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Article in *Journal of Gambling Studies* · February 2012

DOI: 10.1007/s10899-012-9293-1 · Source: PubMed

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# Gambling Prevention Program Among Children

Izabela Ramona Todirita · Viorel Lupu

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**Abstract** Gambling becomes a more frequent activity among children as they have an easy access to the world of the games. In the same time children are at a higher risk for developing problem and/or pathological gambling having erroneous information about how games of chance and games of skill work. The purpose of the study was to compare the influence of specific primary prevention with rational emotive education (REE) on the subjects' knowledge about games. The experimental design randomly assigned children ( $N = 81$ , age 12–13, 37 male and 44 female) into three groups: 1. control, 2. specific information about games using the interactive software “Amazing Chateau”, and 3. REE. All children completed a questionnaire with 38 items at the beginning of the study and after 10 weekly interventional meetings. Each item had three answering options, children choosing only one correct answer. Findings indicated that the use of the software significantly improved subjects' knowledge about gambling and corrected their information about how games work. The results of the study confirmed that using specific primary prevention tools for changing erroneous conceptions about games is more efficient than using only REE. The implications of these results for the prevention of gambling problems especially in schools are discussed.

**Keywords** Prevention · Gambling · Children · Software · Rational emotive education

## Introduction

Problem and pathological gambling is a growing concern for more specialists all over the world (Griffiths 2005). More studies are on adults, but some researchers and specialists

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work with children and/or adolescents (Derevensky and Gupta 2006; Dickson and Derevensky 2006; Dickson et al. 2008; Magoon et al. 2007). Prevalence studies demonstrate that in some countries (Griffiths 2009) there is an increasing rate of problem and pathological gambling among children and adolescents. Some of the countries made prevalence studies for this age range: Nordic countries (2.3% in Finland, Ilkas and Aho 2006; 2.5% in Norway, 2.8% in Iceland; Olason et al. 2006; Jaakkola 2009); Germany (3%—Hurrelmann et al. 2003); Great Britain (5–6%, see Griffiths and Wood 2000; Griffiths 2003); Lithuania (4%—Skokauskas et al. 2005; Skokauskas and Satkeviciute 2007); Romania (6.48%—Lupu and Todirita 2010). Problem gambling among adolescents is four or five times higher than among adults (Griffiths 2009; Olason and Gretarsson 2009; Becoña 2009; Fisher 1999; Johansson and Götestam 2003; Moodie and Finnigan 2006; Rossow and Hansen 2003; Wood and Griffiths 1998). It is important to mention that studies were either local survey and/or use opportunistic or non-representative samples. Taking into account these evidences the youth is more vulnerable for developing gambling related problems. Often gamble associated with smoking, drug abuse and alcohol consumption (Griffiths 2009).

It is less expensive to prevent so primary and secondary prevention programs should be integrated into school curriculums. The first contact with gambling activities is around the age of 11–13 years. For example two of the pathological gamblers in the sample investigated by Lupu and Todirita 2010 were 11 years old. Baer et al. (1998) argue that no single prevention approach to adolescent drug and alcohol abuse has found to be uniformly successful—there is no prevention strategy which could exclude others; researchers agree that this is likely to be the case for preventing pathological and problem gambling, too.

Prevention programs should be tailored to the level of development and intelligence, to the cultural and socio-economical background of the youth they target. Abstinence might be a solution when trying to delay the first betting session (Derevensky and Gupta 2005), but offering correct information about games and their outcomes seems to be more realistic and efficient.

Rational emotive education (REE) is a prevention program which can be used in classes; it aims at teaching teenagers problem-solving techniques and at enhancing their emotional strength by making them aware of the irrational beliefs causing emotional distress and replacing them with rational, adaptive beliefs (Bernard 2004; Popa 2004). Lupu and Iftene (2009) conducted a study demonstrating that REE is useful in reducing anxiety; emotional distress is known to correlate with a number of disruptive behaviors. According to the cognitive behavioral model, irrational cognitions lead to disruptive behaviors. A disruptive behavior (gambling) can be modified either by changing irrational cognitions (general intervention) or changing knowledge about and attitudes with reference to gambling (specific intervention).

Providing gambling specific information may be an effective way to prevent gambling problems among children. This could reduce their illusion of control; change their knowledge and their attitudes regarding games of chance and games of skills. There are few studies regarding prevention (Ladouceur et al. 2004). They hypothesized that erroneous perceptions about hazard is the essential factor for the onset and maintenance of gambling behavior. They designed two studies on students which demonstrated the efficacy of evidence-based prevention activities created and led by specialists in gambling. Ferland et al. 2002 conducted a study to evaluate the prevention of gambling problems in youth. They used 424 students from grades 7 and 8 to evaluate the effectiveness of a video on reducing gambling, on increasing gambling knowledge, and on decreasing erroneous perceptions about gambling. Their findings indicate that the video significantly improved

subjects' knowledge about gambling and corrected their misconceptions about the notions of chance and randomness.

Any organization capable of delivering the message about the signs of problem gambling and the benefits of prevention should be targeted to take on a more active role. There are good examples of projects educating youth about gambling and preventing problem gambling (e.g. YMCA Youth Gambling Project from Canada).

The goal of the present study is to compare the effectiveness of a gambling specific prevention program: "Amazing Chateau", International Centre for Youth Gambling Problems and High-Risk Behaviors (2004a, b) aiming at modifying erroneous beliefs about gambling among children from elementary school (Information) with REE. "Amazing Chateau" targets several misconceptions, the illusion of control, attitudes and cognitive errors in gambling. This intervention is an interactive mean of learning, it captures attention, and it doesn't imply further costs. An agreement of using the software was obtained from its designers.

## Methods

### Participants

Participants ( $N = 81$ ) were grade 6, Romanian speaking children from a school in Cluj-Napoca; aged 12–13 years, children spoke fluently English. Parents signed a consent form before the study has begun. Males represented 45.7% ( $N = 37$ ). Participants came from three classes which were randomly assigned into one of the three conditions. 100% of the sample approached participated at the study.

Three experimental conditions were used. All completed the pre- and post-intervention 38 items questionnaires. One psychologist and a student in psychology administered the experimental and control conditions.

1. Control ( $N = 24$ )—this group was neither shown the software, nor presented the principles for REE. However, to thank the children for their participation and for ethical considerations, they are to be shown the software during the next school year.
2. Information ( $N = 29$ )—this group had 10 weekly meetings with a specialist in gambling. They received information about gambling and gaming throughout the software designed for elementary school children—"Amazing Chateau" (International Centre for Youth Gambling Problems and High-Risk Behaviors 2004a, b). Children had the opportunity to experience two different types of activities: gambling activities and skill activities. During these activities children learnt that gambling makes you lose a lot of money and that you cannot predict the outcome of the game; it gave them the possibility to replace misconceptions (e.g. What are the chance when flipping a coin to land on *head* after five flips landed on *head*?), the illusion of control (e.g. Praying will help me win more.), attitudes (e.g. Betting a lot of money makes me look "very cool".) and cognitive errors (e.g. Betting on the same numbers will increase my chances to win) with rational and correct conceptions.
3. REE ( $N = 28$ )—this group had 10 weekly meetings with a psychologist specialist in gambling. REE offered the possibility to classify emotions into: positive, negative functional and negative dysfunctional; children learnt about cognitive and behavioral ABC models (David 2007); they were explained that emotions and behaviors are triggered by cognitions; and by changing irrational cognitions they can change their

emotions and behaviors. In this respect they were asked to read each evening “The 10 Commandments of Rationality” (David 2007).

## Procedure

The pre-test questionnaire was first completed by all groups. The first group was not presented anything after completing the questionnaire. The prevention protocols were followed for the second (Information) and the third group (REE) after completing the questionnaire. The post-test questionnaire was administered to all participants after the 10 weeks of intervention.

## Instruments

The questionnaire included 38 items each having three answering options, children choosing only one correct answer (see “Appendix” for examples of questions). Items included questions referring to misconceptions, illusion of control, attitudes and cognitive errors. Items of this questionnaire were taken from *Teacher’s Manual: Youth Gambling Awareness and Prevention Program, Level II, „Hooked City”* (International Centre for Youth Gambling Problems and High-Risk Behaviors, 2004a, b), translated and adapted in Romanian language. The scores of correct answers could vary from 38 (100% correct answers) to 0 (no correct answer). Correct, omitted and wrong answers were accounted for each participant at the beginning and at the end of the intervention.

## Results

Data were analyzed using the SPSS 17.0 software. Intergroup comparisons (i.e., control vs. Information vs. REE) were computed using One-Way ANOVA.

The means and standard deviations of correct answers at pre- and post-intervention are shown in Table 1. As it can be observed there is no significant difference between groups’ correct answers before the interventions (21, 19 and 20 respectively); results differ after the intervention (19, 28, and 23 respectively).

An analysis of covariance using the pre-test scores as a covariate was performed to test the equality of post-test scores. This was done in order to control for possible differences between groups at pre-test. The ANCOVA revealed significant group effects for post-test scores ( $F(2, 77) = 23.33, p < 0.00$ ). The covariate variable—scores at pre-intervention—did not have a significant effect on the scores after the intervention.

Table 2 presents the results of the two intervention groups and the control group by the two moments of assessment for correct answers by ANOVA.

**Table 1** Correct answers at pre-intervention and post-intervention

Sample	n	Pre-intervention M (SD)	Post-intervention M (SD)
Control	24	20.54 (2.02)	19.00 (6.20)
Information	29	19.27 (2.75)	28.44 (4.74)
REE	28	20.14 (2.08)	23.00 (4.74)
Total	81	19.95 (2.36)	23.76 (6.44)

*Control* without intervention, *Information* gambling and skill activities, *REE* rational emotive education

**Table 2** Results by ANOVA of correct answers

Moment of assessment		Sum of squares	df	F	Sig.
Before intervention	Between groups	22.62	2	2.08	0.131
	Within groups	423.18	78		
	Total	445.80	80		
After intervention	Between groups	1,197.37	2	21.97	0.000***
	Within groups	2,125.17	78		
	Total	3,322.54	80		

\*\*\*  $p < 0.001$

The one-way ANOVA,  $F(2, 78) = 21.97$ ,  $p = 0.000$  demonstrated statistically significant differences between the two groups.

As hypothesized, the analysis revealed that the experimental condition significantly improved participants' knowledge about gambling as compared to the control group.

The Information condition obtained significantly more correct answers than the control condition. Also, the Information condition obtained significantly more correct answers than the REE condition.

Table 3 presents the Post Hoc Tests for the results of the three groups by the two moments of assessment. The three groups' results differed significantly from each other.

A one-way analysis of variance for uncorrelated scores demonstrated a generally significant effect depending on the intervention type ( $F(2, 78) = 21.97$ ,  $p = 0.000$ ). Scheffe's method of interval analysis demonstrated that group 1 differed from group 2 ( $p = 0.000$ ) and from group 3 ( $p = 0.027$ ), and group 2 differed from group 3 ( $p = 0.001$ ), but there were no other differences.

## Discussions

This research aimed at verifying the hypothesis according to which specific prevention programs are effective in modifying misconceptions, illusion of control, erroneous attitudes and cognitions of children in what regards gambling. This hypothesis was confirmed.

**Table 3** Post Hoc Tests (Scheffe)

Moment of assessment	Sample	Mean difference	Standard error	Sig.
Pre-intervention	1 versus 2	1.27	0.64	0.151
	1 versus 3	0.40	0.65	0.828
	2 versus 3	-0.87	0.62	0.151
Post-intervention	1 versus 2	-9.45	1.44	0.000***
	1 versus 3	-4.00	1.45	0.027*
	2 versus 3	5.45	1.38	0.001**

1 Control, 2 Information, 3 REE

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

\* The mean difference is significant at the 0.05 level

Both programs used (Information using the “Amazing Chateau” prevention program and REE) influenced the answers given by children at post-intervention. Although REE is very useful for modifying erroneous cognitions, in what regards gambling specific information is to be chosen. The research revealed that specific information has a greater impact on the children’s knowledge, illusion of control, attitudes, and erroneous cognitions about gambling. That means that offering correct information about gambling to children we make changes in their cognitive structure and thus prevent the outcome of a disruptive behavior.

Some of the risk factors for developing gambling are depression and anxiety (Hayer et al. 2005). These dysfunctional emotions are targeted during the REE. Lowering these emotions as frequency, durations and intensity we lower the chances of children to gamble when feeling depressed or anxious. These two explanatory models can be tested in further studies and this study has to be replicated by other studies in order to draw general conclusions.

If certain prevention programs are more effective than others in specific cultural and socio-economic backgrounds there are some implications. From the educational point of view it would be useful to test if combined prevention programs can offer better and longer lasting results. If both REE and gambling specific prevention program—the “Amazing Chateau”—influenced the outcome of the answers given by children in this study, maybe REE or REBT combined with gambling specific prevention programs can lead to better outputs. This hypothesis is being tested at the moment in another research (Todirita, I.R., Lupu, V., Opre, A., in progress).

Emotional control, more adaptive behaviors and healthier style of living are the outcomes of REE, while gambling specific prevention programs offer children tools for managing situations which they are very likely to encounter. Even if delay of the onset of gambling activities is the desired path (Derevensky and Gupta 2005) one can rarely control this variable. Prevention programs can offer children resources to make the right decision when faced with gambling. These programs should be adopted at national level and should include gambling along with smoking, drug abuse and alcohol consumption. Each country should consider this issue throughout the Ministry of Education and the Ministry of Health.

This study underlines that there is the need for researches which can indicate which prevention program for children is likely to have better results and more over, to keep this results in time.

From the clinical point of view by preventing a disorder we diminish the chances of developing it later on. In terms of cost effectiveness it is desirable to implement prevention programs at a larger scale and protect children than to treat them when they became adults.

There are a number of limitations in this study. This study is the first of its kind in Romania and thus not supporting comparison with other similar studies. The number of children involved in this study is rather small. Another limitation is that change of information between participants could have happened because children were from the same school even though from different classes. Information was given in English for those in the second group though evaluation was made in Romanian.

## Concluding Thoughts

With this research, we are contributing to a growing literature focused on how to prevent children from the negative consequences of pathological gambling. Further researches should test other prevention programs and/or other combinations of prevention program and their implications for lowering the possibilities of developing pathological gambling.

**Acknowledgments** We would like to thank Prof. Jeffrey Derevensky from the Faculty of Education, Department of Psychiatry, McGill University, Quebec, Canada for his support and agreement for using the “Amazing Chateau” and “Hooked City” software designed by the International Centre for Youth Gambling Problems and High-Risk Behaviors. We would like to thank Stefania Popa, Gheorghe Berar and Ioan Bilc for their help in different phases of this study.

## Appendix

Questionnaire of knowledge about gaming and gambling (International Centre of Youth Gambling Problems and High-Risk Behaviors 2004a, b, translated and adapted by Lupu and Todirita 2010).

### The safest way to make lots of money fast is:

- (a) By gambling;
- (b) By playing the stock market;
- (c) There is no safe way to make lots of money fast.

### If you spend 3 Romanian Lei on a scratch card and you win a free card, how much have you actually made?

- (a) Lose 3 Romanian Lei;
- (b) 3 Romanian Lei;
- (c) Nothing.

### Gambling should only be engaged in:

- (a) If you can afford to lose the money;
- (b) When you need to make money fast;
- (c) If you have a sure strategy to win.

### When playing a gambling game, you can control:

- (a) The final outcome;
- (b) The way the game is going but not the final result;
- (c) Nothing.

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