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Prevention of gambling among youth: Increasing knowledge and modifying attitudes toward gambling

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National Gambling Impact Study Commission, the U.S. presidential commission on gambling. In 1996, he received the Research Award from the National Council on Problem Gambling. In 2003, he was awarded the Senior Research Award from the National Center for Responsible Gambling.

Abstract

Research shows that gambling is a popular activity among youth. The more young people become involved in these activities, the more likely they are to develop irrational thoughts and habits related to gambling. In this study, 273 French-speaking students in grades 5 and 6 helped to test a video designed to (a) increase knowledge about gambling and (b) correct inaccurate knowledge. The effectiveness of the video was evaluated using two experimental conditions and one control condition. Analysis indicated that the video significantly increased gambling knowledge and decreased errors in attitudes toward gambling. The implications of these results for the prevention of gambling problems are discussed.

Today, gambling activities are easily accessible, even to youth. Television, radio, magazines, the Internet, and newspapers expose young people to gambling. Not surprisingly, studies show an increase in gambling in Canada and the United States (Shaffer, Hall & Van der Bilt, 1999). Some authors have reported that the proportion of youth who gamble at pathological levels is higher than that for adults (Arsenault, Ladouceur & Vitaro, 2001; Gupta & Derevensky, 2000; Stinchfield & Winters, 1998). One prevalence study found that 86% of children between the ages of 8 and 12 have already gambled at least once in their life (e.g. lottery, bingo, playing cards for money, bets on sport, wagering on specific events, video poker, and slot machines) and that 37.2% have gambled with an object that they considered to be valuable (Ladouceur, Dubé & Bujold, 1994).

According to Piaget's theory on cognitive development, children between the ages of 7 and 11, who are in the concrete operation stage, are limited in the extent of their abilities to solve concrete problems (Derevensky, Gupta & Cioppa, 1996; Piaget, 1950). The constant presence of chance in gambling would be less obvious to these children, thus resulting in an illusion that they are in control while playing (Derevensky et al., 1996). Considering that gambling behaviours appear early, children aged 10 to 13 represent a target group for the prevention of excessive gambling (Gupta & Derevensky, 1998; Ladouceur et al., 1994; Lesieur & Klein, 1987; Stinchfield & Winters, 1998). Indeed, a number of researchers agree that the implementation of prevention programs among youth, especially in grade school, is necessary. In fact, schools are a great context to easily reach children from

different socio-economic backgrounds, origins and ages.

According to the cognitive therapeutic approach, loss of control in gambling results from holding misconceptions about the notions of chance and randomness. These cognitive errors lead gamblers to believe that they control the outcome of the game. They forget to take into account the independence of events when gambling. This illusion of control and these misconceptions are pivotal variables in the development and maintenance of gambling problems (Ladouceur, Sylvain, Boutin & Doucet, 2002). Based on this theory, it would be expected that modifying erroneous notions about gambling would affect gambling behaviour.

Providing information about gambling may be an effective way to help prevent gambling problems among youth. Such education could reduce their illusion of control over the game and would provide convincing evidence that strategies or skills can improve their outcomes. Ferland, Ladouceur and Vitaro (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.

The goal of the present study is to evaluate the effectiveness of a video whose aim is to modify erroneous beliefs and attitudes toward gambling among students in grades 5 and 6. The video targeted several misconceptions, the illusion of control, and cognitive errors underlying this activity. This type of intervention was chosen because it is a medium that can capture students' attention and interest. Video format is also an inexpensive tool that can reach many students simultaneously. Furthermore, using a video is easy within a school setting and makes it possible to standardize the information provided.

Three classroom conditions were used: (1) Discussion + Video, a 20-minute information session and presentation of the video; (2) Video, a presentation of the video only; and (3) Control, a control group with no information and no video. It was hypothesized that the first two conditions would be significantly better than the control condition at increasing knowledge and reducing attitude errors toward gambling. It was also hypothesized that the Discussion + Video condition would result in a higher level of knowledge and fewer attitudinal errors than the Video condition alone. We also had two research questions: (1) Do the students like the video? (2) Do the students understand the video?

Method

Participants

Participants (n = 273) were grade 5 and 6 French-speaking students from two schools in the Quebec City area. Before the study began, a consent form was sent to parents and only those students whose parents agreed were allowed to participate. Grade 5 students accounted for 49.1% of the participants, and students in grade 6 accounted for 50.9%. Males constituted 50.2% (n = 137) of the participants and the mean age of all participants was 11.53 years old (range from 10 to 13). There were no gender or age differences between the groups. Each class was randomly assigned to one of the three groups using a random number table.

Experimental conditions

Three groups were used. All completed the same pre- and postquestionnaires. Four psychology students administered the experimental and control conditions.

1. Discussion + Video condition (n = 105): The students received information about gambling. They were also invited to ask questions and to express their opinions, even if they did not share the same views as the discussion leader or their teacher. The discussion includes the following information and activities:

a) Using examples of gambling activities (bingo, lottery, video poker, etc.): The students were taught the main characteristics of gambling activities.

b) Illusion of control: This activity helped students realize that it is impossible to control the outcome of the game. The students were also shown that in gambling, practice cannot improve their performance in these specific games.

c) Using lottery gaming activities: The discussion leader provided examples of erroneous beliefs and the way the illusion of control operates. Youth were invited to identify the misconception in these scenarios (superstition, lucky charm, choosing numbers, etc.).

d) The discussion ended with a short question period and a brief summary of the concepts explained. During the 20-minute information session, the discussion leader answered questions raised by the students. He or she also corrected any misconceptions they may have presented. Usually, clarifications were provided through examples drawn from the students' questions. After the period of discussion, students watched a video. This video was developed by the research team with assistance from a professional scriptwriter. The video is based on a cognitive-behavioural theoretical model. The 20-minute video is about “Lucky,” a sarcastic clown who has lost all his money gambling. In the video, he and his assistant present a show about gambling at school. Throughout the video, Lucky explains the differences between gambling and games of skill. He also talks about the chances of winning, the illusion of control, randomness, lucky charms, and the

uselessness of winning strategies.

2. Video condition (n = 73): Under this condition, the students watched the 20-minute video.

3. Control condition (n = 95): This group was neither provided with information nor shown the video. The control group completed the preexperimental questionnaire at the beginning of the class and the postexperimental questionnaire after they had a break within class. However, to thank the students for their participation and for ethical considerations, they were shown the video after they had completed the postquestionnaire.

Procedure

The pretest questionnaire was first completed by all experimental and control groups. In the first condition, the discussion and video took place after the questionnaire. The video alone was shown in the second condition, and not presented at all in the control condition. The posttest questionnaire was administered to all participants after the recess.

Instruments

A short questionnaire examining knowledge and misconceptions about gambling was used. A total of seven questions were used to assess attitudes about gambling, and nine questions were used to assess knowledge (see Appendix A for an English version of the questionnaire). The following are examples of questions targeting knowledge (K) and attitude (A):

“I don't have more chances to win at the lottery if I choose my numbers myself” (K).

“If I gamble often at a game of chance and money, I can become good and win more money” (A).

Knowledge questions refer to information about gambling activities, while attitude questions offer statements providing examples of attitudes toward gambling. All items could be answered by “I totally disagree,” “I disagree,” “I agree,” or “I totally agree” (see Ferland et al., 2002).

The present instrument was developed by Gaboury and Ladouceur (1993) and later adapted by Ferland et al. (2002). This questionnaire is based on a cognitive-behavioural model. The items were reformulated after verifying the comprehension level of each item among grade 4 students and grade 5 teachers. The attitude score could vary from 0 (no errors) to 7 (all wrong answers), while the knowledge score could vary from 0 (no errors) to 9 (all wrong answers). The total errors for the attitude questions and the total errors for the knowledge questions were used as

dependent variables. The reliability of the knowledge scale is excellent with Cronbach's alpha at.74, while the reliability of attitude scale is moderate with Cronbach's alpha at.58. This questionnaire is not a validated instrument.

Results

Analyses of variance show significant differences between the three conditions at pretest for age ($F(2.270) = 13.47$, $p < .001$), number of attitude errors ($F(2.269) = 5.04$, $p < .01$), and knowledge ($F(2.269) = 5.70$, $p < .005$). A Chi-square test revealed no significant differences between the three conditions regarding participants' gender. To verify the first hypothesis, an analysis of covariance was conducted on the results of each score at posttest by using the corresponding results at pretest and age as covariates.

Attitudes

An ANCOVA revealed a significant effect for Group ($F(2.267) = 7.05$, $p < .005$). The contrast analysis revealed that the two experimental groups decreased their attitudinal errors significantly more than did the control group. This suggests that the Discussion + Video and Video conditions were significantly better than the Control group at modifying attitudes toward gambling. However, there were no significant differences between the Discussion + Video and Video conditions.

Knowledge

The covariance analysis computed for knowledge results revealed a significant Group effect ($F(2.266) = 7.25$, $p < .005$). The contrast analysis revealed that the two experimental conditions were significantly more effective at decreasing the number of knowledge errors than with the control group. The two experimental conditions had a similar effect on the number of knowledge errors. The mean numbers of attitude and knowledge errors at pre- and postintervention for all conditions are presented in Table 1.

Discussion

The purpose of this study was to evaluate whether the video “Lucky” helped modify knowledge and attitudes toward gambling among students in grades 5 and 6. The results demonstrate that a video designed to provide specific information about gambling is a meaningful medium for use among grade 5 and 6 students. This finding supports our first hypothesis that a video-based intervention would have the positive effect of increasing knowledge and modifying attitudes toward gambling among youth aged between 10 and 13 years. This result confirms the findings reported by Ferland et al. (2002) about the efficacy of this video for increasing knowledge and reducing misconceptions about gambling among students in

grades 7 and 8.

On the other hand, the second hypothesis, that Discussion + Video would increase knowledge and improve attitudes more than the Video condition, was not confirmed. These findings show that a video alone is as effective as when combined with discussion. This could be explained by the similarity between the two interventions. Discussion activities should explain different concepts than those shown in the video. However, it could be that discussion improves the durability of the change. It would be interesting to examine the short-term effects to see the impact of discussion. Discussion might also result in a more extensive or deep change in attitude and knowledge errors. These possibilities could be tested in future studies.

These findings show that the video is well understood and appropriate for groups of students between 10 and 13 years old. As mentioned earlier, young people are a great target group for the application of preventative intervention methods for gambling (Gupta & Derevensky, 1998; Ladouceur et al., 1994; Lesieur & Klein, 1987; Stinchfield & Winters, 1998). Furthermore, as the cognitive approach suggests, replacing a person's beliefs about gambling with more factual knowledge decreases interest in gambling and has an effect on gambling attitudes. Overall, the results of this study show that the video “Lucky” is an effective medium for modifying students' knowledge and attitudes toward gambling.

Further research should be extended to include grade 4 students. The long-term effect of increased knowledge and modified attitude should also be explored. It would be important to evaluate the long-term impact of these positive effects on gambling. The findings from this study support the effectiveness of the video as an intervention tool for preventing gambling problems in youth and suggest that it is possible to incorporate the video into a school setting in order to increase awareness about the negative consequences of gambling. Correcting erroneous perceptions toward the notions of chance and randomness may be the first step in the prevention of gambling problems among youth.

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APPENDIX A:

QUESTIONNAIRE OF ATTITUDES AND KNOWLEDGE ABOUT GAMBLING (ENGLISH VERSION)

1. 1. When I'm betting, I must know the tricks and strategies if I want to win.
2. 2. I don't have more chances to win at the lottery if I choose my numbers myself.
3. 3. Betting is a good way to obtain money quickly.
4. 4. Betting money is a good way to take up a challenge.
5. 5. Anyone can stop betting easily.
6. 6. Betting money can become a problem like alcoholism and drug addiction.
7. 7. Buying lottery tickets is a type of gambling.
8. 8. All pinball machines and electronic games are not considered as gambling activities.
9. 9. Gamblers have no control on the gains and losses in a gambling activity.
10. 10. At lottery, choosing numbers based on the numbers that came out most often during the year can be a good way to increase your chances to win.
11. 11. It is impossible to predict chance.
12. 12. When I play bingo, I have more chances of winning if I bring my lucky charm with me.
13. 13. It is impossible to predict the winner or the loser at any gambling activity.
14. 14. If I lose while gambling, it's because I played badly.
15. 15. If I gamble often at a game of chance and money, I can become good and win more money.
16. 16. If I play lottery 6/49, I have more chances to win if I choose my lucky numbers.

Answers: I totally disagree; I disagree; I agree; I totally agree

Attitude (7 questions): 1, 3, 4, 5, 12, 14, 15

Knowledge (9 questions): 2, 6, 7, 8, 9, 10, 11, 13, 16

Tables

Table 1

Mean number of attitude and knowledge errors at pre- and postintervention

	Attitude				Knowledge			
	Preintervention		Postintervention		Preintervention		Postintervention	
Groups	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Discussion + Video	4.56	1.82	3.76	2.32	6.19	2.11	5.14	2.19
Video	4.22	1.77	3.33	2.11	5.41	1.70	4.29	2.00
Control	3.71	1.70	3.69	1.95	5.32	1.80	5.26	2.20

Note. Maximum scores = 7 (all wrong answers) for attitude, and 9 (all wrong answers) for knowledge.

Note: SD = standard deviation.

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