
Net income (per year)					$\Pi^2=2.73$ (p=0.88)
\$0 -5999	13 (30.2%)	11 (28.2%)	10 (25.6%)	34 (28.1%)	
\$6000-11999	19 (44.2%)	19 (48.7%)	18 (46.2%)	56 (46.3%)	
\$12000-29999	5 (11.6%)	6 (15.4%)	8 (20.5%)	19 (15.7%)	
\$30000 +	6 (14.0%)	3 (7.7%)	3 (7.7%)	12 (9.9%)	
Type of occupation					$\Pi^2=0.94$ (p=0.63)
with job	10 (23.3%)	13 (32.5%)	12 (30.0%)	35 (28.5%)	
Without job	33 (76.7%)	27 (67.5%)	28 (70.0%)	88 (71.5%)	
Marital status					$\Pi^2=1.64$ (p=0.44)
married or with a partner	10 (23.3%)	14 (35.0%)	10 (25.0%)	34 (27.6%)	
Others	33 (76.7%)	26 (65.0%)	30 (75.0%)	89 (72.4%)	

TABLE 4
Addiction related information

	Group 1 n (%)	Group 2 n (%)	Group 3 n (%)	Total n (%)	Tests	p
Age of 1 st drug use (s.d.)	14.6 (4.1)	14.7 (3.3)	17.2 (7.8)	15.5 (5.5)	F=2.84	0.06
Main substance problem					$\Pi^2 = 5.34$	0.25
alcohol only	11 (25.6%)	9 (22.5%)	12 (30.0%)	32 (26.0%)		
one drug only	3 (7.0%)	6 (15.0%)	9 (22.5%)	18 (14.6%)		
More than one drug	29 (67.4%)	25 (62.5%)	19 (47.5%)	73 (59.3%)		
Numbers of times treated for alcohol and drug related problems					$\Pi^2 = 8.40$	0.40
none	4 (9.3%)	10 (25.6%)	10 (25.0%)	24 (19.7%)		
one	11 (25.6%)	10 (25.6%)	8 (20.0%)	29 (23.8%)		
two	11 (25.6%)	6 (15.4%)	6 (15.0%)	23 (18.9%)		
Three or four	7 (16.3%)	9 (23.1%)	7 (17.5%)	23 (18.9%)		
5 and more	10 (23.3%)	4 (10.3%)	9 (22.5%)	23 (18.9%)		

TABLE 5
MANOVA and ANOVA for the three groups and the four time periods

	MANOVA	ANOVA						
		Alcohol	Drugs	Psycho	Medical	Job/Res	Legal	Family
Group	1.40	2.84	3.27	0.74	0.83	1.84	0.07	0.11
Time	2.94***	6.76***	7.03***	9.14***	2.33	5.58**	3.48*	10.20***
G x T	0.75	1.12	1.17	1.56	1.00	0.33	0.74	0.82

• : p < 0,05; **: p < 0,01; ***: p < 0,0005

TABLE 6
Pre and post scores on the seven ASI scales
according to the three groups

	Groupe 1	Groupe 2	Groupe 3	Total
	X (*)	X (*)	X (*)	X (*)
Alcohol PRE	.34 (.24)	.26 (.20)	.34 (.27)	.31 (.24)
5 MONTHS	.33 (.29)	.22 (.24)	.23 (.21)	.26 (.25)
8 MONTHS	.28 (.27)	.23 (.25)	.20 (.22)	.24 (.25)
11 MONTHS	.25 (.30)	.18 (.22)	.10 (.19)	.18 (.25)
Drugs PRE	.14 (.10)	.14 (.12)	.14 (.13)	.14 (.12)
5 MONTHS	.14 (.13)	.10 (.10)	.08 (.09)	.11 (.11)
8 MONTHS	.12 (.14)	.10 (.10)	.05 (.08)	.08 (.11)
11 MONTHS	.12 (.14)	.07 (.09)	.06 (.09)	.08 (.11)
Psycho PRE	.29 (.18)	.30 (.19)	.39 (.21)	.32 (.20)
5 MONTHS	.31 (.26)	.26 (.24)	.33 (.22)	.30 (.24)
8 MONTHS	.27 (.23)	.21 (.21)	.20 (.21)	.23 (.22)
11 MONTHS	.23 (.25)	.20 (.22)	.22 (.21)	.22 (.23)
Medical PRE	.12 (.27)	.08 (.20)	.25 (.37)	.15 (.29)
5 MONTHS	.24 (.37)	.20 (.27)	.23 (.35)	.23 (.33)
8 MONTHS	.25 (.36)	.21 (.36)	.24 (.37)	.23 (.36)
11 MONTHS	.25 (.37)	.15 (.26)	.21 (.36)	.20 (.33)
Job PRE	.81 (.27)	.85 (.22)	.71 (.30)	.79 (.27)
5 MONTHS	.80 (.27)	.78 (.28)	.71 (.31)	.76 (.29)
8 MONTHS	.77 (.30)	.79 (.30)	.69 (.29)	.75 (.30)
11 MONTHS	.71 (.32)	.72 (.30)	.63 (.34)	.68 (.32)
Legal PRE	.23 (.21)	.28 (.24)	.32 (.23)	.28 (.23)
5 MONTHS	.28 (.29)	.26 (.29)	.27 (.32)	.27 (.30)
8 MONTHS	.27 (.28)	.28 (.27)	.24 (.30)	.26 (.28)
11 MONTHS	.19 (.26)	.21 (.26)	.20 (.28)	.20 (.26)
Family PRE	.25 (.25)	.25 (.24)	.27 (.24)	.26 (.24)
5 MONTHS	.13 (.23)	.15 (.22)	.20 (.20)	.16 (.22)
8 MONTHS	.15 (.23)	.16 (.24)	.10 (.21)	.14 (.23)
11 MONTHS	.11 (.22)	.13 (.21)	.13 (.22)	.12 (.22)