The dangers of conflating gambling-related harm with disordered gambling

Commentary on: Prevention paradox logic and problem gambling (Delfabbro & King, 2017)

MATTHEW BROWNE* and MATTHEW J. ROCKLOFF

School of Health, Medical, and Applied Sciences, Central Queensland University, Branyan, QLD, Australia

In their critical review of the prevention paradox (PP) applied to gambling-related harm, Delfabbro and King (2017) raise a number of concerns regarding specific assumptions, methods, and findings as well as the general conceptual approach. Besides discussing the PP, the review also considers the merits of considering a "continuum of harm," as opposed to the more traditional categorical approach to classifying problem gamblers. Their critique is carefully modulated and balanced, and starts a useful dialogue in the context of a public health approach to gambling. Unfortunately, some of Delfabbro and King's (2017) arguments rest on the treatment of gambling harm as a binary state and conflates gambling-related harm with disordered gambling. In this reply, we argue that the application of PP logic to gambling harm has not yet been addressed by us, and is only indirectly related to the more important objective of understanding how gambling can reduce ones' quality of life.

INTRODUCTION

As outlined by Delfabbro and King (2017), the prevention paradox (PP) logic refers to a situation where "*A large number of people exposed to a low risk is likely to produce more cases than a small number of people exposed to a high risk*" (Rose, 1981, p. 1849). The "paradox" arises because the benefits of any mass intervention in the low-risk population are unlikely to have much benefit to the vast majority of people, and thus people have little incentive to support such interventions. Why would I limit my alcohol intake, for example, when it's very unlikely to cause my death of rectal cancer? Yet, these same mass interventions in low-risk populations, if successful, are likely to greatly reduce death and disease. In our work, we suggest that "gambling harm" is the outcome that should be reduced and therefore it is implicit that any mass interventions that reduce harm should greatly increase public welfare. Of course, the PP may apply here: people have little incentive to support such interventions unless they can be framed as an immediate benefit.

A FOCUS ON HARM RATHER THAN MENTAL ILLNESS

Delfabbro and King (2017) go on to explore the application of the PP to gambling-related harm, extracting two lines of argument fundamental to the PP logic: (1) that the highest number of problem cases emerge from the lower-risk population and (2) that the burden of harm and the corresponding benefits of intervention are greater in the lower-risk population.

However, their interpretation of argument 1 is ambiguous, as a "problem case" may be taken to refer to either (a) a problem gambler (PG) case or (b) the prevalence of a specific harm from gambling. Given the findings in three main cited studies (Browne et al., 2016; Canale, Vieno, & Griffiths, 2016; Raisamo, Mäkelä, Salonen, & Lintonen, 2015) related to the second interpretation (b), this is the one that might well be assumed. However, in their discussion, Delfabbro and King (2017) go on to discuss a potential merit of the PP being that the low-risk population may be the ultimate source of the majority of PGs, and imply that a benefit of focusing on lower-risk populations is to prevent potential severe cases from arising. In contrast, we were not focused on disordered gambling (a mental health condition) as the outcome but rather the occurrence of individual harms. This is the outcome that public health officials most want to prevent or at least reduce.

The ambiguity in defining a "case" reflects an important conceptual difficulty in applying PP logic to gambling. Traditionally, PP clearly distinguishes between the risk factor (e.g., smoking) and a single, discrete, diagnosable harmful condition (e.g., lung cancer). For gambling harm, in contrast, the risk factor is taken to be a measure of

* Corresponding author: Matthew Browne; School of Health, Medical, and Applied Sciences, Central Queensland University, 1 University Drive, Branyan 4670, QLD, Australia; Phone: +61 7 4150 7002; E-mail: m.browne@cqu.edu.au

disordered gambling, mostly popularly measured by a population screen such as the Problem Gambling Severity Index (PGSI; Ferris & Wynne, 2001), which classifies individuals as recreational gamblers (RG), low-risk gamblers (LR), moderate-risk gamblers (MR), and PGs. However, there is an immediate tautology – since gambling problems traditionally encompasses at least some negative consequences (i.e., harms). Furthermore, potential specific indicators of harm from gambling are highly comorbid, diverse, and numerous. It becomes conceptually awkward – if not misleading – to think of each indicator as a separate "case," as is needed to apply PP logic. In our view, it is much more reasonable to treat them as mere indicators of gambling harm, which is understood to occur on a continuum, from mild to severe. Accordingly, Browne et al. (2016) do not mention or address the PP at all in assessing the population-level burden of gambling harm, but rather aimed to assess the amount of harm, in aggregate, occurring in different gambling problem risk categories.

WHY LANGUAGE MATTERS AND CAUSES CONFUSION

The labeling of the PGSI categories creates a natural opportunity for conceptual confusion. The so-called "low-risk" gambling and "moderate-risk" gambling categories of the PGSI suggest through labeling that they are simply weigh-stations on the road to a full-fledged mental health problem. In fact, rather than representing "risk" for problem gambling, these categories are only labels for people with lesser collections of problem-gambling symptoms – including negative consequences. The result from our work was that, in aggregate and weighted by severity, the burden of harm (in terms of quality of life, not the count of harms) was occurring in the so-called "low-risk" category of consumers. This is not the same proposition as the logic underlying the PP, but rather a simpler observation that a collection of people who had been assumed to be suffering zero to minimal harm were, at least in aggregate, suffering the greatest burden of harm in the population. Moreover, we make no strong assumptions about the impact of any given harm indicator, for example, credit card debt, but rather consider the overall impact of all harms affecting each person in our sample.

WHAT ABOUT THE PP?

Despite the conceptual problems in mapping the PP to gambling problems, it nevertheless may be beneficial to explore the PP in this context. However, we must keep in mind that in the context of gambling, the true PP logic question is whether, *for each specific indicator of gambling harm, what proportion of instances emerge from RG, LR, MR, and PG categories*. For any discrete harm, if people can accurately nominate whether that harm *did or did not* occur because of their gambling, we can simply observe if more cases of harm appear in the population from the categories of RG, LR, MR, or PG. This would be an evidence base for

the PP, but necessarily evaluated separately for each harm as a "case." Given that we have no absolute measure of impact for each indicator, such a finding does not directly bear on the burden of harm. Our past results, however, used specific harms as no more than *stimuli* for an independent evaluation of per-person quality-of-life impact that was subsequently aggregated for LR, MR, and PGs. Accordingly, our work did not address (or rely on) the logic of the PP.

WHAT IS A "BAD HARM" AND WHO DECIDES?

Some specific harms may yield a negligible impact on quality of life, while others may have a severe impact. Delfabbro and King (2017) discuss harm in a binary sense, with respect to "harmed individuals" and raise the question of whether one is "truly" being harmed or not. However, standard WHO methodology treats the impact of quality of life as a *continuous* unitary quantity per person; that is, a degree of harm, which is conceptually distinct from the various factors that may drive it. This quantity may be elicited using a variety of protocols that involve evaluation of typical symptomatology. Once a per-person estimate of harm is created, this estimate is then linked to population prevalence data to generate a population-level description of the distribution of harm. To apply such a methodology to gambling is a difficult and complex; and as a result, the first steps that have been taken in this regard (Browne, Greer, Rawat, & Rockloff, 2017) must be regarded as preliminary. However, Delfabbro and King (2017) suggest that we consider a "meaningful threshold" in evaluating whether or not specific harms are truly reducing a person's quality of life. Using the WHO elicitation paradigm, respondents are free to respond zero or "none at all," in describing the quality of life impact of a given set of gambling "symptoms" (or specific harms). Thus, WHO methods specify a means to evaluate the severity (or not) of symptoms using elicited judgments made by experts, sufferers of the condition, or the community. In our estimation, it is more accurate for many people, including experts, to rate their subjective experience or best evaluation of the impacts of harm than for us, as researchers, to make prior decisions about what harm is "bad" and what is instead trivial. In sum, we advise against categorical thinking and arbitrary thresholds, in favor of empirically derived graduations of both risk and consequences.

SHOULD GAMBLING HARM BE MEASURED DICHOTOMOUSLY OR AS A CONTINUOUS VARIABLE?

Delfabbro and King (2017) raise a fundamental criticism in regard to treating per-person harm as a "liquid," that is, a continuous quantity. They dispute whether it is possible to compare mild with severe versions of a condition, making the case that these states are qualitatively different and therefore incomparable. The contrary position, that it *is* possible to compare different health states using a singular continuous quality of life metric, was first comprehensively

delineated by Murray ([1994](#)), and in the last 20 years has subsequently formed a fundamental premise by the WHO to evaluate many hundreds of conditions (Salomon et al., [2012](#)). A defense of the utilitarian philosophical basis of this core assumption is beyond the scope of this commentary. However, we note that to reject this premise, one must also reject the possibility of a quantitative approach of assessing gambling-related harm – or indeed the population-level impact of *any* health condition. We concede that disordered gambling may be a mental health condition that is qualitatively different from milder experiences of gambling harm. However, our work considers *harms* as the outcome, and not someone's mental health. We argue that harms and their negative impact on quality of life are an important issue to address regardless of whether the sufferer has a mental health condition.

METHODOLOGICAL CHALLENGES

In principle, WHO elicitation methodology automatically accomplishes Delfabbro and King's ([2017](#)) recommendation of ensuring that mild harms are appropriately weighted or even disregarded. However, Delfabbro and King's ([2017](#)) allude to several important methodological challenges in eliciting quality of life impact, including framing effects and stigma toward gambling, that may cause an upward response bias at the lower end of the spectrum. While these effects may induce some bias, the magnitude of such effects would have to be very large to alter our fundamental conclusions regarding a large quantum of harm among the set of so-called LR gamblers. We concur with Delfabbro and King ([2017](#)), however, that to achieve a fully balanced picture of milder forms of harm, it is important to account for the benefits of gambling. This has not yet been done, and in our view, represents an important research priority.

SUMMARY

In our estimation, the critique by Delfabbro and King ([2017](#)) makes some errors in the interpretation of our work. First, our work did not address the logic of the PP, but rather something superficially similar. We made an observation that the burden of quality of life impact, from an accumulation of multiple harms, rests heavily on the group of people who are often described as LR gamblers. The PP logic remains unaddressed in our data, although we have outlined a means here by which this might be accomplished. Second, Delfabbro and King ([2017](#)) suggest harms that do not meet a "meaningful threshold" for impacting on people's quality of life be excluded from consideration. However, our method for aggregation of harms allowed that some harms may be trivial or have zero impact, and we used a large collection of experts, gamblers and others to make these judgments. Finally, Delfabbro and King ([2017](#)) suggested that the value of mass interventions on so-called LR gamblers is found in preventing people from becoming PGs. In contrast, we suggest that the value of mass interventions is to reduce mild-to-moderate harms accruing to the larger number of non-PGs. In fact, we believe that viewing disordered gambling, a mental health condition, as the only outcome worthy of study is a real risk to research and policy aimed at improving public welfare.

REFERENCES

Browne, M., Greer, N., Rawat, V., & Rockloff, M. (2017). A population-level metric for gambling-related harm. *International Gambling Studies, 17*(2), 163–175. doi:10.1080/14459795.2017.1304973

Browne, M., Langham, E., Rawat, V., Greer, N., Li, E., Rose, J., Rockloff, M., Donaldson, P., Thorne, H., Goodwin, B., Bryden, G., & Best, T. (2016). *Assessing gambling-related harm in Victoria: A public health perspective.* Melbourne, Australia: Victorian Responsible Gambling Foundation.

Canale, N., Vieno, A., & Griffiths, M. D. (2016). The extent and distribution of gambling-related harms and the prevention paradox in a British population survey. *Journal of Behavioral Addictions, 5*(2), 204–212. doi:10.1556/2006.5.2016.023

Delfabbro, P., & King, D. (2017). Prevention paradox logic and problem gambling: Does low-risk gambling impose a greater burden of harm than high-risk gambling? *Journal of Behavioral Addictions, 6*(2), 163–167. doi:10.1556/2006.6.2017.022

Ferris, J., & Wynne, H. (2001). The Canadian Problem Gambling Index. Ottawa, ON, Canada: Canadian Centre on Substance Abuse. Retrieved from http://ccgr.ca/sites/default/files/CPGI-Final-Report-English.pdf

Murray, C. J. (1994). Quantifying the burden of disease: The technical basis for disability-adjusted life years. *Bulletin of the World Health Organization, 72*(3), 429–445.

Raisamo, S. U., Mäkelä, P., Salonen, A. H., & Lintonen, T. P. (2015). The extent and distribution of gambling harm in Finland as assessed by the Problem Gambling Severity Index. *European Journal of Public Health, 25*(4), 716–722. doi:10.1093/eurpub/cku210

Rose, G. (1981). Strategy of prevention: Lessons from cardiovascular disease. *British Medical Journal, 282*(6279), 1847–1851. doi:10.1136/bmj.282.6279.1847

Salomon, J. A., Vos, T., Hogan, D. R., Gagnon, M., Naghavi, M., Mokdad, A., Begum, N., Shah, R., Karyana, M., Kosen, S.,

Farje, M. R., Moncada, G., Dutta, A., Sazawal, S., Dyer, A., Seiler, J., Aboyans, V., Baker, L., Baxter, A., Benjamin, E. J., Bhalla, K., Bin Abdulhak, A., Blyth, F., Bourne, R., Braithwaite, T., Brooks, P., Brugha, T. S., Bryan-Hancock, C., Buchbinder, R., Burney, P., Calabria, B., Chen, H., Chugh, S. S., Cooley, R., Criqui, M. H., Cross, M., Dabhadkar, K. C., Dahodwala, N., Davis, A., Degenhardt, L., Díaz-Torné, C., Dorsey, E. R., Driscoll, T., Edmond, K., Elbaz, A., Ezzati, M., Feigin, V., Ferri, C. P., Flaxman, A. D., Flood, L., Fransen, M., Fuse, K., Gabbe, B. J., Gillum, R. F., Haagsma, J., Harrison, J. E., Havmoeller, R., Hay, R. J., Hel-Baqui, A., Hoek, H. W., Hoffman, H., Hogeland, E., Hoy, D., Jarvis, D., Karthikeyan, G., Knowlton, L. M., Lathlean, T., Leasher, J. L., Lim, S. S., Lipshultz, S. E., Lopez, A. D., Lozano, R., Lyons, R., Malekzadeh, R., Marcenes, W., March, L., Margolis, D. J., McGill, N., McGrath, J., Mensah, G. A., Meyer, A. C., Michaud, C., Moran, A., Mori, R., Murdoch, M. E., Naldi, L., Newton, C. R., Norman, R., Omer, S. B., Osborne, R., Pearce, N., Perez-Ruiz, F., Perico, N., Pesudovs, K., Phillips, D., Pourmalek, F., Prince, M., Rehm, J. T., Remuzzi, G., Richardson, K., Room, R., Saha, S., Sampson, U., Sanchez-Riera, L., Segui-Gomez, M., Shahraz, S., Shibuya, K., Singh, D., Sliwa, K., Smith, E., Soerjomataram, I., Steiner, T., Stolk, W. A., Stovner, L. J., Sudfeld, C., Taylor, H. R., Tleyjeh, I. M., van der Werf, M. J., Watson, W. L., Weatherall, D. J., Weintraub, R., Weisskopf, M. G., Whiteford, H., Wilkinson, J. D., Woolf, A. D., Zheng, Z. J., Murray, C. J., & Jonas, J. B. (2012). Common values in assessing health outcomes from disease and injury: Disability weights measurement study for the Global Burden of Disease Study 2010. *The Lancet, 380*(9859), 2129–2143. doi:10.1016/S0140-6736(12)61680-8