

Supplementary Materials

Agnogenic practices and techniques in youth education programmes – further examples

Another example of the *omission of important qualifying information* technique was how the toolkit drew on a theoretical framework developed by Keen et al.¹ that the authors claimed could be used to improve impacts of, and youth engagement with, gambling education programmes (a paper co-authored by researchers with links to the gambling industry² or links to organisations that receive industry-derived funds).³ This source was cited in support of the following statement:

For example, educating young people about common fallacies and misconceptions around gambling may be a good way to engage them on the topic of gambling.[reference to Keen et al.] Young people who believe in fallacies such as ‘The Gambler’s Fallacy’ [...] are more likely to experience gambling harm, and correcting these misconceptions is an important strategy for preventing harm. Educating young people about gambling fallacies is particularly effective when it is part of a wider programme of learning on risk and probability.

While the use of the word “may” does at least recognise that the evidence is not definitive, the relevant text fails to note that the paper cited simply sets out a conceptual framework and does not include any primary research on the approach being promoted. However, the statement that what is proposed “*is* [emphasis added] an important strategy for preventing harm” potentially negates the earlier use of the word “may”.⁴ The GambleAware/PSHE Association Teacher handbook also references this article, as well as a review by the same authors in a way that illustrates *omission of important qualifying information, illicit generalisation* and the *tweezers method* (by ‘tweezering’ a particular author recommendation from a systematic review whose overall finding was of a lack of robust empirical studies on youth gambling education programmes).^{5,6}

Agnogenic practices can also be observed in the ways evidence is cited to support claims made about the effectiveness of PSHE education in general. The GambleAware/PSHE Association Teacher handbook states that:

PSHE (personal, social, health and economic) education is the school curriculum subject which prepares young people for life and work in a rapidly changing world, helping to keep pupils safe and healthy while boosting their life chances and supporting their academic attainment.⁷

However, the source referenced in support of this statement is a report directed at policymakers authored by the PSHE Association in support of PSHE education and making the case for it to be given a

statutory status in UK education curricula. The PSHE Association webpage from which the document is accessed states: “[c]ompelling evidence that PSHE – when taught well - helps keep children and young people safe, mentally and physically healthy and prepared for life and work.”⁸

The policy report has 89 references but in the section on physical health and risk-taking behaviours (the section of relevance to the claim in which it is used as an ostensibly validating source) a Cochrane review of the evidence of the effectiveness of Health Promoting Schools (HPS) interventions⁹ is referenced to support the following statement:

There is strong evidence of the health impacts of the kind of learning provided by PSHE education: a recent Cochrane Review [citation to Cochrane review] demonstrated that PSHE type health education programmes can improve pupils’ health behaviours as part of a whole-school approach, positively affecting their diet and lifestyle (in line with Government efforts to reduce obesity) and reducing substance misuse; it also showed promising results in relation to reducing bullying and violence.¹⁰

While the review did find evidence of effectiveness for some outcomes (tobacco use, body mass index (BMI), physical activity and fitness, fruit and vegetable intake, and being bullied), its authors concluded that, across a range of health issues, the quality of evidence was low to moderate and ‘risk of bias’ assessment found important methodological limitations (such as a heavy reliance on self-reported data and high attrition rates) of included studies.⁹ The review noted little long-term follow-up, little evidence of effectiveness in relation to BMI and, crucially, no evidence of effectiveness for fat intake, alcohol use, drug use, mental health, violence and bullying others, although few studies addressed these topics. Few studies reported on academic achievement as an outcome, precluding any clear conclusions about it. Perhaps of greatest importance in this context, there were no studies of the effectiveness of HPS interventions targeting youth gambling or gaming. The review authors also noted the paucity of studies that included any assessment of unintended harmful consequences of the interventions, or used standard equity criteria alongside impact measurements.⁹ The use of the policy document and in turn the Cochrane review (viewed as the secondary source for the purpose of this analysis) in this way represents clear *misstatement of key findings, illicit generalisation and omission of important qualifying information* that together misrepresent the evidence by obscuring the much more nuanced and limited evidence of the effectiveness of PSHE and the very important methodological limitations of this body of literature.

Reference to the study by Donati et al¹¹ in the GambleAware/PSHE Association Teacher handbook, can be interpreted as an example of *observational selection / cherry picking*. By highlighting this single study, the approach adopted by the programme – teaching about erroneous cognitions and casting the individual as the problem and in need of intervention – is supported and legitimised. This deflects from the literature

on how this conceptualisation of gambling harms ignores the impacts of product design and gambling normalisation, how it is favourable to industry interests, and that it has emerged from an international research field largely funded by the gambling industry for almost 40 years.¹²⁻¹⁷ It also obscures the evidence on counter-marketing strategies which points to the effectiveness of teaching about how an industry has overstepped social values and undermines individual agency. The handbook did list some of the ways in which the industry acts to encourage gambling activities - “[i]t is plausible that helping young people to become aware of these techniques can help them to be more resilient to them” – but this statement is unreferenced. This is despite the commissioned literature review citing studies using this approach in other fields (such as tobacco), before going on to discuss its potential applicability to gambling prevention education (see below). Thus, the GambleAware/PSHE Association Teacher handbook selectively cited the study by Donati et al. (also referenced in the commissioned literature review) but did not reference the studies on counter-marketing.¹⁸ Referencing of the concept paper by Keen et al. in the Fast Forward toolkit is similarly an example of *observational selection / cherry picking*, in that this particular study serves in part to legitimise a focus on the individual, their erroneous beliefs, and their lack of knowledge as the locus of the problem, which can be addressed by teaching about how gambling works and making ‘better’ choices.

References:

1. Keen B, Anjoul F, Blaszczynski A. How learning misconceptions can improve outcomes and youth engagement with gambling education programs. *J Behav Addict* 2019; **8**(3): 372-83.
2. International Gambling Studies. Editorial board. <https://www.tandfonline.com/action/journalInformation?show=editorialBoard&journalCode=rigs20> (accessed March 21 2022).
3. Brain and Mind Centre The University of Sydney. GambleAware Central Sydney. https://www.sydney.edu.au/brain-mind/our-clinics/gambling-treatment-clinic.html#uniqueId_MZBC6svT_1_button (accessed March 21 2022).
4. Gamble Education Toolkit 2021: Fast Forward and GambleAware, 2021.
5. Keen B, Blaszczynski A, Anjoul F. Systematic Review of Empirically Evaluated School-Based Gambling Education Programs. *J Gambl Stud* 2017; **33**(1): 301-25.
6. How to address gambling through PSHE education Teacher handbook: GambleAware and PSHE Association, <https://pshe-association.org.uk/search?queryTerm=gambling>.
7. Gambling A Teaching Resource to Promote Resilience: PSHE Association.
8. PSHE Association. A curriculum for life: the case for statutory PSHE education A report outlining the case for making PSHE education a statutory subject. <https://pshe-association.org.uk/evidence-and-research/a-curriculum-for-life-case-statutory-pshe-education> (accessed January 31, 2022).
9. Langford R, Bonell CP, Jones HE, et al. The WHO Health Promoting School framework for improving the health and well-being of students and their academic achievement. *Cochrane Database of Systematic Reviews* 2014; (4).
10. PSHE Association. A curriculum for life The case for statutory Personal, Social, Health and Economic (PSHE) education, 2017, <https://fs.hubspotusercontent00.net/hubfs/20248256/Evidence%20and%20research/Curriculum%20for%20life%20December%202017%2012.06%2019%20Dec.pdf?hsCtaTracking=914ffc1f-6dec-4741-842a-76d68fce778f%7C87767eca-5be8-4996-a5fd-999c6243438f>.
11. Donati MA, Chiesi F, Iozzi A, Manfredi A, Fagni F, Primi C. Gambling-Related Distortions and Problem Gambling in Adolescents: A Model to Explain Mechanisms and Develop Interventions. *Frontiers in Psychology* 2018; **8**.
12. Adams PJ. Moral Jeopardy: Risks of Accepting Money from the Alcohol, Tobacco and Gambling Industries. Cambridge, United Kingdom: Cambridge University Press; 2016.
13. Adams PJ, Livingstone C. Addiction surplus: the add-on margin that makes addictive consumptions difficult to contain. *Int J Drug Policy* 2015; **26**(1): 107-11.
14. Cassidy R. Vicious Games: Capitalism and gambling. London: Pluto Press; 2020.
15. Schüll ND. Addiction by Design: Machine Gambling in Las Vegas: Princeton University Press; 2014.
16. Vrecko S. Capital ventures into biology: biosocial dynamics in the industry and science of gambling. *Economy and Society* 2008; **37**(1): 50-67.
17. Young M. Statistics, scapegoats and social control: A critique of pathological gambling prevalence research. *Addiction Research & Theory* 2013; **21**(1): 1-11.
18. Blank L, Baxter S, Woods HB, Goyder E. Interventions to reduce the public health burden of gambling-related harms: a mapping review. *The Lancet Public Health* 2021; **6**(1): e50-e63.