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Problem gambling severity and involvement in a self-help treatment: Comparison of problem gamblers based on recruitment method

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Abstract

A better understanding of the repercussions of the means used to recommend psychological treatment could help to mitigate the low consultation rate among gamblers. This study compares the severity of the gambling problems as measured by the Problem Gambling Severity Index (PGSI) and engagement in self-adminstered treatment by problem gamblers, based on their recruitment method (advertisements vs. volunteer bank). In total, 27 gamblers were recruited by advertisements, and 31 came from a bank of volunteers, to participate in studies on gambling. All the participants took part in self-administered treatment, including a self-treatment manual and motivational telephone conversations. The results suggested that the gamblers recruited by the advertisements presented, at the time of recruitment, a significantly higher PGSI score than those recruited instead through the volunteer bank. Furthermore, the number of phases of the self-treatment manual completed, and the proportion of individuals who gave up treatment after a period of 11 weeks, did not differ significantly between the two groups. The results suggest that using different recruitment methods could work to reach those gamblers who do not actively seek help, and that this use of different methods will not affect their engagement in the treatment.

Keywords: recruitment, problem gamblers, treatment involvement, help-seeking, self-help treatment

Résumé

Une meilleure compréhension des répercussions des moyens employés pour proposer les traitements psychologiques pourrait contribuer à pallier les faibles taux de consultation chez les joueurs. La présente étude compare la gravité des problèmes de jeu mesurée par l'Indice de gravité du jeu problématique (IGJP) et l'implication dans un traitement auto-administré chez les joueurs problématiques selon leur mode de

recrutement (annonces publicitaires c. banque de volontaires). Au total, 27 joueurs sont recrutés par annonces publicitaires et 31 joueurs proviennent d'une banque de personnes volontaires à participer à des études sur les jeux de hasard et d'argent. Tous les participants prennent part à un traitement auto-administré incluant un manuel d'auto-traitement et des entretiens téléphoniques de type motivationnel. Les résultats indiquent que les joueurs recrutés par annonces publicitaires présentent, au moment de leur recrutement, un score à l'IGJP significativement plus élevé que ceux recrutés par la banque de volontaires. De plus, le nombre de phases du manuel d'auto-traitement complétées et la proportion d'individus abandonnant le traitement après une période de 11 semaines ne diffère pas significativement entre les deux groupes. Les résultats suggèrent que le recours à différentes méthodes de recrutement puisse aider à rejoindre des joueurs ne recherchant pas activement d'aide et que ceci n'affecte pas l'implication dans le traitement.

Introduction

In Quebec, approximately 66% of the population participated in gambling activities in 2012 (Kairouz & Nadeau, 2014). Among these individuals, some will develop a gambling disorder, which is manifested by persistent and recurrent gambling behaviours that impair functioning or generate significant distress (DSM-5; American Psychiatric Association [APA], 2013). Further, at-risk gamblers may also incur negative consequences related to gambling, though on a subclinical level that does not warrant diagnosis (Raylu & Oei, 2002). At-risk or pathological gamblers are generally identified as problem gamblers. It is estimated that 1.4% of the population of Quebec present a moderate risk of developing a gambling problem, and 0.4% manifest behaviours that correspond to probable pathological gambling (Kairouz & Nadeau, 2014).

Self-help treatments that include a workbook or online material and remote support from a counsellor (Danielsson, Eriksson, & Allebeck, 2014; Raylu, Oei, & Loo, 2008) appear efficient in reducing gambling problems (e.g., Boudreault et al., 2017; Carlbring & Smit, 2008; Hodgins, Currie, & el-Guebaly, 2001; Hodgins, S. R. Currie, G. Currie, & Fick, 2009; Ladouceur et al., 2015) and allow to diversify treatment options. Studies that evaluate the efficacy of self-help treatments for problem gambling generally employ recruitment strategies such as publishing advertisements in newspapers and public areas (e.g., Campos, Rosenthal, Chen, Mogaddham, & Fong, 2015; Carlbring & Smit, 2008; Hodgins et al., 2001, 2009; Toneatto, 2016; Tse et al., 2013). This strategy does seems to generate a satisfying response rate in certain urban regions (Hodgins, 2005), but also manages only with a fair bit of difficulty to reach individuals in other regions (Boudreault et al., 2017; Toneatto, 2005, 2016). Thus, other recruitment methods may in fact promote the use of self-help treatments more effectively.

The qualitative study of Faucher-Gravel, Giroux, Boudreault, Goulet and Simoneau (2017) explores the different ways to promote better gambling treatment and help-seeking behaviours. According to problem gamblers who took part in focus groups, directly informing individuals in gambling venues about existing resources could facilitate gamblers' insight about their problem, and seeking treatment afterward (Faucher-Gravel et al., 2017). In gambling research, problem gamblers appear more inclined to participate in subsequent research projects when compared to non-problem gamblers who are first-time participants. This discrepancy is determined through higher number of contact information given to reach problem gamblers for future studies (Chrétien et al., 2013). Hence, problem gamblers may be more receptive to partaking in a study or treatment program if the opportunity is offered to them directly.

In the field of gambling, Williams, Pulford, Bellringer, and Abbott (2010) conducted the only study thus far that specifically compares two recruitment methods (solicitation in public areas vs. media advertisements) with respect to sociodemographic profile and gambling habits. The group recruited through media advertisements was significantly less ethnically diverse and comprised more individuals who screened positive for pathological gambling than did the group solicited directly in gambling venues. Individuals who responded to the advertisements probably believed themselves called upon to participate as they were already considering seeking help. Conversely, direct solicitation requires disclosure of one's difficulties in a public place which is possibly more challenging for gamblers with a more severe gambling problem. Thus, direct solicitation and media advertisements seem to recruit gamblers with different levels of problem gambling severity (Williams et al., 2010).

Gamblers appear more inclined than might earlier be the case to seek treatment once their gambling problem has become quite severe (Suurvali, Hodgins, Toneatto, & Cunningham, 2012). In fact, higher gambling problem severity and the resulting financial and familial consequences predict help-seeking behaviours in gamblers (Kowatch & Hodgins, 2015; Valdivia-Salas, Blanchard, Lombas, & Wulfert, 2014), while preventing the aggravation of gambling habits constitutes a secondary motive for consultation (Pulford et al., 2009a). Hence, would gamblers with a more severe gambling problem respond to media advertisements while those gamblers with less severe gambling problems respond to a direct offer to participate in a self-help treatment?

Diversification of strategies to offer self-help treatments may produce variable commitment levels during the therapeutic process. Considering that motivation to change is a factor associated with treatment dropout (Melville, Casey, & Kavanagh, 2007), a person who does not actively seek help may present a lesser motivation to change and end up dropping out of treatment. In addition, the completion of each treatment component is a non-negligible factor for recovery. In their randomized clinical trial with 231 pathological gamblers, Petry et al. (2006) compared the efficacy of a referral to Gamblers Anonymous alone, combined with a self-help treatment workbook or

with eight sessions of cognitive-behavioral therapy. Results indicate that the completion of each chapter of the self-help treatment workbook increased the probability to achieve abstinence by 28% after one year.

Because gamblers who seek help are generally in the action phase on the motivation to change continuum (Kowatch & Hodgins, 2015), they may decide to get involved in a self-help treatment. In their randomized clinical trial that compared a waiting list condition to a self-help treatment workbook alone or combined with motivational interviews, Hodgins et al. (2001) reported that over half of their participants completed their manual after one month, and that even gamblers in the waiting list condition significantly reduced their gambling expenditures. The authors suggested that the participants recruited by media advertisements were already strongly motivated to modify their gambling habits (Hodgins et al., 2001). However, as mentioned by Labrie et al. (2012), recruitment by media advertisements does not provide information on the motivation of gamblers who are not actively seeking treatment.

Considering that self-help treatments are intended for both at-risk and pathological gamblers alike (Pulford, Adams & Sheridan, 2010), it seems relevant acquire further knowledge on the strategies to reach out to these individuals. Since help-seeking behaviours in gamblers are consequent to their awareness of their gambling problem (Braun, Ludwig, Sleczka, Bühringer, & Kraus, 2014; Suurvali et al., 2012) and that the latter is often triggered by a crisis (Pulford et al., 2009a; Suurvali et al., 2012), it is possible that gamblers who directly seek to participate in a self-help treatment complete more of the provided material and drop out less from treatment than those gamblers who simply accept an invitation to participate in the treatment. The present study therefore focuses on problem gambling severity in gamblers who participated in a self-help treatment and their degree of involvement in the program based on recruitment method.

Objectives and hypotheses

Based on recruitment method (media advertisements vs. bank of volunteers), the present study compares gamblers who participated in a study on the efficacy of a self-help treatment program. They are also compared on problem gambling severity according to the Problem Gambling Severity Index (PGSI; Ferris & Wynne, 2001) when they first partook in the study, and on their respective degrees of involvement in the self-help treatment. The latter is assessed based on the number of phases of the workbook that were completed and by the proportion of individuals who dropped out of the study after 11 weeks. Participants who responded directly to media advertisements, which constitutes a form of active help-seeking behavior, correspond to the active group. Participants recruited via a bank of volunteers form the passive group, meaning that they were not necessarily actively seeking help at the beginning of the study. The hypotheses are:

1. The active group will present a significantly higher level of gambling problem severity (as measured by the PGSI) than the passive group at the initial phase of the study.

2. The active group, as compared to the passive group, will be more involved in their treatment as reflected by a significantly lower treatment dropout rate and a significantly higher number of completed phases of the self-help treatment workbook after 11 weeks.

Method

The data for this study were collected for a randomized clinical trial on the efficacy of a self-help treatment. It comprised a treatment workbook and three motivational interviews conducted by telephone over 11 weeks. Participants' data were compared with those of a control group. For a full description of the treatment protocol and results, see Boudreault et al. (2017).

Participants

To be admissible to the clinical trial, participants had to satisfy the following criteria: (1) a minimum score of 2 (low risk) on the PGSI, (2) wish to reduce gambling habits and read a self-help treatment workbook, (3) not be involved in another treatment program for gambling, (4) not present suicidal ideations, and (5) accept to be assigned to a waiting list condition (Boudreault et al., 2017). The active group was recruited through media advertisements aimed to reach gamblers who were preoccupied with their gambling habits. Though similar in content, the advertisements were modified according to media type. Following the publication of advertisements, 36 individuals contacted the research center. Among them, 35 were reached and 29 were admissible. However, one individual could not be reached for the next evaluation and another refused to participate, which made for a final sample of 27 participants in the active group.

Concerning recruitment of the passive group, 150 individuals figured in the bank of volunteers that was used for this study. Among them, 101 were reached and 41 satisfied the inclusion criteria. Four potential participants could not be reached for the next evaluation and two refused to participate in the study. In addition, four individuals were excluded from the analyses as they had previously participated in a research project that described the self-help treatment, which distinguished them from the other volunteers in the bank. A total of 31 participants form the passive group.

Statistical analyses were conducted to determine between-group differences on sociodemographic variables. At a 5% significance level, significant between-group differences were revealed for age and education. Table 1 presents the sociodemographic characteristics of each group.

Bank of research volunteers. This computerized list protected by password compiles contact information of former research participants at the *Centre québécois d'excellence, pour la prévention et le traitement du jeu* (CQEPTJ) of Université Laval. Following a first-time participation in a research project, all participants in this list had given informed consent to be contacted for subsequent gambling-related studies.

Table 1

Sociodemographic and descriptive characteristics of active and passive group participants

Characteristic	Active group	Passive group
Sample size, *n*	27	31
Proportion of women, %	44.4	32.3
Age, *M* (*SD*)	47.9 (10.3)	54.4 (12.6)*
Originally from Quebec, %	96.3	90.3
Gambling activity causing problem (Video lottery terminals/ slots), %	92.6	83.9
Has sought gambling-related help in the past, %	96.3*	61.3
Civil status, %		
In a relationship	25.9	41.9
Separated/Divorced	18.5	19.4
Single	55.6	38.7
Education, %		
Elementary and/or high school	29.6	64.5*
College degree	40.7	29.0
University degree	29.6*	6.5
Income[a], %		
$\leqslant$ 39 999$	44.4	61.3
40 000-79 999$	29.6	32.3
$\geqslant$ 80 000$	25.6	3.2
Occupation, %		
Employed	63.0	51.6
Out of work/Invalid/Sick leave	14.8	9.7
Student	3.7	-
Retired	7.4	22.4
Social security	7.4	9.7
Homemaker	-	6.5
No occupation	3.7	-
Gambling behaviour in past month[b], *Mdn (IQR)*		
Frequency of gambling, no of times	12 (11)	6 (13)
Time spent gambling, hours	30 (58)	20 (34)
Money spent gambling, $	1000 (1600)	747 (900)

[a] One participant in the passive group did not specify income. Thus, percentages for each characteristic in the passive group are calculated for 30 individuals.

[b] *Gambling* behaviour reported corresponds to the participants' gambling habits during the month before enrolling in the study.

Mdn = Median, *IQR* = Interquartile Range

* $p < .05$

The list provides the address, age, telephone number and the type of study in which the participants took part. Although participants forming the bank of volunteers have also initially responded to research advertisements, none of the advertisement material used for these previous studies presented treatment-related content. The studies either consisted of gambling in a laboratory setting or completing gambling-related questionnaires based on a pre-determined criterion (e.g., 55+ years, poker or video lottery terminal gamblers). Participants who participated in focus groups on gambling treatment were excluded.

Material

Sociodemographic questionnaire. This questionnaire assesses admissibility criteria for the study, sex, civil status, education, occupational status, income and origin. A modified version of this questionnaire was elaborated for recruitment of the passive group by explaining the context of the telephone call and giving a brief description of the study in which they were invited to participate.

Problem Gambling Severity Index (PGSI; Ferris & Wynne, 2001). This instrument is part of the Canadian Problem Gambling Index (CPGI; Ferris & Wynne, 2001). It includes nine self-report items that screen for pathological gambling. Gamblers are sorted among five possible categories based on their total score: non-gamblers and non-problem gamblers (score of 0), low risk gamblers (scores 1 to 2), moderate risk gamblers (scores 3 to 7), and probable pathological gamblers (scores of 8 or higher). The PGSI presents good internal consistency (Cronbach's alpha = 0.84) and good criterion validity.

Workbook adhesion and treatment evaluation questionnaire (Boudreault et al., 2017). This questionnaire documents participants' completion of the treatment workbook and their satisfaction with its components. One question verifies whether the workbook was completed and, if so, the number of weeks it took to complete it. When a participant did not complete the manual, another question verified the number of completed phases, ranging from 0 to 5. Other questions assessed participants' treatment aim, their completion of the manual content and their satisfaction regarding the treatment. For the purpose of this study, only the item indicating number of completed phases is analyzed. For a detailed description of the self-help treatment workbook entitled *JEu me questionne* as it includes five phases of cognitive-behavioral therapy; see Boudreault et al. (2017).

Procedure

Participants were recruited from June 2013 to December 2014. The first recruitment strategy consisted in written media advertisements. An advertisement describing the self-help treatment components were first published in two newspapers, on social media (Facebook), and via the student and employee emailing lists of Université Laval. Advertisements were also published in specialized magazines intended for counsellors and psychologists of Quebec who could refer interested individuals to the study. Participants recruited with these two types of advertisements constitute the active group.

The second recruitment strategy was to contact potential participants from the research center's bank of volunteers for future gambling studies. Telephone calls with these participants and those who responded to the media advertisements were carried out by the first author and three graduate students in psychology. The sociodemographic questionnaire and the PGSI were administered to determine participants' admissibility. All admissible participants completed an initial evaluation to collect data on the

treatment's efficacy (Boudreault et al., 2017) and were assigned to either the treatment condition or the waiting list condition. After 11 weeks, all participants completed a second telephone evaluation, and the workbook adhesion questionnaire was administered to participants in the treatment condition. Afterward, waiting list participants received the treatment workbook and were also re-evaluated 11 weeks later. Hence, workbook completion was evaluated for all participants. In this paper, participants who did not respond to telephone calls after the waiting period or the treatment were considered as having dropped out of the study. For a detailed description of the procedure conducted to evaluate the efficacy of the self-help treatment; see Boudreault et al. (2017). It should be noted that all participants in Boudreault et al. (2017) received compensation in the form of gift vouchers ranging from $10 to $50 CAD after each completed assessment.

Analyses

Analyses were carried out with SPSS version 22 software. Visual inspection of sociodemographic and dependant variables was performed and descriptive statistics were obtained (means, standard deviations, medians, proportions). Since the distributions for age and gambling behaviour did not satisfy the condition of normality, non-parametric Mann-Whitney U tests were conducted to compare both groups for these variables. Chi-square tests were performed to compare groups on the other ordinal sociodemographic variables. Since some participants received the treatment after being in the waiting list condition, an additional chi-square test was conducted to verify the association between proportion of participants assigned to the treatment condition or to the waiting list condition in the study of Boudreault et al. (2017) and their distribution in the two groups of the study. No significant differences were observed between the active group and the passive group for the proportion of participants assigned to the waiting list condition or the treatment condition, $\chi^2(1, N = 58) = 0.07, p = .79$.

Spearman correlations were calculated to verify associations between education, age and number of completed phases of the workbook. At a 5% significance level, no statistically significant correlations were found between number of completed phases of the workbook and age (r_s (56) = 0.10, $p = .50$) or education (r_s (56) = 0.10, $p = .52$). For this reason, these sociodemographic variables were not considered as covariables. Further, a score was estimated for a participant who did not provide an answer to one PGSI item. In accordance with the answer that this participant provided for a similar item during the initial evaluation based on DSM-5 criteria, a score of 3 was attributed for the non-answered item. Finally, since distributions for PGSI scores and number of completed phases of the workbook were non-normal, non-parametric Mann-Whitney U tests were conducted on the main variables of the study with a unilateral significance level of 5%.

Results

Problem gambling severity

Problem gambling severity as measured by the PGSI was significantly higher for the active group than the passive group, $U = 290.00$, $p = .04$. While participants in the active group endorsed a median score of 17 on the PGSI (*Interquartile range* (*IR*) = 9), participants in the passive group endorsed a median score of 14 (*IR* = 10).

Involvement in the self-help treatment

Dropout proportions.   Eight participants in the active group and four in the passive group dropped out of the study before the post-treatment evaluation. There was no significant difference between groups for proportion of dropouts, $\chi^2(1, N = 58) = 2.46$, $p = .06$.

Number of completed phases in the workbook.   Since 12 participants dropped out of the study before the post-treatment evaluation, the number of phases completed by these participants could not be evaluated. These participants were withdrawn from analysis for this variable, which brings the participant count to 19 for the active group and 27 for the passive group.

The number of completed phases of the workbook was not significantly higher for the active group than for the passive group, $U = 222.50$, $p = .22$. After 11 weeks, the active group had completed a median number of three phases of the workbook (*IR* = 2) whereas the passive group had completed a median number of four phases (*IR* = 2).

Discussion

The present study aimed to compare problem gambling severity and gamblers' involvement in a self-help treatment based on two recruitment methods (media advertisements and direct solicitation of volunteers). It must be noted that the data used for this study were initially collected for a randomized clinical trial, and thus did not specifically aim to answer the research questions of this paper. Results must be interpreted carefully in light of this fact.

The findings of this study support the first hypothesis according to which the active group would present significantly higher problem gambling severity than the passive group. Indeed, participants who responded to the media advertisements had a more severe gambling problem, which corroborates the results of Williams et al. (2010) who observed that media advertisements seem to attract more severe problem gamblers. This result also supports results of previous studies suggesting that gamblers seek help when their gambling problems peak (Kowatch & Hodgins, 2015; Suurvali, Hodgins, Toneatto, & Cunningham, 2008; Valdivia-Salas et al., 2014).

Results from this study also suggest that direct solicitation of volunteers may allow to reach gamblers with a less severe gambling problem. However, despite the significant

difference between groups for PGSI score in this study, the median score of the passive group corresponds to a probable pathological gambling problem (Ferris & Wynne, 2001). As observed by Chrétien et al. (2013), problem gamblers who form a bank of volunteers appear more inclined to participate in gambling studies after a first-time participation than non-problem or low-risk gamblers. Interestingly, this observation also seems to apply to a gambling treatment study, which requires even more involvement from the participant.

Previous participation in gambling studies may have familiarized gamblers in the passive group with the research process, thus possibly making them more willing to participate in the treatment study of Boudreault et al. (2017) insofar as they perceived the need. As reported in the focus groups of Faucher-Gravel et al. (2017), certain individuals may appreciate being offered resources directly. This strategy would be relevant especially if offered by a counsellor with credibility or an ex-gambler having overcome his difficulties (Faucher-Gravel et al., 2017). In addition, the human aspect of approaching a potential problem gambler may facilitate insight (Faucher-Gravel et al., 2017). It is known that pathological gamblers are reluctant to seek help because of shame concerning their gambling problem (Suurvali, Cordingley, Hodgins, & Cunningham, 2009) and concerns regarding conventional treatment (Pulford et al., 2009b). Thus, direct solicitation of volunteers may have allowed to establish trust and credibility, and facilitated willingness to begin the treatment in certain gamblers. Likewise, this strategy may have motivated ambivalent gamblers to decide to begin treatment. However, this effect was not observed in most gamblers from the bank of volunteers, as many declined to participate in the treatment study. This suggests that other factors may modulate volunteer gamblers' decision to take part in a treatment. For example, low-risk and moderate-risk gamblers who perceive few negative consequences arising from their gambling habits may accordingly not consider an offer for a self-help treatment to be relevant even if they are already familiar with the research process. However, the fact that certain individuals have chosen to begin a treatment after being directly solicited suggests that the use of recruitment methods other than media advertisements may facilitate participation in a treatment research project.

The second hypothesis stipulating that the active group would present a higher degree of involvement in the treatment than the passive group was not confirmed. Dropout proportions and number of completed phases of the workbook did not differ between groups, which suggests that participants' involvement in treatment was similar, independent of recruitment method. Surprisingly, gamblers in the passive group to whom the self-help treatment was offered unexpectedly were equally as committed to completing the manual and the study protocol as the active group. While Kowatch and Hodgins (2015) stipulate that gamblers who actively seek help are generally motivated and ready to take action to change, a similar observation was made for participants in the passive group of this study who were not necessarily actively seeking help during the recruitment phase. Self-help treatment offers an individualized and discreet process, which may have suited gamblers who were preoccupied with their gambling habits though hesitant to seek help. The trajectory

of participants in the passive group should be further explored to understand better the factors that brought them to persevere in the process albeit not originally seeking help.

The use of a bank of volunteers seems to have profited a group of problem gamblers by directly offering them an opportunity to obtain help without affecting their involvement, at least concerning the completion of a self-help treatment workbook. However, the passive group consisted of research volunteers who were possibly more motivated and aware of their gambling habits, which does not allow the findings for this group to be generalized to gamblers in the general population who do not actively seek help. It would be relevant to document gamblers' involvement in a self-help treatment that is directly offered, for example, in gambling venues.

Finally, most participants in both active and passive groups of this study presented a severe gambling problem. This suggests that the use of different recruitment methods in this study did not allow to reach at-risk gamblers. Typically, self-help treatments constitute a form of preventive intervention intended for low to moderate risk problem gamblers (Gainsbury, Hing, Suhonen, 2014; Mains & Scogin, 2003; Pulford et al., 2009b; Pulford et al., 2010). Thus, a certain degree of gambling problem severity and awareness of the latter may be necessary for the gambler to accept treatment, whether offered directly or via media advertisements. Future research could aim to identify types of messages that reach more at-risk gamblers. As recommended by Gainsbury et al. (2014), psychoeducational campaigns that demystify gambling problems and promote prevention could constitute a proper means to target and increase awareness of at-risk gamblers.

Study limitations

This study was part of a larger study that aimed to evaluate the efficacy of a self-help treatment and thus, was not specifically designed to compare participants according to recruitment method. It remains possible that participants in the passive group presented distinct characteristics from the active group participants, which does not allow the findings of this study to be generalized to problem gamblers who do not actively seek help. The small sample size, namely because of attrition in the case of the second hypothesis of this study, constitutes a limitation that affects the robustness of the results.

Conclusion

Based on recruitment method, this study provides further knowledge concerning gamblers' characteristics in the context of a study on a self-help treatment for problem gambling, a seldom-studied phenomenon. It also suggests that strategies other than media advertisements can be employed to recruit participants for treatment studies and reach problem gamblers. Although recruitment by media advertisements may attract gamblers with more severe gambling problems, gamblers recruited by direct solicitation through a bank of volunteers also appear to present a probable pathological

gambling problem after screening. Finally, even if a self-help treatment is proposed to them unexpectedly, gamblers who accept to participate after being solicited directly manifest a similar degree of involvement to that of gamblers who seek help on their own. Future studies should explore the impact of proactive measures in offering help resources to gamblers in the general population.

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