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Addiction treatment dropout: exploring patients' characteristics

Running head: Treatment dropout in addictions

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ABSTRACT

This study explored the characteristics associated with treatment dropout in substance dependence patients. A sample of 122 addicted patients (84 treatment completers and 38 treatment dropouts) who sought outpatient treatment was assessed to collect information on socio-demographic, consumption (assessed by EuropAsi), psychopathological (assessed by *SCL-90-R*) and personality variables (assessed by *MCMI-II*). Completers and dropouts were compared on all studied variables. According to the results, dropouts scored significantly higher on the EuropAsi variables measuring employment/support, alcohol consumption and family/social problems, as well as on the schizotypal scale of *MCMI-II*. Because most of significant differences were found in EuropAsi variables, three clusters analyses (2, 3 and 4 groups) based on EuropAsi mean scores were carried out to determine clinically relevant information predicting dropout. The most relevant results were obtained when four groups were used. Comparisons between the four groups derived from cluster analysis showed statistically significant differences in the rate of dropout, with one group exhibiting the highest dropout rate. The distinctive characteristics of the group with highest dropout rate included the presence of an increased labour problem combined with high alcohol consumption. Furthermore, this group had the highest scores on three scales of the *MCMI-II*: phobic, dependent and schizotypal. The implications of these results for further research and clinical practice are discussed.

Keywords: drug addiction; assessment; treatment completion; dropout; predictors.

INTRODUCTION

Treatment dropout is common across a wide range of health services. However, it is especially prevalent in drug addiction treatment programmes. Studies concerning the treatment of addictive behaviours have shown that length of time spent in an intervention programme constitutes one of the strongest predictors of good therapeutic results and better long-term prognosis [1-5]. Unfortunately, evidence also suggests that treatment dropout most often occurs in the earliest stages of the programme [6-8].

Therefore one of the main problems in the treatment of addiction is the large number of dropouts, with rates ranging from 60% to 80% of patients [9-12]. Early dropout from drug treatment continues to be a widespread problem, limiting overall treatment effectiveness, increasing the likelihood of relapse and exacerbating negative health, financial and legal consequences [13]. The study of factors that predict treatment retention should be an important focus of research.

A growing number of investigations have empirically studied predictors of treatment retention and/or dropout in drug-dependent patients. The documented predictors included socio-demographic variables [14, 15], withdrawal symptoms [10], anxiety sensitivity at treatment entry [16], addiction severity [8, 17], cognitive performance [18, 19], personality variables [9, 17, 20], and variables related to treatment programmes and client perception [21-24]. However, none of these variables has been consistently found to predict early attrition.

Determining the characteristics of patients who drop out allows clinicians to carry out initiatives to increase retention in intervention programs. In the last years, several retention-based initiatives have been carried out, incorporating the use of appointment reminder calls [25, 26], positive reinforcement for continued treatment attendance [27] and motivational interventions [23, 28, 29]. Each of these tactics was

focused to promote compliance with program expectations. However, results of these studies were inconsistent. Some of them showed an effective response, while others failed to show any significant effect [21, 30]. Moreover it should be noted that most studies have been carried out in English speaking countries.

To address these inconsistent results, the present study examined the socio-demographic and psychopathological predictors of treatment dropout (discontinuing the treatment without being discharged) in patients treated for drug dependence in an outpatient setting. The main purpose of the study was to identify the characteristics of patients associated with dropout. This allows clinicians to implement specific strategies to prevent the high dropout rate observed in standard treatment programmes for recovery from addiction in a different cultural context (Spain).

METHOD

The protocol used in this study was approved by the Institutional Review Boards of the Public University of Navarre (Pamplona, Spain) and Fundación Proyecto Hombre de Navarra (Pamplona, Spain).

Participants

The sample consisted of 122 substance dependence patients (84 treatment completers and 38 treatment dropouts) who sought outpatient treatment at the “*Proyecto Hombre* Addiction Treatment Programme” in Pamplona, Spain, during the period from October 2007 to December 2009. This is a convenience sample, but representative of Spanish substance abusers in outpatient treatment [31].

According to the current study’s admission criteria, the patients must a) meet the diagnostic criteria of any drug dependence according to *DSM-IV-TR* [32], b) be between 18 and 65 years old and c) give their informed consent to participate in the study.

The mean age of the individuals in the selected sample was 43.6 years ($SD=11.7$), with 106 (86.8%) men and 16 (13.1%) women. The socioeconomic level was middle to lower-middle class. Alcohol (68% of the sample) and cocaine (25.4% of the sample) were the main substances that motivated treatment, followed by others (e.g., heroine, cannabis, amphetamine, etc.) in smaller numbers (6.6% of the sample). Patients were substance dependent for nearly 12 years before seeking treatment.

Assessment measures

The *EuropASI* [33] is the European version of the *Addiction Severity Index (ASI)* [34]. This interview assesses the need for treatment in the following six areas: a) general medical state, b) labour and economic situation, c) drug consumption, d) alcohol use, e) legal problems, f) family and social relationships, and g) psychiatric state. Severity scores range from 0 (no problem) to 9 (extreme problem) in each area, and the cut-off point for each area is 4. The Spanish version was used in this study [35].

The *Symptom Checklist-90-Revised (SCL-90-R)* [36] (Spanish version by González de Rivera, [37] is a self-administered general psychopathological assessment questionnaire. It consists of 90 items rated on 5-point Likert scales that range from 0 (*none*) to 4 (*very much*). The aim of the questionnaire is to assess the respondent's psychiatric symptoms. As it has been shown to be sensitive to therapeutic change, it may be used for either single or repeated assessments. The *SCL-90-R* measures nine areas of primary symptoms: somatisation, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. It also provides three indices that reflect the subject's overall level of psychiatric symptom severity.

The *Millon Clinical Multiaxial Inventory (MCMI-II)* [38] is a 175-item, true/false, self-report questionnaire. It was designed to identify clinical states and

personality disorders similar to those contained in the *DSM-IV*. The *MCMI-II* contains eight basic personality scales: 1) Schizoid-asocial, 2) Avoidant, 3) Dependent-submissive, 4) Histrionic-gregarious, 5) Narcissistic, 6) Antisocial-aggressive, 7) Compulsive-conforming, and 8) Passive-aggressive. In addition to the basic personality patterns, there are three pathological personality scales: Schizotypal (S), Borderline (B) and Paranoid (P). The nine symptom scales of the *MCMI-II* have not been taken into account because they are not relevant to the purposes of our research. According to the conservative criteria of Weltzer [39] regarding the *MCMI-II*, a base rate score above 84 is considered to be significant.

Procedure

Assessment: once the sample was selected according to the previously described criteria, assessment of the sample was carried out in three sessions (once per week). In the first session, data related to socio-demographic characteristics and drug consumption were collected using the EuropAsi. In the second session, the presence of psychopathological symptoms was assessed using the *SCL-90-R*. Finally, in the third session, the prevalence of personality disorders was assessed using the *MCMI-II*. The time interval between sessions was the same for each participant.

Treatment: after assessment sessions, patients began the standard treatment of *Proyecto Hombre* for addiction. This was a cognitive-behavioural intervention on an individual outpatient basis, aimed at abstinence. The main therapeutic techniques were related to stimulus control and *in vivo* exposure, as well as relapse prevention. During the first 6 months the treatment included weekly sessions (45-60 minutes); during the last 6 months sessions were biweekly. Successful programme completion typically requires approximately 12 months and is achieved when a patient completes all therapeutic sessions. Treatment dropout consists in discontinuing the treatment without

being discharged. During the treatment, staff completed a detailed follow-up of each patient to determine the rates of treatment completion and dropout.

Therapists: the therapists who carried out the assessment and treatment of all of the patients were the clinical psychologists of the treatment center. All of them had more than 7 years of experience in treatment of addicted patients.

Data analysis

Descriptive analyses were conducted for all variables. Bivariate analyses were employed using χ^2 or t-test statistics, depending on the nature of the variables studied. A difference of $p < .05$ was considered significant. Once these results were obtained, three cluster analyses (2, 3 and 4 groups) with the entire sample ($N = 122$) were carried out. The groups derived from cluster analyses were compared on the rate of dropouts, as well as on all variables studied (using ANOVA). Statistical analyses were carried out with SPSS (version 15.0 for Windows).

RESULTS

The rate of patients who dropped out of the intervention programme was 31.1% of the sample ($N=38$). To assess factors related to adherence to and dropout from the treatment, completers and dropouts were compared on all studied variables: socio-demographics, *EuropAsi* areas, *SCL-90-R* dimensions and *MCMI-II* scales (Tables 1 and 2).

PLACE TABLES 1 AND 2 HERE

The results showed statistically significant differences between completers and dropouts on variables related to employment situation, the substance that motivated treatment, the *MCMI* schizotypal personality dimension and *EuropAsi* variables related

to employment, alcohol abuse and family problems. Patients who dropped out of the treatment programme were more frequently unemployed (43.3% of unemployed dropped out of the treatment vs. 23.8% of employed) and their treatment was motivated by alcohol abuse (38.5% of alcoholics dropped out vs. 19.3% of cocaine addicts) compared to completers. Furthermore, dropouts had a higher score than completers on the rest of the variables without evincing significant differences.

Due to the fact that most of significant differences were found in *EuropAsi* variables, three clusters analyses (2, 3 and 4 groups) based on *EuropAsi* mean scores were carried out to determine clinically relevant information predicting dropout. From a clinical point of view, the most relevant results were obtained when 4 groups were used (Figure 1).

PLACE FIGURE 1 HERE

As can be seen in Figure 1, the results show, first, two groups with disparate scores: Group 1 shows a moderate need of treatment according to *EuropASI* scales while Group 4 shows a high need for treatment. Second, Groups 2 and 3 show similar scores for some scales, but with differences in the presence of labour problems.

Once these four groups were obtained with the cluster analysis, the rate of dropouts was compared in each one of them (Table 3). The results showed that Group 3 had the highest rate of dropouts (56.5% of people belonging to this group dropped out the treatment). In the other groups, the dropout rate was significantly lower (less than 32% in each of them). Comparison between groups on the studied variables showed statistically significant differences. Specifically, the distinctive characteristics of Group 3 were the presence of an increased labour problem combined with high alcohol

consumption. From a personality disorder point of view, this group also had the highest scores on all three personality disorder subscales of the *MCMI-II*: phobic, dependent and schizotypal.

PLACE TABLE 3 HERE

Group 1, on the other hand, was the least severe group, never scoring highest on any of the risk factors measured. Group 4 was the most severe one, scoring highest on several risk factors. However, the highest rate of dropout was not observed in either of these groups.

DISCUSSION

Treatment dropout is an unresolved problem in the therapy of addictions. Unfortunately, most of the studies on psychological treatment of addictions show that a high number of patients discontinue the treatment without being discharged: up to 50% or more of newly-admitted patients may leave in this manner [40]. This is worrying because many patients who enter addiction treatment services receive only a minimal level of specialist assistance. In these cases, therapy is probably ineffective because patients do not persist for the recommended duration [12]. Establishing dropout characteristics allows us to carry out more specific and effective strategies to address this important problem. The research presented in this paper focuses on the study of patient characteristics related to treatment dropout.

In the current study, comparison between completers and dropouts showed statistically significant differences based on employment. The rate of employment in patients who completed the treatment (72.6% of cases) was significantly higher than in dropouts (52.6%). From another point of view, 43.3% of unemployed patients dropped

out of the treatment compared to 23.8% of employed patients. This is an interesting result because improvement in the ability to maintain employment should be a desirable secondary outcome of the addiction treatment programmes. A recent study about employment integration after therapeutic community treatment of addicted patients showed that nearly half of the patients (46% of the sample) improved their employment status after treatment [41]. According to our results, clinicians must be cautious when a patient comes to an outpatient basis treatment with labour problems because they can present an increased probability of early dropout. Patients with a normal labour situation and with a specific occupation present a lower risk of dropout.

Secondly, patients who dropped out of the treatment programme in our study were motivated to seek treatment because of alcohol abuse more frequently than were completers. Differences between groups were important: alcohol abuse affected 84.2% of dropouts, compared to 60.7% of completers. From another perspective, 38.5% of alcoholics dropped out of the treatment, compared to 19.3% of cocaine addicted patients. The role of alcohol consumption in treatment dropout has been documented in another study [17]. However, previous research in this field reveals that cocaine addicted patients usually show higher dropout rates [14, 42]. The unexpected finding in this study should constitute an important focus of research.

The results presented above are similar to those obtained when comparing EuropAsi scores. With this assessment tool, statistically significant differences were found in employment, alcohol abuse and family problems. In these three variables, dropouts had a higher need of treatment than completers. These results are similar to those obtained in previous studies [17], and corroborate the importance of employment, alcohol consumption and family support in completing addiction treatment programmes. These programmes usually involve coping with many difficulties and

barriers throughout the treatment process. Appropriate social, familial and labour support during the recovery process may help reduce treatment dropout.

The rest of the clinical variables (*SCL-90-R* and *MCMI-II*) revealed no significant differences between groups, except on the schizotypal scale of the *MCMI-II*. The cluster analysis with four groups showed that the group with a highest rate of dropouts also scored significantly higher on employment and alcohol variables. However, this group was not characterised by specific problems on the rest of variables studied. According to these results, the situational elements appear more important than the personality dimensions in predicting dropout. This generates a therapeutic optimism and encouragement to carefully design individually-tailored strategies to prevent treatment dropout.

Such optimism can be enlightening in the face of the results obtained by Palmer et al. [22] which indicated that clinicians more frequently attributed treatment dropout to individual- or client-level factors than did clients. Focus group ratings indicated that clinicians felt that client motivation and staff connection issues were the primary reasons for dropout, whereas clients felt that social support and staff connection issues were the primary reasons. These findings suggest that the development of early therapeutic alliance and active problem-solving of potential barriers to treatment attendance may increase treatment retention.

In addition to increasing retention, alternative responses to client dropout may be possible. It has been suggested that rather than attempting to prevent dropout, service providers could instead offer shorter-term interventions better suited to a dropout population [21]. This approach, recently termed “treatment-fit,” would ensure that the patient receives an intervention optimally suited to their attendance duration and could reduce resource-related costs in the process [21].

The present study had a number of limitations. First, this was an exploratory and descriptive study in which the sample, although clinically relevant, was rather small. Another issue that should be taken into account is the composition of the sample itself. It is noteworthy that few women were included in the sample; therefore, the obtained results concern mainly male addiction patients. It is true that this is the case in almost all studies about drug dependence, but it should nevertheless be taken into account when generalising the obtained results. Third, the assessment of the sample was carried out in three sessions (once per week). Hence, the final sample could reveal some selection bias because all clients had to attend three consecutive measurements during a three-week period, and some dropped out before all of the measurements were completed. This methodological problem might influence the findings and must be considered in further research. Fourth, in this study the EuropAsi severity ratings have been used. Probably, ASI severity ratings have less validity and reliability than ASI composite scores. This aspect should be addressed in other studies. Finally, future research should take into account other variables not included in this study such as the influence of legal problems, motivational traits or specific barriers to treatment attendance. Moreover, this is a very long-term treatment program (around 12 months), much longer than many other programs. Probably, some patients can choose to discontinue treatment, without being necessarily at greater risk of relapse than completers. This constitutes another suggesting field for future research.

This study joins those that have assessed (1) the characteristics of patients who drop out of treatment and (2) patients' specific reasons for dropping out. Implementing individually-tailored strategies may make it possible to increase retention in intervention programmes.

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Table 1. Comparisons in socio-demographic and drug abuse characteristics

	All N= 122		Dropouts (n = 38)		Completers (n = 84)		
	Mean	(SD)	Mean	(SD)	Mean	(SD)	<i>t</i>
Mean age	43.6	(11.7)	44.3	(11.0)	43.7	(12.0)	.03
	All (N = 122)		Dropouts (n = 38)		Completers (n = 84)		
	N	(%)	n	(%)	n	(%)	χ^2
Sex							
Men	106	(86.8%)	33	(86.8%)	73	(86.8%)	0
Women	16	(13.1%)	5	(13.1%)	11	(13.1%)	
Marital Status							
Single	47	(38.5%)	17	(44.7%)	30	(35.7%)	3.6
Married	47	(38.5%)	11	(28.9%)	36	(42.9%)	
Divorced	25	(20.5%)	8	(21.1%)	17	(20.2%)	
Widower	3	(2.5%)	2	(5.3%)	1	(1.2%)	
Education							
None	12	(9.8%)	4	(10.5%)	8	(9.5%)	2.8
Primary school	76	(62.3%)	25	(65.8%)	51	(60.7%)	
Secondary school	23	(18.9%)	8	(21.1%)	15	(17.9%)	
University	11	(9.0%)	1	(2.6%)	10	(11.9%)	
Employment situation							
Employed	84	(68.9%)	20	(52.6%)	64	(76.2%)	7.8*
Unemployed	30	(24.6%)	13	(34.2%)	17	(20.2%)	
Others (student, retired, etc.)	8	(6.6%)	5	(13.2%)	3	(3.6%)	
Substance							
Alcohol	83	(68.0%)	32	(84.2%)	51	(60.7%)	7.7*
Cocaine	31	(25.4%)	6	(15.8%)	25	(29.8%)	
Others (heroin, cannabis...)	8	(6.6%)	0		8	(9.5%)	

* $p < .05$

Table 2. Comparisons in clinical variables

	All N = 122	Dropouts (n = 38)	Completers (n = 84)		
EuropASI Scores	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>	<i>Df</i>
Medical	2.0 (1.6)	2.1 (1.7)	2.0 (1.6)	.3	120
Employment/Support	2.5 (1.8)	3.0 (2.1)	2.3 (1.6)	2.1*	120
Alcohol use	4.8 (1.8)	5.5 (1.4)	4.5 (1.9)	3.1**	95.2
Drugs use	2.6 (2.2)	2.1 (2.4)	2.8 (2.2)	1.5	120
Legal	1.6 (1.6)	1.3 (1.5)	1.7 (1.6)	.7	120
Family/Social	3.8 (1.7)	4.5 (1.7)	3.4 (1.6)	3.4**	120
Psychiatric	3.3 (1.7)	3.6 (1.8)	3.1 (1.7)	.6	120
SCL-90-R	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>	<i>Df</i>
GSI	30.2 (25.4)	35.2 (29.8)	28.1 (23.0)	1.4	120
PSDI	27.5 (24.0)	33.6 (28.7)	24.7 (21.2)	1.7	55.9
PST	35.1 (27.5)	35.3 (30.1)	35.1 (26.4)	.0	120
Somatisation	26.5 (24.3)	30.2 (31.1)	24.9 (20.5)	1.1	120
Obsessive- compulsive	35.7 (25.2)	40.4 (28.3)	33.6 (23.5)	1.4	120
Interpersonal sensitivity	38.2 (25.7)	41.4 (26.5)	36.8 (25.4)	.9	120
Depression	30.7 (23.9)	34.4 (25.1)	29.0 (23.3)	1.1	119
Anxiety	27.2 (23.8)	28.5 (25.9)	26.6 (22.9)	.4	120
Hostility	34.6 (25.8)	35.5 (27.6)	34.3 (25.1)	.2	120
Phobic anxiety	30.2 (22.8)	31.7 (23.2)	29.6 (22.8)	.5	120
Paranoid ideation	40.1 (23.5)	41.1 (26.5)	39.6 (22.2)	.3	120
Psychoticism	37.3 (23.7)	42.9 (25.3)	34.7 (22.7)	1.8	120
MCMI-II	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>t</i>	<i>Df</i>
Schizoid	59.2 (32.8)	60.1 (23.5)	58.4 (36.3)	.4	120
Phobic	49.3 (28.0)	53.7 (30.9)	47.3 (26.6)	1.2	120
Dependence	62.0 (23.8)	63.7 (20.5)	61.2 (25.2)	.5	120
Histrionic	53.1 (20.1)	50.8 (22.1)	54.1 (19.2)	.8	120
Narcissistic	50.7 (24.0)	46.0 (24.6)	52.9 (23.6)	1.5	120
Antisocial	52.2 (26.4)	53.3 (26.8)	51.7 (26.3)	.3	120
Aggressive-sadistic	51.2 (25.0)	48.0 (25.4)	52.7 (24.9)	.9	120
Compulsive	57.7 (21.0)	54.3 (21.1)	59.3 (20.9)	1.2	120
Passive-aggressive	42.7 (31.8)	44.6 (33.6)	41.9 (31.1)	.4	120
Self-destructive	48.7 (23.2)	54.0 (26.3)	46.3 (21.3)	1.7	120
Schizotypal	42.1 (24.4)	48.8 (25.0)	39.1 (23.7)	2.1*	120
Borderline	39.1 (27.2)	43.6 (28.3)	37.1 (26.6)	1.2	120
Paranoid	56.1 (18.0)	53.2 (21.1)	57.4 (16.5)	1.2	58.2

* $p < .05$; ** $p < .01$

Table 3. Dropout rate in groups derived from cluster analysis

	Total (N = 122)	Group 1 (n = 38)	Group 2 (n = 38)	Group 3 (n = 23)	Group 4 (n = 23)	<i>X</i> ²	<i>Df</i>	
	% (n)	% (n)	% (n)	% (n)	% (n)			
Dropouts	31.1% (38)	15.8% (6)	31.6% (12)	56.5% (13)	30.4% (7)	<i>11.1*</i>	3	
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>	<i>Df</i>	Post-hoc
Mean age	43.6 (11.7)	37.6 (10.6)	50.1 (8.1)	47.2 (12.1)	39.4 (11.5)	<i>11,2****</i>	<i>121</i>	2 > (1, 4)***; 3 > 1**
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>	<i>Df</i>	Post-hoc
Medical	2.0 (1.6)	1.4 (.9)	1.9 (1.5)	2.3 (2.0)	3.0 (1.8)	<i>5.0**</i>	3	4 > 1**, 2*
Employment/Support	2.5 (1.8)	1.8 (1.0)	1.2 (.9)	5.0 (1.0)	3.5 (1.5)	<i>66.9****</i>	3	3 > 4*** > 1***, 2***
Alcohol use	4.8 (1.8)	2.9 (1.3)	5.6 (1.2)	5.8 (1.0)	5.3 (1.7)	<i>37.1****</i>	3	2, 3, 4 > 1***
Drugs use	2.6 (2.2)	3.8 (1.5)	0.7 (.6)	0.7 (.7)	5.6 (1.9)	<i>152.8****</i>	3	4 > 1*** > (2, 3)***
Legal	1.6 (1.6)	1.6 (1.0)	1.0 (.8)	0.8 (.9)	3.4 (2.2)	<i>22.6**</i>	3	4 > (1, 2, 3)***
Family/Social	3.8 (1.7)	3.0 (1.1)	3.7 (1.7)	4.1 (2.1)	4.7 (1.5)	<i>5.5**</i>	3	4 > 1**
Psychiatric	3.3 (1.7)	2.5 (1.0)	3.4 (2.0)	3.2 (1.7)	4.4 (1.6)	<i>6.6****</i>	3	4 > 1**
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i>	<i>Df</i>	Post-hoc
Schizoid	59.2 (32.8)	48.4 (28.9)	65.3 (20.0)	61.2 (25.9)	65.0 (53.3)	<i>2.1</i>	3	
Phobic	49.3 (28.0)	36.0 (26.2)	52.9 (29.0)	58.0 (26.1)	56.3 (24.5)	<i>4.7**</i>	3	4, 3, 2 > 1*
Dependence	62.0 (23.8)	55.2 (30.5)	67.7 (17.7)	69.3 (19.6)	56.3 (20.2)	<i>3.1*</i>	3	
Histrionic	53.1 (20.1)	53.2 (18.6)	48.3 (19.4)	51.9 (22.0)	62.1 (20.0)	<i>2.4</i>	3	
Narcissistic	50.7 (24.0)	49.0 (26.9)	51.0 (23.8)	46.6 (21.7)	57.2 (21.4)	<i>0.8</i>	3	
Antisocial	52.2 (26.4)	46.0 (30.0)	48.7 (22.9)	51.0 (22.7)	69.3 (22.6)	<i>4.6**</i>	3	4 > 2*, 1**
Aggressive-sadistic	51.2 (21.0)	44.3 (27.6)	52.1 (24.3)	50.9 (24.1)	61.4 (20.2)	<i>2.3</i>	3	
Compulsive	57.7 (21.0)	52.9 (23.7)	65.7 (18.8)	60.7 (16.5)	49.5 (19.6)	<i>4.1**</i>	3	2 > 1*, 4*
Passive-aggressive	42.7 (31.8)	34.6 (33.4)	45.9 (33.0)	38.4 (28.7)	55.0 (26.9)	<i>2.3</i>	3	
Self-destructive	48.7 (23.2)	39.0 (22.2)	53.7 (27.2)	52.5 (19.0)	52.8 (16.4)	<i>3.4*</i>	3	2 > 1*
Schizotypal	42.1 (24.4)	32.4 (22.4)	46.7 (27.8)	48.0 (17.9)	44.6 (24.0)	<i>3.1*</i>	3	
Borderline	39.1 (27.2)	29.5 (26.2)	40.2 (30.4)	41.1 (22.0)	51.2 (23.4)	<i>3.3*</i>	3	4 > 1*
Paranoid	56.1 (18.0)	50.7 (17.8)	58.9 (19.6)	58.3 (15.6)	58.2 (17.1)	<i>1.7</i>	3	

p* < .05; *p* < .01; *****p* < .001

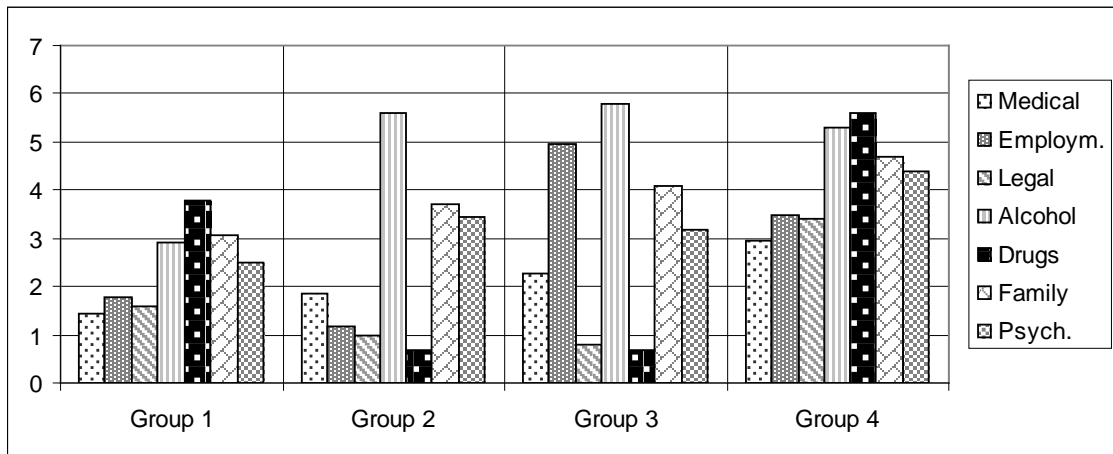


Figure 1: Groups derived from cluster analysis with EuropAsi scores