

# PREDICTORS OF THERAPEUTIC FAILURE IN SLOT-MACHINE PATHOLOGICAL GAMBLERS FOLLOWING BEHAVIOURAL TREATMENT

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**Abstract.** The aim of this paper was to determine the features of pathological gamblers who dropped out of the treatment or relapsed within a one year follow-up period. The sample consisted of 69 patients selected according to DSM-IV criteria. Results indicated that the only difference between the patients who dropped out of treatment and the ones who completed was the level of state-anxiety. The former were more anxious than the latter. Predictive variables for the therapeutic failure were the dissatisfaction with the treatment, the high level of alcohol consumption, and the neuroticism as a personality variable. Implications of the study for clinical practice and future research in this field are commented upon.

*Keywords:* Pathological gambling, behavioural treatment, drop-out, relapse, therapeutic failure, predictive variables.

## Introduction

Over the last years there has been an important breakthrough in the therapy of addictive behaviours, but the results obtained in the long-term maintenance of the abstinence are not so encouraging. In the case of pathological gambling only a few studies have been carried out with the objective of determining the variables that facilitate or prevent relapse: mental capacity (McCormick & Taber, 1991); participation of wives in Gamblers Anonymous (Zion, Tracy, & Abell, 1991); locus of control (Johnson, Nora, & Bustos, 1992); and satis-

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faction with the treatment, duration of addiction, and neuroticism (Báez, Echeburúa, & Fernández-Montalvo, 1995).

In this study, the demographic, personality and psychopathological variables are analysed as predictors of the relapse. The intention was to determine the most important elements of risk from that point of view, and to specify the kind of patients that require a more intensive, long or differentiated treatment.

## Method

### *Subjects*

The sample consisted of 69 out-patients (60 men and 9 women) of 104 who sought treatment at the Pathological Gambling Centre of Rentería (Basque Country) during the period from February 1994 to March 1996. All selected patients gave their informed consent to take part in the study.

According to the criteria for admission to the study, the patients had to: a) meet the diagnostic criteria of pathological gambling according to the DSM-IV; b) have a score equal to or above 4 in the South Oaks Gambling Screen (SOGS) (Lesieur & Blume, 1987); c) not be suffering from another psychopathological disorder; and d) gamble primarily with slot machines.

### *Design*

The design used in this study was correlational. All patients were collated in one group ( $N=69$ ), with enough power for statistical analyses. In the study ‘‘relapse’’ was defined as more than two isolated episodes of gambling in the 12 months follow-up or a total expense higher than a week of gambling before the treatment. ‘‘Drop-out’’ occurred when a gambler left the treatment before completing it. Lastly, ‘‘therapeutic failure’’ included both the drop-out and the relapse.

### *Assessment measures*

Multiple psychological measures (frequency, time and money invested in gambling, anxiety, depression, alcohol consumption, self-esteem, impulsivity, sensation seeking, neuroticism, extraversion, intelligence, inadaptation, marital adjustment, satisfaction with the treatment, etc.) were used in order to assess their predictive value of therapeutic failure. Only the questionnaire data relevant to this question have been included below.

The *South Oaks Gambling Questionnaire (SOGS)* (Lesieur & Blume, 1987) is a screening questionnaire composed of 20 items. In the Spanish version (Echeburúa, Báez, Fernández-Montalvo, & Páez, 1994), a score equal to or higher than 4 (the cut-off point) serves to identify probable pathological gamblers. The *State-Trait Anxiety Inventory (STAI)* consists of 20 items related to anxiety traits and another 20 related to anxiety states. The range of scores is from 0 to 60 (in Spanish version) on each scale (from 20 to 80 in original version). The *Drink Index* provides information about the patient’s alcohol consumption. The units of drink used are the following ones: 2 (heavy drinks) and 1 (beer and wine). The *Eysenck Personality Inventory (EPI)* consists of 57 items with binary responses, which measure

neuroticism (24 items) and extraversion (24 items). The *Questionnaire of Satisfaction with Treatment* (Larsen, Attkinson, Hargreaves, & Nguyen, 1979) consists of 8 items related to quality of therapeutic assistance, to degree of help received, and to satisfaction with treatment. Each item ranges from 1 to 4 points; the total questionnaire scores, from 8 to 32.

### *Procedure*

The assessment instruments were completed by the patients before beginning the treatment program. Evaluations took place when the therapy was finished and in the 12-month follow-up. All patients were treated with stimulus control and *in vivo* exposure with response prevention and participated in a programme of relapse prevention (Echeburúa, Fernández-Montalvo, & Báez, 2000).

## **Results**

### *Therapeutic failures (drop-outs and relapses)*

The total number of drop-outs in all phases of the study was 10, which represents 14.5% of the subjects who started treatment. Once the differential characteristics of the patients who dropped-out of the study were analysed, only state-anxiety differentiated them significantly from the rest ( $t=2.24$ ;  $p<.05$ ). The mean anxiety of the subjects (when they came to treatment) who dropped-out ( $M=39.6$ ;  $SD=4.50$ ) was greater than that of those who completed it ( $M=29.5$ ;  $SD=9.89$ ).

The relapses between posttreatment and the 12-month follow-up affected up to 10 subjects (14.5% of the sample treated). The total number of therapeutic failures (drop-outs and relapses) was 29% (20 subjects) of the initial sample. From a qualitative point of view, most failures appeared to be distributed through the entire follow-up period, but with a notable incidence (65% of the cases) during the first three months after therapy.

### *Predictive variables of therapeutic failure*

The results of the step-wised discriminant analysis with the three variables selected (satisfaction with the treatment, alcohol consumption at pretreatment, and neuroticism) ( $Wilks\ Lambda =.40$ ,  $p<.001$ ) are presented in Table 1.

In summary, these three variables together adequately classify 91.3% of cases, with an error risk of the 8.7%. According to these results, it can be predicted that patients with a poor satisfaction with the treatment, heavy drinkers and subjects with a high level of neuroticism as a personality variable, have a high probability of therapeutic failure in the 12 months follow-up.

## **Conclusions**

The drop-out rate in this research is 14.5% of the total sample. There is only one differentiating characteristic in those who dropped out of the treatment compared to those who completed it: a higher level of state-anxiety.

From the perspective of the relapses, these affected 14.5% of the sample. The combined

**Table 1.** Discriminant analysis of therapeutic success/failure in 12 months follow-up

A) Means (and standard deviations) according to discriminant function			
Variables	Success (N=49)	Failures (N=20)	t
Satisfaction with the treatment	22.8 (2.1)	16.2 (5.4)	7.36*
Alcohol consumption	40.8 (45.3)	171.5 (132.9)	6.11*
Neuroticism	9.8 (3.8)	13.8 (4.9)	3.58*
Success centroid = 0.76			
Failure centroid = -1.87			
B) Standardized coefficients of discriminants variables			
Variables	Coefficients		
Satisfaction with the treatment	-0.65		
Alcohol consumption	0.56		
Neuroticism	0.47		
C) Prediction of results			
Real group	Predicted group		
	Success	Failures	
Success: 49 (71.1%)	46 (93.88%)	3 (6.12%)	
Failure: 20 (28.9%)	3 (15%)	17 (85%)	
Percentage of cases correctly classified: 91.3%			

\* $p < .001$ 

rate of therapeutic failures (drop-outs and relapses) was, therefore, 29% of the sample. The predictive variables of therapeutical failure with bigger significance in this research were, in order of importance, dissatisfaction with therapy (a posttreatment variable), higher level of alcohol consumption, and neuroticism as variable of personality. It is difficult to know if dissatisfaction with therapy is properly considered as a long-term predictor of outcome or only an "early" indication of treatment failure.

Lastly, it was concluded that the situational elements were more important than the personality dimensions in the prediction of relapse. This generates a therapeutic optimism and encouragement to design more careful individually tailored treatments as the same type of treatment may not be suitable for every pathological gambler.

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