

International Centre for Youth Gambling Newsletter



THE CORRELATION BETWEEN VIDEO GAME LOOT BOX SPENDING AND PROBLEM GAMBLING: WHAT WE KNOW AND WHAT WE DON'T

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Loot boxes are products inside video games that can be purchased by players with real-world money to obtain random rewards of varying value. While most loot box rewards are of limited interest, rare rewards are deemed to be highly valuable. In the example below, the more desirable 'Legendary' rewards can be obtained only 7.4% of the time. Players are known to purchase multiple loot boxes to attempt to chase after rare rewards. Notably, about a third of the most popular video games did not even reveal the probabilities of obtaining different rewards, even though this is very important information that players need to make informed purchasing decisions and companies are required to disclose it (Xiao, Henderson, et al., 2023).



Players are investing money into a randomised process through which they may gain or lose by either obtaining a rare and valuable reward or not. Accordingly, many have argued that loot boxes are structurally and psychologically similar to gambling (Drummond & Sauer, 2018). However, unlike traditional gambling, access to which is generally restricted to adults only, loot boxes are widely implemented in video games that are deemed suitable for children to play (e.g., attached with a E for Everyone rating by the ESRB or a 4+ rating by the Apple App Store) (Xiao, Henderson, et al., 2023; Zendle et al., 2020). This is permitted as most loot boxes are not regulated as 'gambling' under the laws of most countries (Xiao et al., 2022). Many stakeholders (players, parents, researchers, NGOs) are concerned about the potential harms loot boxes may cause, ranging from financial harms (from overspending) to emotional harms (guilt and shame as a result of engagement) (Mills et al., 2023).

Newsletter Highlights

Conferences 2023

Spotlight on Research

Durand Jacobs Award

Gift Responsibly Campaign

Publications

Presentations & Invited Addresses

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Importantly, a correlation between self-reported loot box expenditure and problem gambling has been found (Zendle & Cairns, 2018). The effect size is approximately $r = .26$ (Garea et al., 2021). This has been the main justification used to argue in favour of stricter regulation. This correlation has been consistently replicated across many studies in many countries: the UK (Close et al., 2022), Spain (González-Cabrera et al., 2021), Canada (Coelho et al., 2023), Australia and New Zealand (Drummond et al., 2020), etc. Meta analyses have also affirmed its existence and effect size (Garea et al., 2021; Spicer et al., 2021).

The main criticism against relying on this correlation is that it (of course) does not prove causation. It cannot be known whether people experiencing pre-existing gambling harms are spending more money on loot boxes; whether loot boxes are causing gambling harms; or, indeed, whether there is some other explanation for that relationship. Note, however, that longitudinal studies have recently been published indicating that young people who purchased loot boxes are more likely to engage in traditional gambling activities and spend more money on them six months later (Brooks & Clark, 2022; González-Cabrera et al., 2023).

The self-reported nature of the spending data and the problem gambling self-assessment process have also been highlighted as potentially rendering the research results less reliable (Yokomitsu et al., 2021). More objective sources of data (e.g., through data sharing by the industry) have not been forthcoming. The industry is arguably depriving the public and policymakers of the best available information due to conflicts with their own commercial interests. Do they have something to hide?

Three more important issues concerning this relationship should also be further scrutinised through future research.

Cultural factors

Firstly, gambling is viewed very differently across cultures. The availability of traditional gambling varies greatly across jurisdictions. Most Western countries have a liberalised, regulated gambling market, whilst many developing countries strictly prohibit gambling. For example, in Mainland China, only state-sponsored lotteries are permitted (Zeng & Zhang, 2007). We initially suggested that the relationship between loot box purchasing and problem gambling might be weaker in Mainland China than as reported in Western countries (Xiao, Fraser, et al., 2023). However, a later better-powered study did find a correlation of a comparable strength (Xiao et al., 2024). I am aware of at least one other study reporting a null result for differences amongst non-White samples (Gentles et al., 2022). More focus on how people from non-Western cultures and non-White players and ethnic minorities living in Western countries experience loot boxes would be well-advised.

Definitional issue

Secondly, Sidloski et al. (2022) have identified how some participants who said that they did not participate in gambling intriguingly reported a positive problem gambling score. It was therefore posited that, because many players (68%–86% according to Brooks and Clark (2022)) view loot boxes as a form of ‘gambling’, participants may have been referring (exclusively) to negative experiences with loot box purchasing when answering the problem gambling questions. For example, when interpreting the survey question: ‘Have you felt that you might have a problem with gambling?’, a participant who did not participate in traditional gambling but views purchasing loot boxes as a form of ‘gambling’ may decide to endorse that they ‘sometimes’ felt this way because of their negative experiences with loot boxes. A participant who did participate in traditional gambling could also be interpreting gambling as inclusive of purchasing loot boxes and thus reporting an increased frequency of experiencing gambling harms. This would be contrary to how researchers wanted participants to answer those questions. The relationship may therefore have been a result of loot box spending being positively correlated with experiencing harm through loot box purchasing, which would be tautological and inconsistent with the narrative that loot box spending is positively correlated with experiencing harm from traditional gambling. Two of our recent studies have attempted to address this concern.

Firstly, we found that a correlation existed between loot box spending and problem gambling amongst both non-gamblers ($r = .11$) and gamblers ($r = 0.27$) in the same sample, although note that it was much weaker amongst non-gamblers (Xiao, Fraser, et al., 2023). That a correlation existed at all amongst non-gamblers is interesting and supports the idea that the tautological issue identified by Sidloski et al. is occurring. The correlation amongst the whole sample ($r = .22$) may have been affected by the inclusion of non-gamblers.

Secondly, we conducted an experiment comparing whether the correlation would be affected depending on whether participants are given clear instructions about not considering purchasing loot boxes as a form of gambling when answering the problem gambling questions or not. Results (currently undergoing peer review) suggest that the correlation holds regardless (Xiao, Newall, et al., 2023). However, providing clear instructions about what ‘gambling’ means and asking participants to exclude negative experiences with loot boxes would provide more accurate data on problem gambling associated with traditional gambling. Future studies should take note and use improved survey designs.

Are there practical harms?

Finally, although the positive correlation between loot box spending and problem gambling appears to be true, as the concerns raised by Sidloski et al. have been addressed, mixed results have been presented as to whether loot box purchasing players are experiencing harm in practice. Drummond et al. (2022) found that loot boxes are disproportionately being purchased by players experiencing severe psychological distress. However, Etchells et al. (2022) have found no evidence of any relationships between loot box spending and mental wellbeing or psychological distress. Our own study of Chinese players found that, surprisingly, loot box spending appears to be positively correlated (albeit weakly) with mental wellbeing and psychological distress negatively predicted loot box spending (Xiao et al., 2024). This is despite a positive correlation being found between loot box spending and problem gambling, and when problem gambling is reasonably expected to negatively associate with mental wellbeing and positively associate with psychological distress.

The mere existence of the correlation is not proof that players spending money on loot boxes are experiencing harm. Further research is needed to understand what harms (if any) loot boxes might pose. We should properly recognise that loot boxes and other novel products involving randomisation are likely different from gambling in many ways, even though they might conceptually appear gambling-like.

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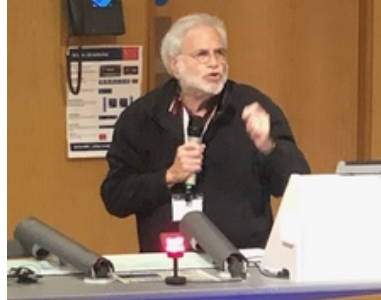
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CONFERENCES 2023

International Think Tank – London, England, June 26-27, 2023

Members from our team attended the International Think Tank meeting with Dr. Derevensky delivering a talk titled “Youth gambling: The need for a public health perspective.” The venue for the meeting was the historic Royal Society of Medicine, London and the meeting was opened with an address by Think Tank member Professor Henrietta Bowden-Jones OBE, Vice President of the Royal Society of Medicine. Henrietta is the Founder and Director of the National Problem Gambling Clinic, the first National Health Service Centre in the UK for the treatment of Gambling Disorder, which was established in 2008 and now operates 15 clinics nationwide. Fifty-three members participated in the Think Tank, coming from Australia, Canada, Denmark, Finland, Gibraltar, Italy, New Zealand, Sweden, The Netherlands and the United Kingdom.

There were three presenters per session, each giving a short, 10-minute, presentation outlining key knowledge and areas of concern for the topic. Following questions to presenters, Think Tank delegates then formed small ‘round table’ discussion groups to debate and examine implications of the topic from clinical practice, research, policy and public health perspectives. Following the small discussions groups, delegates rejoined the larger group to agree on important collaborative actions required for each topic to effect positive change in research, policy and practice. This innovative meeting format encouraged robust dialogue between participants and enabled participants to delineate action items to effect change.



Current Advances in Gambling Research Conference - London, England, June 28-29, 2023

Centre team members attended the Current Advances in Gambling Research Conference that brought together researchers from around the world. Dr. Derevensky presented a talk titled “New Insights about youth gambling - Understanding adolescent gambling problems incorporating a high-risk framework: Implications for prevention, treatment and policy.” Conference presentations were informative and sessions allowed for dialogue between researchers.

Bochum Conference on Gambling and Society - Bochum, Germany, September 20-22, 2023

Members of our team attended the Bochum Conference on Gambling and Society organized by the Institute for Gambling and Society (Institut für Glücksspiel und Gesellschaft – GLÜG at the Ruhr University in Bochum, Germany. This conference brought together participants from 15 countries presenting on topics related to gambling regulation as well as cross-cultural studies. Dr. Derevensky presented a talk titled “The impact of advertising on gambling and problem gambling: Our current state of knowledge and policy implications.”



Spotlight on Research Institutes Around the World

Institute for Gambling and Society (Institut für Glücksspiel und Gesellschaft – GLÜG Ruhr-Universität, Bochum, Germany

The Institute for Gambling and Society (Institut für Glücksspiel und Gesellschaft – GLÜG) is a joint research facility of the universities of Bochum, Düsseldorf and Wuppertal. The institute was founded in 2019 and is funded by the state lottery of the German Federal State of Northrhine-Westphalia and the private Union of the German Slot Machine Industry, initially for a period of five years, with the intention of further support for the coming years, which is currently under advisement.

GLÜG-directors are Justus Haucap (Düsseldorf – economics), Julian Krüper (Bochum – law – managing director), Mark Lutter (Wuppertal – sociology) and Sebastian Unger (Bochum – law). The institute's work encompasses sociological, economic and legal research with a particular focus on matters of gambling regulation which is due to the highly legalistic nature of the German gambling discourse.

The Institute strives to serve as platform for all stakeholders in the field of gambling: science, politics, industry, jurisprudence, as well as addiction-support- and self-help-actors. Research has focused on different aspects of gambling and gambling regulation. The Institute is routinely asked for its regulatory expertise in the legislative process of the German Federal States, particularly concerning the cornerstone framework of German gambling regulation, the state's Gambling Treaty.

Junior researcher Robin Anstötz is currently working on his Ph.D. thesis on mere symbolic gambling legislation in Germany, especially in the area of gambling regulation by the federal states. In his Ph.D. project, Florian Tautz examines the legal regulation of gambling from the perspective of the thoughts and arguments on merit and demerit goods originally developed by economists. Together they have published on network blocking of illegal gambling websites and other topics. Former researcher Sebastian Walisko has worked on legal aspects of gambling advertisement. In his Ph.D. project, former researcher Tobias Lüder examines the federal aspects of gambling regulation and asks about the possibility of a central federal gambling law. He has also written on the issue of the repayment of the stake in unlicensed gambling. Linus Weidner is currently working on his Ph.D. thesis that analyzes the impact of gambling on society from a sociological perspective. In his Ph.D. project, Talha Simsek examines the regulation of gambling from an economic perspective, with a focus on empirical research.

Recently, Mark Lutter and Linus Weidner completed a large-scale empirical study on motivational aspects of lottery players (publication in progress).

GLÜG-directors Julian Krüper and Sebastian Unger are currently editing a large scale handbook on „Glücksspiel und Glücksspielregulierung“ (Gambling and Gambling Regulation) that is forthcoming in 2024 with GLÜG-directors Justus Haucap und Mark Lutter as contributing authors, alongside others.

The Institute has hosted three conferences in Bochum since 2019, the largest one in September 2023 with participants from 15 countries. Since 2020, it has offered more than twenty online-talks on gambling and gambling law, called Digital Research Workshop on Gambling and Society, covering a wide span of topics and bringing together representatives from all walks of gambling research and practice. Among the topics covered were questions about the psychiatric aspects of gambling addiction (e.g. chasing losses), gambling with crypto currency, taxation of gambling, impact of the pandemic on gambling behaviour, gaming and gambling, international gambling regulation, and substitution or cannibalization between gambling industries. For more information see <https://www.glueg.org/>.

DURAND JACOBS AWARD 2023

The Durand Jacobs Award is given to the best graduate student paper related to the psychology of addictive behaviors. The reviewing panel consists of international experts in the field of addiction. This annual award is dedicated to Dr. Durand Jacobs' lifelong desire to help mentor students.

The recipient of the 2023 Durand Jacobs Award is Jenna Vieira for her manuscript titled "This Time with Feeling: In-Play Sports Betting as a Vehicle for Emotion Regulation."

Jenna is a first-year Masters student in Clinical Psychology at Toronto Metropolitan University. She has contributed to several peer-reviewed journal articles centered on identifying the demographic, psychological, gambling, and motivational factors that are related in-play sports betting. Broadly, she is also interested in conducting research that seeks to understand the risk factors and mechanisms of co-occurring anxiety and addictive disorders. Her thesis will examine the role of coping motives and experiential avoidance in the relationship between generalized anxiety disorder symptoms and alcohol use severity.



Abstract

Objective: The purpose of this research was to assess factors (i.e., emotion regulation, impulsivity) that motivate in-play sports betting. Specifically, we examined whether individuals report increased excitement after placing an in-play bet, and whether trait negative and positive urgency moderate the effect of emotion regulation motives on in-play betting frequency.

Method: Three cross-sectional studies were conducted, each following a major sporting event: Superbowl LVI (Study 1), March Madness Final (Study 2), and UEFA Champions League Final (Study 3). Participants were US (NStudy 1 = 111; NStudy 2 = 121) and UK (NStudy 3 = 239) residents who reported placing at least one in-play bet during the respective sporting events. Participants completed self-report measures of excitement, emotion regulation motives, in-play betting frequency, problem gambling, and trait affective impulsivity. Data from the three studies were pooled to conduct an integrative data analysis (IDA). **Results:** Participants reported increased excitement after placing an in-play bet ($p < .001$). In bivariate analyses, greater emotion regulation motives were associated with greater in-play betting frequency ($p < .05$). In moderation analyses, emotion regulation motives interacted with trait negative ($p < .001$) and positive urgency ($p < .001$) to predict in-play betting frequency, such that the bivariate effects were amplified among those higher (relative to lower) in trait affective impulsivity.

Conclusions: In-play sports betting is an exciting activity that people who gamble may engage in to regulate their emotions. These effects are amplified in those with high trait affective impulsivity. Responsible gambling tools such as mandatory play breaks may discourage the continuation of impulsive betting episodes.

Public Health Significance: This research indicates that individuals with a trait tendency to behave impulsively when experiencing intense emotions are more likely to place in-play bets. Results highlight affective impulsivity as a risk factor for engaging in a potentially risky form of sports betting. Findings are strengthened by the use of a novel research design wherein measures were taken closely following three specific major sporting events in samples of individuals who endorsed in-play betting on these events.

GIFT RESPONSIBLY CAMPAIGN

Each year, McGill University's International Centre for Youth Gambling Problems and the National Council on Problem Gambling (NCPG) ask lottery corporations to support our responsible gambling campaign and help raise awareness regarding the risks of underage lottery play during the holiday season. In 2023, once again, 100% of Canadian and U.S. lotteries, along with numerous international lotteries and non-lottery organizations, have joined the Campaign to promote responsible gambling. The Campaign is also endorsed by the North American Association of State and Provincial Lotteries (NASPL), the World Lottery Association (WLA) and the European Lotteries (EL).



The 2023 Gift Responsibly Campaign participants include:

Lottery Level 3

AGLC, Arkansas Scholarship Lottery, California State Lottery, Colorado Lottery, Connecticut Lottery Corporation, Florida Lottery, Hoosier Lottery, Illinois Lottery, Lotto New Zealand, Michigan Bureau of State Lottery, The Mississippi Lottery Corporation, New Jersey Lottery, NYS Gaming Commission, Division of Lottery, Office of Lottery and Gaming (DC Lottery), Ohio Lottery Commission, Oregon Lottery, Pennsylvania Lottery, Texas Lottery Commission, Virginia Lottery.

Lottery Level 2

BCLC, Delaware Lottery, Hrvatska Lutrija d.o.o., Kentucky Lottery, Lotterywest, Massachusetts State Lottery, Minnesota Lottery, Missouri Lottery, NC Education Lottery, New Mexico Lottery, PLI, Rhode Island Lottery, South Carolina Education Lottery.

Lottery Level 1

Arizona Lottery, Atlantic Lottery, Bulgarian Sports Totalizator (Sports Toto), Georgia Lottery Corporation, Idaho Lottery, Iowa Lottery, Kansas Lottery, Lotería de la Provincia de Córdoba Sociedad del Estado, Loterija Slovenije, Loto-Québec, Lottotech Ltd, Louisiana Lottery Corporation, Maine Lottery, Manitoba Liquor & Lotteries, Maryland Lottery & Gaming Control Agency, Montana Lottery, Nebraska Lottery, New Hampshire Lottery Commission, Nova Scotia Gaming, Oklahoma Lottery, Ontario Lottery and Gaming, Österreichische Lotterien GmbH (Austrian Lotteries), Sask Lotteries, SAZKA, South Dakota Lottery, Szerencsejáték Zrt., Tennessee Education Lottery, TIPOS, národná lotériová spoločnosť, a. s., Ukrainian National Lottery, Vermont Lottery, Washington's Lottery, West Virginia Lottery, Western Canada Lottery Corporation, Wisconsin Lottery, WyoLotto.

Non-Lottery Participants

AdCare Educational Institute of Maine, Amplify, Arkansas Problem Gambling Council, Armstrong Indiana Clarion Drug and Alcohol Commission, Association House of Chicago, Blair Drug and Alcohol Partnerships, Blue Ridge Behavioral Healthcare, Bucks County Drug & Alcohol Commission, Inc., CCGP, CCSL Prevention Services, Central East Alcoholism and Drug (CEAD) Council, dba Hour House, Chesterfield Mental Health Support Services (CSB), Chestnut Health Systems, Choices Treatment Center, City of New Britain Local Prevention Council, City of Virginia Beach, Community and Family Resources, COMPASS Family and Community Services, Compass Mark, Council on Alcoholism and Addictions, Council on Chemical Abuse, Cumberland Mountain Community Services, Doura-Schawohl Consulting LLC, East Central Ohio Educational Service Center, Eastern Shore Community Services Board, Evergreen Council on Problem Gambling, The Florida Council on Compulsive Gambling, Inc., Franklin County ADAMH, G3 Group Agency, LLC, Hanover CSB, Highlands Community Services, IGT, Illinois Association for Behavioral Health, Illinois Council On Problem Gambling, Illinois Department of Human Services, Division of Substance Use Prevention and Recovery, Illinois Helpline, Indiana Council on Problem Gambling, Iroquois Mental Health Center, Jackpocket, Kansas Department for Aging and Disability Services, Lake Geauga Recovery Center, Lakeshore Regional Entity, Lawrence County Drug and Alcohol Commission Inc, The LCADA Way, Lotto.com, The MA Council on Gaming and Health (MACGH), Maine Council On Problem Gambling, Maryhaven, Maryland Center of Excellence on Problem Gambling, Mason County Family Resource Network/Prevention Coalition, Michigan Gaming Control Board, Minnesota Alliance on Problem Gambling, New York Council on Problem Gambling, Nicasa Behavioral Health Services, Northwestern Community Services Board, Office of Recovery Services, Ohio Department of Mental Health & Addiction Services, Oklahoma Association on Problem Gambling and Gaming, Piedmont Community Services, Pollard Banknote Limited, Prevention Action Alliance, The Problem Gambling Help Network of West Virginia, Problem Gambling Network of Ohio, Recovery Resources, Scientific Games, Southwest Kansas Problem Gambling Taskforce, Stark County Mental Health & Addiction Recovery, Sunrise Community for Recovery and Wellness, Townhall II, Trumbull County Mental Health & Recovery Board, United Way of Seneca County, United Way Problem Gambling Coalition, University of Louisiana at Monroe, Valley Community Services Board, Vermont Department of Mental Health, Virginia Council on Problem Gambling, Washington Drug and Alcohol Commission, Way Back Inn, WI Council on Problem Gambling, Wyoming Council on Problem Gambling, Wyoming Valley Alcohol and Drug Services, Inc., Your Life Iowa.

PUBLICATIONS

In Press

Journal Articles

Sciola, A., Marchica, L., Kruse, J. & Derevensky, J. (in press). Gambling helplines: What prompts gamblers and loved ones to call? *Journal of Gambling Studies*.

Mestre-Bach, G., Demetrovics, Z., Derevensky, J., Fernandez-Aranda, F., Gainsbury, S., Jimenez-Murcia, S., Kraus, S. & Potenza, M. (in press). Online gambling in youth. *Pediatrics*.

Book Chapters

Derevensky, J. (in press). Behavioral addictions among elite athletes: Excessive gambling and gaming. In C. Reardon (Ed.), *Mental health care for elite athletes*. London: Springer Nature.

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Richard, J. & Derevensky, J. (in press). Counselling interventions for youth problem gambling. In M. Zangeneh, J. Landon & S. Rodda (Eds.) *Counselling approaches for gambling disorder: An empirical review*.

Journal Articles

Fletcher, E., Richard, J., Boutin, S., Lemieux, A., Dery, M., Derevensky, J., & Temcheff, C. (2023). Trajectory classes of externalizing and internalizing symptoms to adolescent gambling participation: An exploratory study. *Journal of Gambling Studies*, 37, 1751-1763. <https://doi.org/10.1007/s10899-022-1082-y>

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PRESENTATIONS

Richard, J., Ivoska, W. & Derevensky, J. (2023). Understanding esports bettors: Are they a homogeneous group? Paper presented at the 84th Canadian Psychological Association Annual Conference, Toronto, June.

Derevensky, J. & Kruze, J. (2023). Who calls a gambling helpline? Understanding gamblers and loved ones who call. Paper presented at the 18th International Conference on Gambling and Risk Taking, Las Vegas, May.

Richard, J., Deng, H., Ivoska, W., & Derevensky, J. (2023). Adolescent problem gambling and gaming behaviors: The predictive role of adverse childhood experiences and mental health symptoms. Paper presented at the 18th International Conference on Gambling and Risk Taking, Las Vegas, May.

Gorgonio, P., Tarter, B., Derevensky, J. & Curtis, K. (2023). Predicting gambling intention of social casino game players: Reasoned action approach and social casino gaming advertisements. Paper presented at the 18th International Conference on Gambling and Risk Taking, Las Vegas, May.

INVITED ADDRESSES

Derevensky, J. (2023). The impact of gambling advertisements on gambling behavior. Invited presentation at the Institute for Gambling and Society Conference. Ruhr-Universität Bochum, Germany, September.

Derevensky, J. (2023). New insights about youth gambling: Understanding adolescent gambling problems incorporating a high risk framework. Implications for treatment and prevention. Invited keynote at the Current Advances in Gambling Research Conference. London, U.K., June.

Derevensky, J. (2023). Youth gambling: The need for a public health perspective. Invited presentation to the International Think Tank of Gambling Research, Policy and Practice, London, U.K., June.

Derevensky, J. (2023). Understanding youth gambling problems: Treatment and prevention approaches. Invited presentation at the Western Regional Conference on Problem Gambling Awareness. Tukwila, WA, May.

Derevensky, J. (2023). Youth gambling: New insights and the need for a public health perspective. Invited presentation at the Western Regional Conference on Problem Gambling Awareness. Tukwila, WA, May.

Derevensky, J. (2023). Understanding youth gambling problems: Prevention and treatment implications. Invited keynote address presented at Centerstone's 4th Annual Problem and Compulsive Gambling Symposium. Presented remotely, March.

Derevensky, J. (2023). Sports wagering: Harmless fun or cause for concern? Invited keynote presented at the Arizona Problem Gambling Symposium, Tempe, Arizona, March.

