



**NOTICE OF MEETING and AGENDA**  
**March 13, 2013 Meeting**

Pursuant to the Massachusetts Open Meeting Law, G.L. c. 30A, §§ 18-25, notice is hereby given of a meeting of the Massachusetts Gaming Commission. The meeting will take place:

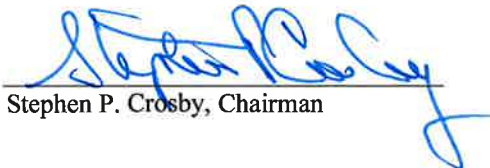
Wednesday, March 13, 2013  
1:00 p.m..  
Division of Insurance  
1000 Washington Street  
1<sup>st</sup> Floor, Meeting Room 1-E  
Boston, Massachusetts

**PUBLIC MEETING - #57**

1. Call to order
2. Evaluation Criteria Discussion
3. Other business – reserved for matters the Chair did not reasonably anticipate at the time of posting

I certify that on this date, this Notice was posted as "Gaming Commission Meeting" at [www.massgaming.com](http://www.massgaming.com) and emailed to: [regs@sec.state.ma.us](mailto:regs@sec.state.ma.us), [melissa.andrade@state.ma.us](mailto:melissa.andrade@state.ma.us), [brian.gosselin@state.ma.us](mailto:brian.gosselin@state.ma.us).

3/11/13  
(date)

  
Stephen P. Crosby, Chairman

**Date Posted to Website:** March 11, 2013 at 1:00 p.m.



Massachusetts Gaming Commission

**Fong, Heather (MGC)**

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**From:** Jake Hawkesworth <jeh0753@gmail.com>  
**Sent:** Sunday, February 17, 2013 10:26 AM  
**To:** mgccomments (MGC)  
**Subject:** Evaluation Criteria

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

I wanted to point out that the National Gambling Impact Study Commission Report from 1999 includes the following evaluation criteria, which should be relevant and important for determining the location and choice of future gambling license holders:

- “...casino development should be targeted for locations where the attendant jobs and economic development will benefit communities with high levels of unemployment and underemployment and a scarcity of jobs for which the residents of such communities are qualified.”
- “...studies of gambling’s economic impact and studies contemplating the legalization of gambling...should include an analysis of gambling industry job quality, specifically income, medical benefits, retirement benefits, relative to the quality of other jobs available in comparable industries within the local labor market.”
- “...when planning for gambling-related economic development, communities....that are considering the legalization of gambling should recognize that destination resorts create more and better quality jobs than casinos catering to local clientele.”

I found it difficult to read the document included for public comment, but it did seem that these points were either missing, or contradicted in the draft criteria - for example, there was a point in the draft that mentioned the importance of retaining gamblers who previously went out of state in order to gamble. The above quoted report points out that having a clientele which is too local is actually quite problematic for local communities.

I hope that this serves to be helpful. Thanks for your consideration.

Jake Hawkesworth

Easthampton, MA

## **Fong, Heather (MGC)**

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**From:** SFGUSA <smokefreegaming@yahoo.com>  
**Sent:** Friday, February 15, 2013 6:14 PM  
**To:** mgccomments (MGC)  
**Subject:** Evaluation Criteria

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

To: The Massachusetts Gaming Commission

We would like to request that the Commissioners ensure that any gaming licensee is compliant with the state clean indoor air laws requiring workplaces to be smoke free.

Of particular concern is the issuance of any gaming license to a tribal entity. We ask that in a tribal-gaming compact with the state, that tribes are required to operate a gaming establishment smoke free.

Thank you very much for addressing this issue.

Stephanie Steinberg  
Sent from my iPhone

**Fong, Heather (MGC)**

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**From:** DLR0412@aol.com  
**Sent:** Wednesday, February 13, 2013 3:15 PM  
**To:** mgccomments (MGC)  
**Cc:** mike.barrett@masenate.gov  
**Subject:** Evaluation Criteria

Dear Commissioners: The location of each casino in the surrounding community must be carefully chosen. My concern with the Revere location at Suffolk Downs being considered is access and traffic. There is no good way to get to Revere from anywhere. All roads that lead to Revere are overcrowded, two lane roadways that were not designed to handle the existing flow of traffic. Add more traffic that would result from thousands of casino visitors daily, there will be substantial bottlenecks every day.

One solution would be to locate the proposed casino, along with the other two proposals in Western Massachusetts and Southeastern Massachusetts, off of a major highway. The developer would fund dedicated on/off ramps with no public outlet into the local community. This would prevent a situation that occurs every Sunday in Foxboro, for instance, when the Patriots play at Gillette Stadium. In the case of a casino, however, the traffic would be bottlenecked in the local community all year round, not just during football season, unless traffic flow issues are considered.

There is a tremendous potential for positive economic growth in the areas that surround the casinos but this has to be balanced against the legitimate concerns of the surrounding communities have in traffic overflow, environmental impact and crime.

For your information, I am an attorney with a speciality in representing clients who buy and sell liquor licenses for restaurants, clubs, package stores and other businesses that serve alcohol to the public. I would be happy to contribute in any way I can to the ongoing process of evaluation in the future.

Thank you for your attention to this.

David L. Rubin  
Attorney at Law  
929 Worcester Road  
Framingham, MA 01701  
508-875-9797

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**Fong, Heather (MGC)**

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**From:** Terry Baldwin <terryb323@gmail.com>  
**Sent:** Wednesday, February 13, 2013 12:59 PM  
**To:** mgccomments (MGC)  
**Subject:** Evaluation Criteria

Dear Commissioners:

As a citizen of Massachusetts and a resident of the City of Everett, I have been following the Massachusetts Gaming Commission with great interest. It is my fond hope that in evaluating the proposed casinos, (for which I am an avid proponent), I would like to see each of the casinos tell the story of Massachusetts within their design, be it through architecture (an homage to Bullfinch?), construction ("Green" efficiencies), landscaping (channeling the rocky New England coast), culturally (celebrating the Native Americans, the influx of the Irish, Italians, Brazilians, etc.), artistically-need I say more?

However, not only the historical background of the Commonwealth should be emphasized, but also our vision for the future. I like to call this concept "Our Heritage and Destiny." I think the Heritage portion can be realized by incorporating all the "Firsts" for which Massachusetts is noted, and the Destiny portion could be represented by the far-reaching technologies in blazing new frontiers (where would NASA be without MIT?) developed by the braintrust of education and industry this state possesses.

Of course, the impact Massachusetts has had upon the entire United States and the world at large could also be incorporated into the plan.

I appreciate your consideration of this concept.

Sincerely,

Terry A. Baldwin  
323 Main Street  
Everett, MA 02149  
Ph: 617-381-9261  
Cell: 617-515-3829  
E-mail: [TerryB323@gmail.com](mailto:TerryB323@gmail.com)

**Fong, Heather (MGC)**

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**From:** LaPlante, Debi Anne <debi\_laplante@hms.harvard.edu>  
**Sent:** Monday, February 11, 2013 12:06 PM  
**To:** mgccomments (MGC)  
**Subject:** Evaluation Criteria  
**Attachments:** J Gambi Stud 2004 Blaszczyński-1.pdf; Journal of Gambling Studies 2011 Blaszczyński-1[1].pdf; 2011 LaPlante.pdf; RG Evaluation Criteria from Division on Addiction.pdf

Please find attached a summary of recommendations regarding the evaluation criteria for expanded gaming in Massachusetts, titled RG Evaluation Criteria from Division on Addiction, and three papers you might find useful as you further define the evaluation criteria. A hard copy of the documents will follow these electronic copies.

Sincerely,

Debi LaPlante, Ph.D.  
Director of Research & Academic Affairs, Division on Addiction, Cambridge Health Alliance  
Assistant Professor, Harvard Medical School  
101 Station Landing  
Medford, MA 02155

[www.divisiononaddiction.org](http://www.divisiononaddiction.org)  
[www.basisonline.org](http://www.basisonline.org)  
[www.thetransparencyproject.org](http://www.thetransparencyproject.org)

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Harvard Medical School  
Teaching Affiliate

February 11, 2013

Stephen Crosby, Chairman  
Massachusetts Gaming Commission  
84 State Street, Suite 720  
Boston, MA 02109

mgccomments@state.ma.us

RE: Evaluation Criteria

Dear Chair Crosby:

We recently observed that the Massachusetts Gaming Commission issued a request for comments regarding the evaluation criteria for casino applications. A central component of the evaluation criteria for all casino applicants should focus on responsible gambling. The attached documents include a publication from a panel of international responsible gambling experts; this publication provides comprehensive details related to evaluation standards for responsible gambling. We also have included two other publications related to responsible gambling, which you might find informative. For your consideration, at the end of this letter, we have summarized our recommended list of responsible gambling evaluation criteria. A hard copy of these documents will follow.

We hope you find these documents useful to your evaluation process. If it would be helpful, we would be happy to brief you about recommendations. If there are any questions, please do not hesitate to contact me directly.

Best regards,

Debi A. LaPlante, Ph.D.

*Director of Research & Academic Affairs, Division on Addiction, Cambridge Health Alliance*  
*Assistant Professor, Harvard Medical School*

## **Response to Request for Comments: Evaluation Criteria**

A central component of the evaluation criteria for casino licensing applicants should focus on responsible gambling and the applicants' detailed plan for creating a responsible gambling environment at their proposed venue. The following recommendations emerged, in part, from the consensus of an international panel of responsible gambling experts (Blaszczynski, Collins, Fong, Ladouceur, Nower, Shaffer, Tavares, & Venisse, 2011). In brief, this consensus panel suggested that "whether industry- or government-derived, responsible gambling strategies attempt to impose a duty of care to protect the public from gambling-related adverse events by: (1) educating individuals about the nature of gambling as a recreational product containing associated risks, notably the potential to become excessively preoccupied with gambling and developing an inability to cease or control gambling despite negative consequences in domains of social, legal, employment and familial functioning; (2) encouraging players to wager within affordable limits; and (3) providing sufficient information about a game to allow players to exercise informed decisions regarding all aspects of their participation" (Blaszczynski et al., 2011).

In this spirit, it is our professional opinion that the new casino licensing applications should include plans to address the responsible gambling components that we detail in the next section of this response. The Massachusetts Gaming Commission should (1) determine whether the casino applications include plans for each of the components and (2) objectively and systematically review the extent to which each of the applications addresses these components sufficiently. This kind of review can take place both during the application process and then repeatedly as part of an ongoing review process.

### ***Recommended Evaluation Components***

1. Gambling venues should provide onsite resources for those affected by gambling-related problems
  - a. For example, help-line numbers and brochures, web and mobile tools
2. Gambling venues should provide easily accessible patron responsible gambling education
  - a. For example, information pamphlets related to the nature of gambling and statistical odds of winning at each of the various game types (e.g., slot machines, craps, roulette, etc.)
  - b. For example, display signs that warn about possible adverse consequences associated with excessive gambling
3. Gambling venues should develop a responsible gambling coordination plan for local partners (e.g., treatment centers; Massachusetts Council on Compulsive Gambling; Department of Public Health; Massachusetts Gaming Commission)
  - a. For example, information pamphlets listing available resources, including rehabilitation/counseling treatment programs
4. Gambling venues should develop clear self-exclusion policies that comply, minimally, with state requirements
  - a. Specifically, the policies should be easily accessible to patrons
  - b. Venues should specify protocols for employees to encourage problem gamblers to self-exclude and simultaneously seek treatment
  - c. Venues should facilitate independent auditing of their program
5. Gambling venues should develop clear and comprehensive alcohol use policies
  - a. For example, prohibit sales to minors
  - b. For example, limit sales to patrons while gambling, and visibly intoxicated persons, restricted through enforcement procedures and employee training
6. Gambling venues should develop clear and comprehensive age policies



## *2 Division on Addiction*

- a. For example, venues should be clearly marked 21+, and provide restricted access through identification enforcement procedures and employee training
7. Gambling venues should establish ethical marketing/advertising practices
  - a. For example, avoid direct marketing to underage population segment and self-excluded gamblers
  - b. For example, assure that all marketing/advertising materials include responsible gambling messages
8. Gambling venues should modify structural features that might contribute to excessive gambling
  - a. For example, avoid bill acceptors, free-spins, and real “hold” facilities on electronic gambling machines
  - b. For example, limit or avoid availability of ATMs within gambling areas
9. Gambling venues should engage in annual self-review to determine whether the company is meeting its responsible gambling objectives
  - a. For example, programs should assess whether they have met the expected clear and observable impacts
  - b. Venues should disseminate program outcomes
10. Gambling venues should develop clear and comprehensive plans for data sharing
  - a. For example, releasing player loyalty card data to academic institutions
11. Gambling venues should identify a well documented code of ethics signed by CEO and all members of the Board, prominently displayed for employees and customers
12. Gambling venues should complete company-wide employee responsible gambling training
  - a. Such training should include an annual refresher course

## Responsible Gambling: General Principles and Minimal Requirements

Alex Blaszczynski · Peter Collins · Davis Fong · Robert Ladouceur ·  
Lia Nower · Howard J. Shaffer · Hermano Tavares · Jean-Luc Venisse

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**Abstract** Many international jurisdictions have introduced responsible gambling programs. These programs intend to minimize negative consequences of excessive gambling, but vary considerably in their aims, focus, and content. Many responsible gambling programs lack a conceptual framework and, in the absence of empirical data, their components are based only on general considerations and impressions. This paper outlines the consensus viewpoint of an international group of researchers suggesting fundamental responsible gambling principles, roles of key stakeholders, and minimal requirements that stakeholders can use to frame and inform responsible gambling programs across jurisdictions. Such a framework does not purport to offer value statements regarding the legal status of gambling or its expansion. Rather, it proposes gambling-related initiatives aimed

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 Springer

at government, industry, and individuals to promote responsible gambling and consumer protection. This paper argues that there is a set of basic principles and minimal requirements that should form the basis for every responsible gambling program.

**Keywords** Responsible gambling · Pathological gambling · Prevention

Emerging predominantly since the 1960s, significant shifts in social, economic and political perspectives have led to dramatic expansions in land-based and Internet gambling opportunities across North America, Europe, and Australasia. One potential negative aspect of this expansion is the adverse personal and social consequences of disordered gambling behaviours. Approximately 0.2–2.1% of adults within general populations meet criteria for pathological gambling (LaPlante et al. 2008), with higher rates of 2.5 and 4.0% in some jurisdictions such as China (Loo et al. 2008). Rates are significantly higher among special groups of individuals (Blaszczynski et al. 2001).

In response to community concerns centering on the negative social and personal repercussions associated with excessive gambling, regulators in many jurisdictions have required gambling operators to ensure that games of chance are safe and fair and that players have sufficient information available to make informed decisions. National Opinion Research Center (1999) and the Productivity Commission (1999, 2009) reports are seminal publications that highlight the need for collaborative enterprises directed toward promoting a culture of responsible gambling. Unfortunately, considerable variations currently exist in the degree to which regulators and operators act to implement specific initiatives with minimal consensus on the necessary components that constitute a systematic framework for facilitating informed choice (see Blaszczynski et al. 2008) and/or the relative responsibilities of government regulators, operators, and consumers.

The purpose of this paper is to describe the fundamental principles and minimal features necessary to sustain a safe environment for gamblers. It proposes a tripartite model that incorporates government, industry, and personal responsibilities in minimizing gambling-related harm. The authors adopt the premise that governments retain responsibility for enacting legislation that determines the nature and extent of gambling, positing requirements directed to maximizing consumer protection, and monitoring compliance with these requirements. For example, informed choice necessitates that service providers fully apprise consumers of all relevant and accurate information in a timely fashion to enable them to make educated gambling-related decisions.

In contrast, gambling providers bear the responsibility for ensuring that they do not make misleading claims, engage in exploitative practices, omit or disguise relevant information, develop products designed to foster excessive gambling, or target inappropriate subpopulations (e.g., adolescents, elderly, and other high risk population segments). Individuals bear the responsibility for understanding the nature and risks associated with the products they consume.

This paper takes no position about the legal or moral status of gambling. Similarly, we do not intend to provide prescriptive legislative and/or corporate guidelines by jurisdiction. Rather, this paper posits fundamental guidelines for consumer protection and shared responsibility, suggesting strategies for minimizing potential gambling-related harms while maintaining gambling as a recreational activity. The major contribution of this article is to describe the minimal components that we consider responsible gambling programs ought to contain. We divide this paper into four primary sections: (1) background and underlying

assumptions; (2) fundamental principles of responsible gambling; (3) roles of key stakeholders; and (4) minimal strategic requirements for responsible gambling programs.

### Background and Underlying Assumptions

The authors, a group of international gambling researchers from Australia, Canada, France, Macau, South Africa, South America and the United States of America met in Boston, Massachusetts during February 2009 to discuss responsible gambling principles and to develop a basic framework regarding which of these principles were essential to building responsible gambling programs. The current paper distills key issues derived from that discussion. We recognize that not all components of the proposed framework will be appropriate for all jurisdictions; instead, the components are dependant upon local regulations and cultural factors. However, the authors represent the varying perspectives of their respective continents where gambling is legalized and propose this framework as a first step toward achieving international consensus about minimum responsible gambling principles.

Four primary assumptions underlie this framework:

1. Cultural and socio-political processes and government policies determine the nature, extent, and structure of gambling within a jurisdiction.
2. Where gambling is legalized, governments and gambling operators should establish policies and practices that encourage consumers to gamble in a responsible manner, that is, within their affordable limits of money, time and other resources. This set of policies and practices constitutes a '*responsible gambling program*'; a generic term that incorporates concepts of '*consumer protection*', '*harm minimization*', and '*harm reduction*' that, although used as synonyms, contain differing nuances in meaning.
3. The final choice of whether to commence gambling, that is 'informed consumer choice,' remains with the individual. To avoid potential misinterpretations of this position, we emphasise that this principle does not abrogate the responsibility of regulators and gambling operators to protect consumers from product-related harms or suggest that gamblers can gamble or continue sessions of gambling without due regard for the consequences of their behaviour. Gambling providers have a responsibility to make sure gamblers are aware of risks on a continuing basis. We acknowledge that gambling is associated with multiple risks, and the ultimate choice to participate in gambling activities remains that of the individual. Once informed about the attributes of an activity, gamblers assume the burden of gambling responsibly; they must consider the individual and social consequences of their gambling choices and decisions to persist within and across sessions.
4. Currently, there is no body of scientific evidence demonstrating consensus about the effectiveness of responsible gambling measures to prevent the incidence or reduce the prevalence of gambling-related harms. However, our recommendations are guided by the scientific evidence available to date. We acknowledge that there is a need for more comprehensive, rigorous, internationally-integrated procedures for evaluating the effectiveness and cost-effectiveness of the various elements comprising responsible gambling programs. Nevertheless, as a starting point, it is necessary to articulate and debate what ought to represent fundamental principles and basic requirements of any responsible gambling program.

## Fundamental Principles of Responsible Gambling

Gambling is a risk-taking activity that involves an agreement between two or more parties where something of value is wagered on an event of uncertain outcome, and where chance determines the outcome of that event. For individual players, the frequency and intensity of gambling ranges on a continuum from none to considerable.

Various interests have divided the continuum of gambling into arbitrarily determined categories using inconsistent terminology. From the medical perspective, the American Psychiatric Association has dichotomized the continuum into pathological and non-pathological divisions (American Psychiatric Association (APA) 2004). Alternatively, clinicians use descriptors such as “problem,” “compulsive,” or “pathological,” to refer to gamblers of any age reporting lifetime and/or current clinical symptoms of impaired control, defined by spending more money on gambling than affordable, increasing amounts wagered, seeking bailouts to support their gambling, and other adverse signs associated with excessive gambling. Governments adopt a similar dichotomous view that is based upon a legally-defined age threshold, usually 18, 19 or 21 years. Communities often use terms such as “non-gamblers, social, recreational, regular, heavy, problem, excessive and compulsive” gamblers as labels to describe the spectrum of gambling involvement characteristic of community members.

Just as there is confusion about the definition of excessive gambling, there is considerable conceptual confusion surrounding the term ‘*responsible gambling*.’ Historically, the term originated from industry-based voluntary codes of conduct that emerged partly in response to government and community pressures. The gambling industry designed these early codes of conduct to set out “mission statements,” principles, and guidelines that gambling operators should follow to provide a “safe” gambling product or environment. These voluntary codes were supplemented by government-imposed legislation or directives designed to promote consumer protection (technical standards, minimum expected player percentage return rates, warning signage, and eliminating unacceptable business practices, excessive inducements, or exposure to unfair products), harm reduction (strategies aimed at restricting potential losses within sessions; setting maximum bets size, restricting note acceptors, and imposing breaks in play), and harm minimization (staff training in identifying and responding to patrons exhibiting high risk behaviours, educational campaigns, and player tracking systems). Whether industry- or government- derived, responsible gambling strategies attempt to impose a duty of care to protect the public from gambling-related adverse events by: (1) educating individuals about the nature of gambling as a recreational product containing associated risks, notably the potential to become excessively preoccupied with gambling and developing an inability to cease or control gambling despite negative consequences in domains of social, legal, employment and familial functioning; (2) encouraging players to wager within affordable limits; and (3) providing sufficient information about a game to allow players to exercise informed decisions regarding all aspects of their participation.

Although responsible gambling programs vary inconsistently across jurisdictions, the minimal essential components for these programs include the following:

- Initiating population-based education (e.g., media campaigns and school curriculum) about the nature of gambling and statistical odds of winning;
- Initiating staff training;
- Providing information on help-line numbers and brochures listing available rehabilitation/counseling treatment programs;

- Limiting direct marketing to underage populations, self-excluded gamblers, and those in receipt of social welfare payments;
- Displaying signs that warn about the possible adverse consequences associated with excessive gambling;
- Restricting underage gambling through enforcement procedures and employee training;
- Restricting the sale of alcohol to minors, to patrons while gambling, and to visibly intoxicated persons;
- Making available and accessible self-exclusion options to patrons;
- Establishing ethical practices for advertising and marketing materials that display responsible gambling messages (e.g., restricting advertisements that target minors or unduly expose minors to gambling activities);
- Modifying structural features and environmental variables that might contribute to excessive gambling (e.g., bill acceptors, free-spins, and reel 'hold' facilities on electronic gambling machines, and the availability of ATMs within gambling venues).

Despite these efforts, and in the absence of adequate industry reporting requirements, there is currently no scientific research documenting the extent to which venue operators have implemented these components. Similarly, there is little research demonstrating the efficacy and effectiveness of these program features in stimulating or maintaining responsibility among individuals who choose to gamble, or the impact of these programs on target audiences. Without research to identify the impact (i.e., number of people affected) and efficacy of responsible gambling programs, debate and confusion continues to abound as to the relative role and responsibilities that responsible gambling program stakeholders should accept.

### Roles of Key Stakeholders

A guiding principle is that all stakeholders should advocate for program components that demonstrate rigorous cost-benefit efficacy and effectiveness. That is, stakeholders need to weigh the economic, social, and other benefits of gambling-related programs against gambling-related costs accruing to individuals and communities. It is important to acknowledge the conflicts of interests and tensions that can exist among: (1) commercial, shareholder, and government interests; (2) the prevention and reduction of excessive gambling behaviours; and (3) the need to determine priorities that will enable acceptable compromises to be achieved. Governments and gambling providers must balance profitability/taxation revenue against the economic burden of mental health care, social and legal costs, and the personal distress of problem gamblers and their family members.

Cost-benefit analyses should evaluate the relative weight ratio of programs, that is, the relationship of effectiveness to impact. Responsible gambling programs with high effectiveness but low impact will have less influence than programs with a broader impact and moderate to even low effectiveness. If programs are effective for only a few members of the target audience, they will have little influence on public health compared to those programs that are less effective but are taken up by many individuals. Ultimately, the collaborative involvement of governments, industry, and individuals will determine effectiveness of responsible gambling programs.

Governments need to balance the promotion of responsible gambling principles against restricted civil liberties. In addition, both government and industry operators should actively work to support efforts that lead to the identification of effective program



interventions; once established government and industry should work to monitor compliance with these program elements, and administer evidence-based programs that evaluators monitor routinely to ensure optimal and continued effectiveness. We provide guidelines for these components in a later section.

Policy makers should base responsible gambling programs upon a sound conceptual framework, containing well operationalized variables and outcomes. These programs must have four fundamental components: (1) a set of specific objectives formulated in operational terms that will facilitate their evaluation (e.g., raising awareness about responsible gambling, improving knowledge and attitudes about problem gamblers, providing skills to identify and intervene with gamblers in need); (2) a target audience toward which the program is directed (e.g., general public, individual gamblers, specific at risk groups, gambling venue employees, gambling industry, government, etc.); (3) a set of interventions (e.g., deposit limits, education, information, self-exclusion); and (4) a clear methodology for scientific evaluation (i.e., a systematic and replicable set of empirical methods) that can determine the efficacy, cost-effectiveness, and impact of the program.

The strength of influence of each intervention likely will vary in its contribution to the overall program efficacy and impact.

## Prevention

Since the main goal of a responsible gambling program is to prevent gambling-related problems, programs should provide information that consumers use to make decisions. Key components aimed at prevention should address the following six areas:

- (1) *Company Policy*. Industry operators should: (a) adopt a written responsible gambling policy, signed by the CEO and all members of the Board and prominently displayed to staff and consumers; (b) include the policy in employee induction training and implement it in a manner that conveys commitment to providing entertainment in a responsible way that does not exploit human vulnerabilities; (c) specify protocols for encouraging problem gamblers to self-exclude and simultaneously seek treatment; (d) avoid all forms of predatory or misleading marketing; and (e) prevent minors from gambling. Provisions should be made for independent auditors to evaluate and report on compliance to maximize transparency of program implementation.
- (2) *Features of Games*. Jurisdictions should: (a) ban features that promote false beliefs (e.g., near-misses and stop buttons); (b) set size and frequency of pay-outs, including limits on note size for bill-acceptors; (c) publish average payout rates per machine; (d) introduce facilities for identifying total losses and winnings per sessions; (e) introduce loss-limiting facilities per session or other time period; and (f) provide information about the volatility of machines and the concept of losses disguised as wins (e.g., returns per trial that are less than the stake).
- (3) *Environmental features*. Venues should: (a) remove ATMs and other means that permit the players to withdraw cash impulsively or to obtain credit from the gambling floor.
- (4) *Informing Players*. Players should receive: (a) information about the dangers of excessive gambling and how to avoid them; (b) resources for help-seeking; (c) information about how games really work; and (d) education regarding common misconceptions that encourage false beliefs about the probabilities of winning.
- (5) *Location of the Venue*. Jurisdictions should evaluate the location, density and accessibility of gambling venues, particularly in low-income communities where

gamblers can least afford to lose, to determine whether proximity of gambling opportunities may promote impulsive play and increase the risk of problem gambling.

- (6) *Marketing gambling in the Community.* Jurisdictions should evaluate: (a) the use of loyalty cards for marketing and the relationship of those cards to problem gambling; (b) whether potential limits should be placed on advertising gambling services; and (c) what constitutes unacceptably predatory marketing of gambling products to both the general public and to targeted high rollers.

## Treatment

An effective program will provide information about treatment and self-help (e.g., Gamblers Anonymous) services within each jurisdiction and specify an efficient means of referring gamblers in need of assistance directly to mental health services with counselors trained in problem gambling treatment. Gambling venues also should consider establishing collaborative links with local gambling treatment services.

To make this linkage available, governments must ensure the development and adequately fund a network of treatment resources that should be available and accessible to gamblers and their families, independent of income and/or the presence or absence of private insurance. At the very least, these resources should include hotline services and individual and family therapy by counselors trained in problem gambling treatment. In addition, governments should require all gambling venues to adopt policies to educate employees about procedures for triaging gamblers to these services and offering information on the full range of services available in the jurisdiction.

## Minimal Strategic Requirements

The intention to be responsible is not sufficient to sustain a responsible gambling program. Any responsible gambling program should include a systematic and empirical evaluation to determine if it has met its stated objectives. This evaluation should indicate the overall impact of the program and, more specifically, the contribution of each intervention to the program effect, if the program comprises more than one intervention.

The following paragraphs will highlight five main components of the evaluation process.

- (1) *Dependent variables and measures.* According to its objectives, a responsible gambling program will aim to modify opinions, knowledge, attitudes and, ideally, behaviours related to excessive gambling. Before implementing or launching the program, it is important to determine how researchers will evaluate the potential or expected changes by operationalizing what variables they will use. The program should evaluate at least one of the following areas: knowledge, reported skills, and/or attitudes. It is, likewise, important to evaluate the behavioural changes fostered or harm reduced by the program. What is the observable impact of the program? Does it satisfy the ultimate program goal: that community members who gamble will do so within their affordable limits (e.g., leisure time and discretionary disposable income) and in the absence of harm?
- (2) *Sample size:* Researchers must assure a sample size that is large enough to accommodate proper statistical analyses to answer the evaluative questions under consideration.



- (3) *Research designs*: The use of well-constructed research designs will provide information concerning the validity, reliability, and efficacy of the program. The minimal requirement is to use a one-group, repeated measures design where measures are taken before and after the implementation of the program. Unfortunately, such a procedure is associated with many methodological flaws, mainly threats to external validity. The inclusion of another comparison (control) group would reduce the possibility that changes in outcomes are due to factors other than the responsible gambling program.
- (4) *Follow-up measures*: Researchers can evaluate the impact of the program on a short-term basis; however, the important issue is whether the gains will be maintained over time. To support a claim that the program produces durable benefits, the measures should be re-administered at a future time, typically 6 months after the completion of the program.
- (5) *Dissemination of program outcomes*: The description of the program and results of the outcome evaluation should be available to the community. In addition, findings should be published in peer-reviewed journals to underscore the scientific and scholarly quality and integrity of the work. However, if this work is to be influential in shaping practice, it also will be important to make the material available in an easily-accessible and user-friendly format for policymakers, regulators, industry executives, journalists, and interested professionals to further enhance the promotion of effective programs with significant positive impact.

## Conclusion

Current responsible gambling programs incorporate components that have not been evaluated adequately with respect to their efficacy or cost-effectiveness. This circumstance has resulted in various jurisdictions introducing programs that differ according to their content and emphasis, although all share the ultimate objective of consumer protection and reducing the incidence and prevalence of gambling-related problems. Contributing to this situation is the absence of a clear conceptual framework that can guide the development and implementation of responsible gambling initiatives. This paper advances the argument that governments, industry operators, and individuals hold a joint responsibility to work cooperatively to ensure that any harm consequent to excessive gambling is optimally minimized.

The authors have not prescribed which components should be included in each program. However, we suggest that all programs should contain initiatives that foster education and awareness, specify the target audience, maximize the potential for early identification and intervention for gambling-related problems, and incorporate evaluation through systematic research. Establishing a framework for responsible gambling represents an important step toward developing a common set of guidelines to assist governments and industry operators in implementing effective consumer protection initiatives. These initiatives should be aimed at minimizing negative consequences among community members who gamble to excess.

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## **A Science-Based Framework for Responsible Gambling: The Reno Model**

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As social observers increasingly identify gambling-related problems as a public health issue, key stakeholders need to join together to reduce both the incidence and prevalence of gambling-related harm in the community. This position paper describes a strategic framework that sets out principles to guide industry operators, health service and other welfare providers, interested community groups, consumers and governments and their related agencies in the adoption and implementation of responsible gambling and harm minimization initiatives.

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**KEY WORDS:** gambling-related harm; problem gambling; public health; responsible gambling; harm minimization.

### **INTRODUCTION**

During the latter part of the 20th century, legalized gambling expanded rapidly throughout the world. An increasing number of researchers, policy makers, social scientists, interested community

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members and consumers have begun to seek a better understanding of gambling and gambling-related problems. As these social observers increasingly identify gambling-related problems as a public health concern, a need has emerged for key stakeholders to join together to address this issue. This coalition is necessary to establish and implement a strategic framework that will reduce or eliminate the potential harms that can be associated with gambling while simultaneously maximizing the potential benefits of gambling.

This article is a position paper that presents certain principles and outlines a strategic framework, or blueprint for action, to advance and coordinate efforts to limit gambling-related problems. This paper is not intended to represent a critical and detailed review of the gambling literature. Instead, as the seminal 1949 Boulder conference on graduate education in clinical psychology established the "Boulder Model" as a guide for training clinical psychologists (i.e., as Scientist Practitioners; Raimy, 1950), we hope that this paper will provide a strategic framework to help (1) shape the direction for developing responsible gambling initiatives and (2) stimulate a rich and enduring dialogue about responsible gambling concepts and related initiatives. This framework emerged from a meeting that was held in Reno to consider the issue of responsible gambling: hence, the Reno model.

## **TOWARD A STRATEGIC PLAN FOR RESPONSIBLE GAMBLING**

### *The Need to Adopt a Strategic Framework*

A strategic framework should guide key stakeholders to develop socially responsible policies that are founded on sound empirical evidence rather than those that emerge solely in response to anecdotally-based socio-political influences. Such a framework for action can promote public health and welfare through a range of prevention efforts that differentially target vulnerable community members and sectors; simultaneously, this framework also allows the gambling industry to deliver its recreational product in commercial markets that permit such activity. Within these markets, socially responsible regulatory efforts that oversee gambling activities must demonstrate a likelihood of effectiveness for targeted groups and an awareness of the potential for regulations to cause unintended negative effects

among those targeted and for the broader population of harm-free responsible recreational gamblers. Since these circumstances do not currently exist, there is considerable need for a strategic framework that can guide these initiatives.

#### *Key Stakeholders*

The primary stakeholders in the field of gambling are consumers, gambling industry operators, health service and other welfare providers, interested community groups (i.e., including those in favor and opposed to legalized gambling), as well as governments and their related agencies that have the responsibility to protect the public (with emphasis on its most vulnerable segments). However, these groups often pursue differing and often competing interests; they define the concept of responsible gambling from various perspectives. In a competitive market environment, industry operators provide a range of recreational products and opportunities to community members, applying economic and commercial business principles. The health and welfare sectors and other interested community groups are concerned with the negative social and personal consequences associated with excessive gambling. Consumers of gambling products have an interest in being able to participate in, and gain enjoyment from, a recreational activity.

Counselling service providers represent a range of welfare organisations and interested community groups; these providers consider the degree of availability, accessibility and acceptability of gambling as an aspect of the structural characteristics of the environment and games within the community as one primary causative factor for the development of gambling-related harm. In response, some of these groups have adopted an anti-gambling perspective, lobbying for government agencies to substantially if not totally reduce the level of available gambling in the community.

Governments have the final responsibility for maintaining a legislative and regulatory function over the conduct of gambling and the protection of vulnerable population segments from harm and exploitation; simultaneously, governments gain substantial financial benefits from gambling activities. Governments have a vested interest in the tax revenue benefits derived from gambling; yet, governments also have an opposing need to respond to community concerns over

the potential harm associated with some aspects of gambling. Reflecting their responsibility and interest, a number of government-related international reviews (e.g., National Research Council, 1999; Productivity Commission, 1999) have comprehensively reviewed the social and economic impact of gambling.

#### *The Primary Issue: Gambling-related Harms*

The perception that gambling can cause harm to gamblers and adversely impact society has led to the convergence of strong socio-political forces designed to reverse, restrict or moderate gambling activity in the community. By applying community pressure to regulatory authorities, some interested parties across international jurisdictions have successfully lobbied government regulators to remove or restrict current gambling opportunities. Presently, there is no evidence to demonstrate whether these initiatives have had any impact; for example, these efforts could variably lead to the increase, reduction or elimination of gambling-related harm. Currently, however, the impact of these efforts is unknown.

From an industry perspective, the primary long-term objective of a responsible gambling framework is to prevent and reduce harm associated with gambling in general and excessive gambling behaviours in particular. In the present context, governments have responded variably to issues of public concern. Importantly, regulatory responses often have been applied in the absence of any evidence that demonstrates or supports the likelihood of effectiveness on targeted groups, an awareness of the potential to cause unintended negative effects, or whether spill-over effects will unnecessarily or detrimentally affect the broader population of harm-free responsible recreational gamblers.

### **CURRENT DIFFICULTIES IN UNIFYING EFFORTS TO PROMOTE RESPONSIBLE GAMBLING**

There are two essential barriers preventing the implementation and evaluation of responsible gambling strategies: conceptual clarity and absence of consensus.

*Lack of Conceptual Clarity in Defining Gambling-Related Harm*

The effectiveness of reducing the incidence of gambling-related harms through responsible gambling strategies rests upon the ability of scientists to accurately measure a “case” of gambling-related harm (e.g., mental disorder; repetitive movement disorder, etc.). The vast array of terminology, definitions and criteria used to identify gamblers with gambling-related harms (e.g., problem, compulsive, disordered, neurotic, excessive and pathological gamblers) contributes to confusion and uncertainty regarding the construct under study.

Clinicians, researchers, public policy makers, gambling industry workers and the public have different perspectives on the construct of pathological and problem. Pathological gambling is the technical term currently used by the American Psychiatric Association to identify a gambling disorder. Problem gambling is a lay term that refers to a broader category of individuals exhibiting patterns of excessive gambling behavior that is associated with harmful effects. There currently is no formal diagnostic classification for problem gamblers. Problem gamblers may or may not suffer impaired control. Conceptually, all pathological gamblers are problem gamblers, but not all problem gamblers are pathological gamblers.

Virtually all psychometric and prevalence instruments fail to distinguish between these groups, instead combining both into one, defined simply by the presence of harm or negative consequences. Therefore, it is difficult to obtain a clear estimate of the qualitative level of severity, harm or numbers of individuals that might require assistance simply by evaluating their gambling behaviours. In other words, simply evaluating gambling-related behaviours fails to reveal the clinical significance of events associated with gambling.

Consequently, it is imperative that scientists develop psychometric instruments for specific purposes. For example, scientists need to develop brief screens to identify gamblers that experience clinically significant consequences. This will permit more accurate referral, clinical evaluation and treatment matching. In addition, these instruments will provide more precise epidemiological tools to assess the rate of gambling-related harms within and across community samples with such information about the severity of harms necessary to establish accurate estimates of the economic costs and benefits of gambling. These tools will improve case identification of gamblers who



require treatment, thereby improving the allocation of limited health care resources.

The gambling industry, researchers and other stakeholders must agree on the definition and defining features of gambling-related harms and those who suffer with these conditions. This conceptual advance is necessary to communicate clearly with public policy makers and others about the nature of these problems.

#### *Lack of Consensus Regarding the Parameters of Responsible Gambling*

Currently, various industry, government and welfare organizations are implementing different strategies to protect the public, industry and other vested interests. There seems to be no common framework that is guiding these efforts. To illustrate, there are six primary areas where that absence of consensus limits the development of responsible gambling initiatives. First, there is no clear operational definition or consensus as to what '*Responsible gaming practices*' or '*responsible code of conduct*' actually means; therefore, it is difficult to develop an empirical base for research related to these constructs. As a result, most public policy recommendations are not based on empirical data but derive instead from anecdotes, common sense and personal belief. Second, the boundaries of responsibility for gambling-related harms among government, industry and consumers, remains blurred. Third, segments of the gambling industry harbor concerns that research might reveal information that is not in its best commercial interests. Some industry members are concerned that they might be required to respond to information obtained from empirical research to avoid the possibility of litigation, or to introduce measures that could lead to restricted business practices. Research should be used as a tool to guide policy decision-making regardless whether it is advantageous to the industry. Only by confronting the reality of empirical data can the gambling industry develop and sustain long-term responsible gaming practices that assure harm minimization. Fourth, it is not yet clear which community groups should be targeted for responsible gambling programs. Some groups are at increased risk and require specific preventative measures. Resources are wasted when programs target recreational gamblers and the intervention fails to achieve its goal of preventing or minimizing harm. There is no process in place to monitor effects



of imposed regulatory changes. This prevents public policy makers from knowing (a) whether intended goals are met and (b) how to refine and improve the effectiveness of extant public policy. Fifth, there is a lack of clarity regarding the limits of staff training and how to effectively approach and intervene with gamblers identified by an industry-based responsible gambling program. Finally, sixth, there is minimal data describing the characteristics and natural history of gamblers who develop or avoid gambling-related harm. Consequently, it is difficult to determine with precision what evidence should be used to develop and direct prevention, early intervention or treatment programs.

An effective responsible gambling initiative must recognize and overcome these primary barriers by adopting reasonable policies and procedures. The following sections of this paper examine key areas that form the foundation of a strategic framework for responsible gambling.

### **PURSUING RESPONSIBLE GAMBLING PRACTICES**

To achieve a responsible policy toward identified gambling-related harm, key stakeholders should clarify their respective roles and promote strong collaborative links between industry, scientists, governments, health and welfare providers and interested community and consumer groups. In its pursuit of responsible gambling practices, we urge the key stakeholders to collaborate and endorse the following five principles.

1. The key stakeholders will commit to reducing the incidence and ultimately the prevalence of gambling-related harms.
2. Working collaboratively, the key stakeholders will inform and evaluate public policy aimed at reducing the incidence of gambling-related harms.
3. Key stakeholders will collaboratively identify short and long-term priorities thereby establishing an action plan to address these priorities within a recognized time frame.
4. Key stakeholders will use scientific research to guide the development of public policies. In addition, the gambling industry will use this scientific research as a guide to the development of

industry-based strategic policies that will reduce the incidence and prevalence of gambling-related harms.

5. Once established, the action plan to reduce the incidence and prevalence of gambling-related harms will be monitored and evaluated using scientific methods.

### *Defining Responsible Gambling*

Responsible gambling refers to policies and practices designed to prevent and reduce potential harms associated with gambling; these policies and practices often incorporate a diverse range of interventions designed to promote consumer protection, community/consumer awareness and education, and access to efficacious treatment. It is important to clarify and separate the principles of responsible gambling from those approaches to harm minimisation and rehabilitation that are directed toward assisting gamblers that already have problems. The treatment of gamblers who already have developed gambling-related harm remains the domain of specialists working in public health programs, including counseling and other health services. The allocation of resources to meet these treatment demands should come from various funding agencies.

From the perspective of the gambling industry, the primary objective of a coordinated responsible gambling strategy is to reduce the incidence of gambling-related harms at the individual, group, community and societal level. Incidence refers to the number of new cases of a disorder or condition (i.e., harm) that occur over a defined period of time. Responsible gambling is about reducing the rate of the development of new cases of harm or disorder that is gambling-related.

In contrast, prevalence refers to the actual number of existing cases of a disorder or condition that is observed at a specific time (i.e., point-prevalence) or over a specified period (i.e., period prevalence, for example, during the previous twelve-months or lifetime). Prevalence rates typically are used to determine the current extent of phenomena that are of public health concern since these estimates provide guidance about the allocation of health service resources that are likely required to respond to the condition of interest.

Once a responsible gambling strategy is in place, it will become possible to empirically test (1) the assumption that a coordinated

responsible gambling strategic plan will be effective in reducing the incidence of gambling-related harm and, consequently, (2) that this reduction in incidence leads to decreases in the point and period prevalence rates associated with gambling-related harms.

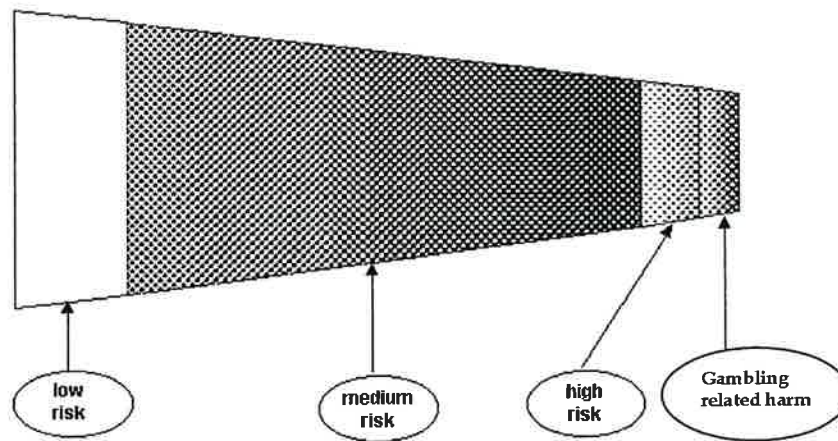
#### *Inherent Assumptions Underlying Responsible Gambling Strategies*

To determine the efficacy of a responsible gambling strategy, measurable objectives must be identified and defined. There are a number of basic assumptions contained within the five principles described earlier. The six most fundamental assumptions are that: (1) safe levels of gambling participation are possible; (2) gambling provides a level of recreational, social and economic benefits to individuals and the community; (3) a proportion of participants, family members and others can suffer significant harm as a consequence of excessive gambling; (4) the total social benefits of gambling must exceed the total social costs; (5) abstinence is a viable and important, but not necessarily essential, goal for individuals with gambling-related harm; and (6) for some gamblers who have developed gambling-related harm, controlled participation and a return to safe levels of play represents an achievable goal.

### **WHO SHOULD RESPONSIBLE GAMBLING PROGRAMS TARGET?**

The majority of the adult population gambles responsibly. Only a small minority of the population develops gambling-related harm. Therefore, a responsible gambling strategy locates the entire population along a continuum of gambling involvement; this continuum permits the identification of members likely to be at various levels of risk. As Figure 1 illustrates, a responsible gambling program should consider four risk categories. Those who do not gamble are classified in the zero to low risk category for developing gambling-related harm. Although people in this category rarely develop gambling-related harm, except indirectly, responsible gambling strategies should enhance personal control and limit transitions to higher levels of risk (i.e., medium risk to high risk cells). Players at medium to high risk typically are regular gamblers and at times

**Figure 1**  
**Levels of Risk Exposure & Gambling-Related Harm.**



gamble more than intended; however, their overall gambling pattern remains within the no harm spectrum. Players at the right hand end of the high risk boundary are at greater risk of developing gambling-related harm. Finally, in the gambling-related harm cell are the minority of players who have developed more serious problems with gambling, that is, apparent loss of control over time and money spent gambling. These players represent the largest segment of treatment seekers, but it has been shown that some stop or reduce gambling voluntarily (i.e., through natural recovery processes). Others enlist the assistance of self-help groups to solve their problems.

Responsible gambling strategies should primarily target gamblers in the high risk cell, with the aim of preventing migration to the gambling-related harm cell. A responsible gambling program supports prevention measures that help protect people from increased risks; these risks can stimulate progression toward gambling-related harm and other adversities that sometimes are associated with gambling. A responsible gambling program recognizes that many people with gambling disorders require professional care. These programs also recognize that professional care for gambling-related harm begins with a comprehensive evaluation; therefore, responsible gambling programs include the capacity to inform gam-

blers in need of assistance about the availability of treatment service providers.

From a responsible gambling perspective, there is a need to conduct research into the separate factors associated with gambling subtypes. Various attributes of gambling subtypes might provide important information about different kinds of excessive gambling and gamblers, providing information that will permit the development of measures that are maximally effective for preventing or treating each subtype. In addition, this research can help to define the boundaries of industry responsibility.

Responsible gambling measures should differentially protect at-risk groups from developing gambling-related harm. If it is demonstrated that the widespread distribution of gambling into the community and its consequent ease of accessibility and availability contributes to the development of gambling-related harm, the industry should respond by developing guidelines that will reduce overall risk to community members. It is critical that monitoring procedures are established to evaluate the impact of key responsible gambling initiatives. This will ensure the protection of at-risk individuals while minimizing any unnecessary interference caused to healthy gamblers.

#### **INDIVIDUAL VS. INDUSTRY RESPONSIBILITY: CHOICE AND INFORMED CHOICE**

Any responsible gambling program rests upon two fundamental principles: (1) the ultimate decision to gamble resides with the individual and represents a choice, and (2) to properly make this decision, individuals must have the opportunity to be informed. Within the context of civil liberties, external organizations cannot remove an individual's right to make decisions. This personal freedom balances against an institution's "duty of care" as alluded to, for example, in the Australian Productivity Commission's (1999) report which suggests that government "specify in statute a duty of care by gambling providers that they take all reasonable and practical steps to protect their customers from gambling problems" (pp. 16–45). The extent and nature of this responsibility is complex and uncertain since the limits and extent of duty of care held by the gambling industry to its patrons are yet to be clearly determined and articulated in law (Brading, 2001). Never-

theless, a responsible gambling program must recognize and accept the fundamental principle that industry must not knowingly exploit or take advantage of any player, in particular, vulnerable individuals manifesting characteristics associated with gambling-related problems.

In addition to viewing gambling as a choice, responsible gambling also rests upon the principle of informed choice. This concept is a fundamental principle of human rights policies. Participation—or the choice not to participate—in gambling is determined by a sequence of decisions made by an individual with access to relevant information; this information provides the foundation upon which people form opinions and make choices. Informed choice assures that individuals will retain the ability to decide whether and how they intend to gamble by providing them with information that is accurate and not misleading. Informed choice should be based on providing relevant, empirically-based information to help the players to make their decision.

Unjustified intrusion is likely not the way to promote responsible gambling. For example, player reactions to time limits forced on their gaming session might increase their problem behaviors. Responsible gambling is best achieved at the direction of the player by using all of the information available. The guiding principle of responsible gambling practices is that people have freedom of choice regarding their decision to gamble. To guarantee informed choice, the gambling industry should adopt a policy of accurate disclosure. That is, they should provide the necessary information regarding probabilities and likelihood of winning and payout schedules. In addition, advertising and promotional activities should meet industry standards of ethical practice and comply with advertising regulations by not presenting misleading information or misrepresentations of the chance of winning.

Providing information about probabilities and payouts might not be sufficient. Evidence from the research on the effectiveness of primary prevention in the field of substance use indicates that increasing knowledge and awareness is insufficient to change behavior unless values, attitudes and belief structures influencing behavior also are modified.

The gambling industry does not have the expertise or responsibility to diagnose or clinically treat individuals with gambling-related harms. Consequently, the industry should be guided by the principle

that it is their obligation to establish and support links with qualified clinical support services vested with the responsibility of providing clinical services. To guarantee informed choice among gambling participants, the gambling industry needs to provide the minimum core information that is required for decision-making.

### **HARM MINIMIZATION: STRATEGIES FOR PREVENTING AND LIMITING GAMBLING-RELATED HARM**

Harm minimization initiatives across international jurisdictions can be classified into one of three basic types: primary, secondary and tertiary prevention programs. Each has its own set of objectives and performance outcome indicators. A global responsible gambling initiative should establish a research infrastructure and strategic plan. The plan needs to include short-term, intermediate and long-term objectives, as well as a strategy to systematically evaluate and monitor these efforts and the target objectives longitudinally. Coordinated efforts involving all key stakeholders must establish and assure a systematic approach to gambling research, utilizing a common set of standardised definitions and outcome measures, thus enabling valid cross-jurisdictional comparisons and allowing data sharing. The primary benefit will be the compilation of valid and reliable standardized datasets and the reduction of unnecessary and costly duplications of projects.

### **COLLABORATION IS POSSIBLE**

There are three seminal examples of coordinated collaborative studies involving key stakeholders. These examples are presented here to illustrate briefly the feasibility of the present strategic plan and its potential to obtain empirical data that have had a direct influence on public policy, science, and decision-making within the gambling industry. These examples are not intended to limit the scope of future collaborative projects.

*The Gaming Industry Operators Funded Study into Proposed Changes to the Configuration of Electronic Gaming Machines (Blaszczynski, Sharpe, & Walker, 2001).*



In 2001, the Gaming Industry Operators, venue operators and the University of Sydney Gambling Research Unit with the full support of the government regulatory body, the Liquor Administration Board, collaborated to evaluate the effectiveness of proposed harm minimisation initiatives introduced under the New South Wales Government's responsible gambling legislation. This legislation sought changes to the design of gaming machines: the reduction in reel spin speed, restriction of the use of note acceptors to denominations of \$20 or less, and reduction in maximum bet sizes \$1 and \$10. The changes contained substantive cost-revenue implications for industry, and potential negative impacts on consumer satisfaction among recreational gamblers.

Empirical data suggested that the proposed data did not represent effective harm minimization strategies and were consequently set aside by the policy decision makers.

*The Quebec VLT Retailers Training Program (Ladouceur et al., in press).*

"As Luck Would Have It" is the name of an awareness program completed by retailers in Quebec Province. This program, which is presented as a two-hour awareness promotion workshop, aimed to inform retailers about excessive gambling. More specifically, it provided answers to the following questions: (1) What is chance and randomness? (2) Is there a link between misunderstanding the concept of chance and excessive gambling? (3) How does one recognize the symptoms of this illness? (4) How should the retailer intervene if he or she decides to do so? Results showed that retailers developed a better understanding of problem gambling, could recognize its main symptoms, and felt more capable of effectively intervening among excessive gamblers and choosing the most appropriate moment to do so. In the follow-up phase, retailers who had attended the workshop reported that they approached a problem gambler significantly more often than the retailers who had not attended the workshop, and had discussed how to help problem gamblers significantly more often.

*Health Risks Among Casino Employees Project (Shaffer, Eber, Hall, & Vander Bilt, 2000; Shaffer & Hall, 2002; Shaffer, Vander Bilt, & Hall, 1999).*

Research with employees of the gambling industry holds considerable potential to advance science and improve the health of the



public. For example, casino employees represent a unique and conceptually important segment of the population. They experience full access and exposure to gambling. If gambling is the cause of adverse health and disordered gambling, then occupational experience is central to determining its impact. Casino employees have higher levels of gambling, smoking, drinking and mood disorder compared to the general population. In addition, gambling industry-based research has shown that gambling and alcohol problems, like the abuse of tobacco, opiates, and cocaine, are more dynamic than the conventional wisdom suggests. The first multiyear prospective study of casino employees revealed that people troubled with gambling, drinking or both shifted these behaviour patterns regularly; in addition, these changes tended toward reduced levels of disorder rather than the increasingly serious problems often suggested by a traditional view of “addictive” behavior patterns. Prospective research designs are necessary to determine the extent of natural recovery and the determinants that influence the transition from problem to non-problem gambling or abstinence—as well as the transitions associated with many other health problems.

#### **SUMMARY: TOWARD A GLOBAL STRATEGIC PLAN**

There is a need to establish a global body representing the interests of all key elements (e.g., casino, racing, lottery, etc.) and stakeholders (e.g., community, industry, science, public policy, regulations, government, etc.) associated with the gambling industry. To advance world-wide understanding of gambling and gambling-related harms, this body must establish and agree upon definitions, terminology and standardized measurement instruments for use by all interested parties to ensure consistency and comparability across jurisdictions. The primary objective for this global body is to coordinate a program of research that includes industry, science, and public representatives based on a cooperative research strategy that will permit data sharing. This approach will minimize the potential for unnecessary duplication of evaluative projects. The immediate areas of research—presented below without hierarchical order of importance—need to include, but are not limited to, the following areas:

- Encouraging theory and model driven research.
- Developing agreed upon nomenclatures and accurate psychometric measures that can detect gamblers that experience clinically significant consequences (e.g., financial, emotional, health, legal, etc.) and distinguish them from others gamblers, especially from gamblers with transient problems that have little or no clinical significance.
- Establishing clear guidelines as to the roles and responsibilities of the industry and the individuals who choose to gamble.
- Establishing and implementing parameters for staff training and evaluate the impact of such training on reducing the incidence of gambling-related harms.
- Developing and implementing an infrastructure to systematically monitor the effectiveness of harm minimization regulation on the incidence of gambling-related harms.
- Reviewing and setting standards for advertising, signage, inducements to gamble, and monitoring compliance with ethical standards of practice and regulatory commercial requirements.
- Assisting in the development, implementation and evaluation of long-term education and early prevention programs.
- Developing accurate measures to estimate gambling-related costs and severity of harm to guide cost-effective public policy decisions regarding the allocation of health service needs.
- Evaluating the full range of the health-related impacts on gamblers and their families.
- Developing a structure for consultation and linkage with service providers.

Assisting in developing resources such as player information brochures that can advance the objectives of primary, secondary and tertiary prevention efforts.

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## Gaming Industry Employees' Responses to Responsible Gambling Training: A Public Health Imperative

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**Abstract** Gaming industry employees work in settings that create personal health risks. They also have direct contact with customers who might engage in multiple risky activities (e.g., drinking, smoking, and gambling) and might need to facilitate help-seeking by patrons or co-workers who experience problems. Consequently, the empirical examination of the processes and procedures designed to prepare employees for such complex situations is a public health imperative. In the current study we describe an evaluation of the Casino, Inc. *Play Responsibly* responsible gaming program. We surveyed 217 employees prior to and 1 month after ( $n = 116$ ) they completed a multimedia driven responsible gambling training program. We observed that employees improved their knowledge of responsible gambling concepts from baseline to follow-up. The *Play Responsibly* program was more successful in providing new knowledge than it was in correcting mistaken beliefs that existed prior to training. We conclude, generally, that *Play Responsibly* is associated with increases in employees' responsible gambling knowledge.

**Keywords** Gambling · Gaming · Evaluation · Employees · Public health · Follow-up

### Introduction

As legalized gambling continues to expand within the United States (U.S.) and across other parts of the world, employment in the gambling services industry is expected to grow at a faster rate than other occupations (e.g., Statistics Canada 1998; United States Department of Labor 2009). Empirical evaluation of this growing labor force is important because of its size and because gaming employees often have direct contact with patrons who engage in potentially risky activities (e.g., drinking beverage alcohol and gambling). Further, gaming employees might need to facilitate help-seeking by patrons who experience gambling-

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related problems during their visit to a gambling venue or suffer from pre-existing gambling-related problems. Additionally, gaming industry employees are at-risk for gambling-related problems (Shaffer and Hall 2002; Shaffer et al. 1999b). Consequently, these patron-employee interactions have important public health implications.

To prepare employees for complex situations related to excessive behaviors (e.g., gambling or drinking), many gaming operators provide employees with responsible gambling training programs. In fact, many jurisdictions around the world mandate the completion of responsible gambling training (American Gaming Association 2008). Scientific experts continue to explore the definition of responsible gambling (Blaszczynski et al. in press; Blaszczynski et al. 2004). The American Gaming Association (2008) suggests that the goal of mandated employee responsible gambling training is to reduce potential harm to patrons. Consistently, required training topics include behavioral signs of problem or pathological gambling, procedures for assisting patrons who have been identified as problem or pathological gamblers, and responsible gambling policies (e.g., self-exclusion, prohibition of underage patrons, prohibition of visibly intoxicated individuals) (American Gaming Association 2008).

To our knowledge, there have been only two published scientific evaluations of the effectiveness of responsible gambling programs in reducing harm to patrons; both of these studies were based in Canada. *As Luck Would Have It* is an excessive gambling awareness program for video lottery retailers in Quebec (Ladouceur et al. 2004). Research suggests that this program is effective in improving retailers' understanding of problem gambling and its symptoms, and in increasing the tendency for retailers to approach people they identify as problem gamblers (Ladouceur et al. 2004). A second program, *People Making a Difference*, educates Quebec casino employees about problem gambling and how to help gamblers in crisis (Giroux et al. 2008). This program also produces important benefits. For example, employees who complete it have a better understanding of the importance of identifying gamblers in crisis (Giroux et al. 2008). However, a long-term follow-up of the program's effectiveness produced mixed results. In a small follow-up sample (i.e., 32% retention rate), employees retained knowledge about chance and randomness, but not knowledge about problem gambling and how to help gamblers in crisis (Giroux et al. 2008).

These evaluations show that these two responsible gambling training programs can have beneficial effects. However, there remain a number of untested responsible gambling programs currently in use. In addition, research involving gaming industry employees is extremely limited: as this paper goes to press, there are fewer than 20 peer-reviewed papers devoted to this group. Consequently, we know little about the impact of training programs on employees' responsible gambling knowledge, attitudes, and behavior. The dearth of employee-related research is unfortunate given that gaming employees might be called upon to identify people with gambling-related problems in real-time and make help-seeking referrals for these cases. Some key stakeholders argue that gaming employees *should* actively become engaged in such difficult clinical-like tasks (Kassekert 2009; Lanni 2009). Because of employees' potential involvement in these tasks, it is a public health imperative to better understand gaming employees' responsible gambling knowledge and opinions and the influence of training programs on both.

Therefore, it is important to assess the extent to which responsible gambling programs are successful in meeting two fundamental goals: teaching employees new information, and correcting employees' incorrect gambling-related assumptions. Behavioral research suggests that individuals have a propensity for maintaining erroneous beliefs, even in the face of evidence to the contrary (Ross et al. 1975). This phenomenon, called the "perseverance effect," might limit the effectiveness of responsible gambling training programs.

Specifically, training programs might more easily teach new information than correct misinformation. For many people, their understanding of gambling includes a number of conventional wisdoms (Gonzalez and Wu 1999; Joukhador et al. 2004; Ladouceur et al. 1996; Toneatto 1999), not all of which are accurate; consequently, understanding how well training programs change employees' pre-training beliefs is important. Until now, investigators have not studied the perseverance effect within responsible gaming programs.

Recognizing the need for additional research about gaming industry employees and responsible gambling programs, this study reflects a comprehensive research project prospectively examining a responsible gambling training program (i.e., *Play Responsibly*) used in two U.S. sites associated with an international gambling and destination resort company (Casino, Inc). We had two primary goals for this research: (1) describe new casino employees' gambling-related opinions and knowledge before they completed a responsible gambling training; and, (2) describe the extent to which responsible gambling training improved understanding of gambling-related concepts and gambling opinions among this sample, by teaching information and correcting misinformation. Our expectation was that the responsible gambling training would yield general improvements in employees' knowledge bases, but, as the perseverance effect suggests, training would more successfully teach new information than correct false beliefs.

## Methods

### Participant Employees

We surveyed 217 of 219 (99.0%) consecutive new employees hired by two Casino, Inc. properties before the employees completed a multimedia responsible gambling training program<sup>1</sup> and no sooner than 1 month after they completed the program. Employees were 67% female and had an average age of 36.5 years ( $SD = 11.8$ ). Employees received no compensation for completing the baseline (e.g., pre-training) survey. They were compensated with a \$25 gift card after they completed the follow-up (i.e., post-training) survey.

### Procedure

Data collection took place at new employee orientations during the fall of 2008. Using a prepared script, research staff explained the purpose of the study to potential participants. After clarifying any questions, research staff distributed informed consent forms and surveys. The informed consent made it clear that participation in the survey was voluntary. We used numeric identifiers to protect employees' confidentiality. Employees of Casino, Inc. had no access to employee data, including identifying information. A member of the research staff who was fluent in Spanish was available to assist with translation when

<sup>1</sup> One new employee failed to complete the baseline survey. We excluded another employee who had already participated in onsite training during a previous period of employment with Casino, Inc. We observed no meaningful differences between the follow-up participants and those who only completed the baseline survey. Specifically, two of the comparisons met the critical alpha value (i.e., compared with non-completers, completers had higher baseline scores for the *What is addiction* score and the *Gaming regulation* score). Further analysis determined that the source of these two differences is people who tended to have a large number of missing observations in their baseline survey. When we eliminated those individuals from the comparative analyses, none of the responder comparisons reach the criteria for statistical significance.

necessary. The Cambridge Health Alliance and University of Nevada, Las Vegas Institutional Review Boards (IRB) approved the study protocol.

No sooner than 1 month following the orientation, we attempted to survey all employees who gave their consent at the baseline survey to participate in the follow-up ( $n = 209$ ; 96.3% of those who completed the baseline survey). We sent a maximum of 4 mailings to employees who agreed to follow-up. One hundred sixteen employees (55.5% of those who completed baseline and agreed to be followed) completed and returned the follow-up questionnaire. We did not follow 7 employees (3.3%) with insufficient addresses, 21 employees (10.0%) who were terminated between baseline and follow-up, and 65 employees (31.1%) who never returned a follow-up survey.

### Training Program

After their participation in the baseline survey, employees took part in *Play Responsibly*, a multimedia driven responsible gambling training program for all Casino, Inc.'s employees. The objectives of *Play Responsibly* are to educate all employees about the concepts of responsible and disordered gambling and, consequently, promote responsible gambling within each of Casino, Inc.'s resort hotel casinos. All new hires to the Casino, Inc. are required to complete *Play Responsibly*, even if they do not work directly with casino patrons, and even if they have worked in the gambling industry prior to working for Casino, Inc.

### Materials

We based the surveys, in part, upon the material presented during the *Play Responsibly* training program. The surveys included three major sections: employee characteristics, gambling-related opinions, and gambling-related knowledge.

#### *Employee Characteristics*

The survey included four demographic items: gender, country of origin, language spoken at home, and age. Four items addressed employees' employment at Casino, Inc.: job title, job category (casino services, food and beverage, hotel operations, or "other"), time worked in the casino industry (in years), and date of initial employment at Casino, Inc. The next items focused on the frequency of gambling and drinking. For each of the frequency items, we used a six-point scale ranging from *Never* to *Daily*. We asked if the employees ever had a gambling problem (with response options "yes," "no," "maybe," and "I don't know") and whether they ever had gambled while employed by Casino, Inc. ("Yes" or "No"). Finally, we asked employees to describe their tobacco smoking status, with response options "I am a frequent smoker," "I am an occasional smoker," "I am an ex-smoker," "I have tried smoking once or twice," and "I have never smoked."

#### *Gambling-Related Opinions*

The survey asked the employees for their opinion within five areas. Three areas required a 'yes', 'no' or "I don't know" response to the questions prefaced by "In your opinion:" (1) can a gambling machine be "lucky"?, (2) can you do things that will make you luckier?,



and (3) can people become addicted to gambling? We asked employees to indicate whether each of nine activities, in their opinion, was gambling and which of six situations were indicative of a gambling problem. Table 6 in Appendix 1 displays the scoring guide for all opinion items.

To reduce the number of response items for further analysis, we conducted Principal Components Analysis; to maximize the independence among the obtained factors, we conducted a Varimax rotation. We considered items to load on a factor if the item loading was greater than 0.5 because this association explained at least 0.25 of the variance between the factor and the item. The rotated solution yielded four factors with Eigenvalues greater than 1.0; these four factors explained 75.76% of the total variation. Table 1 presents the factor loadings. Factor 1, *Identifying games of chance as gambling activities*, accounted for 53.79% of the total variance. It measured employees' awareness that all nine activities (e.g., buying lottery tickets, playing poker) are games of chance and, in fact, forms of gambling. Factor 2, *Recognizing that emotional and financial harm are signs of problem gambling*, accounted for 8.41% of the variance and included four emotional and financial harm items as signs of problem gambling. Factor 3, *Rejecting notions of luck*, accounted for 7.44% of the variance and included two items regarding luck. The fourth factor, *Recognizing that not all gambling is problem gambling*, accounted for 6.15% of the variance and included two items: "In your opinion, is gambling a problem when someone loses money gambling?" and "In your opinion, is gambling a problem when any gambling is involved?" One item, about whether people can become addicted to gambling, did not load sufficiently high on any factor; we examined this item separately. For each of the four factors, we summed the individual items to create composites. As Table 2 shows, the gambling-related opinion composite variables were inter-correlated; the mean correlation was 0.41 ( $SD = 0.16$ ). We also created a "total opinion score" for each participant by summing the scores of all 18 items. Higher scores indicated more knowledgeable opinions.

### *Gambling-Related Knowledge*

The gambling-related knowledge items pertained to four content areas included in the *Play Responsibly* program: *Science and best business practices*, *Defining addiction*, *Gambling and public health*, and *Gambling regulations*. Each sub-section included three multiple-choice questions and three true-or-false questions. For each multiple-choice item, we provided a question stem and four or five response options and asked employees to "Check all the boxes that apply." Please see Table 7 in Appendix 2 for a complete description of the questions and the complete scoring guide.

To facilitate our assessment of the perseverance effect (i.e., teaching new information versus correcting false beliefs), we created a knowledge merit system and a knowledge demerit system. For the merit system, we treated each response option separately; employees received a point for endorsing each correct response option and a point for *not* endorsing each *incorrect* response option. This resulted in a total of 63 possible merit points (i.e., 51 multiple-choice response options and 12 true-or-false questions). Depending upon the number of response options for each multiple-choice question, the four survey sub-sections varied in their total number of possible points (i.e., 15 each for *Science and best business practices* and *Defining addiction*, 16 for *Gambling and public health*, and 17 for *Gambling regulations*). Because it was impossible to distinguish a skipped question from intentionally failing to endorse any response option, we did not assign employees who failed to record any response for a particular question any points for that question,



**Table 1** Factor loadings of baseline gambling-related opinion items

Opinion item	Factor			
	1	2	3	4
In your opinion, is playing roulette a gambling activity?	0.843			
In your opinion, is playing baccarat a gambling activity?	0.816			
In your opinion, is playing poker a gambling activity?	0.811			
In your opinion, is playing black jack a gambling activity?	0.797			
In your opinion, is playing bingo a gambling activity?	0.786			
In your opinion, is sports betting a gambling activity?	0.778			
In your opinion, is playing video poker a gambling activity?	0.764			
In your opinion, is playing slot machines a gambling activity?	0.680			
In your opinion, is buying lottery tickets a gambling activity?	0.638			
In your opinion, is gambling a problem when gambling causes emotional harm to others?		0.850		
In your opinion, is gambling a problem when gambling causes financial harm to the gambler?		0.843		
In your opinion, is gambling a problem when gambling causes emotional harm to the gambler?		0.820		
In your opinion, is gambling a problem when gambling causes financial harm to others?		0.814		
In your opinion, can a gambling machine be “lucky?”			0.859	
In your opinion, can you do things that will make you luckier?			0.727	
In your opinion, is gambling a problem when someone loses money gambling?				0.905
In your opinion, is gambling a problem when any gambling is involved?				0.762
In your opinion, can people become addicted to gambling?				

Factor 1 = Recognizing that games of chance are gambling activities, Factor 2 = Recognizing that emotional and financial harm are signs of problem gambling, Factor 3 = Rejecting notions of luck, Factor 4 = Recognizing that not all gambling is problem gambling

even when the absence of a response for certain response options was considered appropriate. We calculated points for each sub-section and for the total of all sub-sections.

For the knowledge demerit system, we again treated each response option separately, considering only those response options for which individuals could endorse an incorrect option. We assigned demerit points for endorsing incorrect items (e.g., reporting that 20–30% of people in the U.S. are pathological gamblers). We then summed the demerit points within a knowledge category to calculate the demerit score for that category. Individuals who failed to record any response for a particular item in a category were not assigned any demerit points for that item. Finally, we also calculated an overall demerit score by summing the demerit scores of the four knowledge categories. Respondents could score a demerit maximum of 3 for *Science and best business practices*, 5 for *Defining addiction*, 8 for *Gambling and public health*, and 9 for *Gambling regulations*.

The four factor domains showed high internal consistency; Cronbach's alpha ranged from 0.82 to 0.88. Employees scored consistently across knowledge domains; as Table 2 reveals, the average correlation among merit points from the knowledge domains was 0.72, with a range of 0.65–0.79.

**Table 2** Correlations among baseline opinion measures and knowledge measures

Measure	1	2	3	4	5	6	7	8	9	10
<i>Identifying games of chances</i>	–									
<i>Recognizing that emotional and financial harm are signs of problem gambling</i>	0.72	–								
<i>Rejecting notions of luck</i>	0.43	0.32	–							
<i>Recognizing that not all gambling is problem gambling</i>	0.32	0.35	0.20	–						
Become addicted to gambling	0.57	0.55	0.35	0.26	–					
Total opinion score	0.94	0.85	0.55	0.49	0.66	–				
<i>Science and best business practices</i>	0.66	0.55	0.35	0.39	0.52	0.69	–			
<i>Defining addiction</i>	0.62	0.59	0.36	0.57	0.50	0.71	0.66	–		
<i>Gambling and public health</i>	0.57	0.51	0.28	0.47	0.45	0.63	0.69	0.76	–	
<i>Gaming regulations</i>	0.59	0.60	0.33	0.47	0.47	0.67	0.65	0.75	0.79	–
Total knowledge score	0.69	0.64	0.37	0.54	0.54	0.76	0.83	0.90	0.91	0.91

All correlations are statistically significant,  $P < 0.01$  (2-tailed)

### Analytic Plan

In the following sections, we present (1) basic descriptive information (e.g., means, standard deviations, percentages) about employee characteristics, (2) baseline opinion score summaries, (3) baseline knowledge score summaries, (4) follow-up sample opinion score changes, and (5) follow-up sample knowledge score changes. We performed a Bonferroni adjustment to maintain an experiment-wide alpha level of .05 and, when appropriate, used statistical tests that did not assume equal variances between samples (i.e., baseline versus follow-up). We demonstrated the association among the derived total knowledge and total merit scores by reference to the range of correlations among the total scores. We evaluated the significance of the change among the proportion of employees responding correctly from baseline to follow-up using the McNemar test, a non-parametric statistic appropriate for dichotomous outcomes and paired samples.<sup>2</sup> We tested for significant differences among continuous measures from baseline to follow-up using the *t*-test for paired samples.

## Results

### Employee Characteristics ( $n = 217$ )

#### Demographics

One hundred and fourteen participants (53%) reported that they were born outside the U.S. Of these, the most common country of birth was Mexico (27% of those born outside the U.S.), followed by China (13%) and Cuba (11%). Roughly half of the employees (47%)

<sup>2</sup> We conducted a McNemar test with Bonferroni correction only when at least 20 employees showed evidence of change in their responses from baseline to follow-up.

only spoke English at home. Another 17% spoke both English and another language, and the remaining 36% only spoke a language other than English at home (most often Spanish). Ninety-seven percent of employees reported their job title and category. We conducted a preliminary inspection of job titles and self-imposed categories and determined a need for minor data cleaning. Specifically, we (1) added a new “administrative” category, (2) with the guidance of Casino, Inc., adjusted category assignments on the basis of job titles, and (3) transferred the small number of employees ( $n = 4$ ) in the food/beverage category to the “other” category. Using this adjusted job classification scheme, we determined that 47.9% of employees worked in hotel operations, 27.2% worked in casino services, 15.2% worked in administration, and 9.7% worked in some other job category. Employees worked in the casino industry for an average of 4.04 years ( $SD = 5.45$ ), with a range of 0–28 years. The distribution of years worked in the casino was positively skewed; the median length of time was only 2.00 years, and about 45% of employees worked in the casino for 1 year or less.

#### Baseline Gambling-Related Opinions

##### *Identifying Games of Chance as Gambling Activities*

More than half (56%) of employees identified all nine activities as forms of gambling. The mean number of activities classified as gambling was 6.79 ( $SD = 3.26$ ). The activities most often misclassified as *not* forms of gambling were buying lottery tickets, sports betting, and playing bingo; 29, 30, and 31% of employees misclassified these activities, respectively.

##### *Recognizing that Gambling is a Problem when Associated with Emotional or Financial Harm*

Employees, on average, recognized gambling as problematic when it is associated with harmful emotional and financial consequences for gamblers or others ( $M_{\text{score}} = 2.82$ ,  $SD = 1.70$ ). About 65% of employees identified gambling as problematic for all four harm items. However, a subset of 46 employees (21%) failed to recognize gambling as a problem for any tested harmful consequences.

##### *Rejecting Notions of Luck*

With regard to the individual items, 55% of employees failed to reject the notion that a gambling machine can be lucky and about 41% failed to reject the notion that they can do things to make them luckier. Thirty-four percent of employees failed to reject either notion of luck, whereas 28% rejected only one notion of luck. The remaining 38% of employees correctly rejected both notions of luck.

##### *Recognizing that not All Gambling is Problem Gambling*

In total, 36% of employees responded affirmatively to the item “Is gambling a problem when any gambling is involved?” and 31% responded affirmatively to the item, “Is gambling a problem when someone loses money gambling?” More than half of the employees (55%) responded correctly to (i.e., failed to check) both options and 23% inappropriately checked both options. The remaining 22% inappropriately checked one option.

### *Becoming Addicted to Gambling*

The large majority of employees (173 of 217, 80%) correctly indicated that people can become addicted to gambling. The remaining employees (44 of 217, 20%) responded “no” or “I don’t know” or failed to make a response.

### Baseline Gambling-Related Knowledge

The average merit score at baseline ( $M = 38$ ,  $SD = 14.5$ ) was an endorsement of 38 of the 63 correct choices (60%). The fourth column of Table 7 in Appendix 2 presents the percent of employees who responded correctly to each item. The correct answer most often chosen by the employees (86%) was that children under 21 could not gamble in Casino, Inc. despite approval by their parents. The knowledge item with the correct option least often chosen (19%) was the estimated prevalence of current pathological gamblers in the U.S. (1–2%). The average demerit score ( $M = 5.6$ ,  $SD = 3.3$ ) was an endorsement of 22% (5.6 of 25) of the incorrect choices. The incorrect knowledge item most avoided (84% did not choose it) was the option of telling customers who approached them and indicated a concern about their gambling to leave the gambling floor. Table 3 shows the average merit and demerit scores and standard deviations, as well as average accuracy and inaccuracy by knowledge composite.

### Changes in Gambling-Related Opinions

We next examined the extent of change in gambling-related opinions from baseline to follow-up. For comparisons between baseline scores and follow-up scores, we only used data from employees ( $n = 116$ ) who completed both assessments.

After employees completed the responsible gambling training program, they provided more knowledgeable responses to the gambling-related opinion items. On average, employees received a score of 15.73 ( $SD = 2.96$ ) of 18 at follow-up, compared with 13.37 ( $SD = 5.37$ ) at baseline. Expressed as a percentage of the total possible points, accuracy improved from 74.2 to 87.4%. This was a statistically significant improvement ( $t(115) = 5.93$ ,  $P < .001$ ,  $d = .55$ ). As Table 6 in Appendix 1 indicates, the percentage of employees responding correctly increased from baseline to follow-up for all 18 opinion items. Column 6 in Table 6 in Appendix 1 summarizes the results of these tests. We observed statistically significant improvements for the two items regarding luck (“Can a gambling machine be lucky?” and “Can you do things that will make you luckier?”), for

**Table 3** Baseline knowledge scores by knowledge composite

Knowledge composite	Mean merit score (SD) [PO]	Average accuracy rate (%)	Mean demerit score (SD) [PO]	Average inaccuracy rate (%)
Science and best business practices	9.60 (3.6) [15]	64.3	1.18 (0.86) [3]	39
Defining addiction	9.92 (4.22) [15]	66.1	1.18 (0.86) [5]	39
Gambling and public health	9.09 (3.85) [16]	56.8	1.31 (1.08) [8]	16
Gaming regulations	9.39 (4.67) [17]	55.2	1.36 (1.33) [9]	15

PO = possible total score

**Table 4** Mean (SD) changes in opinion scores by opinion composite

Opinion composite	Baseline	Follow-up	<i>t</i> (115)
Identifying games of chance	7.09 (3.11)	8.33 (1.8)	4.66**
Recognizing that emotional and financial harm are signs of problem gambling	2.91 (1.65)	3.55 (1.13)	4.05**
Rejecting notions of luck	1.03 (0.85)	1.33 (0.77)	4.30**
Recognizing that not all gambling is problem gambling	1.50 (0.75)	1.58 (0.74)	1.15
People can become addicted to gambling	0.83 (0.38)	0.95 (0.22)	3.97**

\*\*  $P < .001$ 

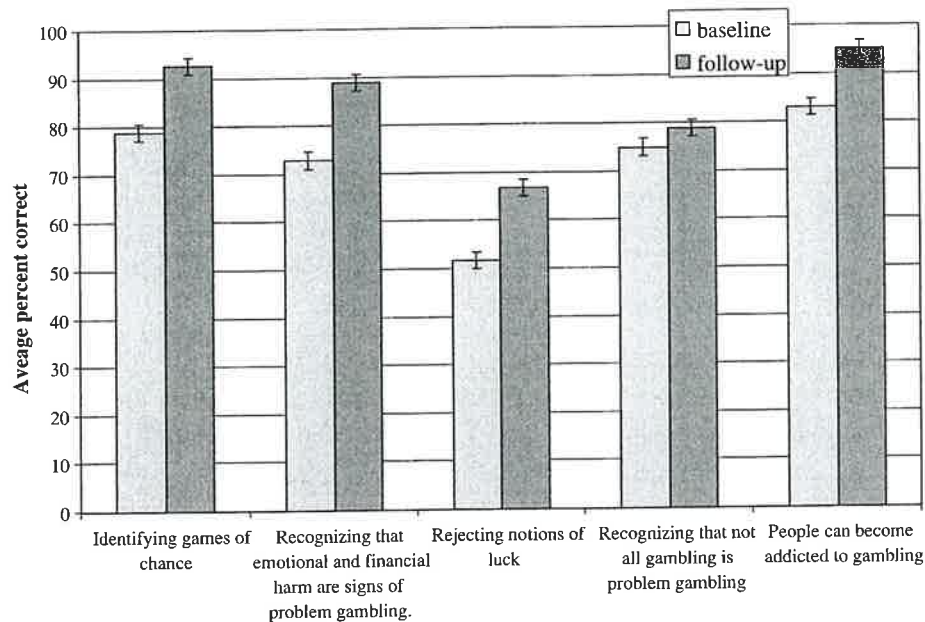
employees' awareness that sports betting is a form of gambling, and for the two items regarding emotional harm (to the gambler or to others) as a sign of problem gambling.

As Table 4 and Fig. 1 show, we also observed improvements for each opinion composite variable. Specifically, participation in the responsible gambling program increased employees' tendency to recognize games of chance as gambling activities ( $M_{\text{baseline}} = 7.09$ ,  $SD_{\text{baseline}} = 3.11$ ;  $M_{\text{followup}} = 8.33$ ,  $SD_{\text{followup}} = 1.80$ ),  $t(115) = 4.66$ ,  $P < .001$ ,  $d = .49$ . Training also improved employees' awareness of the occasions when gambling becomes a problem ( $M_{\text{baseline}} = 2.91$ ,  $SD_{\text{baseline}} = 1.65$ ;  $M_{\text{followup}} = 3.55$ ,  $SD_{\text{followup}} = 1.13$ ),  $t(115) = 4.05$ ,  $P < .001$ ,  $d = .45$ . Employees were more likely to reject notions of gambling-related luck at follow-up than at baseline ( $M_{\text{baseline}} = 1.03$ ,  $SD_{\text{baseline}} = 0.85$ ;  $M_{\text{followup}} = 1.33$ ,  $SD_{\text{followup}} = 0.77$ ),  $t(115) = 4.30$ ,  $P < .001$ ,  $d = .37$ . We did not observe a statistically significant difference in employees' ability to recognize that not all gambling is problem gambling,  $t(115) = 1.15$ , NS, although fewer employees endorsed either response option at follow-up. Finally, at baseline, 82.8% of those who completed both assessments endorsed the item "In your opinion, can people become addicted to gambling?" This proportion rose to 94.8% at follow-up. Mean scores on this item significantly increased from baseline to follow-up ( $M_{\text{baseline}} = 0.83$ ,  $SD_{\text{baseline}} = 0.38$ ;  $M_{\text{followup}} = 0.95$ ,  $SD_{\text{followup}} = 0.22$ ),  $t(115) = 3.97$ ,  $P < .001$ ,  $d = .39$ .

#### Changes in Gambling-Related Knowledge: Testing the Perseverance Effect

Next, we examined the extent of change in gambling-related knowledge from baseline to follow-up. Again, we restricted the comparative analyses to employees who completed both the baseline and follow-up assessments ( $n = 116$ ). Overall, our merit score analysis showed that employees provided more knowledgeable responses at follow-up ( $M = 47.10$ ,  $SD = 7.00$ ) than at baseline ( $M = 41.06$ ,  $SD = 12.55$ ),  $t(115) = 6.66$ ,  $P < .001$ . We conducted McNemar tests to examine the rates of change in correct responses from baseline to follow-up. We conducted McNemar tests only on correct response options and only for the 24 response items where at least 20 employees changed their responses from baseline to follow-up. As discussed in more detail below and shown in column six of Table 7 in Appendix 2, the endorsement rate increased from baseline to follow-up for five of the correct response options. We observed statistically significant improvements for the following knowledge items: definition of responsible gambling contract; understanding that addiction is a syndrome; prevalence rates of pathological gambling; purpose of gambling regulations; and, that gambling regulations do *not* require that responsible gambling training programs include instructions for diagnosing disordered gambling.





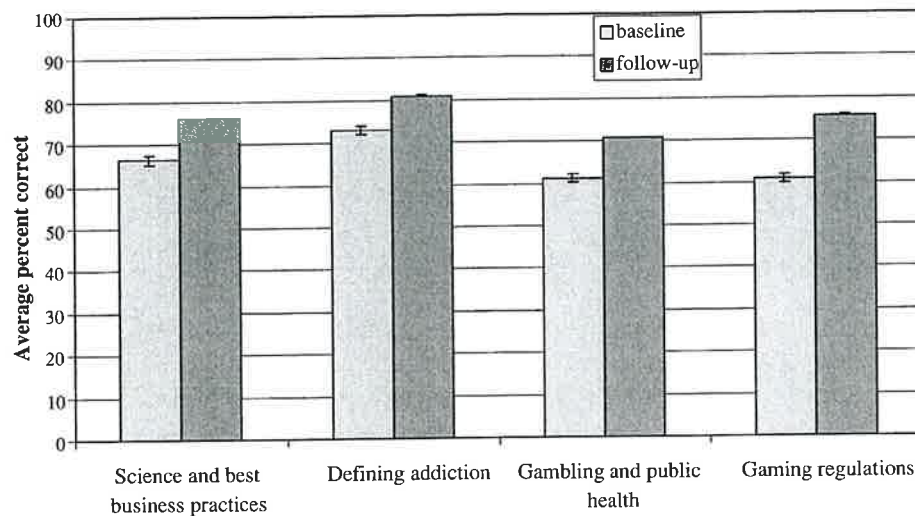
**Fig. 1** Mean scores on the five opinion domains at baseline and follow-up, expressed as a function of total possible score for each domain. This figure includes data only from employees who completed both assessments. Bars represent standard error of the mean

**Table 5** Mean (SD) changes in knowledge scores by knowledge composite

Knowledge composite	Baseline	Follow-up	<i>t</i> (115)
Science and best business practices	9.96 (3.26)	11.41 (2.07)	5.15**
Defining addiction	10.95 (3.61)	12.16 (2.68)	4.15**
Gambling and public health	9.79 (3.28)	11.31 (2.25)	5.75**
Gaming regulations	10.36 (4.18)	12.23 (2.53)	5.18**

\*\*  $P < .001$

As Table 5 and Fig. 2 indicate, employees demonstrated improved knowledge in all four of the knowledge sub-sections. Specifically, we observed baseline to follow-up increases in merit scores for *Science and best business practices* ( $M_{\text{baseline}} = 9.96$ ,  $SD_{\text{baseline}} = 3.26$ ;  $M_{\text{followup}} = 11.41$ ,  $SD_{\text{followup}} = 2.07$ ),  $t(115) = 5.15$ ,  $P < 0.001$ , *Defining addiction* ( $M_{\text{baseline}} = 10.95$ ,  $SD_{\text{baseline}} = 3.61$ ;  $M_{\text{followup}} = 12.16$ ,  $SD_{\text{followup}} = 2.68$ ),  $t(115) = 4.15$ ,  $P < 0.001$ , *Gambling and public health* ( $M_{\text{baseline}} = 9.79$ ,  $SD_{\text{baseline}} = 3.28$ ;  $M_{\text{followup}} = 11.31$ ,  $SD_{\text{followup}} = 2.25$ ),  $t(115) = 5.75$ ,  $P < 0.001$ , and, *Gambling regulations* ( $M_{\text{baseline}} = 10.36$ ,  $SD_{\text{baseline}} = 4.18$ ;  $M_{\text{followup}} = 12.23$ ,  $SD_{\text{followup}} = 2.53$ ),  $t(115) = 5.18$ ,  $P < 0.001$ . Our demerit analysis revealed that the average demerit score at follow-up was 5.99 of a possible 25 ( $SD = 3.50$ ). As predicted by the perseverance effect, this represents no statistical change from baseline,  $t(115) = 0.64$ , NS. Demerit scores for all four sub-sections remained statistically unchanged from baseline to follow-up.



**Fig. 2** Mean merit scores on the five knowledge domains at baseline and follow-up, expressed as a function of total possible merit score for each domain

## Discussion

This survey of newly trained casino employees produced a number of results with important practical and theoretical implications. The central finding is that the training program was associated with increases employees' knowledge of responsible gambling concepts. There were statistically significant increases in opinion and knowledge scores from baseline to follow-up. We conclude, generally, that *Play Responsibly*, a multi-media program that delivers standardized information in a relatively cost-effective manner, is associated with increases in employees' responsible gambling knowledge.

### Promoting Responsibility

Although the improvement in opinions and knowledge from baseline to follow-up was widespread, this improvement was particularly evident within several content areas that have public-health implications. For instance, employees gained an understanding that their work would not entail engaging in some clinical tasks. For example, the employees' learned that (a) they would not be trained to diagnose disordered gambling (evident among the majority of the sample) and (b) that they should not "take it upon themselves to determine if someone has a gambling problem and stop him or her from gambling" (evident among about a third of the sample). Some key stakeholders in the gambling industry (e.g., casino owners, gambling regulators) sometimes suggest that gaming employees should be trained to engage in such activities (Kassekert 2009; Lanni 2009). In reality, the policy of Casino, Inc. is to ask employees to not diagnose disordered gambling or engage pro-actively with potential problem gamblers. Instead, they are asked to facilitate help-seeking behavior by directing patrons to sources of responsible gambling information. We suggest that, for established responsible gambling strategies to operate most effectively, it is important that employees understand their role in the process. *Play Responsibly* appears to have facilitated this goal.



A related point involves the effectiveness of the responsible-gambling training program to improve knowledge about gambling and public health. Prior to training, the majority of employees overestimated the prevalence of pathological gambling; more than half indicated that the prevalence rate was 10–20%, instead of 1–2%. This result is consistent with a prior survey indicating that individuals with relatively close ties to the casino industry (i.e., residents of communities that have recently legalized casino gambling) overestimate the prevalence of pathological gambling (Stitt et al. 2000). The authors of that study speculated that prevalence overestimates resulted from respondents' greater likelihood of associating with problem gamblers, combined with a lack of knowledge about the clinical definition of pathological gambling. Notably, the prevalence of gambling-related problems among gambling venue patrons is likely to be higher than among the general population. It is possible that employees erroneously will extrapolate general population prevalence rates to gambling venue patrons, thereby underestimating the extent of gambling among their patrons. We did not specifically assess whether improving employees' understanding of problems in the general population harmed employees' knowledge of problem among gambling venues patrons; however, we note that we did not observe increases in demerit scores, generally. This suggests that employees were not prone to adopting new erroneous beliefs or attitudes. Nevertheless, responsible gambling programs should not minimize the extent of gambling-related problems among their customers and should evaluate whether correcting knowledge in one domain negatively impacts knowledge in another domain.

Significantly more employees rejected notions of luck after completing the responsible gambling training program. Correcting beliefs about luck might have direct implications for casino employees' risk for developing patterns of disordered gambling. Casino employees are at a greater risk than the general population for developing pathological gambling (but not problem gambling; Shaffer et al. 1999a). Increased exposure to gambling opportunities might serve as a contributing factor among casino employees who are already at risk due to pre-existing vulnerabilities (i.e., co-morbid psychiatric conditions, genetic risk). False beliefs about luck is a contributing factor to the development of disordered gambling among the general population (Wohl et al. 2007). Although responsible-gambling training programs do not and typically cannot address co-morbid psychiatric conditions, genetic risk, or increased exposure to gambling opportunities, the current work indicates that they can correct false beliefs about luck. In this way, responsible gambling programs can serve as a protective factor against disordered gambling among this at-risk sub-population.

#### Bifurcation of Program Training Effects: the Perseverance Effect

The *Play Responsibly* program was more successful in providing new knowledge than it was in correcting mistaken beliefs that existed prior to training. Although we observed robust changes in knowledge merit scores from baseline to follow-up, we did not observe corresponding changes in knowledge demerit scores. Recall that while the merit scores reflected employees' tendency to both endorse correct items and fail to endorse incorrect items, the demerit scores specifically identified employees' tendency to endorse incorrect items. This is consistent with the so-called "perseverance effect," which refers to the perseverance of erroneous beliefs despite reliable evidence to the contrary (Ross et al. 1975). Developers of responsible gambling programs should take note of this finding and devote more resources to correcting false pre-existing beliefs during employee training. To do so, training programs must have an understanding of common pre-existing misconceptions about gambling and the public among casino employees.

The current study takes an important step in this direction by providing a snapshot of employees' pre-training knowledge. Before training, employees evidenced a solid grasp of concepts to which they were exposed either through personal experience or through the popular dissemination of scientific knowledge (e.g., the consequences of excessive gambling). However, employees were less familiar with a variety of topics that have public health implications, including the specific gambling regulations and responsible gambling strategies in place at Casino, Inc. Based on these results, we tentatively suggest that the developers of responsible gambling programs place greater emphasis on certain weak content areas; this holds the potential to benefit both employees and patrons.

### Strengths and Limitations

This study provides the first comprehensive assessment of the effect of responsible gambling training on U.S. gambling employees' gambling-related opinions and attitudes. Benefits of this study include the prospective pre-post design, the use of multiple assessment languages, and the inclusion of multiple assessment areas covering a diversity of opinion- and knowledge-related topics.

As with all research, this study has some limitations. First, the participant retention rate was modest; a higher retention rate would bolster confidence in the findings. Second, we were not able to randomize employees to conditions (e.g., delayed training, training as usual, *Play Responsibly* training); consequently, it is not possible to infer causal influence about the reported changes in opinions and knowledge. A number of other factors could have produced the observed changes. For example, increased exposure to gambling from baseline to follow-up could have partially accounted for the changes we observed. Third, the available information consisted entirely of self-reported responses and contained no independent objective measures of employee attitudes/opinions or of their actual behavior at the gambling venues. This circumstance permits a potential problem due to self-presentation biases that might emerge during the study, as well as the possibility that changes in knowledge and opinions might not translate to changes in actual employee/patron interactions. Fourth, to avoid placing a large temporal burden on employees, we employed a limited survey; the inclusion of more and different items, as well as a longer follow-up might have led to a different pattern of results. Fifth, the follow-up period was brief, and we cannot make claims about the enduring effect of *Play Responsibly*. It is possible that intermittent booster programs are necessary re-energize or reinforce the positive effects obtained at 1 month. Sixth, we sampled only a group of new Casino, Inc. employees, and many of our results might not generalize to the broader population of casino employees, at Casino, Inc. and elsewhere around the world. Seventh, to our knowledge, *Play Responsibly* was an English-only program. This could have limited some employees' learning potential, as a sizable number of employees spoke English as a second language and/or spoke a language other than English in their home. However, Casino Inc. has extensive experience with employees who do not speak English as a first language, and provides special accommodations and education for such individuals.

### Concluding Thoughts

The main finding of the present study is that a relatively brief multi-media presentation is associated with improving casino employees' opinions and knowledge about important responsible gambling concepts. In this study, we identified areas of content in which the training program was associated with particularly beneficial changes, as well as areas of

relative weakness both at both baseline and follow-up. We also have highlighted the influence of the perseverance effect (i.e., the bifurcation of training effects). We suggest that developers of the next generation of responsible-gambling training programs take this empirical evidence into account to develop more tailored and effective training programs.

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**Conflict of interest** The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

## Appendix 1

See Table 6.

**Table 6** Gambling-related opinion questions, response options, and scoring guide

Question	Response options	Response option scoring	% responding accurately at baseline <sup>a</sup>	% responding accurately at follow-up	$\chi^2$ for change <sup>b</sup>
In your opinion, can a gambling machine be “lucky”?	Yes	Incorrect	45.6	58.6	9.85*
	No	Correct			
	I don’t know	Incorrect			
In your opinion, can you do things that will make you luckier?	Yes	Incorrect	59.4	74.1	10.13*
	No	Correct			
	I don’t know	Incorrect			
In your opinion, can people become addicted to gambling?	Yes	Correct	79.7	94.8	Not evaluated
	No	Incorrect			
	I don’t know	Incorrect			
In your opinion, which of the following activities are gambling? Check all that apply	Buying lottery tickets	Correct	70.9	87.9	Not evaluated
	Playing slot machines	Correct	82.0	96.6	Not evaluated
	Playing roulette	Correct	77.4	93.1	Not evaluated
	Playing bingo	Correct	69.1	88.8	Not evaluated
	Playing blackjack	Correct	81.1	95.7	Not evaluated
	Sports betting	Correct	70.1	89.7	12.46*
	Playing video poker	Correct	76.5	91.4	Not evaluated
	Playing baccarat	Correct	72.8	94.0	Not evaluated
	Playing poker	Correct	78.8	95.7	Not evaluated

**Table 6** continued

Question	Response options	Response option scoring	% responding accurately at baseline <sup>a</sup>	% responding accurately at follow-up	$\chi^2$ for change <sup>b</sup>
In your opinion, when does gambling become a problem? Check all that apply	Any gambling is a problem	Incorrect	64.1	79.3	2.66
	When someone loses money gambling	Incorrect	68.7	78.4	Not evaluated
	When gambling causes financial harm (e.g., debt) to the gambler	Correct	72.8	88.8	Not evaluated
	When gambling causes emotional harm (e.g., depression) to the gambler	Correct	68.7	92.2	18.00*
	When gambling causes financial harm to others	Correct	71.0	87.1	9.14
	When gambling causes emotional harm to others	Correct	69.1	87.1	13.33*

<sup>a</sup> Based on entire baseline sample<sup>b</sup> Based on difference among completers only\*  $P < .007$  (to maintain alpha of 0.05)

## Appendix 2

See Table 7.

**Table 7** Gambling-related knowledge questions, response options, and scoring guide

Question	Response options	Scoring	% responding accurately at baseline <sup>a</sup>	% responding accurately at follow-up	$\chi^2$ for change <sup>b</sup>
Science and best business practices					
Excessive gambling can affect which of the following:	Mental health	Correct	74.2	88.8	4.65
	Finances	Correct	86.2	97.4	Not evaluated
	Personal relationships	Correct	81.1	93.1	Not evaluated
	Physical health	Correct	60.8	76.7	Not evaluated

Table 7 continued

Question	Response options	Scoring	% responding accurately at baseline <sup>a</sup>	% responding accurately at follow-up	$\chi^2$ for change <sup>b</sup>
At the Casino, Inc., the practice by which a guest voluntarily bans him- or herself from the casino is known as the:	Responsible gaming contract	Correct	24.0	42.2	14.38*
	Self-exclusion plan	Incorrect	49.3	62.1	
	Voluntary intervention contract	Incorrect	50.2	80.2	
	Choice to ban document	Incorrect	67.3	80.2	
Casino, Inc. Policy states that underage patrons are:	Strictly prohibited from the gambling floor	Correct	53.0	52.6	0.00
	Allowed on the gambling floor, but prohibited from gambling	Incorrect	79.3	89.7	
	Allowed on the gambling floor, but prohibited from gambling or loitering	Incorrect	64.1	66.4	
	Allowed on the gambling floor as long as an adult accompanies them	Incorrect	71.4	73.3	
Employees should take it upon themselves to determine if someone has a gambling problem and stop him or her from gambling	True	Incorrect			2.86
	False	Correct	67.3	81.9	
Designated employees should remove people who are intoxicated from the gambling floor	True	Correct	57.1	68.1	0.37
	False	Incorrect			
A responsible gaming program should try to help people who gamble excessively, but respect the rights of people who gamble for fun	True	Correct	78.8	87.9	Not evaluated
	False	Incorrect			
Defining addiction					
People used to think addiction came from a lack of will power. Today many people think addiction is:	Likely a syndrome (a cluster of related signs & symptoms)	Correct	50.7	75.9	12.12*
	Only a personality disorder	Incorrect	55.8	71.6	
	Mostly a parenting problem	Incorrect	77.0	87.9	

Table 7 continued

Question	Response options	Scoring	% responding accurately at baseline <sup>a</sup>	% responding accurately at follow-up	$\chi^2$ for change <sup>b</sup>
If someone has a mood disorder, like depression, that means:	Always a genetic disorder	Incorrect	76.5	82.8	8.65
	The person cannot develop gambling-related problems if they gamble	Incorrect	77.0	93.1	
	The person is at risk for developing gambling-related problems if they gamble	Correct	62.2	82.8	
	The person is too sick to gamble	Incorrect	81.6	87.1	
	The person will always develop gambling-related problems if they gamble	Incorrect	70.5	87.9	
The 3 c's of addictions are Craving, Continued addictive behavior despite bad outcomes, and ____:	Co-occurring disorders	Incorrect	69.6	87.1	3.23
	Conditional behavior	Incorrect	63.6	78.4	
	Loss of Control	Correct	52.5	69.8	
	Body Chemicals	Incorrect	79.7	97.4	
Exposure to certain objects, like drugs, always causes addiction	True	Incorrect			Not evaluated
	False	Correct	49.8	62.9	
Addiction has to involve some type of chemical, such as nicotine	True	Incorrect			3.70
	False	Correct	57.1	71.6	
Being impulsive and having poor social support are both risk factors for addiction	True	Correct	68.2	79.3	2.21
	False	Incorrect			
Gambling and public health					
About how many people in the US are pathological gamblers?	0%	Incorrect	81.7	98.3	21.19*
	1–2%	Correct	18.9	45.7	
	10–20%	Incorrect	47.0	67.2	
	20–30%	Incorrect	54.8	75.0	
If a guest approaches you expressing concern about his/her gambling, you should:	Refer them to responsible gaming materials and hotlines	Correct	56.2	81.0	1.17
	Tell them about the Casino, Inc.'s responsible gaming contract	Correct	45.6	37.9	0.14

Table 7 continued

Question	Response options	Scoring	% responding accurately at baseline <sup>a</sup>	% responding accurately at follow-up	$\chi^2$ for change <sup>b</sup>
Make them leave the gambling floor	Refer them to a good psychiatrist	Incorrect	82.5	95.7	
	Incorrect	84.3	94.8		
Tell them how they can secure a line of credit	Incorrect	83.9	97.4		
Knowing the odds of games, participating in <i>Play Responsibly</i> , and preventing guests from gambling while intoxicated are all examples of:	Jobs of a casino manager	Correct	28.1	31.0	0.14
	Things that employees should not attempt	Incorrect	63.1	71.6	
	Things casino guests should do automatically	Incorrect	62.7	79.3	
	Ways employees can better perform their work	Correct	25.8	40.5	4.45
Some people, such as those who have mental health problems, are more likely to have problems with gambling than other people	True	Correct	42.4	55.2	3.18
	False	Incorrect			
People only have problems with gambling if they are poor	True	Incorrect			Not evaluated
	False	Correct	81.6	94.8	
Gambling is risking something on the outcome of an event when the outcome is certain	True	Incorrect			0.78
	False	Correct	50.7	65.5	
Gaming regulations					
Gaming regulations should make sure gambling places are:	Crime free	Correct	47.0	70.7	6.61
	Providing honest and fair games	Correct	58.1	86.2	13.92*
	Excluding minors	Correct	55.8	73.3	7.03
	Excluding people over 85	Incorrect	80.2	94.0	
Gaming regulations require problem gambling materials to be:	Easy to access	Correct	56.2	78.4	5.94
	Based on the most recent science	Incorrect	58.1	71.6	
	Located in every hotel room	Incorrect	53.9	66.4	
	Carried by all casino floor employees	Incorrect	68.2	73.3	
	None of the above	Incorrect	67.7	84.5	



Table 7 continued

Question	Response options	Scoring	% responding accurately at baseline <sup>a</sup>	% responding accurately at follow-up	$\chi^2$ for change <sup>b</sup>
The Nevada Gaming Control Board regulates problem gambling:	Materials	Correct	40.6	65.5	6.88
	Employee training	Correct	31.3	46.6	2.13
	Self-limitation programs	Correct	19.8	25.9	0.00
	Guest seminars	Incorrect	61.3	79.3	
	Industry conferences	Incorrect	56.2	74.1	
Patrons can request to be removed from casino advertising/marketing mailing lists	True	Correct	67.7	78.4	Not evaluated
	False	Incorrect			
People under 21 can gamble at the Casino, Inc. if their parents say it is OK	True	Incorrect			Not evaluated
	False	Correct	83.9	96.6	
Regulations require that employee responsible gaming training programs include instructions for diagnosing disordered gambling.	True	Incorrect			14.79*
	False	Correct	32.7	58.6	

<sup>a</sup> Based on entire baseline sample<sup>b</sup> Based on difference among completers only\*  $P < .002$  (to maintain alpha of 0.05)

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