

## Psychological Treatment of Slot-Machine Pathological Gambling: New Perspectives

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In this paper the most relevant findings of our research team on pathological gambling in the last decade are presented. There is no conclusive empirical evidence of a specific profile of the pathological gamblers. The choice treatment appears to be stimulus control and *in vivo* exposure with response prevention, followed by a cognitive-behavioral intervention in relapse prevention. Predictive variables for the therapeutic failure were the dissatisfaction with the treatment, the alcohol abuse and the neuroticism as a personality variable. Unanswered questions for future research in this field are commented upon.

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**KEY WORDS:** pathological gambling; psychological treatment; slot machines.

The therapeutic aim in the treatment of pathological gambling, as is the case with most addictive disorders (Echeburúa & Báez, 1994), is, most of all, abstinence. Currently, there is no empirical support for the idea that responsible gambling can be a goal in the treatment of pathological gamblers.

As far as the effectiveness of therapy is concerned, there have been only a few controlled studies. Furthermore, most of the studies

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refer generally to combinations of techniques in which the effective component cannot always be isolated (Blaszczynski, 1985).

However, four lines of research can be delineated in the treatment of pathological gambling: *imaginal desensitisation*—a variant of systematic desensitization—designed to cope with the psychophysiological hyperactivation (Blaszczynski, McConaghy, & Frankova, 1991; McConaghy, Armstrong, Blaszczynski, & Allcock, 1983, 1988); *cognitive restructuring*, justified by the high number of cognitive distortions in the pathological gamblers (Ladouceur et al., 2001; Sylvain, Ladouceur, & Boisvert 1997); *in vivo exposure with response prevention and stimulus control*, designed to face the craving for gambling and to increase expectations of self-effectiveness regarding the capacity to control gambling (Echeburúa, Báez, & Fernández-Montalvo, 1996); and, finally, according to the long-term abstinence problem, *relapse prevention*, including behavioral and cognitive techniques, is the latest focus of research (Echeburúa & Fernández-Montalvo, 2002; Echeburúa, Fernández-Montalvo, & Báez, 2000).

The main purpose of this paper is to condense the main conclusions, empirically supported, of our research team in the field of pathological gambling in order to achieve a choice treatment.

### **IN VIVO EXPOSURE WITH RESPONSE PREVENTION AND STIMULUS CONTROL**

The aim of our first research (Echeburúa et al., 1996) was to test the comparative effectiveness of three therapeutic modalities [(a) individual stimulus control and exposure with response prevention; (b) group cognitive restructuring; and (c) a+b] in the treatment of slot-machine pathological gambling. An additional waiting-list group was used to evaluate the spontaneous evolution of the non-treated gamblers. The purpose of the treatment was total abstinence. The sample consisted of 69 patients selected according to DSM-III-R criteria. A multigroup experimental design with repeated measures (pretreatment, posttreatment and 1, 3, 6 and 12-month follow-up) was used (Table 1). Most treated patients gave up gambling as well as improved, albeit more slowly, in family/social and psychological functioning. The success rate at the 12-month follow-up was higher in the individual treatment (68.8%) compared both to group

**Table 1**  
**Rate of Success and Results of *Chi-squared* in the Assessment**  
**Controls (N=69)**

<i>Assessment</i>	<i>Individual treatment</i>		<i>Group treatment</i>		<i>Control group</i>		$\chi^2$
	<i>N</i>	<i>(%)</i>	<i>N</i>	<i>(%)</i>	<i>N</i>	<i>(%)</i>	
Post.	23	(100%)	23	(100%)	21	(91.3%)	4.11
1 month	22	(95.7%)	21	(91.3%)	17	(73.9%)	5.36
3 months	21	(91.3%)	21	(91.3%)	14	(60.9%)	9.28**
6 months	20	(87%)	20	(87%)	13	(56.5%)	7.97*
12 months	19	(82.6%)	18	(78.3%)	12	(52.2%)	6.05*

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

(37.5%) and combined treatment (37.5%). There was also a surprising improvement in gambling in the control group between the pre-treatment and the 6-month follow-up (25%), but, anyway, it was significantly lower than in the treatment groups. The most relevant result was that individual stimulus control and exposure with response prevention appeared to be a cost-effective therapy for pathological gambling.

The results obtained with these techniques were satisfactory in posttreatment assessments. Even a rate of 100% abstinence was reached. However, as happens in other addictions, a significant percentage of individuals (around a third) relapsed in the first months after therapy.

### RELAPSE PREVENTION

According to the prior results, the purpose of our second clinical trial (Echeburúa et al., 2000) was to improve the long-term success rate.

The aim of this research was, on the one hand, to confirm the efficacy of stimulus control and exposure with response prevention in stopping pathological gambling and, on the other, to test the comparative effectiveness of two therapeutic formats (individual and group) for relapse prevention, compared to a control group, in

order to maintain abstinence. The sample consisted of 69 patients selected according to DSM-IV criteria. At the first part of the study, a one-group design with repeated measures of assessment (pre and posttreatment) was used. At the second part, a multigroup experimental design with repeated measures (pretreatment, posttreatment and 1, 3, 6 and 12-month follow-up) was used. All treated patients gave up gambling at the end of the first part of the study. In the second part results related to 12-month follow-up relapse showed a success rate higher in both individual (86% of abstinent patients) and group (78%) relapse prevention than in the control group (52%). There were no differences between both experimental modalities. These results raise the need of relapse prevention programs in the treatment of pathological gambling.

However, apart from *effectiveness*, an important conclusion of this study regards *efficiency*. From the point of view of cost-benefits, the possibility of implementing the intervention in a group format saves a great amount of costs, because a greater number of patients can be treated without diminishing the quality of the intervention.

### **PREDICTORS OF THERAPEUTIC FAILURE**

In spite of the good results obtained in the previous clinical trials, there still is a considerable rate (about 20% of total patients) who fail in the treatment, even after receiving an intervention in relapse prevention. Therefore a very interesting line of research is the detailed study of therapeutic failures to determine variables that can predict relapse. The treatment of this mental disorder might improve as a result.

Consequently, the aim of the third research (Echeburúa, Fernández-Montalvo, & Báez, 2001) 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 (14.5%) and the ones who completed it 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 alcohol abuse and the neuroticism as a personality variable. On the other hand, most relapses were observed in the first three months after treatment. The main triggers of relapse, in a hierarchic order, were the following ones: inadequate money management, negative emotional states, alcohol abuse, craving and social pressure.

Therefore, 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 therapy may not be suitable for every pathological gambler.

### **CRITICAL ISSUES FOR FURTHER RESEARCH**

In these studies of our research team there are some limitations. First, all treated patients were slot-machine pathological gamblers. Although these are the most frequent treatment seekers in clinical samples in Spain, they may not be totally representative of the larger population of problem gamblers. Second, gamblers with comorbid psychopathological disorders were not included. These individuals, however, are prevalent in clinical practice. Third, nearly all patients were men. And perhaps these treatments might not be equally effective for women. And fourth, the follow-up of our studies was conducted over a period of 12 months, in accordance with other studies (Ladouceur et al., 2001; Sylvain et al., 1997). However, it has been suggested that in order to draw definitive conclusions, a more prolonged follow-up would be necessary. Although currently there exists only one study (McConaghy et al., 1991) with a longer follow-up (from 2 to 9 years).

Likewise some points deserve more attention in future research. It is important to know more about motivational enhancement for therapy because many gamblers do not seek treatment (Hodgings, Currie, & El-Guebaly, 2001). It should be more studied the purpose of controlled gambling for not properly dependent patients (Ladouceur & Walker, 1998). It would be interesting to test combined treatments, for instance psychological therapy with drugs (most of all, in

the case of impulsive or severely depressed patients) or with self-help groups or self-help manuals.

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