NATIONAL CENTER FOR RESPONSIBLE GAMING

Responsible Gambling: A Review of the Research

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Warning messages on gaming machines. Self-exclusion programs. Programs to limit money and time spent gambling. These are just a few responsible gambling strategies in use around the world. Responsible gambling (RG) refers to programs that seek to prevent or reduce gambling-related harms. The impetus behind these programs derives from the public health shift from a reactive posture of trying to eliminate disorders that have already occurred, to a proactive force that seeks to promote positive health behaviors and prevent diseases before they emerge (or at least mitigate their effects).

The rise in responsible gambling strategies is a response to this trend of health promotion. Enacted in government regulations, as well as in voluntary programs developed by gambling operators, responsible gambling programs have proliferated in legalized gambling jurisdictions throughout the world. However, are these programs safe? Are they effective? A review of the scientific literature by the leading gambling researchers indicates a dearth of science-based, peer-reviewed programs in this area. This white paper will summarize the findings of "Responsible Gambling: A Synthesis of the Empirical Evidence," the first effort "to identify empirically-grounded RG studies in an effort to create the beginnings of a foundation that can guide evidence based effective RG strategies" (Ladouceur, Shaffer, Blaszczynski, & Shaffer, 2016, p. 2).

HIGHLIGHTS

- Responsible gambling (RG) refers to programs that seek to prevent or reduce gambling-related harms.
- Peer-review functions as a quality control filter in all scientific fields.
- Only 29 studies met high research standards.
- "The evidence reveals that the field of RG is nascent and there are few principles or RG activities that can be considered 'best practices.'"

WHY IS PEER-REVIEWED RESEARCH IMPORTANT?

As the editorial board of the *Journal of Gambling Studies* declared,

> While all research deserves a measure of scientific skepticism, unpublished research is particularly suspect. While it might be comparable to its published counterpart, the burden of proof for such a claim resides with the documentation of the unpublished work. Absent such detailed evidence, unpublished research represents little more than opinion.

Unfortunately for the field, unpublished studies abound. Such studies comprise the "grey" literature. In contrast, "peer-reviewed research" refers to the fact that the study was published in a peer-reviewed journal that uses recognized experts to determine the quality of the study. In short, peer-review functions as a quality control filter in all scientific fields. Although not an absolute guarantee, peer review usually ensures that only high quality studies meeting criteria of scientific merit are published.

Why is this important in the context of responsible gambling? Quality research will answer questions about safety and effectiveness. For example, is self-exclusion

an effective intervention? Are limits on time and money wagered safe or do they in some cases cause people to gamble even more than they intended? These questions must be answered to protect people and to ensure that the considerable expense of these programs can be justified as effective.

STUDIES SELECTED FOR THIS REVIEW

The studies reviewed by "Responsible Gambling: A Synthesis of the Empirical Evidence" included only those in peer-reviewed journals that met the following criteria: (1) specific focus on RG-related topics; (2) evidence of an empirical approach; and (3) research was conducted with "real" gamblers not convenience samples such as college students. The final inclusion criteria applied required that studies used at least one of the following methodologies: (1) matched control or comparison group; (2) repeated measures (using the same subject and obtaining measurements under various conditions or over a time period); and (3) one or more measurement scales such as screening or diagnostic measures. Of all the articles reviewed, 29 met the above criteria and are the subject of this analysis.

RESPONSIBLE GAMBLING CATEGORIES

The 29 studies under review focused on the following types of RG programs:

- Self-exclusion Programs
- Tracking Behavioral Characteristics
- Setting Gambling Limits
- RG-specific game features
- Training of gambling venue employees

SELF-EXCLUSION PROGRAMS

Voluntary self-exclusion programs, typically operated by casinos, online gambling sites and gaming regulators, give individuals the opportunity to exclude themselves from gambling opportunities. Typical programs remove the enrolled person from marketing databases. Some authorize staff to remove the enrolled person from the premises and to deny cash prizes to those on the self-exclusion list.

Nine studies on self-exclusion were included in this review, including four that reported positive outcomes (Dragicevic, Percy, Kudic, & Parke, 2015; Hayer & Meyer, 2011; Hing, Russell, Tolchard, & Nuske, 2015; Hing, Tolchard, Nuske, Holdsworth, & Tiyce, 2014; LaBrie et al., 2007; Ladouceur, Sylvain, & Gosselin, 2007; Nelson, Kleschinsky, LaBrie, Kaplan, & Shaffer, 2010; Tremblay, Boutin, & Ladouceur, 2008; Xuan & Shaffer, 2009). One was unable to determine the effectiveness of self-exclusion (Ladouceur et al., 2016).

Example

A Canadian study reported beneficial changes after six months such as reduced urges to gamble and negative consequences on daily life (Ladouceur et al., 2007). However, over time, participants perceived the program as less effective. In addition, a number breached the agreement and returned to the casino after six months.

Conclusion

It appears that self-exclusion is safe and, for some gamblers, an effective intervention. However, more research is needed to ascertain the long-range impact of the program and to determine the most effective features of the program. For example, it is not clear what the optimum time limit for the ban should be. Although programs are shifting from lifetime bans, there is no evidence to support specific time periods as the most effective.

TRACKING BEHAVIORAL CHARACTERISTICS

One preventive approach is to develop an algorithm that could prospectively predict who is going to experience harm from gambling and then introduce a preventive intervention before the onset of problems. This type of algorithm is easier to design in an online gambling environment where researchers have access to all of a gambler's transactions than in a brick-and-mortar casino where tracking this type of customer behavior is more difficult. There were eight studies in this category (Auer & Griffiths, 2015; Braverman, LaPlante, Nelson, & Shaffer, 2013; Braverman & Shaffer, 2012; Delfabbro & Winefield, 1999; Gray, LaPlante, & Shaffer, 2012; Quilty, Avila Murati, & Bagby, 2014; Schellinck & Schrans, 2004b, 2004a).

Example

A study of online gamblers sought to identify behavioral markers of disordered gambling by comparing records of gamblers who had triggered responsible gaming alert systems to those customers who did not (Gray et al., 2012). According to the study, "Findings revealed that non-monetary betting activity intensity (i.e. total bets placed, number of active betting days, and duration of activity) and monetary variables (i.e. total stake size and net losses) reliably discriminated gamblers triggering warnings from those who did not" (Ladouceur et al., 2016, p. 6).

Conclusion

While the research on tracking behavioral characteristics is ever improving, there is not yet definitive, peer-reviewed evidence of any behavioral algorithm that can predict patterns of gambling disorder.

SETTING GAMBLING LIMITS

Setting gambling spending limits, sometimes called pre-commitment, offers gamblers the opportunity to predetermine a limit to the amount of time or money to devote to gambling. Five studies fell into this category (Auer & Griffiths, 2013, 2014; Broda et al., 2008; Hing et al., 2015; Nelson et al., 2008).

Example

A study of internet gamblers examined self-limiting behavior among participants for an 18-month period (Nelson et al., 2008). The authors found that self-limiting gamblers played a wider variety of games and placed more bets than others prior to imposing self-limits. After self-limits, the gamblers reduced their activity but did not reduce the amount of money wagered per bet. The authors concluded that time spent gambling, not just money wagered, appears to be an important indicator of gambling problems.

Conclusion

Of the five studies that examined setting gambling limits, there was some indication that requiring individuals to set a time and cash limit might reduce money spent on gambling. However, there was no evidence that this reduction in expenditure occurred in individuals who were experiencing gambling-related harm, and, ultimately, no indication that gambling-related harm was reduced.

MODIFYING GAME FEATURES

Modifications in game features include changes that have been made to the structure or operation of specific gambling games in order to encourage responsible gambling behavior. Such changes might include slowing down the rate of play on a machine or posting warning messages on the machine display. This category included four peer-reviewed studies (Blaszczynski, Gainsbury, & Karlov, 2014; Gainsbury, Aro, Ball, Tobar, & Russell, 2015; Ladouceur & Sévigny, 2009; Munoz, Chebat, & Borges, 2013).

Example

A study of electronic gambling machines examined the influence of three features: a clock, cash display, and pre-commitment (Ladouceur & Sévigny, 2009). The study participants reported that the cash display was helpful for controlling their gambling but not the clock or the pre-commitment.

Conclusion

Two studies found that warning messages were recalled by some gamblers and graphic warning messages increased the perceived severity of gambling-related losses. The other two studies did not find any significant impact on a number of responsible gambling specific game features including messages, alarm clocks and a play money mode. Consequently, overall, evidence for the efficacy of game features is mixed, and no research has shown that game features reduce harm in a real-world setting.

EMPLOYEE TRAINING

Although some type of casino employee training in responsible gambling is nearly universal, only three studies have attempted to evaluate the effectiveness of such programs (Delfabbro, Borgas, & King, 2012; Nerilee Hing & Nuske, 2012; LaPlante, Gray, LaBrie, Kleschinsky, & Shaffer, 2012).

Example

One study assessed the reliability of casino staff's perception of patrons' gambling problems (Delfabbro et al., 2012). The authors found considerable disparity between staff and patron ratings of gambling disorder. For example, the staff identified 15 customers as "problem gamblers" whereas the Problem Gambling Severity Index scores indicated no risk or low risk for these gamblers.

Conclusion

Research indicates that employee training can improve employees' knowledge of responsible gambling. However, there is no evidence that increasing knowledge among casino staff can help employees accurately identify casino patrons with a gambling disorder.

DISCUSSION AND RECOMMENDATIONS

Currently, the field does not have a systematic approach for assessing the quality of research on RG. Instead, a haphazard approach to developing and adopting RG programs has characterized RG efforts (Ladouceur et al., 2016). "Responsible Gambling: A Synthesis of the Empirical Evidence" fills this void by providing an approach for gauging the effectiveness and safety of RG activities.

Policymakers and the gambling industry should take a cautious and conservative approach to RG. According to the study, "the evidence reveals that the field of RG is nascent and there are few principles or RG activities that can be considered 'best practices'" (Ladouceur et al., 2016, p. 9). The authors encourage all stakeholders concerned about responsible gambling to develop science-based RG programs that are safe and effective.

REFERENCES

Auer, M., & Griffiths, M. D. (2013). Behavioral tracking tools, regulation, and corporate social responsibility in online gambling. *Gaming Law Review and Economics, 17*(8), 579–583. https://doi.org/10.1089/glre.2013.1784

Auer, M., & Griffiths, M. D. (2014). An empirical investigation of theoretical loss and gambling intensity. *Journal of Gambling Studies, 30*(4), 879–887. https://doi.org/10.1007/s10899-013-9376-7

Auer, M. M., & Griffiths, M. D. (2015). Testing normative and self-appraisal feedback in an online slot-machine pop-up in a real-world setting. *Frontiers in Psychology, 6,* 339. https://doi.org/10.3389/fpsyg.2015.00339

Blaszczynski, A., Gainsbury, S., & Karlov, L. (2014). Blue gum gaming machine: An evaluation of responsible gambling features. *Journal of Gambling Studies, 30*(3), 697–712. https://doi.org/10.1007/s10899-013-9378-5

Braverman, J., LaPlante, D. A., Nelson, S. E., & Shaffer, H. J. (2013). Using cross-game behavioral markers for early identification of high-risk internet gamblers. *Psychology of Addictive Behaviors, 27*(3), 868–877. https://doi.org/10.1037/a0032818

Braverman, J., & Shaffer, H. J. (2012). How do gamblers start gambling: Identifying behavioural markers for high-risk internet gambling. *European Journal of Public Health, 22*(2), 273–278. https://doi.org/10.1093/eurpub/ckp232

Broda, A., LaPlante, D. A., Nelson, S. E., LaBrie, R. A., Bosworth, L. B., & Shaffer, H. J. (2008). Virtual harm reduction efforts for Internet gambling: Effects of deposit limits on actual Internet sports gambling behavior. *Harm Reduction Journal, 5*(27), 1–9. https://doi.org/10.1186/1477-7517-5-27

Delfabbro, P., Borgas, M., & King, D. (2012). Venue staff knowledge of their patrons' gambling and problem gambling. *Journal of Gambling Studies, 28*(2), 155–169.

Delfabbro, P. H., Borgas, M., & King, D. (2012). Venue staff knowledge of their patrons' gambling and problem gambling. *Journal of Gambling Studies, 28,* 155–169.

Delfabbro, P., & Winefield, A. (1999). Poker-machine gambling: An analysis of within session characteristics. *British Journal of Psychology,* 90, 425–439.

Dragicevic, S., Percy, C., Kudic, A., & Parke, J. (2015). A descriptive analysis of demographic and behavioral data from Internet gamblers and those who self-exclude from online gambling platforms. *Journal of Gambling Studies, 31*(1), 105–132. https://doi.org/10.1007/s10899-013-9418-1

Gainsbury, S., Aro, D., Ball, D., Tobar, C., & Russell, A. (2015). Determining optimal placement for pop-up messages: Evaluation of a live trial of dynamic warning messages for electronic gaming machines. *International Gambling Studies, 15*(1), 141–158. https://doi.org/10.1080/14459795.2014.1000358

Gray, H. M., LaPlante, D. A., & Shaffer, H. J. (2012). Behavioral characteristics of Internet gamblers who trigger corporate responsible gambling interventions. *Psychology of Addictive Behaviors, 26*(3), 527–535. https://doi.org/10.1037/a0028545

Hayer, T., & Meyer, G. (2011). Self-exclusion as a harm minimization strategy: Evidence for the casino sector from selected European countries. *Journal of Gambling Studies, 27*(4), 685–700. https://doi.org/10.1007/s10899-010-9227-8

Hing, N., Cherney, L., Gainsbury, S. M., Lubman, D. I., Wood, R. T., & Blaszczynski, A. (2015). Maintaining and losing control during internet gambling: A qualitative study of gamblers' experiences. *New Media & Society, 17*(7), 1075–1095. https://doi.org/10.1177/1461444814521140

Hing, N., & Nuske, E. (2012). Responding to problem gamblers in the venue: Role conflict, role ambiguity, and challenges for hospitality staff. *Journal of Human Resources in Hospitality & Tourism, 11*(2), 146–164.

Hing, N., Russell, A., Tolchard, B., & Nuske, E. (2015). Are there distinctive outcomes from self-exclusion? An exploratory study comparing gamblers who have self-excluded, received counselling, or both. *International Journal of Mental Health and Addiction, 13,* 481–496.

Hing, N., Tolchard, B., Nuske, E., Holdsworth, L., & Tiyce, M. (2014). A process evaluation of a self-exclusion program: A qualitative investigation from the perspective of excluders and non-excluders. *International Journal of Mental Health and Addiction, 12*(4), 509–523. https://doi.org/10.1007/s11469-014-9482-5

LaBrie, R. A., Nelson, S. E., LaPlante, D. A., Peller, A. J., Caro, G., & Shaffer, H. J. (2007). Missouri casino self-excluders: Distributions across time and space. *Journal of Gambling Studies, 23*(2), 231–243. https://doi.org/10.1007/s10899-006-9037-1

Ladouceur, R., & Sévigny, S. (2009). Electronic gambling machines: Influence of a clock, a cash display, and a precommitment on gambling time. *Journal of Gambling Issues,* 31–41.

Ladouceur, R., Shaffer, P., Blaszczynski, A., & Shaffer, H. J. (2016). Responsible gambling: a synthesis of the empirical evidence. *Addiction Research & Theory,* 1–11. https://doi.org/10.1080/16066359.2016.1245294

Ladouceur, R., Sylvain, C., & Gosselin, P. (2007). Self-exclusion program: A longitudinal evaluation study. *Journal of Gambling Studies, 23*(1), 85–94. https://doi.org/10.1007/s10899-006-9032-6

LaPlante, D. A., Gray, H. M., LaBrie, R. A., Kleschinsky, J. H., & Shaffer, H. J. (2012). Gaming industry employees' responses to responsible gambling training: a public health imperative. *Journal of Gambling Studies, 28*(2), 171–191. https://doi.org/10.1007/s10899-011-9255-z

Munoz, Y., Chebat, J.-C., & Borges, A. (2013). Graphic gambling warnings: How they affect emotions, cognitive responses and attitude change. *Journal of Gambling Studies, 29*(3), 507–524.

Nelson, S. E., Kleschinsky, J. H., LaBrie, R. A., Kaplan, S., & Shaffer, H. J. (2010). One decade of self exclusion: Missouri casino self-excluders four to ten years after enrollment. *Journal of Gambling Studies, 26*(1), 129–144. https://doi.org/10.1007/s10899-009-9157-5

Nelson, S. E., LaPlante, D. A., Peller, A. J., Schumann, A., LaBrie, R. A., & Shaffer, H. J. (2008). Real limits in the virtual world: Self-limiting behavior of Internet gamblers. *Journal of Gambling Studies, 24*(4), 463–477. https://doi.org/10.1007/s10899-008-9106-8

Quilty, L. C., Avila Murati, D., & Bagby, R. M. (2014). Identifying indicators of harmful and problem gambling in a Canadian sample through receiver operating characteristic analysis. *Psychology of Addictive Behaviors, 28*(1), 229–237.

Schellinck, T., & Schrans, T. (2004a). Gaining control: Trends in the processes of change for video lottery terminal gamblers. *International Gambling Studies, 4*(2), 161–174.

Schellinck, T., & Schrans, T. (2004b). Identifying problem gamblers at the gambling venue: Finding combinations of high confidence indicators. Gambling Research: *Journal of the National Association for Gambling Studies (Australia), 16*(1), 8.

Tremblay, N., Boutin, C., & Ladouceur, R. (2008). Improved self-exclusion program: Preliminary results. *Journal of Gambling Studies, 24*(4), 505–518. https://doi.org/10.1007/s10899-008-9110-z

Xuan, Z., & Shaffer, H. (2009). How do gamblers end gambling: Longitudinal analysis of Internet gambling behaviors prior to account closure due to gambling related problems. *Journal of Gambling Studies, 25*(2), 239–252. https://doi.org/10.1007/s10899-009-9118-z

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