

Exploring Responsible Gambling Options for Harm Minimization in the Field of Online Lottery

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ICKG



June 28, 2022



All in for safer gambling.

- Independent, non-profit organization
- 35+ years of research, prevention, education, and policy guidance in the field of responsible gambling
- Work across jurisdictions around the world and with all stakeholders

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On January 10, 1980, I was sent to jail for embezzling a large amount of money. A compulsive gambler, my habit had cost me everything: my family, my finances, and my freedom. When I got out, I knew I needed help staying away from gambling.

When I looked around, I had a hard time finding the services I needed, and I knew I could not the only one. Three years after finding help in the US from Dr. Robert L. Custer and learning everything I could, I formed the Canadian Foundation on Compulsive Gambling. I had an office in my basement and a few dollars in the bank.

-- Tibor Barsony, Founder of the Canadian Foundation on Compulsive Gambling (now RGC), 1983

www.responsiblegambling.org

Overview

- The lottery research program (2019-2021)
- Phase 1:
 - Focused evidence review
 - RG and lottery in practice
 - Implications for future research and practice
- Phase 2:
 - Expanded evidence review
 - Lottery play and key factors in Indiana
 - Key challenges and opportunities





The Lottery Research Program (2019-2021)



Phase I Overview

Contributors: Isabel Burdett, Dr. Sasha Stark, Dr. Kahlil Philander

Aim: Help determine effective methods for promoting responsible gambling and harm minimization in the field of online lottery

Activities:

- 1) Systematic search and rapid evidence review
- 2) Jurisdictional scan of RG approaches adopted by online operators
- 3) Synthesis of findings



Phase 1 Evidence Review

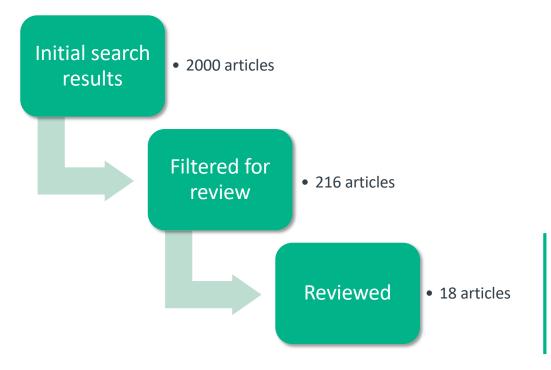
Synthesis of Responsible Gambling Accreditation Standards

RG Check iGaming	RG Check Venue ¹	WLA RG Framework ²	NCPG IRGS ³	AGA RG Effectiveness Principles ⁴	Synthesized Standard Areas
RG Policies	RG Policies		Policy	RG Plan	Policies & Strategy
Employee Training	Employee Training	Employee Program	Staff Training	Employee Training	Employee Training
Self-Ban	Self-Ban		Self-Exclusion	Self-Exclusion	Self-Exclusion
Assisting Players who May	Assisting Players who	Retailer Program	Assisting Players		Assisting Players
Have Problems with Gambling	May Have Problems with Gambling	Treatment Referral			
Informed Decision Making	Informed Decision	Player Education	Supporting Informed	Disclosure Messaging	Informed Decision Making
	Making		Decision Making by Players	Consumer Tools	
Advertising and Promotion	Advertising and	Advertising and	Advertising and	RG Messaging in Advertisements	Marketing
	Promotion	Marketing	Promotion	On Property Messaging	Communications
		Communications			
Game and Site Features	Venue and Game	Game Design	Game and Site Features	Policies on Alcoholic Beverage	Product Design
	Features	Remote Gaming		Service	
		Channels			
	Access to Money		Payments	Extension of Credit	Accounts & Payments
		Research	Research (transparency)	Support funding for research and evaluation.	Research & Innovation
		Stakeholder		Support funding for problem	Stakeholder Engagement
		Engagement		gambling treatment.	
		Reporting and	Research (evaluation)		Program Evaluation
		Measurement			

Synthesized Standard Areas

RG Standard	Description
Policies and Strategy	Formal structures, plans and processes illustrating how RG is formed within the operator organization help provide a reference point for all RG initiatives and practices.
Employee Training	As an important point of contact with customers, operator staff require the knowledge and skills to understand RG, incorporate it into their work practices, and assist others who may be in need of support.
Self-Exclusion	Voluntary self-exclusion is a pillar of any RG program, enabling operators help customers stop risky and harmful play. Self-exclusion programs need to be accessible, simple to understand, enforced, and provide processes for a safe return to gambling, if customers wish.
Assisting Players	Assisting players with gambling concerns includes the ability to identify warning signs, appropriately engage customers, intervene if necessary, and leverage player data.
Informed Decision Making	Educating players about safer gambling habits, gambling myths, how games work, gambling risks and other key points all help enable more informed gambling decisions
Marketing Communications	Processes ensuring that marketing and advertising practices are responsible, do not promote false gambling expectations, do not target at-risk groups or youth, and do not conflict with RG messaging is critical.
Product Design	Reviewing gambling products from an RG perspective to ensure they do not reinforce false beliefs about gambling and promote safer play
Accounts and Payments	Ensuring point of sale systems and practices protect under-age individuals and those who have self-excluded and that methods of payment do not pose an excessive risk to players
Research and Innovation	Gambling operations devise ways of supporting the ongoing development of research evidence that benefits RG practice and improvement
Stakeholder Engagement	A systematic approach to engage and collaborate with various stakeholders involved in RG and problem gambling prevention and treatment
Program Evaluation	Systems and processes are in place to measure and assess RG policies and programs

Phase 1 Evidence Review





- 17 empirical, 1 review
- 1/3 met appraisal criteria (all qualitative)



Phase 1 Jurisdictional Scan

- Comprehensive search of online lottery operator websites
- Review according to synthesized standards and associated practices

Region	Jurisdiction	Policies	Program	Research	Stakeholder	Employee	Assisting	Self-	Informed	Marketing	Product	Accounts
		and Strategy	Evaluation	and Innovation	Engagement	Training	Players	Exclusion	Decision Making	Communications	Design	and Payments
United	Indiana											
States	Michigan											
	Illinois											
	Kentucky											
	Georgia											
	Pennsylvania											
	New Hampshire											
Canada	Ontario											
	British Columbia											
Europe	United Kingdom											
	Ireland											
Asia	Hong Kong											
Oceania	Australia											

Phase 2 Overview

Contributors: Isabel Burdett, Dr. Michael Wohl

Aim: Generate evidence and translate knowledge supporting the development of strategies for responsible gambling, positive play, harm minimization and treatment referral for lottery players in Indiana

Activities:

- 1) Rapid evidence assessment of RG best and promising practices potentially transferable to online lottery
- 2) Online survey of Hoosier lottery players
- 3) Synthesis of findings





Phase 2 Rapid Evidence Assessment

- Extend previous literature review by incorporating evidence of best and promising practices in RG beyond the area of online lottery
- Maintain focus of assessment on 1) positive play, 2) harm minimization, and 3) treatment referral
- Inclusion criteria:
 - 2010-2020 publications
 - Peer-reviewed
 - Only systematic reviews and empirical studies





Phase 2 Lottery Player Survey

Administration: December 20, 2021 to January 10, 2022

Population: Lottery players (18 years and older) in Indiana, USA

Areas of Inquiry:

- Demographics
- Gambling behaviours
- Gambling risk and motivations
- Mental health
- COVID-19 impacts
- Responsible gambling awareness

Sample: *n*=953

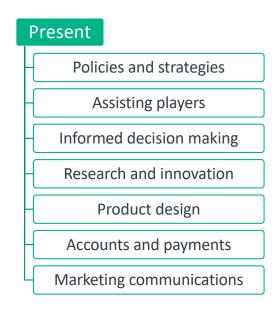


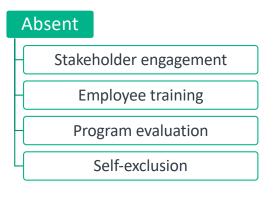
Phase 1: Reviewing and Scanning the Field of Lottery for RG Best Practices



Literature Review

Research in the area of lottery and online lottery provide a breadth of support for RG practice standards, but lack depth that other areas of gambling research appear to have







Evidence was strongest in areas of RG practice focusing on safeguards for underage gamblers

- Policies and strategies Policy emphasis on importance of protecting underage youth from playing the lottery
- Assisting players Necessity of structural safeguards to prevent underage gambling
- Marketing communications Youth (10-18 years) in Ontario, Canada who were at-risk and PG were most engaged in lottery draws, sports tickets and scratch ticket play
- Marketing communications Importance of RG messaging at points of sale clearly stating illegality of selling to minors



Research relating to assisting players and informed decision making demonstrated the strongest evidence

Assisting Players:

- Systems to identify at-risk players
- Utilizing measures of addiction, socio-demographic info, purchasing behavioural data etc. to identify at-risk players
- Lottery wins associated with positive mental health outcomes, but negative physical health outcomes, inferring need for health promotion

Informed Decision Making:

- Advantage in segmenting education and prevention messaging (risk levels, games with higher rates of play, etc.)
- Correcting gambling myths and erroneous beliefs (e.g., gambler's fallacy, hot hand fallacy)
- Promoting positive play behaviours related to sustainable and balanced play



In many instances, research evidence was not directly applicable to RG practice and required expert interpretation

E.G.,

Stated implications of research for senior operations leadership accountability through increased review of RG codes of conduct (lottery volume, frequency of draws, use of advertising)

- No practical development or implementation pathways indicated
- RG research from other areas have provided details on establishing third-party reviews, public reporting to ensure transparency and accountability, and even the use of the Positive Play Scale to assess performance of RG strategies



Areas of RG practice including program evaluation, employee training, and selfexclusion were particularly under-developed in the field of lottery and online lottery research

Non-Lottery RG Evidence:

- Operator RG staff training widely recommended, tiered and tailored by role; refreshed periodically; and evaluated for impact
- Evaluating RG strategies for effectiveness, including training programs and impact on player RG knowledge and behaviours
- Self-exclusion well established in other areas of gambling with innovations in more flexible, shorter-length options



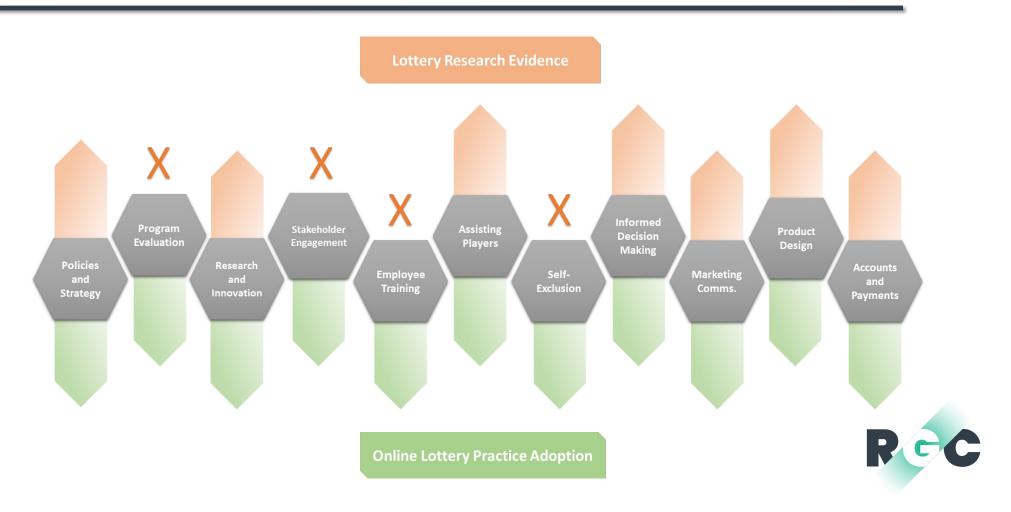
Jurisdictional Review

Region	Jurisdiction	Policies and Strategy	Program Evaluation	Research and Innovation	Stakeholder Engagement	Employee Training	Assisting Players	Self- Exclusion	Informed Decision Making	Marketing Communications	Product Design	Accounts and Payments
United	Indiana	Moderate		Moderate	Low	Low			Moderate	High	Low	Moderate
States	Michigan							High	High			Moderate
	Illinois				Moderate	Low		High	High	Moderate	Low	Moderate
	Kentucky						Low	Moderate	High			Moderate
	Georgia				Low			High	High		Low	Moderate
	Pennsylvania New Hampshire							Moderate High	High Moderate	Low		Moderate Moderate
Canada	Ontario	High	Moderate	High	High	High	Low	High	High	High	Low	High
	British Columbia	High	Moderate	Moderate	Moderate	High	Moderate	High	High	Moderate	Low	Moderate
Europe	United Kingdom	Low	Low	Moderate		Low	Moderate	Moderate	Moderate	Moderate	Low	Moderate
	Ireland	High			Moderate		Low	Moderate	High	High	Moderate	Moderate
Asia	Hong Kong	Low		Low	High	Moderate	Low	High	Moderate			Moderate
Oceania	Australia	High	Low			Moderate	Moderate	High	High	Moderate	Low	High

Note. Assessment of RG practice development was based on the presence and review of publicly available, web-accessible information. It is possible RG development is more or less advanced.

Scoring: blank spaces indicate no evidence of specific standard-based practice was found; *low*=at least one related best practice assessed; *moderate*=2-3 best practices assessed; *high*=more than 3 best practices assessed.

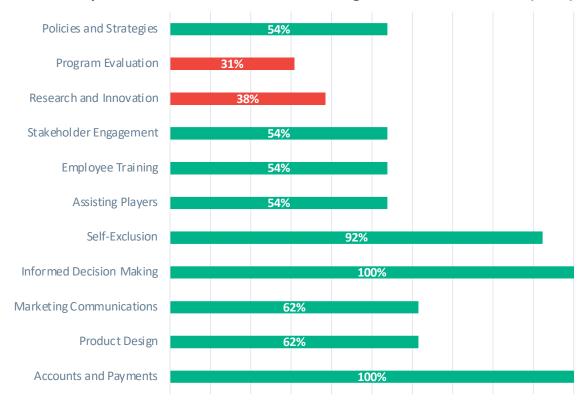
There was stronger alignment between RG standards and industry practices than with lottery research



Self-exclusion, informed decision making, and RG practices related to accounts and payments were almost universally adopted by online lottery operators

- Not immediately clear why this pattern of adoption emerged
 - Speculation → Regulatory requirements and compliance, conventional and popular industry RG practices, and balancing resource investment in social responsibility

General Adoption of RG Standard Practices Among Reviewed Jurisdictions (n=13)



US online lottery operators appeared to generally have more limited adoption of RG standard practices than other international lotteries, particularly in the areas of RG policies and strategy, program evaluation, research and innovation, assisting players, and employee training

Areas of limited development:

- RG policies and strategy
- Program evaluation
- Research and innovation
- Assisting players
- Employee RG training

Adoption similarities: **GAM-GaRD**

- Illinois
- Ontario
- United Kingdom
- Ireland

^{*}Also age verification mechanisms



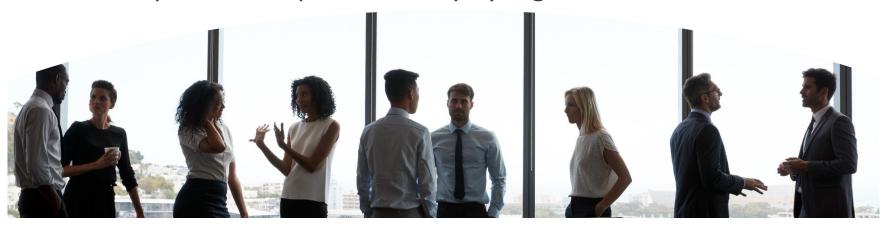
RG standard practice adoption also demonstrated differences in the quality and depth, with some operators (e.g., Ontario and British Columbia, Canada) featuring much more developed and extensive policies, programs and practices than others

- Tatt's Group (Australia): Well developed RG Code of Conduct with dedicated Social Responsibility Manager (reviewed/updated annually)
- OLG (Ontario): Systematic approach to stakeholder engagement incorporated into their RG Code of Conduct
- Hoosier Lottery (Indiana): Specific guidelines for marketing and advertising, marketing self-assessment tool, media channel guideline, CSR style guide, and Marketing Code of Conduct



Phase 1: Synthesis and Summary

- Research literature provides breadth of support for RG practices
- Research Literature lacks depth and specifically for RG practices
- Research literature features limited direct applicability for RG practice
- Online lotteries show broad adoption of standards-based RG practices
- Adoption of RG practices vary by region





Implications for Future Research

Types and Areas of Potential Research Relating to RG Practice

Future Research Development	Description	Topics
Replicate or expand lottery evidence	Areas of RG practice for lottery that have a formative level of evidence support, but require further validation.	 Internal accountability measures for RG Systems to identify at-risk lottery players Cognitive distortions associated with lottery marketing and advertising RG messaging targeting specific risk groups Systems of age verification and underage gambling prevention
Validate evidence-informed practice	Some RG practices that have a basis of evidence in other areas of gaming, but require validation in the lottery context.	Employee trainingStakeholder engagementProgram evaluationSelf-exclusion
Explore and generate hypotheses	Some phenomena specific to lottery gaming have not yet been investigated. Such areas require exploratory study and the generation of testable hypotheses to build positions for developing and testing RG practices.	 Second-chance lottery games Online instant win games Online raffle draws for live events

Phase 2: Establishing Evidence to Inform RG Practice for Lottery Players in Indiana



Positive Play

- Personal responsibility is the extent to which a player believes they should take ownership of their gambling behavior
- Gambling literacy is the extent to which a player has an accurate understanding about the nature of gambling
- Honesty and control reflects the extent to which players are honest with others about their gambling behavior and feel in control of their behavior
- Pre-commitment reflect the extent to which a player considers how much money and time they should spend gambling



Welcome to the Positive Play Quiz

What is the Positive Play Quiz?

The Positive Play Quiz assesses gambling beliefs and behaviours to see if you are maximizing the ways to keep your gambling a happy, positive experience.

Complete four short sets of quiz questions and get instant feedback including some tips on how to make playing even more positive.

Who can take the quiz?

Everyone! You'll be able to see how your score compares to other Kiwis.

Can I trust the results?

Yes! The Positive Play Quiz was developed by psychologists and the questions have been tested in New Zealand, the UK, Canada, the USA, Italy and Macau.

How long will it take?

Just a few minutes

Get started!

To answer each question, click on the bubble that you think best represents your answer

BEGIN QUIZ

(https://nz.positiveplay.org/quiz)

Positive Players are more likely to engage in limit-setting if they believe they will be rewarded (e.g., through loyalty programs)



Harm Prevention and Minimization

VRGF Review Recommendations

- Clear info on games, odds of winning
- Staff training supporting ID of at-risk players
- RG info that goes beyond helpline
- De-stigmatizing PG through public awareness/education
- Operator funding for social marketing, support programming, and research
- Recognizing gambling problems are multi-faceted, promoting integrated approaches to support
- Leveraging technology and trends in online gambling to reach and promote RG



Treatment Referral

- Challenges: How to effectively coordinate strategies involving many stakeholders (e.g., regulators, operators, third-party organizations, gamblers, close social relations, and broader community groups)
- Key factors: Low awareness of support resources, distrust of services and institutions, passive and ineffective promotion of resources, stigma and internalized shame
- Areas of recent development: Improved risk and harm screening, integrated care (e.g., mental health and substance use intervention) and up-skilling health professionals

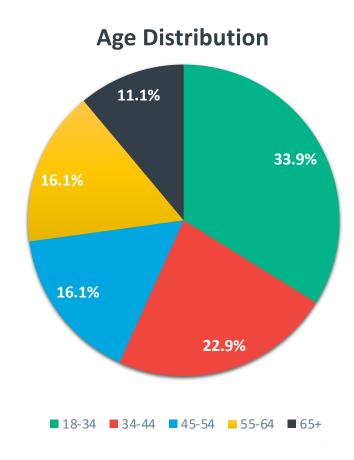




De Vos, Ilicic, Quester, & Crouch, 2021; Gainsbury, Hing, & Suhonen, 2014; Hing, Nuske, & Gainsbury, 2012; Horch & Hodgins, 2015; Horch & Hodgins, 2015; Johansen, Helland, Wennesland, Henden, & Brendryen, 2019; Achab et al., 2014; Hounslow, Smith, Battersby, & Morefield, 2011; Manning, Dowling, Rodda, Cheetham, & Lubman, 2020; Price, 2020; Price, Tabri, Stark, & Balodis, 2022)

Online Survey Demographics

- **Gender:** male (65.7%), female (32.7%), transgender (0.9%)
- **Ethnicity:** white (81.6%), black (10.8%), all other ethno-cultural groups (7.5%)
- Employment: full-time (46.3%), part-time (11.3%), looking (14%), retired (17%), student (2.7%), other (8.7%)
- **Median income:** \$20K-\$35K; 40% < \$35K



COVID-19 Impacts

	n	%
Employment Status Impacted by COVID-19		
Yes, I have lost my employment	108	11.3%
Yes, I work reduced hours	131	13.7%
Yes, I work full-time remotely from home	83	8.7%
Yes, I work part-time remotely from home	20	2.1%
No, my full-time work has not been affected	275	28.9%
No, my part-time work has not been affected	63	6.6%
No, I am not employed and not looking for work	164	17.2%
Other	109	11.4%
Household Income Negatively Affected by COVID-19		
Strongly agree	239	25.1%
Agree	302	31.7%
Disagree	261	27.4%
Strongly disagree	126	13.2%
Do not know	25	2.6%
COVID-19 Influence on Lottery Play		
Yes, I play more often	137	14.4%
Yes, I play less often	243	25.5%
No, I play about the same	521	54.7%
I do not know	52	5.5%

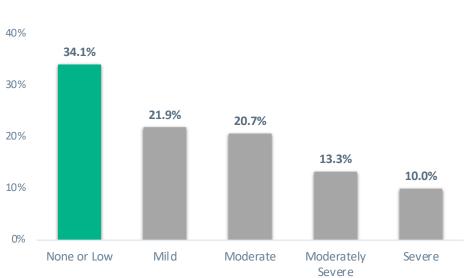




Mental Health

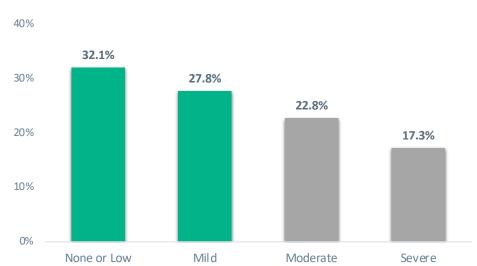
50%

PHQ-8 Depression Symptoms among Hoosier Lottery Players



GAD-7 Anxiety Symptoms among Hoosier Lottery Players

50%





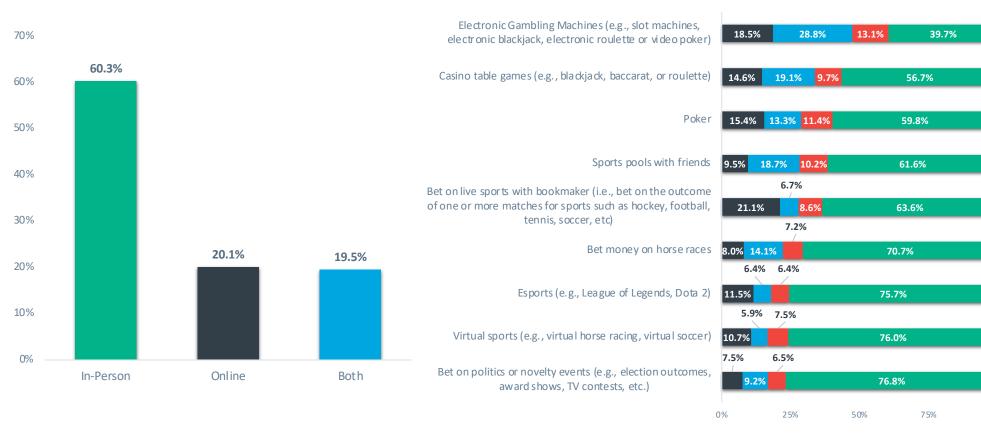
Gambling Behaviours

Typical Gambling Participation

Non-Lottery Gambling in Past Year

■ Online ■ In-Person ■ Both ■ Neither

100%



Lottery Behaviours

	n	%
Frequency of Lottery Play		
Daily	65	6.8%
2 to 6 times per week	200	21.0%
About once a week	191	20.0%
2 to 3 times per month	146	15.3%
About once a month	120	12.6%
Every 2 to 5 months	119	12.5%
Between 1 and 2 times a year	97	10.2%
Do not know	15	1.6%
Average Lottery Ticket Purchases Per Week		
1	334	35.0%
2	210	22.0%
3	135	14.2%
4	95	10.0%
5+	179	18.8%
Cost of Standard Lottery Tickets Purchased		
\$1	150	15.7%
\$2	285	29.9%
\$3	150	15.7%
\$4	45	4.7%
\$5	203	21.3%
More than \$5	100	10.5%
Do not know	20	2.1%

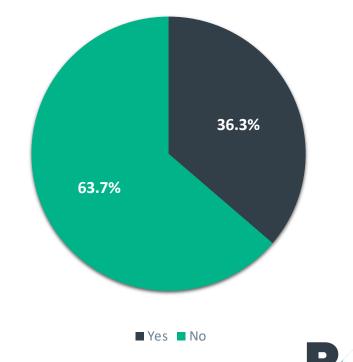


2ndChance Promotions

2ndChange Promos allow players to use non-winning Lottery tickets to enter into a promotion that provides second chance at winning a prize

- 62.8% of respondents who engaged in a 2ndChance promotion screened for high risk problem gambling (PGSI ≥8)
- Problem gambling status increased the odds of 2ndChance participation by 4.3times (compared to lower-risk players), p≤.001
- **Key Motives:** Another chance to win money (78.9%), to win back money lost (51.8%)

Engagement in 2ndChance Promotional Play





Gambling Motivations

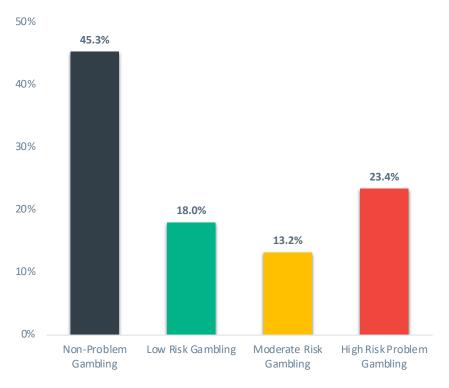
Gambling Motives Questionnaire (GMQ-F)

Lottery Play Motivations								
	Almost Never/Never	Sometimes	Often	Almost Always				
To win money	9.1%	25.7%	21.5%	43.7%				
Because it is fun	13.4%	35.0%	29.1%	22.5%				
To earn income	40.0%	23.6%	15.6%	20.8%				
Because it's exciting	18.2%	38.7%	26.0%	17.1%				
Because you like the feeling	29.3%	38.2%	22.6%	10.0%				
Because it makes you feel good	35.3%	36.1%	18.8%	9.9%				
To cheer up when you're in a bad mood	44.5%	28.3%	18.0%	9.1%				
Because you are bored	39.1%	32.9%	19.3%	8.6%				
Because it is something I do on special occasions	32.0%	42.0%	17.6%	8.4%				
To pass the time	44.2%	29.6%	18.2%	8.1%				
To get a "high" feeling	55.0%	24.0%	14.3%	6.7%				
To forget your worries	53.7%	25.4%	14.8%	6.1%				
To be social	55.1%	27.6%	11.3%	6.0%				
Because it helps when you are feeling nervous or depressed	57.7%	23.4%	12.9%	6.0%				
As a way to celebrate	36.8%	43.7%	13.6%	5.9%				
To relax	42.8%	36.2%	15.2%	5.8%				
Because you feel more self-confident or sure of yourself	56.6%	26.3%	11.5%	5.6%				

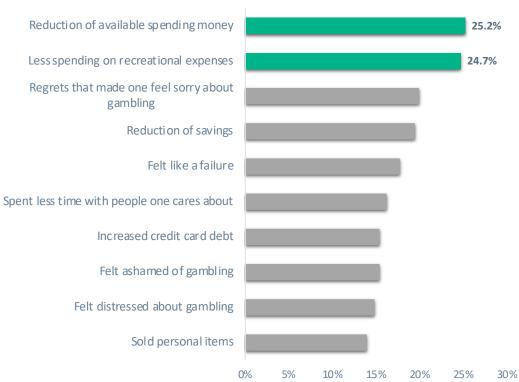


Risk and Harm

Problem Gambling Severity Index (PGSI)

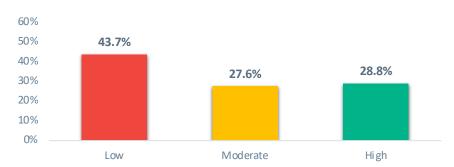


Short Gambling Harms Screen (SHGS)

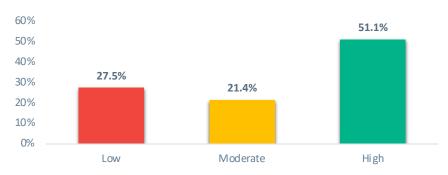


RG and Positive Play

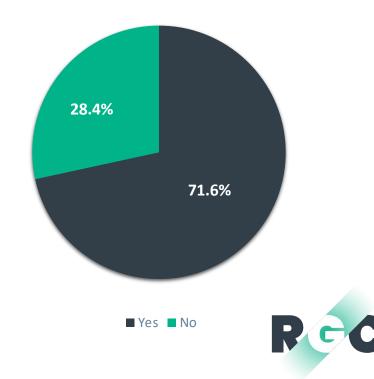
Positive Play Scale - Beliefs



Positive Play Scale - Behaviours



Should lottery players be rewarded for their positive play?



Support Service Awareness

Overall, awareness of problem gambling support services was low among Hoosier Lottery players.

Respondents perceived *learning about game odds, strategies for keeping gambling fun,* and *self-exclusion* as being most beneficial to them.

■ Indiana Problem Gambling Helpline: 29.5% very aware

■ Gambler's Anonymous: 26.2% very aware

■ Indiana Problem Gambling Awareness Program: 21.2% very aware

■ Gamblock: 62.5% unaware

■ Track Your Play Calculator: 56.8% unaware

■ Financial Literature Course: 56.6% unaware

Key At-Risk Populations
Young Adults (18-34 years)

- 57% PGSI high risk gamblers; 3.6x odds
- More likely to experience lower financial security
 - Income under \$35K
 - Unemployment
 - 2x odds employment and income affected by COVID-19
- Higher likelihood of elevated anxiety and depression
- More likely to purchase 3 tickets per week at cost of \$4-\$5 per ticket
- Heavier emphasis on fast play games (e.g., Electric 8s, Money Mania, Flaming Hot Dice, etc.)





Key At-Risk PopulationsMales



- 41% screened as PGSI high risk gamblers; 1.6x odds
- 3x more likely to report household income \$100-\$150K
- 2x more likely to report full-time employment
- Increased odds of lottery play 2-6x per week, 2x odds of purchasing 4 tickets per week, and ~2x odds of spending \$4 per ticket
- More likely to play lottery draws



Key At-Risk Populations

Black and African Americans

22% PGSI high risk gamblers; 3.5x odds

1.8x the odds of citing COVID-19 negatively impacting employment

Over 2.5x the odds of gambling on lottery exclusively

 Increased odds of ticket purchases daily-to-6x per week, buying 3 tickets per week, and paying more than \$5 per ticket

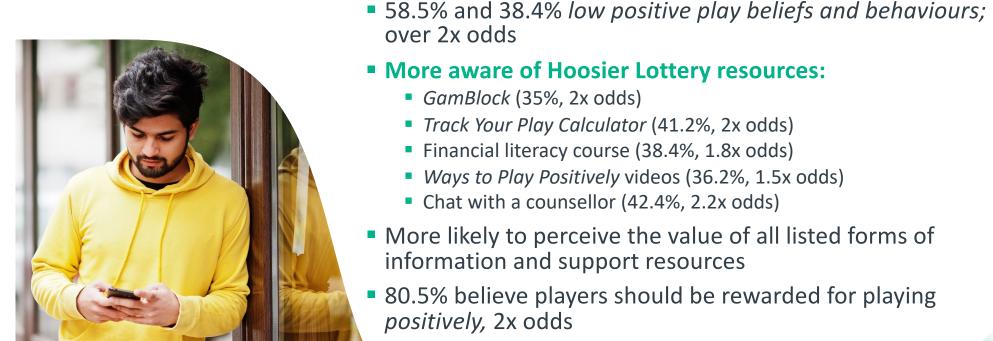
 Over 2.5x the odds of typically playing fast play games (e.g., Electric 8s, Money Mania, Flaming Hot Dice, etc.)





RG Deficits and Support Preferences

Young Adults



RG Deficits and Support Preferences Males

- Significant majority screened low positive play beliefs (49.4%)
- 57.3% low and moderate positive play behaviours
- High awareness of responsible gambling information and supports:
 - Indiana Problem Gambling Helpline
 - Local treatment agencies
 - Gambler's Anonymous
 - Indiana Problem Gambling Awareness Program
- Significant perceived benefit of all information and supports (except learning about odds of winning)





RG Deficits and Support Preferences

Black and African American



- 66% and 44.7% low positive play beliefs and behaviours
- Relatively strong awareness of support resources:
 - Indiana Problem Gambling Helpline and Gambler's Anonymous highest awareness (70% and 67%)
 - 50+% awareness of local treatment agencies, *Indiana PG*Awareness Program and Hoosier Lottery resources and tools
- 2x the odds of perceiving all listed information and supports as beneficial
- 75.7% believe players should be rewarded for playing responsibly



Phase 2: Synthesis and Summary

This study has taken an incremental step towards understanding the needs and options for addressing gambling risk and harm among lottery players (especially those in Indiana)

- Positive Play: Has shown promise, but applications and adoption are still underdeveloped (especially in the lottery field)
- Harm Prevention/Minimization: Improving risk identification and understanding the nature of risk and harm is the essential first step in segmenting and appropriately targeting interventions
- Treatment and referral: Young adults had greater awareness of online tools and support resources (many of which are hosted on the Hoosier Lottery website) and African American gamblers had greater odds of perceiving the benefit of available community supports

Implications and Future Research

- Key at-risk groups demonstrated significant interest towards RG and positive play interventions (e.g., learning how to manage the time and money spend gambling; strategies for keeping gambling fun; and learning about the odds of winning particular games)
- Second chance promotions (e.g., 2ndChance) requires much more research to understand its implications on gambling risk and potential pathways for improving alignment with RG and positive play
- Three identified at-risk populations may require segmented and tailored strategies for maximizing impact of positive play and harm prevention/minimization
 - Young adults may prefer services and resources that are easily accessible online (Clarke, Kuosmanen, & Barry, 2015), males may prefer self-help resources and action-oriented strategies (Ellis et al., 2013), and African American players may prefer local and community resources that help overcome institutional distrust (Haskins, 2018)

Thank you!

Questions or Comments?

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Authors	Date	Title	Study Design	Data Type
Felsher et al.	2004	Lottery participation by youth with gambling problems: are lottery tickets a gateway to other gambling venues?	Cross-sectional survey	Student/convenience sample; n=1,072
Ariyabuddhiphongs and Chanchalermporn	2007	A Test of Social Cognitive Theory Reciprocal and Sequential Effects: Hope, Superstitious Belief and Environmental Factors among Lottery Gamblers in Thailand	Cross-sectional survey	Ecological sample; n=150
Ariyabuddhiphongs and Phengphol	2008	Near miss, gambler's fallacy and entrapment: Their influence on lottery gamblers in Thailand	Field experiment	Ecological sample; n=400
Garrett and Coughlin	2008	Inter-temporal differences in the income elasticity of demand for lottery tickets	Repeated measure/longitudinal survey	Player data; n=220 (transactional)
Haisley et al.	2008	Myopic risk-seeking: The impact of narrow decision bracketing on lottery play	Field experiment	Ecological sample; n=239
McMullan and Miller	2009	Wins, Winning and Winners: The Commercial Advertising of Lottery Gambling	Secondary analysis of advertising data	Ecological sample; n=920
Ghent and Grant	2010	The demand for lottery products and their distributional consequences	Laboratory experiment	Player data; n=unknown (transactional)
Ariyabuddhiphongs	2011	Lottery Gambling: A Review	Review	N/A
Barnes et al.	2011	Gambling on the Lottery: Sociodemographic Correlates Across the Lifespan	Repeated measure/longitudinal survey	Community sample; n ₁ =2,631, n ₂ =2,274
Ding	2011	What numbers to choose for my lottery ticket? Behavior anomalies in the Chinese online lottery market	Field experiment	Player data; n=unknown (transactional)
Ye et al.	2012	Comparison of the addiction levels, sociodemographics and buying behaviours of three main types of lottery buyers in China	Cross-sectional survey	Recruited player/gambler sample; n=856
Wood and Griffiths	2014	Understanding Positive Play: An Exploration of Playing Experiences and Responsible Gambling Practices	Cross-sectional survey	Recruited player/gambler sample; n=1,693
Lien and Yuan	2015	Selling to Biased Believers: Strategies of Online Lottery Ticket Vendors	Field experiment	Ecological sample; n=41,418
Redondo	2015	Assessing the Risks Associated With Online Lottery and Casino Gambling: A Comparative Analysis of Players' Individual Characteristics and Types of Gambling	Cross-sectional survey	Recruited community sample; n=10,409
Apouey and Clark	2015	Winning big but feeling no better? The effect of lottery prizes on physical and mental health	Repeated measures/longitudinal survey	General population sample; n>15,000
Gainsbury et al.	2016	An Exploratory Study of Gambling Operators' Use of Social Media and the Latent Messages Conveyed	Gambling website audit	Australian casino, EGM, lottery; n=101
Cesarini et al.	2016	Wealth, Health, and Child Development: Evidence from Administrative Data on Swedish Lottery Players	Repeated measures/longitudinal survey	Player data; n=439,234 (secondary)
He and Klein	2018	Advertising as a Reminder: Evidence from the Dutch State Lottery	Observational	Player data; n=unknown

