Transparency in Responsible Gambling: A Systematic Review

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Funding Statement

Glossary

AI: Artificial Intelligence

CSR: Corporate Social Responsibility

GDPR: General Data Protection Regulation

GGY: Gross Gambling Yield

HCI: Human Computer Interaction

NRS: Non-Randomised Studies

PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses

RCT: Randomised Controlled Trial

RCG: Responsible Consumption of Gambling

RG: Responsible Gambling

RPG: Responsible Provision of Gambling

UKGC: UK Gambling Commission

UX: User Experience

Glossary

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1. Executive Summary

Persuasive, immersive and attention-grabbing elements of technology and personalised marketing content are widely embedded in interactive online marketing to engage and persuade users to engage in more online interaction and transactions. This has the potential to pose a risk of excessive and obsessive use of technology, leading to behavioural addiction. Similarly, Internet gambling enables 24/7 accessibility, personalised and persuasive elements for marketing purposes, the capability of immersive and rewarding betting experience, enhanced privacy to facilitate perceived escape from the real world, and ease of transactions, which may potentially create an environment where individuals are more likely to chase losses and lose control. Evidence suggests Internet gambling is associated with higher risk of problematic gambling and gambling-related harm compared to land-based gambling (Effertz et al., 2018; Kairouz et al., 2012; Papineau et al., 2018; Wu et al., 2014). Gambling operators and governments have developed and implemented programs and policies (e.g., age restriction policy, deposit limit tools, self-exclusion programs) designed to promote Responsible Gambling (RG) and minimise gambling-related harm.

Responsible and safer gambling is naturally associated with transparency. Transparency, as defined in this review, involves providing a customer with explicit information about chance of winning as well as other types of information that is shared by gambling operators. At the heart of RG efforts is informed decision making. The principle is to help individuals make informed choice by providing them with transparency in games and promotion materials. However, there is a distinct lack of consensus on what transparency should involve in RG practices, and no prior research has aimed at reviewing transparency in RG practices systematically. Informed by our narrative review of transparency in persuasive technology, immersive technology and online marketing (Wang et al., 2021) all of which are closely associated with the online gambling world, we advocate that RG-driven transparency involves multiple aspects such as user autonomy, system explainability and transparency in advertising. We consider transparency and explainability (or accountability) as an indivisible whole that promotes RG by facilitating communication and understanding of information for individuals to make informed choices.

In the present research, we conducted a systematic review of literature in the RG domain using narrative synthesis to examine evidence relating to transparency in current RG practices in the gambling industry. This review did not intend to examine the effectiveness of specific RG tools or strategies or provide prescriptive legislative and corporate guidelines; instead, we focused on the fundamental aspects of transparency that should be considered and practised by industry for the benefit of individuals who gamble. In this review, we found that transparency issues have rarely been explored. Using sources from database searching, handsearching and grey literature, we included all types of articles (i.e., qualitative studies, quantitative studies, literature review, and position articles) in this review. Most empirical studies were focused on effectiveness of a specific RG tool or intervention; most review or position articles did not directly explore transparency issues or only involved specific aspects of transparency; and no systematic or non-systematic reviews of transparency in RG practices were found.

Through this review, we conceptualised RG-driven transparency by categorising it into seven themes involved in or implied by the existing literature for a better understanding of what constitutes RG-driven transparency in games and promotion materials. These themes are Transparency of Information and Education for Safer Gambling (including fairness of games and gamblers' fallacy, potential risks and negative consequences, safer gambling cognition and behaviour, boundary between gaming and gambling), Transparency of RG Tools (including availability and accessibility of RG tools, effectiveness of RG tools, personalisation of RG strategies), Transparency of Data-driven

Approaches and Persuasive Technologies (including purposes and benefits of using personal data, data usage and privacy protection, individual autonomy, algorithmic transparency, trade-off determination), Transparency in Advertising, Transparency of Corporate Social Responsibility and Individual Responsibility (including division of responsibility, gambling policy and staff training, CSR reporting and assessment), Transparency of Research Evidence and Funding Sources, and Design Considerations for Improving Transparency. We provided stakeholders (including gambling operators, regulators, researchers and individuals who gamble) with a checklist of recommendations for best practices in RG-driven transparency according to this review.

In practice, all stakeholders should collaborate to facilitate individuals to make informed choices and achieve the objectives of responsible and safer gambling, as improving transparency requires effort from multiple parties. For example, using online gambling behaviour data for the purpose of promoting safer gambling and minimising gambling-related harm is highly promising. In order to provide interpretable information about models and algorithms used for individuals who will be affected or benefit from them, the gambling industry needs transparency and explainability of these models and algorithms from professionals and researchers in the first place. Professionals from multidisciplinary backgrounds such as Psychology, Computer science and HCI should collaborate to design the online RG information, RG tools and interventions in a way that can facilitate long-term sustainable positive behaviour change. Persuasive technologies to benefit users' positive, heathy behaviour change are usually designed and implemented in a short time period, however, both iterative design methods and longitudinal studies are necessary to ensure such technologies with the intervention strategies are supported by psychological theories and empirical studies to have actual benefits with minimised risks such as privacy issues and behavioural addiction. Future research is required to empirically validate the checklist of recommendations for improving RG-driven transparency and to address the trade-off issues related to transparency (e.g., how to balance transparency with user experience requirements or the good intent of persuasive technologies and RG interventions). Furthermore, more practicalities and detailed guidelines for gambling operators on how to embed RG-driven transparency into games and promotion materials are required with efforts from multiple stakeholders in future.

2. Introduction

2.1 Background

Recent statistics published by UK Gambling Commission (UKGC) showed that from April 2019 to March 2020, online gambling was the largest sector by Gross Gambling Yield (GGY), accounting for 39.9% of the overall market. Total GGY for remote betting, bingo and the casino sector increased by 8.1% from the previous reporting period, and land-based betting saw a 26.4% decrease in GGY (UK Gambling Commission, 2020b). Persuasive, immersive, attention-grabbing elements of technology and personalised marketing content have been widely embedded in interactive online platforms for marketing purposes to engage users and encourage increased interaction and gambling transactions. Internet gambling enables 24/7 access, incorporates personalised and persuasive elements for marketing purposes, an immersive and rewarding betting experience, enhanced privacy to facilitate perceived escape from the real world, and ease of transactions. These characteristics potentially create an environment in which individuals may be more likely to chase losses and lose control. Evidence suggests that Internet gambling is associated with a higher risk of problematic gambling and gambling-related harm compared to land-based gambling (Effertz et al., 2018; Kairouz et al., 2012; Papineau et al., 2018; Wu et al., 2014).

Given the risk of problem gambling, a core objective of the UKGC is to ensure that all gambling operators actively promote Responsible Gambling (RG) and prevent gambling-related harm. This objective is becoming more acute as lockdown has prompted online gambling consumers to try new products, which can correlate with higher levels of moderate-risk and problem gambling (UK Gambling Commission, 2020a). RG and safer gambling are used interchangeably in this report, and describe the industry's approach to taking care of its customers and providing them with the necessary knowledge to manage their gambling. Responsible and safer gambling is associated with transparency of information and its accountability and at the heart of RG efforts is informed decision making. Its key tenet is to help individuals make informed choices by ensuring there is transparency in games and promotion materials. Gambling operators and governments have developed and implemented programs and policies (e.g., age restrictions, deposit limit tools, and self-exclusion programmes) designed to promote RG and minimise gambling-related harm. There is also a growing trend of utilising individuals' online gambling behaviour data and persuasive technologies to prevent and tackle problem gambling by revealing gambling behaviour patterns, identifying at-risk gambling behaviours and providing personalised responses and real-time advice. This further highlights the need for transparency in RG practices (e.g., transparency in relation to the use of personal data, reliability and potential risks of persuasive technologies).

However, evidence and guidelines for RG-driven transparency in promotional material and games are limited. To the best of our knowledge, there is a distinct lack of consensus on what transparency should involve in RG practices, and no prior research has reviewed transparency in RG practices systematically. Informed by our narrative review of transparency in persuasive technology, immersive technology and online marketing (Wang et al., 2021) which are closely associated with the online gambling world, we advocate that RG-driven transparency involves multiple aspects such as user autonomy, system explainability and transparency in advertising. We consider transparency and explainability (or accountability) as an indivisible whole that promotes RG by facilitating communication and understanding of information for individuals to make informed choices.

2.2 Objectives of the Present Study

In the framework of a systematic review and narrative synthesis, the present study has three objectives: first, to examine evidence relating to transparency of RG practices used in the gambling industry; second, to conceptualise RG-driven transparency by categorising what is involved in or what is implied by literature for a better understanding of what constitutes RG-driven transparency in games and promotion materials; and finally, to provide stakeholders with recommendations on relevant principles and considerations for best practices in RG-driven transparency and implications for future work.

3. Literature Search

3.1 Inclusion and Exclusion Criteria

The inclusion and exclusion criteria for the studies in this review are presented in Table 1. Quantitative and qualitative studies written in English that fall under the scope of transparency in RG practices were included. Quantitative studies, including both Randomised Controlled Trials (RCT) and Non-Randomised Studies (NRS), were included if they reported an intervention relating to RG practices. Qualitative studies, literature reviews and position articles were included if they had a research question or focus relating to RG practices. We consider RG practices as RG strategies embedded in games on online gambling platforms (e.g., pop-up messages, normative personalised feedback, self-exclusion, deposit limit) or RG information (e.g., educational messages, information on fairness of gaming) displayed with promotion materials (e.g., on gambling websites or social media platforms).

There were no restrictions on the outcomes of studies, which could include but were not limited to gambling behaviour, perceptions of gambling and use of RG tools.

Studies without an intervention or clear research question or focus relating to RG practices were excluded. For example, if an article covered an intervention or research question that focused on gambling-related harm, assessment tools for problem gambling, prevalence of gambling or characteristics of gamblers, the article was excluded. These excluded studies were, however, examined to extract relevant information or links to additional studies (e.g., risk factors that relate to transparent information disclosure to raise awareness and help individuals make informed choice). Empirical studies on RG practices conducted purely on land-based gambling were also excluded because the focus of the current review was on online platforms. However, literature reviews or position articles relating to general RG practices were included. Furthermore, studies were excluded if the sample consisted of those who were not of legal age to gamble.

Table 1. Inclusion and exclusion criteria

Domain being studied	To investigate the evidence and implications for transparency in RG practices
Participants	≥the legal minimum age for gambling in the country where the study took place
Intervention(s)/Research question/focus	Quantitative studies: with an intervention relating to RG practices that were/can be applied to online gambling, i.e., RG strategies embedded in games or RG information displayed with promotion materials in various forms
	Others: with a research question or focus relating to RG practices as stated above
	Excluded: empirical studies on RG practices in the context of land-based gambling; articles with a focus on treatment programmes for problem gamblers
Study design	Quantitative studies: Randomised Controlled Trials (RCT) and Non-randomised studies (NRS)
	Others: Qualitative studies, Literature reviews, Position articles, and Other articles accessible online including reports and news.
Comparators/Control	No restriction
Follow-up	No restriction
Outcome	No restriction
Language	English
Peer-reviewed	No restriction
Period	No restriction

3.2 Literature Searches

The literature to be reviewed was interdisciplinary involving psychology and behavioural science, persuasive technology, Human Computer Interaction (HCI), gambling addiction and cognitive bias, marketing and business. The following strategy was used for our searches to retrieve literature that may be related to transparency in responsible gambling.

Literature searches were conducted from January 25th to February 9th 2021. Due to the lack of studies and discussions on RG-driven transparency in the existing literature, we did not require the term "transparency" to be included in literature to be reviewed. Instead, different aspects of transparency could appear in various forms in literature. Drawing upon experiences from our previous narrative review from multidisciplinary perspectives (Wang et al., 2021), the following terms were used in the

search: ("responsible gam*" OR "safer gam*") AND (transparency OR explainab* OR interpretab* OR accountab* OR "informed consent" OR "informed decision making" OR risk OR "user control" OR "user autonomy" OR personali* OR design OR "game features" OR "promotion materials" OR "online marketing" OR "online advertis*" OR "social media" OR "limit setting" OR "warning messages" OR "pop-up messages", OR "behavio* tracking", OR "behavio* markers", OR "behavio* indicators". In addition, ("responsible gam*" OR "safer gam*") were used without combination with other terms. As the literature would be interdisciplinary, the following search engines and databases were used: IEEEXplore, DBLP (computer science bibliography website), Google Scholar, Web of Science, PsycINFO (EBSCO), Medline (National Library of Medicine), Scopus (Elsevier), and SocINDEX (EBSCO).

Reference lists of included studies were also searched for additional relevant articles which fulfil the inclusion criteria. We also searched for grey literature, including reports by UKGC and reports from key leading gambling operators, i.e., William Hill, Entain (formerly GVC Holdings), Bet365 and Flutter Entertainment (formerly Paddy Power Betfair), which are accessible online via their websites or Google search.

3.3 Data Extraction and Study Selection

Two reviewers from multidisciplinary backgrounds (one in HCI and the other in Psychology) screened titles and abstracts independently and removed duplicates from search results. The full texts of articles were retrieved if either or both reviewers considered a study to be potentially eligible. For potentially eligible studies, one reviewer read the full texts. In case of uncertainty, the two reviewers discussed to reach consensus.

3.4 Risk of Bias Assessment

We were not examining the effectiveness of RG practices *per se*. Our aim was to extract and summarise all aspects of transparency involved in RG practices. To the best of our knowledge, there are no previous systematic or non-systematic literature reviews with a similar aim. These aspects could be based on not only empirical evidence from qualitative and quantitative studies but also authors' subjective positions. Therefore, researcher bias would not negatively influence the quality of the present review, and thus we did not assess risk of bias systematically.

According to the Cochrane Collaboration's tool (Higgins et al., 2011), most of the quantitative studies in this review were not randomised, lacked a control group for comparison, or lacked blinding of assessors or participants. According to the Critical Appraisal Skills Programme (CASP) checklist for qualitative studies (Spittlehouse et al., 2000), most qualitative studies in this review presented serious concerns in more than two CASP items, for example, in relation to recruitment strategy, relationship between participants and researchers, justification of data collection methods, rigour of data analysis. Therefore, risk of bias would be estimated to be high for the majority of studies in this review. Additionally, we not only included empirical quantitative and qualitative studies but also other types of articles including literature reviews, position articles and reports. Therefore, we decided not to assess risk of bias, as it would not impact the quality of the review.

3.5 Data Synthesis and Analysis

Due to the heterogeneity of studies (designs, RG practices examined, and transparency aspects involved), we considered this review unlikely to support a quantitative synthesis and meta-analysis. Instead, we undertook analysis using a narrative synthesis approach according to published guidance (Popay et al., 2006). First, we summarised the general findings or positions of eligible articles. Second, we inferred from the findings the various aspects involved, relevant to or implied by the articles for RG-driven transparency, and then conducted thematic synthesis of the implications for RG-driven transparency. We did this by grouping the implications according to overlaps, similarities and

differences of relevant concepts and possible explanations, including the information content of transparency in RG practices, the purpose of communicating the information, medium of communication, and the target audience. We then identified subthemes to explain findings for RG-driven transparency, and finally clustered the subthemes to generate and refine themes until no subthemes were left and there was no overlap between any two themes. The results were discussed and refined by our research team with multidisciplinary expertise to minimise bias in the analysis process.

4. Results

4.1 Searches and Selection

Figure 1 shows a flow diagram of searches and yielded articles in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement (Liberati et al., 2009). Appendix 1 lists the articles excluded from the full-text articles and the reasons for exclusion.
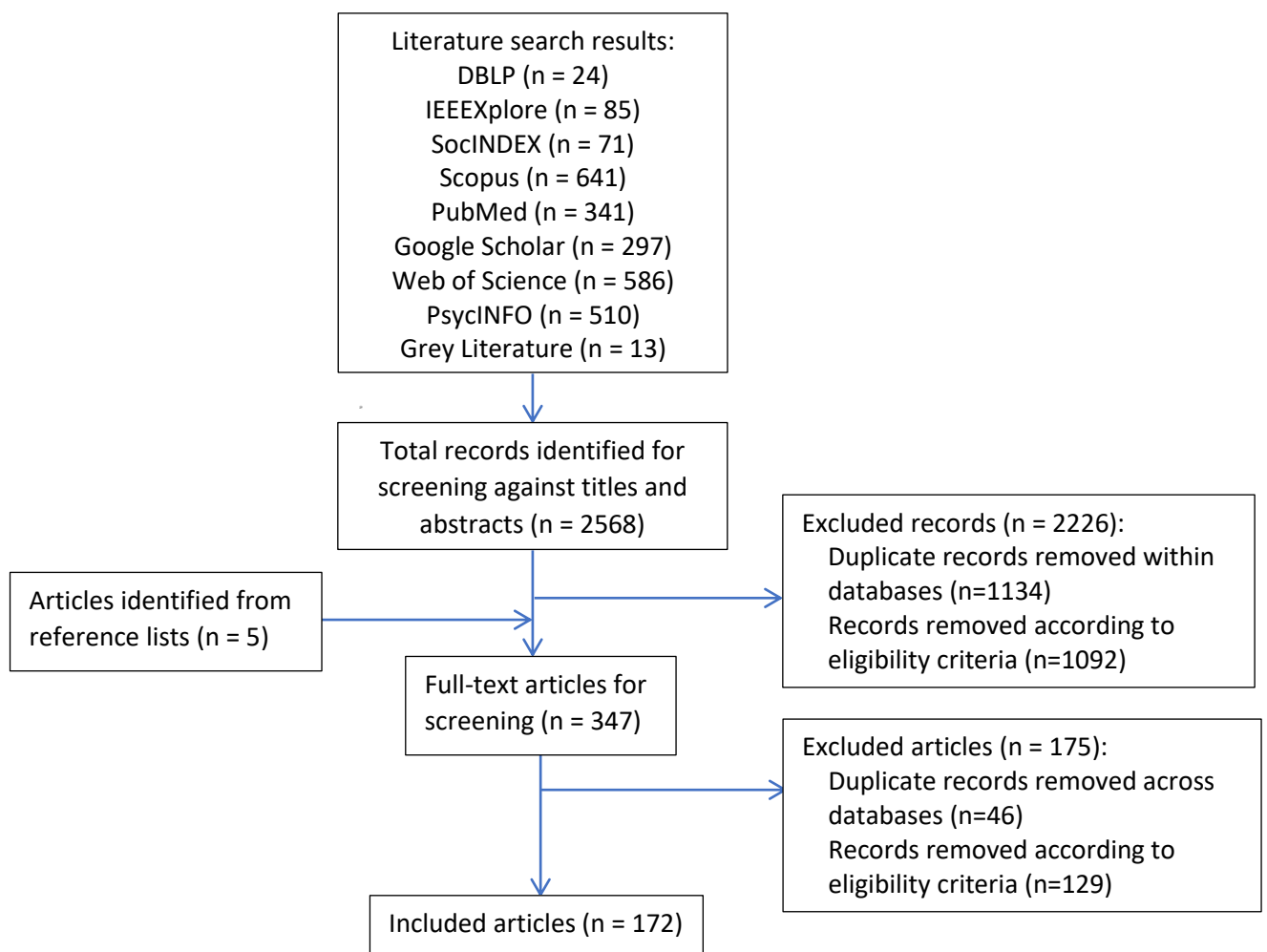

Figure 1. Flow diagram of search results and study selection

4.2 Findings

This systematic review identified that no literature reviews of transparency in current RG practices had been performed. All empirical studies reviewed focused on examining specific RG strategies or RG tools. There was a lack of consensus on what constitutes best practices for RG-driven transparency.

From the synthesis of evidence and positions in the articles reviewed, themes for RG-driven transparency were generated. Appendix 2 presents the characteristics of the included articles. As stated, given the variability of the study designs and outcomes measures, and the fact that we did not aim to assess the effectiveness of any particular RG practice, we did not extract information such as intervention, participants, outcomes and outcome measures; instead, we included the following information in Appendix 2 to achieve the objectives of this review: authors, date, study design, general findings / positions, and implications (shown as subthemes, or themes in case of no subthemes) for RG-driven transparency. We used colour coding to generate themes, which are: Transparency of Information and Education for Safer Gambling, Transparency of RG Tools, Transparency of Data-driven Approaches and Persuasive Technologies, Transparency of Corporate Social Responsibility and Individual Responsibility, Transparency in Advertising, and Transparency of Research Evidence and Funding Sources, and Design Considerations for Improving Transparency. These themes represent different aspects of RG-driven transparency that should be considered by stakeholders for best RG practices and are explained in detail below.

Table 2. Definitions and examples of themes of RG-driven transparency

Themes	Subthemes	Definition	Examples of what we learned from literature
Transparency of Information and Education for Safer Gambling	Fairness of games and gamblers' fallacy Potential risks and negative consequences Safer gambling cognition and behaviour Boundary between gaming and gambling	Transparency is about probability of winning, how game works, potential risks of gambling and gaming, potential misperception and erroneous beliefs about gambling, and safer gambling behaviour	Safer gambling guidelines for individuals, e.g., avoid gambling when upset or depressed (Hing et al., 2019) Online gambling is associated with higher risk for gambling-related harm compared to land-based gambling (Effertz et al., 2018; Kairouz et al., 2012; Papineau et al., 2018; Wu et al., 2014).
Transparency of RG Tools	Availability and accessibility of RG tools Effectiveness of RG tools Personalisation of RG strategies	Transparency of availability and accessibility, effectiveness along with target users of RG tools, and how they may have been tailored to different users and game types	Problem gamblers, compared to non-problem gamblers, had less positive experiences of RG tools and were more likely to abandon an online gambling service due to perceived overexposure to RG tools; targeting individuals' reactions to RG tools may be useful to prevent them from seeking other operators' gambling services with less extensive customer protection programs (Ivanova et al., 2019).
Transparency of Data-driven Approaches and Persuasive Technologies	Purposes and benefits of using personal data Data usage and privacy protection Individual autonomy Algorithmic transparency Trade-off determination	Transparency of purposes and benefits of data-driven approaches and persuasive technologies, usage and protection of personal data, and how AI-based decisions are made and their accuracy in the online gambling environment; individual autonomy should be granted in relation to consent to data usage and the level of consent; trade-offs should be determined to balance transparency and other considerations (e.g., accuracy and efficiency) of these approaches and technologies.	The General Data Protection Regulation (GDPR) has established compliance guidelines for companies to provide strong protection for individual rights on data privacy (GDPR.EU, 2018). A Privacy Impact Assessment should be conducted on the collection and processing of the data before gambling operators share individuals' data (Drosatos et al., 2019). Human interpretation of algorithms for predicting harmful gambling behaviour could be balanced against algorithmic accuracy (Sarkar et al., 2016).

Transparency in Advertising	N/A	Transparency on RG information in gambling adverts and how personal data is used in relation to targeted advertising; There should be no misleading information in adverts and minors should be protected against access to the adverts.	There has been misleading content and normalisation of gambling (Lopez-Gonzalez, Estevez & Griffiths, 2019), as well as a lack of RG information and/or RG tools (Columb et al., 2020; Killick & Griffiths, 2020) in sports betting advertisements.
Transparency of Corporate Social Responsibility and Individual Responsibility	Division of Responsibility Gambling policy and staff training CSR reporting and assessment	Transparency of diffusion of responsibility among stakeholders for RG outcome, including individuals, governments and gambling companies; transparency of gambling policies and adequate staff training as well as regular reporting and assessment of CSR practices in a standardised format in the gambling industry	Responsibility for safer gambling is deemed to be distributed among three parties: individuals, gambling companies and government (UK Gambling Commission, 2021a). A template was developed in Canada for socially responsible and accountable gambling which involves consumer protection laws, the effects of commercial gambling in the annual reports of the operator and regulator, and whether a desire for profit is balanced by compliance with the principles of honesty, integrity, and social responsibility (Smith & Rubenstein, 2011)
Transparency of Research Evidence and Funding Sources	N/A	Transparency of research evidence that supports the effectiveness of RG practices and funding sources of research to reduce research bias	Evidence has indicated lack of consensus regarding execution and methods to collect and analyse data for gambling research on preventive measures (Planzer & Wardle, 2017). It was suggested that particular Open Science practices can enhance industry-funded research (Louderback et al., 2020).
Design Considerations for Improving Transparency	N/A	Design considerations and strategies that not only involve the content of RG information but also aim to improve its quality	Terms and conditions about inducements on race and sports betting websites usually utilise complex, difficult-to-understand, obscured and legalistic language (Hing et al., 2017).

5. Conceptualisation of RG-driven Transparency

Based on the systematic review and narrative synthesis, we categorised the findings into themes and subthemes to conceptualise RG-driven transparency along with corresponding principles as a reference model to inform best practices and regulations in promoting responsible and safer gambling.

5.1 Transparency of Information and Education for Safer Gambling

5.1.1 Fairness of games and gamblers' fallacy

Individuals who gamble are likely to develop the typical erroneous belief or cognitive distortion regarding the random nature of games known as *gamblers' fallacy*. When random events have deviated from the population average in a short run, individuals believe that the opposite deviation is 'due' or more likely to happen even though the odds stay the same (Tversky & Kahneman, 1971). For example, when a roulette ball has fallen on a red slot a certain number of consecutive times, some gamblers may believe that a black winner is more likely to appear. They tend to have an erroneous belief of a personal success probability that is higher than the objective probability should warrant (Goodie, 2005; Langer, 1975) and this illusion of control could involve the principles of sympathetic magic (Wohl & Enzle, 2002). To clarify, where control over outcomes is important, sympathetic magic allows gamblers to consider causal forces such as personal skills or luck that are unrecognised in the world of physical laws and linear causality and to erroneously believe that their personal luck will lead to a satisfactory outcome (Wohl & Enzle, 2002). These cognitive distortions and erroneous beliefs are

used by individuals in future gambling to inform decision making, which can lead to problematic gambling behaviour and gambling-related harm.

Research suggested that individuals who received accurate messages describing the contingencies of the game spent overall less money gambling, played fewer trials in the final phase of the game when all trials resulted in losses, and were more likely to stop playing while they still had money (Jardin & Wulfert, 2009). This transparency aimed at correcting and challenging gamblers' erroneous beliefs on the laws of games of chance and their ability to control the game was found to have a higher level of communicative value than messages simply promoting RG (Mouneyrac et al., 2017).

5.1.2 Potential risks and negative consequences

Research suggested that gambling disorder was heavily influenced by relative underestimation of risk about gambling-related harm (Spurrier et al., 2014). External factors including game characteristics and environmental factors could also increase the risk. For example, games with faster speeds of play were found to be more exciting for both non-problem and problem gamblers, making it difficult for them to cease gambling, and these fast games were found to be particularly attractive to problem gamblers (Harris & Griffiths, 2018).

The latest statistics published by UKGC (UK Gambling Commission, 2020b) reported an increase in the prevalence of online gambling and a migration from land-based to online gambling during the Covid-19 lockdowns. Of concern, a study in Ontario, Canada showed significant likelihood of online gambling among progblem gamblers who were identified by the Problem Gambling Severity Index, though migration from land-based gambling to online gambling was apparent and that reduced work hours due to COVID-19 was one of the strongest risk factors for problem gambling (Price, 2020). Online gambling is associated with a higher risk for problematic gambling and gambling-related harm compared to land-based gambling (Effertz et al., 2018; Kairouz et al., 2012; Papineau et al., 2018; Wu et al., 2014), as it offers 24/7 accessibility and various technology-assisted elements such as targeted advertising and promotional offers and rewards that could attract individuals to stay in games and lose control. On the other hand, online gambling platforms also provide the potential to use behaviour tracking tools and persuasive technologies for RG purposes. Research also suggested that online gambling is not, by default, inherently riskier than gambling in more traditional ways (Wood & Griffiths, 2015). In this study, online gambling was the most popular medium by which positive players (defined as those showing no signs of at-risk or problem gambling behaviour) gambled, and that those positive players found it easier to stick to their limits when playing the National Lottery online compared to traditional retail purchasing of tickets.

Additionally, there has been evidence that a significant proportion of problem gamblers have comorbid mental health issues including substance use disorders, anxiety and other impulse control disorders (Crockford & El-Guebaly, 1998; Dowling et al., 2015; Lorains et al., 2011). Among high-risk individuals who gamble online, the strongest risk factors included moderate and severe anxiety and depression, gambling under the influence of cannabis or alcohol, and risky gambling motivations associated with mental health concerns (Price, 2020), suggesting a significant comorbid relationship between high-risk online gambling and other issues.

5.1.3 Safer gambling cognition and behaviour

Evidence from the literature we reviewed suggested that cognitive interventions that encourage individuals' critical thinking and self-refection on their gambling involvement may be an effective tool for reducing the time people spend on gambling activities (Armstrong et al., 2020). Based on research evidence, Hing and colleagues (2019) proposed safer gambling guidelines for individuals including cognitive and behavioural aspects. These guidelines stated that players should stop if they are not

having fun, set a fixed amount they can spend, engage in other leisure activities, avoid gambling for mood regulation when upset or depressed, and avoid gambling to make money, etc. However, these guidelines need further market testing with a representative sample to optimise wording to ensure that they can be delivered effectively to individuals in an understandable and acceptable manner (Hing et al., 2019).

Influencing individuals' cognitions will also affect their behaviour. For example, Procter and colleagues (Procter et al., 2019) found that positively influencing individual attitudes, perceived views of others and past tool use could increase online wagering customers' use of consumer protection tools. Research by Martin and colleagues (Martin et al., 2010) among college students suggest that RG efforts should influence individuals' subjective norms (i.e., misperceptions of approval regarding gambling behaviour and attitudes towards gambling behaviour) and perceived behavioural control to better manage gambling behaviour in various situations. In summary, educational content and RG interventions should consider combining messages that challenge individuals' erroneous beliefs with ones that suggest behaviour change, rather than simply promoting safer gambling behaviour and use of RG tools.

5.1.4 Boundary between gaming and gambling

The terms 'gaming' and 'gambling' are used interchangeably in the gambling industry. The boundary is unclear because formats of gambling such as casino games contain gaming elements and features, and games can contain elements of chance and involve spending real money. There have been concerns about the relationship between gaming and gambling, and whether video games are associated with increased likelihood of gambling and problem gambling. For example, Molde and colleagues (2019) found that video gaming problems are a potential gateway behaviour to problem gambling. Similarly, adolescents who played video games were found to be significantly more likely to have gambled online for money (McBride & Derevensky, 2016). Drummond and Sauer (2018) explored one such example of this overlap; namely, whether video game loot boxes (purchasable randomised in-game rewards) constitute a form of gambling. They concluded that they share important psychological and structural similarities. As this is a new development, more longitudinal research is needed to understand the nature of the game features.

The UKGC has distinguished between skill-based games and games of chance, stating that gaming machines used to play games of change require a licence or permit, but for skill-based games (i.e., skill-with-prizes machines which do not involve games of chance), no license is required (UK Gambling Commission, 2021b). There are also digital simulated gambling activities such as free-to-play online casino games which can be easily accessed by young people. King and Delfabbro (2016), in a review, conceptualised the potential risks and benefits of early exposure to a variety of digital simulated gambling activities (e.g., 'free-to-play' online casinos, gambling-like video games, and social casino games). They found that while early exposure to these simulated gambling activities may increase the risk of later problem gambling, at the same time they have the potential to exert a positive influence by encouraging safer gambling or decreased interest in gambling.

5.2 Transparency of RG Tools

5.2.1 Availability and accessibility of RG tools

Many articles we reviewed involves investigation or discussion of tools and technologies to promote RG (see Appendix 2), which suggests that transparency should be ensured for individuals regarding which RG tools are available to assist their responsible online gambling or reduce problem gambling. Such tools should be made easily accessible and usable by novices through clear instructions on dedicated RG web pages and promotion of these tools along with marketing materials. Individuals

should also be provided with information about how to access more RG resources (e.g., phone numbers and websites of care services and latest regulations). This information will guide their decision-making process. For example, for problem gamblers, automatic identification tools that use machine learning or novel detection algorithms should be applied in order to identify risky behaviour and intervene (Cemiloglu et al., 2020); also, telephone helplines should be made more accessible and facilitate access to healthcare systems (Aster et al., 2018).

5.2.2   Effectiveness of RG tools

A survey of Australian gambling sites (Gainsbury et al., 2020) found that customers predominantly did not use consumer protection tools, including activity statements, deposit limits, and time-outs (temporary self-exclusion), as they did not consider them to be relevant for them, and perceived they were for problem gamblers. This indicates that more efforts are needed in relation to promotion of RG tools to improve their utilisation and effectiveness.

Discussions about effectiveness must be accompanied by research evidence and target users. Most empirical studies reviewed attempted to evaluate the effectiveness of RG tools, using either self-reported data (Auer et al., 2020), or gambling behaviour data (Luquiens et al., 2019). These studies covered not only traditional RG tools such as voluntary limit setting (Auer et al., 2020), mandatory limit setting (Delfabbro & King, 2020), and self-exclusion (Luquiens et al., 2019), but also data-driven RG tools such as expenditure-specific warning messages (McGivern et al., 2019). Effectiveness of RG tools may vary among different groups of users. For example, one study found no differences in online gambling expenditure as a function of age or gender; however, among the most gambling-intense players, those who had voluntarily set limits gambled significantly less money a year later compared with those who had not (Auer et al., 2019b). Another study failed to find any evidence that use of RG strategies was related to the risk of problem gambling in older adults, raising questions about the utility of RG strategies (Theriault et al., 2018). Overall, more longitudinal research studies using robust controlled designs are needed to test the effectiveness of transparency and promotion in relation to RG tools.

5.2.3   Personalisation of RG strategies

Effectiveness of RG tools may vary among different groups of users. For example, one study found no differences in online gambling expenditure as a function of age or gender. However, among the most gambling-intense players, those who had voluntarily set limits gambled significantly less money one year later than those who had not (Auer, 2020). Therefore, we argue that RG strategies should be personalised to maximise their effectiveness across different target groups.

Examples of different individual groups include individuals of varying risk categories, age groups, and types of gambling and cultural backgrounds. A survey (Ivanova et al., 2019) on experiences and attitudes towards RG tools (including monetary or time-limit setting, self-testing symptoms of problem gambling and the option to freeze several gambling categories or the whole gambling account) found that non-problem gamblers had positive experiences of the RG tools, and problem gamblers were most likely to abandon an online gambling service due to feeling disturbance and overexposure to RG tools. Their survey study suggested that targeting reactions of individuals who gamble to RG tools may be useful to prevent them from seeking to other operators' gambling services with less extensive customer protection programs. Evidence also suggested different age groups have different preferences and responses to message archetypes. Older adults preferred messages about limit setting, but young adults and individuals who gambled frequently preferred messages about their own play and expertise (Gainsbury et al., 2018). A qualitative study (Subramaniam et al., 2017) with older adults indicated that in Asian communities, participants reported that families played a significant role in imposing RG interventions upon them.

Furthermore, RG strategies should also be personalised to different types of games. For example, people may benefit more from pop-up messages displayed during continuous games that have a short time lapse between wager and result (e.g., virtual slot machines, live-action sports betting, card games, casino games), as compared to buying lottery tickets online or gambling sites where there may be a considerable time lag between placing bets and learning the outcome (Monaghan, 2009). Skill game players (e.g., poker, sports betting) tend to prefer RG messages that provide the odds of winning and their own outcomes over time, compared to other messages such as limit setting (Gainsbury et al., 2018).

5.3 Transparency of Data-driven Approaches and Persuasive Technologies

5.3.1   Purposes and benefits of using personal data

The online gambling environment and persuasive technologies have offered the opportunity to apply data-driven approaches to monitor individuals' gambling behaviour, identify at-risk behaviour, and provide personalised, persuasive feedback (Drosatos et al., 2019). The behavioural tracking tools and personalised feedback itself provide a form of both objectivity and transparency and empower trust due to their capability of measuring actual usage compared to self-reported speculated usage. These approaches and technologies have already been widely used for personalised online marketing to send customers persuasive messages and targeted adverts. In addition to behavioural data, emotionally stimulating messages may also have the advantage of capturing attention above and beyond traditional RG messaging (Harris et al., 2018). As these data-driven approaches and technologies require collection and usage of individuals' personal data, transparency should be implemented in a way that ensures individuals are fully aware of the purposes and benefits of using their personal data. This is important as transparency enhances perceptions of brand authenticity, which in turn influences customer loyalty (Busser & Shulga, 2019).

5.3.2   Data usage and privacy protection

Previously there were no clear laws on privacy, and people were concerned about their privacy and security in terms of issues such as disclosure, ownership, and intended use of private information. The European Union's data privacy law, the General Data Protection Regulation (GDPR) has established compliance guidelines for companies to provide strong protection for individual rights on data privacy (GDPR.EU, 2018). GDPR does not prohibit gambling operators from sharing individuals' data for the intention of benefiting their wellbeing, providing a Privacy Impact Assessment has been conducted on the collection and processing of the data (Drosatos et al., 2019).

However, there remains a long way to go to make data-driven technologies coordinate with the regulations. For example, privacy needs to be incorporated into design, and users should be given the opportunity to fully understand the process, issues and risks relevant to data usage and privacy protection.

5.3.3   Individual autonomy

Research with individuals who gamble have found slightly contradictory views about platform having access to their information. For example, some believe it is helpful to collect data from multimodal sensors about location, emotion and stress, while others argue that it is too intrusive to access such level of information (Drosatos et al., 2020). Therefore, in addition to informed consent for data usage and privacy protection described in Section 5.3.2, individual autonomy should be granted to a higher level. We advocate that individuals should not only be able to make a dichotomous choice to either opt out of or consent to enrolment with a system that involves usage of their data for RG/marketing purposes, but also the functionality of the gambling platform should allow them to choose the level of consent, the time frame, data types, frequency of sharing, recipient parties and allowed usage.

Awareness about when this happens across the duration of a gambling session or the usage of the system should be provided. This is also a good practice in human-computer interaction in a broader sense (Jacucci et al., 2014).

GDPR (GDPR.EU, 2018) supports individuals' right to access data. Individuals should be able to obtain their own gambling profile and behavioural data, such as betting history (percentage of wins and losses), money and time spent on the platform, and multi-modal sensor data (such as emotion and stress level, if available), and share it with other parties to obtain services. They should also be provided with guidance on how to do this with accessible information. This information also has the potential to support individuals to understand their own gameplay, rather than relying on how they think they might be playing, because as highlighted in Section 5.1.1, this could be influenced by cognitive distortions.

5.3.4   Algorithmic transparency

Responsible gambling can benefit from Artificial Intelligence (AI) techniques such as machine learning models that are trained to recognise potentially problematic gambling behaviour and in doing so can help gambling operators to prevent such behaviour through appropriate and timely interventions (Drosatos et al., 2019). Algorithmic transparency has attracted increasingly more attention from Computing and AI researchers (Felzmann et al., 2019; Naiseh et al., 2020), and we advocate the same rationale of transparency should apply to AI-based responsible gambling. Individuals should be made aware of how such algorithms use their data to determine outcomes, including classifications about their behavioural patterns or mental states (e.g., detection of problem gambling), personalisation of services, predictions, or recommendations, and the accuracy of the algorithms.

Furthermore, individuals can be given the opportunity to provide feedback on such outcomes. From the perspectives of explainable AI, the users themselves could participate in the process of optimising machine learning algorithms, the accuracy of AI-based decisions in persuasive systems could be improved, and the users' understanding and trust of the systems could also improve. An example of this is a combined model developed for early detection of gambling-related problems, that shows increased validity and classification rate when relying on both human ratings and automated text analysis compared to that based solely on automated text analysis (Haefeli et al., 2015).

5.3.5   Trade-off determination

There are numerous trade-offs to be determined and achieved to balance transparency and other considerations. For example, in relation to AI-based systems there is a trade-off between increasing complexity to optimise algorithms vs. interpretability to foster user autonomy. Closing this trade off, Sarkar and colleagues (2016) extracted decision trees from other complex machine learning models for predicting harmful gambling behaviour to enable human interpretation with relatively small loss of accuracy.

Other trade-offs include equity vs. efficiency (when using a user-centred design process for developing the algorithms or RG tools, different user groups have differing needs and requirements), autonomy vs. benefit for individuals (e.g., mandatory limit setting vs. voluntary limit setting; Delfabbro & King, 2020) and User Experience (UX) (e.g., playing without obstacles, Engebo et al., 2019) vs. risk minimisation (e.g., regarding the frequency or timing of pop-up messages in games; Drosatos et al., 2020). The lack of relevant research available makes the optimal timing and frequency unknown regarding messages and interactions with players for RG purposes, but it is essential to display pop-up messages at intervals that promote RG, without unnecessarily disrupting individuals, otherwise, they may easily quit the game and continue gambling with another game or operator. One of the potential solutions is personalising the content and timing of RG messages, which considers users'

preferences and / or automatic detection of individuals' behaviour and mental states. For example, pop-up messages are perceived as less irritating when individuals receive them at times when cognitive effort is low (Monaghan, 2009).

Overall, research has focused on the development and application of new technologies and machine learning models to the RG domain, which is still in its rudimentary stage. There is scant research into transparency issues in relation to data usage and privacy protection, algorithmic transparency and trade-offs. Ensuring these transparency aspects are achieved is fundamental for enhancing users' understanding of principles of these data-driven approaches and persuasive technologies so they can be appropriately used with proactive motives, critical thinking capabilities and individual autonomy.

5.4 Transparency in Advertising

Researchers have analysed content of online gambling advertisements concerning potentially misleading features, the normalisation of gambling, and lack of transparency and promotion for RG. Of particular concern are sports betting advertisements and use of social media. For example, Columb and colleagues (2020) found that most gambling advertisements for RG practices shown during live sporting events in Ireland contained RG messaging, an age limit, and an RG organisation, but that no RG tools were included in the advertisements examined. A Twitter analysis in the UK (Killick & Griffiths, 2020) found that the majority of tweets posted by operators during the opening weekend of the 2018-2019 English Premier League football season contained no RG information. Deans and colleagues (2016) identified similarities in marketing strategies (e.g., using symbolic representations of masculinity, exaggerating the associated social benefits) between Australian sports betting advertisements and those for other unhealthy commodity industries (e.g., alcohol industry). Studies also reported on the normalisation of gambling and misleading content, in sports-related gambling advertisements (Lopez-Gonzalez et al., 2019) and positive framing of content in social media promotion messages (Gainsbury et al., 2016).

Furthermore, online platforms and AI techniques have enabled marketers to provide more personalised, targeted advertising. For example, poker players' personal information about their past online orders are used to send them personalised advertising (McMullan & Kervin, 2012). Transparency about this process should also be provided. In this regard, transparency in advertising overlaps with Section 5.2 about Transparency of Data-driven Approaches and Persuasive Technologies.

5.5 Transparency of Corporate Social Responsibility and Individual Responsibility

5.5.1   Division of responsibility

The RG concept involves both responsible consumption of gambling (RCG) and responsible provision of gambling (RPG), but RCG is a major paradigm driving industry, government and public health measures for preventing or minimising gambling-related harm (Hing et al., 2018). Despite the apparent diffusion of responsibility among a wide range of stakeholders, there is an increased expectation that individuals themselves should take responsibility for their own self-control and responsible gambling behaviour (Reith, 2008). Blaszczynski and colleagues (2021) claimed that RG is an outcome rather than a process, and distinguished RG from actions that stakeholders need to take to achieve it.

Clarifying who is accountable for what activity will enable stakeholders to target strategic groups to realise RG outcomes (Blaszczynski et al., 2021), and this will also positively impact individuals' positive cognitions and behaviours in gambling. Perceptions of stakeholder responsibilities for minimising gambling harm could predict gambling behaviour, understanding of gambling concepts and use of RG strategies (Gray et al., 2019).

According to the UKGC, responsibility for safer gambling is deemed to be distributed among three parties: 1) individuals, 2) gambling companies, and 3) government (UK Gambling Commission, 2021a). In summary, governments are accountable for establishing policy on the legal gambling environment and ensuring compliance with regulatory standards; industry must comply with regulatory requirements; communities need to influence public policy and public health advocacy, and ultimately individuals are the decision-making agents (Blaszczynski et al., 2021). Meanwhile, division of responsibilities also indicates the need for cooperation of stakeholders to minimise gambling-related social, personal, and economic harms and costs.

5.5.2   Gambling policy and staff training

There are gaps in legislation that need to be addressed; for example, the protection of minors and other vulnerable individuals as well as policy on the newer technologies (e.g., loot boxes). The UKGC has positioned that gambling-related harm should be considered a public health issue to protect the whole population, especially young and vulnerable people (UK Gambling Commission, 2018). Of considerable concern are the lack of transparency of RG information in advertisements as stated in Section 5.4, and lack of clarity regarding the boundary between gaming and gambling (requiring more legislation and regulation). For example, the free-to-play, gambling-like gaming sites and video game loot boxes, as stated in Section 5.1.4, can be easily accessed by young people.

Instead of passive compliance, there is a need for gambling companies to be more intrinsically motivated and proactive to address Corporate Social Responsibility (CSR) and investigate the risks arising from their operations openly. Research conducted in Australia found that adequate staff training and education could facilitate the implementation of a voluntary RG code of practice, whereas high staff turnover and managerial apathy could impede the implementation (Breen et al., 2005). Research also suggested that good CSR practices also benefit companies' reputations and consumer trust. For example, Auer and colleagues (Auer et al., 2019a) found that those who set voluntary limits were more loyal to the gambling operator over a 1-year period.

5.5.3   CSR reporting and assessment

Reporting of CSR practices and assessment of these practices along with openly published information on such reports and assessment results is essential to ensuring transparency of RG practices implemented by the gambling industry and helping citizens hold the government accountable for its gambling operations (Smith & Rubenstein, 2011). However, companies vary largely in the extent and nature of CSR reporting and most have limited RG information (Jones et al., 2013; Jones et al., 2009). A review of four gambling operators' reports (Bet365 Group Limited, 2020; Flutter Entertainment, 2021; GVC Holdings, 2020; William Hill, 2021) identified limited availability and varied reporting content, suggesting that more regulatory requirements on the reporting and assessment process using a standardised template are required to facilitate transparency and encourage effective RG practices. Smith and Rubenstein (2011) developed a template for an optimally socially responsible and accountable gambling regime based on a review of legislation and policies in Canada and interviews with key actors in the government. They argued that transparency involves information disclosure on full, fair, and open discussion of the pros and cons of gambling, the amount of revenue from problem gamblers and the efficacy of RG strategies, consumer protection laws, the effects of commercial gambling in the annual reports of the operator and regulator, and whether a desire for profit is balanced by compliance with the principles of honesty, integrity, and social responsibility.

5.6   Transparency of Research Evidence and Funding Sources

Research has shown a lack of consensus regarding execution and methods to collect and analyse data for gambling research on preventive measures (Planzer & Wardle, 2012), and the need for more open

and transparent disclosures of funding sources has also been highlighted (Ladouceur et al., 2019). The tensions experienced by the gambling industry between profit making, harm minimisation, and social impacts have resulted in a climate of conflict (Blaszczynski, 2018). Data-driven policies can be compromised by unsubstantiated claims about the nature and extent of gambling-related harms and effectiveness of policy strategies, with potential bias from research supported by industry and government research funding sources. To enhance independence and reduce research bias, it was suggested that certain Open Science practices can enhance industry-funded research, including research pre-registration, separation of confirmatory and exploratory analyses, open materials, open data availability, and open access to study manuscripts (Louderback et al., 2020).

5.7   Design Considerations for Improving Transparency

Transparency involves not only the availability of information but also the accessibility of the information to its recipients (Granados et al., 2010). Improving the design of the medium that displays information (e.g., user interface design or wording of responsible messages in the online gambling context) will improve information quality and recipients' understanding of information provided. For example, Lole and colleagues (2019) conducted an eye-tracking study on sports-betting advertisements and found that presenting messages on a high-contrast/block-colour background increases the visibility of such messages. Furthermore, the wording of message content could affect the effectiveness of such messages for engaging players in harm-reduction tools (Gainsbury et al., 2018). From a broader perspective (e.g., communication science, linguistics and HCI), design considerations include the design of information content and how information is formatted, displayed and delivered to its recipients. In addition, the target audience) should also be considered from a user-centred design perspectiveso the design can be personalised according to its needs and requirements. For example, is it designed for a lay audience or expert audience? Problem gamblers or non-problem gamblers? Regulators, gambling operators, individuals who gamble, or the wider community?

However, research and discussions on these considerations were found to be scarce in the literature reviewed. The accessibility and usability of RG information to individuals who gamble online or view gambling information online is in question. For example, research from content analysis has implied a lack of RG information in online promotional materials and advertisements (Hernandez-Ruiz, 2020; Hing et al., 2017; Killick & Griffiths, 2020). Few empirical studies have addressed how effectively this RG information is designed and communicated to individuals.

Using marketing and design strategies to maximise gambling experience and retain customers have been the priority of gambling operators to achieve commercial outcomes, but little consideration has been given to the design of information that promotes RG in the public interest. For example, terms and conditions about inducements on race and sports betting websites usually utilise complex, difficult-to-understand, obscure and legalistic language (Hing et al., 2017). Social media gambling promotion messages are positively framed and tend to be misleading with a notable absence of information about risks (Gainsbury et al., 2016). As a promising attempt, Ottosson (2019) developed prototypes and created recommendations for the design of modal windows to better communicate RG information and warning messages with problem gamblers, using a UX design approach (which focuses on both usability and other aspects of user experience such as pleasure and fun) and nudging concepts such as loss aversion and framing.

Online gambling platforms must satisfy ethical requirements during the design process regarding how to provide RG information, including information availability, interpretation, accessibility, perception, understandability, acceptance, and actionability (Cemiloglu et al., 2020). In practice, online gambling

environments empowered by behavioural tracking tools and persuasive technolgies can be designed in a manner that facilitates manipulation or unethical persuasion. Gray and colleagues (2018) summarised five dark patterns of UX design, including: Nagging, Obstruction, Sneaking, Interface interference, and Forced action. Design for improving RG-driven transparency should also avoid these dark patterns of UX design. Caraban and colleagues (2018) suggested that any applications using dark patterns should ensure they address user fears and misunderstandings in the first place, and that it is the responsibility of researchers and designers to ensure that interventions in persuasive systems are delivered in an ethical, transparent fashion. In addition to designing interventions that can challenge erroneous gambling beliefs (Armstrong et al., 2020; Drosatos et al., 2020), gambling industry and policy makers should be aware of the addictive aspects of game design (Mulkeen et al., 2017).

6. A Checklist for Best Practices in RG-driven Transparency

Based on the evidence from the literature we reviewed as described in Section 5, we created a checklist of recommendations according to the themes and subthemes of RG-driven transparency, for best practices in RG-driven transparency. All stakeholders (i.e., the gambling industry, individuals who gamble, policy makers, and researchers) should collaborate to facilitate individuals' ability to make informed choices and achieve the objectives of responsible and safer gambling, as ensuring and improving transparency requires effort from multiple parties. According to this review, we recommend that this should be done in the following ways.

In relation to providing educational information:

- Not only should the information about genuine probability of winning in a game product rather than exaggerated return rates be provided for individuals who gamble; but more importantly, the gambling industry should also deliver educational content to target gamblers' misperceptions of how games work.
- Individuals should be offered educational information on the potential risks related to gambling and any unintended negative consequences (e.g., behavioural addiction, reductions in health-related quality of life). Furthermore, risk factors that could lead to problematic and harmful gambling (e.g., impulsiveness, lack of social support, comorbidities with health), should be made transparent to individuals who gamble to facilitate their self-reflection, self-regulation and informed decision making.
- Educational content, either integrated into RG interventions or delivered separately, should target both cognition (i.e., beliefs, knowledge and thoughts) and behaviour of individuals who gamble to promote safer gambling behaviour and use of RG tools, and aim to reduce misperceptions, erroneous beliefs and cognitive distortions.
- Information about the relationships, content, and boundaries between gaming and gambling along with the risk factors should also be made transparent to individuals who gamble and/or play video games as well as educators and regulators.
- Online gambling information should be designed in a way that does not create an illusion of control or deceive individuals to generate erroneous gambling beliefs, and RG information should be included and displayed to individuals in an accessible manner to facilitate visibility and understanding.

In relation to promoting RG tools:

- Information about how to access and use RG tools, the effectiveness of different tools and target users for whom the tools were designed should be disclosed to promote the acceptance and use of the tools and to ensure that individuals truly understand and benefit from the tools.

- RG strategies should be personalised to meet the needs and requirements of different individual groups, in terms of risk categories, age groups and types of gambling and cultural backgrounds. Transparency in how RG strategies are tailored to different individual groups and situations will help demonstrate best industry practices and promote consumer trust and utility of RG tools.

Where personal data needs to be collected:

- Individuals should be provided with transparency on purposes of data collection (e.g., personalising marketing content, personalising RG content, increasing UX of online gambling platforms), and possible consequences resulting from using the data (e.g., receiving personalised feedback or being excluded from the website).
- Individuals should be given unambiguous information describing data processing and sharing along with potential privacy breaches from sharing data, including what data are collected, who have access to these data, the standardised processes of access to these data, and how data privacy is protected and communicated to the individual being affected, should also be considered and made transparent.
- Informed consent should be obtained for the described usage of data and to ensure individuals fully understand the process and any information necessary to make informed choice. Individuals should also be able to choose the level of consent, including the time frame, data types, frequency of sharing, recipient parties and allowed usage to ensure individual autonomy.
- Information regarding the right to access data and how to do this needs to be made accessible to individuals to raise awareness and facilitate individual autonomy; such an application of these data could support individuals to make positive behaviour changes.

Where AI-techniques are used to promote gambling products or safer gambling:

- Algorithmic transparency should be ensured in relation to data collection, usage and accuracy of algorithms to facilitate individuals' informed decision on their gambling behaviour. This information should be made accessible to both lay users who may not have expertise in the algorithms used and relevant knowledge and expert users who are keen to know more and thus require higher levels of transparency.

In relation to gambling advertising:

- Transparency should be provided in advertisement and promotion materials in relation to game fairness without misleading information about exaggerated probability of financial wins, which can be combined with educational content about potential risks of gambling and safer gambling behaviour.
- There should be a reconsideration of the practices and rules about gambling advertising in terms of the volume of Internet gambling promotion, the use of social media and other formats of advertising (such as banners, emails, radio, television), the pervasiveness of Internet gambling promotion and how minors are protected from access to the adverts, the framing of content and transparency of RG information in the adverts.

In relation to gambling policy and CSR:

- Division of responsibility among the governments, individuals and the industry should be made transparent to all. There must be the right tools and polices in place to facilitate individuals' safer gambling behaviour.

- Governments should create policies for a safe gambling environment, and the gambling industry should not only comply with the policies but also take CSR and play a proactive, informing role in facilitating individuals to make informed choices. This requires staff training on how to implement RG practices, facilitating understanding that RG requirements do not conflict with long-term commercial interest, and thus encouraging proactivity and sustainability for the implementation of RG strategies and policies.
- CSR reporting and assessment should be improved in terms of transparency for promoting safer gambling and standardisation of the assessment process. Specifically, industry practices for the protection of young people and avoiding misleading advertising content, especially in the online gambling environment, should be disclosed in reporting and assessment.
- RG policies implemented by the gambling industry should be assessed externally and independently by research statistics. The assessment process and results should be disclosed in reports where accurate and timely releasable information is shared with the public on latest regulation and practices in compliance with CSR.

In relation to future research and funding sources:

- More longitudinal studies are required in future to evaluate the effectiveness of RG strategies and practices. This empirical evidence should be accessible and understandable to both individuals to raise awareness and gambling operators and policy makers to guide effective safer gambling practices.
- Research evidence should be disclosed together with funding sources to help ensure independence and transparent dissemination of research.
- More research is required to understand how game design and UX design considerations may be associated with individuals' gambling behaviour on online platforms, and how RG content should be designed and delivered in a way that can maximise transparency in terms of accessibility of information in addition to availability of information. This will help to avoid or reduce the negative impact of dark patterns on gambling behaviour.

7. Conclusion and Future Work

In the present study, we conducted a systematic review and narrative synthesis of eligible studies to address the lack of consensus on RG-driven transparency. We found limited research regarding transparency issues in the RG domain. Using sources from database searching, handsearching and grey literature, we included all types of articles (i.e., qualitative studies, quantitative studies, literature reviews, and position articles) in this review. We found that, most empirical studies were focused on the effectiveness of a specific RG tool or intervention; most review or position articles did not directly explore transparency issues or only involved several specific aspects of transparency; no systematic or non-systematic reviews of transparency in RG practices were found. From the review and synthesis of research evidence on RG practices, the implications from the findings of eligible studies that relate to RG-driven transparency were extracted for a narrative synthesis. We conceptualised RG-driven transparency by providing seven themes (i.e., Transparency of Information and Education for Safer Gambling, Transparency of RG Tools, Transparency of Data-driven Approaches and Persuasive Technologies, Transparency of Corporate Social Responsibility and Individual Responsibility, Transparency in Advertising, and Transparency on Research Evidence and Funding Sources, and Design Considerations for Improving Transparency) that were identified from this review and should be considered for improving transparency in RG practices. This serves as a reference point for stakeholders including gambling operators, regulators, researchers and individuals who gamble, to

facilitate a better understanding of what constitutes RG-driven transparency in games and promotion materials to drive best practices and agenda for future work.

This review did not intend to provide prescriptive legislative and corporate guidelines; instead, we have focused on the fundamental aspects of transparency that should be considered and implemented by industry for the benefit of individuals who gamble. In practice, all stakeholders should collaborate to facilitate individuals to make informed choices and achieve the objectives of responsible and safer gambling, as improving transparency requires effort from multiple parties. For example, the use of online gambling behaviour data for the purpose of promoting safer gambling and minimising gambling-related harm appears to be a highly promising approach. In order to provide interpretable information about models and algorithms used for individuals who will be affected or derive benefits, the gambling industry needs transparency and explainability of these models and algorithms from professionals and researchers in the first place. The differences in the effectiveness of RG tools for different target groups in different situations have implied the complexity of execution of RG regarding time and appropriateness. Professionals from multidisciplinary backgrounds should collaborate to design the online RG information, RG tools and interventions in a way that can facilitate long-term sustainable positive behaviour change. Persuasive technologies to benefit users to make positive, behaviour changes are usually designed and implemented in a short time period. However, both iterative design methods and longitudinal studies are necessary to ensure such technologies and the embedded intervention strategies are based on psychological theories and evidence to increase the likelihood they will benefit users and minimise risks such as privacy issues and behavioural addiction.

In conclusion, stakeholders should collaborate to advance transparency in RG practices and policies. Future research is required to empirically validate this checklist of RG-driven transparency and to address the complex trade-offs relating to transparency, for example, how to balance transparency with UX requirements or the good intent of persuasive technologies (e.g., those designed with RG interventions for positive, heathy behaviour change). Furthermore, more practicalities and detailed guidelines for gambling operators on how to embed RG-driven transparency into games and promotion materials are required with efforts from multiple stakeholders in future.

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Appendices

Appendix 1 Excluded articles and reasons for exclusion

Citations	Reasons of exclusion
(Drosatos et al. 2019)[1]	Duplication (2)
(Warren et al., 2014)[2]	Full text not accessible
(Suzuki et al., 2019)[3]	Focus irrelevant to RG practices/transparency
(Breen et al., 2005)[4]	Duplication
(Nisbet, 2005)[5]	Land-based gambling context
(Auer & Griffiths, 2019)[6]	Duplication
(Broussard & Wulfert, 2019)[7]	Focus irrelevant to RG practices/transparency
(Dickerson & O'Connor, 2006)[8]	Focus irrelevant to RG practices/transparency
(Airas, 2014)[9]	Full text not accessible
(Adami et al., 2013)[10]	Focus irrelevant to RG practices/transparency
(Lopez-Gonzalez et al., 2019a)[11]	Focus irrelevant to RG practices/transparency
(Currie et al., 2021)[12]	Focus irrelevant to RG practices/transparency
(Gainsbury & Wood, 2012)[13]	Focus irrelevant to RG practices/transparency
(Loo & Phua, 2016)[14]	Focus irrelevant to RG practices/transparency
(George et al., 2016)[15]	Focus irrelevant to RG practices/transparency
(Škařupová et al., 2020)[16]	Focus irrelevant to RG practices/transparency

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(Heinonen, 2017)[17]	Focus irrelevant to RG practices/transparency
(Responsible Gambling Council, 2006)[18]	Land-based gambling context
(Challet-Bouju et al., 2020)[19]	Focus irrelevant to RG practices/transparency
(Armstrong et al., 2020a)[20]	Duplication
(Sharman et al., 2020)[21]	Focus irrelevant to RG practices/transparency
(Garcia Ruiz et al., 2016)[22]	Not in English
(Campbell & Smith, 2003)[23]	Focus irrelevant to RG practices/transparency
(Lee & Kim, 2014)[24]	Land-based gambling context
(Compton et al., 2015)[25]	Full text not accessible
(Griffiths, 2012)[26]	Full text not accessible
(Meyer, 2018)[27]	Full text not accessible
(Kim & Choi, 2019)[28]	Full text not accessible
(Malischnig, 2014)[29]	Duplication
(Percy et al., 2016a)[30]	Focus irrelevant to RG practices/transparency
(Hing & Mattinson, 2005)[31]	Land-based gambling context
(Leung & Gray, 2016)[32]	Focus irrelevant to RG practices/transparency
(Meyer et al., 2015)[33]	Land-based gambling context
(Bybee, 1996)[34]	Focus irrelevant to RG practices/transparency
(Griffiths & Carran, 2015)[35]	Focus irrelevant to RG practices/transparency

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(Cassidy, 2016)[36]	Focus irrelevant to RG practices/transparency
(Xouridas, 2019)[37]	Full text not accessible
(Breen & Hing, 2007)[38]	Full text not accessible
(Abarbanel et al., 2015)[39]	Focus irrelevant to RG practices/transparency
(Fu et al., 2020)[40]	Irrelevant focus and land-based gambling context
(Jonsson et al., 2020)[41]	Duplication (2)
(Auer & Griffiths, 2020)[42]	Duplication
(Gainsbury et al., 2015a)[43]	Focus irrelevant to RG practices/transparency
(Gray et al., 2020)[44]	Land-based gambling context (1) and duplication (1)
(Griffiths & Pontes, 2020)[45]	Duplication
(Louderback et al., 2020)[46]	Duplication
(Hayer et al., 2020)[47]	Land-based gambling context
(Beresford & Blaszczynski, 2020)[48]	Land-based gambling context (1) and duplication (1)
(Rodda et al., 2020)[49]	Land-based gambling context
(Tabri et al., 2020)[50]	Focus irrelevant to RG practices/transparency
(Tong et al., 2020)[51]	Focus irrelevant to RG practices/transparency
(Fiedler et al., 2020)[52]	Land-based gambling context and focus on treatment to problem gamblers

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(Lawn et al., 2020)[53]	Focus irrelevant to RG practices/transparency
(Parke et al., 2019)[54]	Land-based gambling context (1) and duplication (1)
(Auer et al., 2019a)[55]	Land-based gambling context
(Tabri et al., 2019)[56]	Land-based gambling context (1) and duplication (1)
(Hollingshead et al., 2019a)[57]	Land-based gambling context
(Abbott, 2019)[58]	Full text not accessible
(McGivern et al., 2019)[59]	Duplication
(Hollingshead et al., 2019b)[60]	Land-based gambling context
(Pickering et al., 2019)[61]	Land-based gambling context
(Bonnaire & Barrault, 2019)[62]	Not in English
(Blaszczynski, 2018)[63]	Full text not accessible (1) and duplication (1)
(Gainsbury et al., 2015b)[64]	Focus irrelevant to RG practices/transparency
(Aster et al., 2018)[65]	Land-based gambling context
(Dufour et al., 2018)[66]	Focus irrelevant to RG practices/transparency
(Schiavella et al., 2018)[67]	Focus irrelevant to RG practices/transparency
(Noor-ul-amin & Noreen, 2018)[68]	Focus irrelevant to RG practices/transparency
(Gainsbury et al., 2018a)[69]	Land-based gambling context

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(Huang & To, 2018)[70]	Focus irrelevant to RG practices/transparency
(Hancock & Smith, 2017a)[71]	Focus irrelevant to RG practices/transparency
(Abbott, 2017)[72]	Focus irrelevant to RG practices/transparency
(Young & Markham, 2017)[73]	Focus irrelevant to RG practices/transparency
(Delfabbro & King, 2017)[74]	Focus irrelevant to RG practices/transparency
(Hancock & Smith, 2017b)[75]	Focus irrelevant to RG practices/transparency
(Wohl et al., 2017)[76]	Land-based gambling context
(Graydon et al., 2017)[77]	Land-based gambling context
(Rintoul et al., 2017)[78]	Land-based gambling context
(Alexius, 2017)[79]	Duplication
(Lister et al., 2016)[80]	Land-based gambling context
(James et al., 2016)[81]	Land-based gambling context
(Hancock & Hao, 2016)[82]	Land-based gambling context
(Shaffer et al., 2016)[83]	Focus irrelevant to RG practices/transparency
(Spurrier et al., 2015)[84]	Focus irrelevant to RG practices/transparency
(Walker et al., 2015)[85]	Land-based gambling context (1) and duplication (1)
(Gainsbury et al., 2015c)[86]	Land-based gambling context
(Crewe-Brown et al., 2014)[87]	Land-based gambling context

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(Blaszczynski et al., 2014)[88]	Land-based gambling context
(Quilty et al., 2014)[89]	Land-based gambling context (1) and duplication (1)
(Kim et al., 2014)[90]	Land-based gambling context
(Wohl et al., 2013a)[91]	Land-based gambling context (1) and duplication (1)
(Lee et al., 2013)[92]	Focus irrelevant to RG practices/transparency
(Wohl et al., 2013b)[93]	Land-based gambling context (1) and duplication (1)
(Stewart & Wohl, 2013)[94]	Land-based gambling context
(Song et al., 2012)[95]	Land-based gambling context (1) and duplication (1)
(Breen, 2012a)[96]	Focus irrelevant to RG practices/transparency
(Back et al., 2011)[97]	Land-based gambling context
(Munoz et al., 2010)[98]	Land-based gambling context (1) and duplication (1)
(Kalenscher et al., 2010)[99]	Focus irrelevant to RG practices/transparency
(Cloutier et al., 2006)[100]	Land-based gambling context (1) and duplication (1)
(Blaszczynski et al., 2004)[101]	Focus irrelevant to RG practices/transparency
(Ladouceur et al., 2004)[102]	Land-based gambling context
(Benhsain et al., 2004)[103]	Focus irrelevant to RG practices/transparency

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(Delfabbro & King, 2020a)[104]	Duplication
(Kraplin & Goudriaan, 2018)[105]	Duplication
(Theriault et al., 2018)[106]	Duplication
(Miller & Thomas, 2018)[107]	Focus irrelevant to RG practices/transparency (1) and duplication (1)
(Fogarty, 2017)[108]	Duplication
(Mouneyrac et al., 2017)[109]	Duplication
(Forsstrom et al., 2016)[110]	Duplication
(Wood & Griffiths, 2015)[111]	Duplication
(Wood & Wohl, 2015)[112]	Duplication
(Wohl et al., 2014)[113]	Land-based gambling context (1) and duplication (1)
(Lee et al., 2014)[114]	Duplication
(Wood et al., 2014)[115]	Duplication
(Auer et al., 2014)[116]	Duplication
(Auer et al., 2020a)[117]	Duplication
(Gainsbury et al., 2013)[118]	Duplication
(Gray et al., 2012)[119]	Duplication
(Delfabbro & King, 2020b)[120]	Duplication

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(Shaffer et al., 2020)[121]	Duplication
(Abbott, 2020a)[122]	Focus irrelevant to RG practices/transparency
(Monaghan, 2008)[123]	Land-based gambling context
(Wohl, 2018)[124]	Duplication
(Akcayir et al., 2021)[125]	Duplication
(Hing et al., 2017a)[126]	Focus irrelevant to RG practices/transparency
(Hing et al., 2017e)[127]	Duplication
(Chóliz et al., 2019)[128]	Focus irrelevant to RG practices/transparency
(Rumpf et al., 2018)[129]	Full text not accessible
(Loy et al., 2018)[130]	Focus irrelevant to RG practices/transparency
(Brosowski et al., 2015)[131]	Focus irrelevant to RG practices/transparency
(Cottler et al., 2016)[132]	Focus irrelevant to RG practices/transparency
(Lister, 2015)[133]	Land-based gambling context
(Rönnberg, 2005)[134]	Focus irrelevant to RG practices/transparency
(Wohl et al., 2008)[135]	Focus irrelevant to RG practices/transparency
(Ladouceur & Sévigny, 2006)[136]	Land-based gambling context
(Breen, 2005)[137]	Focus irrelevant to RG practices/transparency
(Livingstone & Adam, 2016)[138]	Focus irrelevant to RG practices/transparency
(Yücel et al., 2017)[139]	Focus irrelevant to RG practices/transparency

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(Keen et al., 2017)[140]	Non-adult (13-17yrs) participants
(Stone et al., 2015)[141]	Focus irrelevant to RG practices/transparency
(Fearnley et al., 2013)[142]	Focus irrelevant to RG practices/transparency
(Zangeneh et al., 2008)[143]	Focus irrelevant to RG practices/transparency
(Ariyabuddhiphongs, 2013)[144]	Focus irrelevant to RG practices/transparency
(Vong & Wong, 2013)[145]	Focus irrelevant to RG practices/transparency
(Breen, 2012b)[146]	Focus irrelevant to RG practices/transparency
(Ariyabuddhiphongs, 2012)[147]	Focus irrelevant to RG practices/transparency
(Bonnaire, 2012)[148]	Not in English
(Gainsbury, 2011)[149]	Focus irrelevant to RG practices/transparency
(Kim et al., 2009)[150]	Focus irrelevant to RG practices/transparency
(Echeburua & De Corral, 2008)[151]	Focus irrelevant to RG practices/transparency
(Currie et al., 2006)[152]	Focus irrelevant to RG practices/transparency
(Hing, 2001)[153]	Land-based gambling context
(Contreras & Siegel, 2009)[154]	Full text not accessible
(Batra, 2018)[155]	Focus irrelevant to RG practices/transparency
(Miers, 2014)[156]	Focus irrelevant to RG practices/transparency
(Macur et al., 2009)[157]	Land-based gambling context
(Kim & Lee, 2019)[158]	Land-based gambling context

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[158] Kim, J. & Lee, C. (2019). Effects of CSR, responsible gambling, and negative social impacts on perceived benefits and quality of life in gaming communities. *Tourism Economics, 25(4),* 500- 519. https://doi.org/10.1177/1354816618797199

(Monaghan, 2009)[159]	Duplication
(Forsstrom & Ornberg, 2019)[160]	Duplication

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[159] Monaghan, S. (2009). Responsible gambling strategies for Internet gambling: The theoretical and empirical base of using pop-up messages to encourage self-awareness. *Computers in Human Behavior, 25,* 202–207. https://doi.org/10.1016/j.chb.2008.08.00

[160] Forsstrom, D. & Ornberg, J.C. (2019). Responsible gambling in practice: A case study of views and practices of Swedish oriented gambling companies. *NORDIC STUDIES ON ALCOHOL AND DRUGS, 36(2),* 91-107. http://doi.org/10.1177/1455072518802492

Appendix 2 Characteristics of included articles and implications for RG-driven transparency

Citations	Study design	Relevant findings/positions	Implications for RG-driven transparency	Themes for RG-driven transparency
1. (Drosatos et al., 2019)[161]	Qualitative (workshop); literature review	Online gambling data that has been used for personalising content for persuasive online marketing can also be used for responsible online gambling, with the privacy requirements for data storage and processing to avoid privacy leakage to third-party systems.	Purposes and benefits of using personal data; Data usage and privacy protection; Individual autonomy	Transparency of Data-driven Approaches and Persuasive Technologies
2. (Wood et al., 2014)[162]	Quantitative, NRS	Player control over personal limits were favoured more than gaming company controlled limits, although mandatory use of such features was often recommended. Recommended RG features varied considerably between game types, according to their structural characteristics.	Effectiveness of RG tools; Personalisation of RG strategies	Transparency of RG Tools
3. (Sarkar et al. 2016)[163]	Quantitative, NRS	TREPAN algorithm could predict gambling loss behaviour, and it extracted better performing trees than direct learning of decision trees from the data.	Algorithmic transparency; Trade-off determination	Transparency of Data-driven Approaches and Persuasive Technologies
4. (Cemiloglu et al., 2020)[164]	Literature-based positions and discussions	It identified three main ethical goals for addictive technologies using the case of online gambling: 1) creating an environment that supports informed choice, 2) monitoring player data to identify risk factors, and 3) introducing measures to tackle problematic online behaviour.	Safer gambling cognition and behaviour; Purposes and benefits of using personal data; Availability and accessibility of RG tools	Transparency of Information and Education for Safer Gambling; Transparency of Data-driven Approaches and Persuasive Technologies; Transparency of RG Tools
5. (Alexius, 2017)[165]	Qualitative (ethnographi	The author claimed the need to develop a self-reflexive critical analysis of the ways in which responsibility is	Division of responsibility;	Transparency of Corporate Social Responsibility and

[161] Drosatos, G., Nalbadis, F., Arden-close, E., Baines, V., Bolat, E., Vuillier, L., Kostoulas, T., Budka, M., Wasowska, S., Bonello, M., Brown, J., Corner, T., Mcalaney, J., Phalp, K., & Ali, R. (2019). Enabling Responsible Online Gambling by Real-time Persuasive Technologies. *Complex Systems Informatics and Modeling Quarterly, 17*, 44–68

[162] Wood, R.T.A., Shorter, G.W., & Griffiths, M.D. (2014). Rating the Suitability of Responsible Gambling Features for Specific Game Types: A Resource for Optimizing Responsible Gambling Strategy. *International Journal of Mental Health and Addiction, 12(1),* 94-112. https://doi.org/10.1007/s11469-013-9473-y

[163] Sarkar, S., Weyde, T., Garcez, A. d'Avila, Slabaugh, G., Dragicevic, S., & Percy, C. (2016). Accuracy and Interpretability Trade-offs in Machine Learning Applied to Safer Gambling. *CoCo@NIPS, 1773*. http://ceur-ws.org/Vol-1773/CoCoNIPS_2016_paper10.pdf

[164] Cemiloglu, D., Arden-Close, E., Hodge, S., Kostoulas, T., Ali, R., & Catania, M. (2020). Towards Ethical Requirements for Addictive Technology: The Case of Online Gambling. *1st Workshop on Ethics in Requirements Engineering Research and Practice (REthics),* 1–10. https://doi.org/10.1109/REthics51204.2020.00007

[165] Alexius, S. (2017). Assigning responsibility for gambling-related harm: scrutinizing processes of direct and indirect consumer responsibilization of gamblers in Sweden. *Addiction Research & Theory, 25(6),* 462-475. https://doi.org/10.1080/16066359.2017.1321739

	cal fieldwork)	divided and assigned in this politicized market and wider policy field, and suggested a distinction between RG measures of direct and indirect responsibilisation.	Gambling policy and staff training	Individual Responsibility
6. (Jones et al., 2013)[166]	Qualitative (exploratory review)	Although the majority of the top 10 games companies provide some information on their approach to CSR, only a minority claim to be integrating CSR into their core business activities. The independent external assessment of the reporting process is limited.	CSR reporting and assessment	Transparency of Corporate Social Responsibility and Individual Responsibility
7. (Leung & Snell, 2019)	Qualitative (content analysis)	Differences between corporate social disclosure of strategies appear to reflect four factors: pressure to report, availability of good news, whether a firm was assuming ethical responsibility for addressing the topic, and the prospective readership.	CSR reporting and assessment	Transparency of Corporate Social Responsibility and Individual Responsibility
8. (Spurrier et al., 2014)[167]	Qualitative (interview)	Gambler accounts of causality, meaning, motivation, and strategy often contained content inconsistent with measures of disordered gambling. Disordered gambling appears heavily influenced by relative underestimation of risk and overvaluation of gambling.	Potential risks and negative consequences	Transparency of Information and Education for Safer Gambling
9. (Cooney et al., 2018)[168]	Qualitative (content analysis)	Irish websites were shown to perform poorly in comparison with non-Irish counterparts in the provision of RG tools.	Availability and accessibility of RG tools	Transparency of RG Tools
10. (Gray et al., 2019)[169]	Quantitative, NRS	Participants' distributed sense of responsibility for reducing gambling harm predicted their Biosocial Gambling Screen (BBGS) status over and above other risk factors (i.e., Positive Play, understanding of gambling concepts, use of responsible gambling strategies).	Division of responsibility	Transparency of Corporate Social Responsibility and Individual Responsibility
11. (Ivanova et al., 2019a)[170]	Quantitative, NRS	Non-problem gamblers had positive experiences of RG tools. Moderate-risk gamblers had more positive	Personalisation of RG strategies;	Transparency of RG Tools

[166] Jones, P., Comfort, D. and Hillier, D. (2013), Playing the game: corporate social responsibility and the games industry. *J. Public Affairs, 13*, 335-344. https://doi.org/10.1002/pa.1457

[167] Spurrier, M., Blaszczynski, A., & Rhodes, P. (2014). Gambler Risk Perception: A Mental Model and Grounded Theory Analysis. *Journal of gambling studies*. http://doi.org/10.1007/s10899-013-9439-9.

[168] Cooney, C., Columb, D., Costa, J., Griffith, M.D., & O'Gara, C. (2021). An Analysis of Consumer Protection for Gamblers Across Different Online Gambling Operators in Ireland: A Descriptive Study. *Int J Ment Health Addiction, 19,* 19–31. https://doi.org/10.1007/s11469-018-9968-7

[169] Gray, H. M., LaPlante, D. A., Abarbanel, B., & Bernhard, B. J. (2019). Gamblers' perceptions of stakeholder responsibility for minimizing gambling harm. *International Journal of Mental Health and Addiction.* https://doi.org/10.1007/s11469-019-0056-4

[170] Ivanova, E., Rafi, J., Lindner, P., & Carlbring, P. (2019). Experiences of responsible gambling tools among non-problem gamblers: A survey of active customers of an online gambling platform. *Addictive Behaviors Reports, 9.* https://doi.org/10.1016/j.abrep.2019.100161

		overall reaction and less irritation to previous experiences of RG tools. Problem gamblers had least positive attitudes, most disturbance and most irritation towards RG pictures.	**Effectiveness of RG tools**	
12. (Columb et al., 2020)[171]	Qualitative (content analysis)	The majority of advertisements shown during live televised sporting broadcasts in Ireland contained RG messaging, an age limit, and an RG organisation. No advertisements showing responsible gambling tools were observed.	**Transparency in advertising**	**Transparency in Advertising**
13. (Miers, 2015)[172]	Literature-based positions and discussions	Ensuring compliance to licensing objectives requires a mutual recognition of notice of regulatory or operational change and of cooperation in the implementation of the regime's requirements and expectations, challenged by the operators' understandings of and willingness to engage in compliant behaviour, uncertainty in the definition of particular games, some inflexibility.	**Division of responsibility; Boundary between gaming and gambling**	**Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency of Information and Education for Safer Gambling**
14. (Jones et al., 2009)[173]	Qualitative, case study	There are substantial variations in the nature and the extent of reporting. Four companies produced CSR reports while others produced more limited information confined largely to responsible gambling.	**CSR reporting and assessment**	**Transparency of Corporate Social Responsibility and Individual Responsibility**
15. (McGivern et al., 2019)[174]	Quantitative, NRS	Expenditure-specific warning messages exhibit potential for ameliorating potentially harmful gambling behaviour.	**Effectiveness of RG tools**	**Transparency of RG Tools**
16. (Hing et al., 2019a)[175]	Quantitative, NRS	It proposed evidence-based guidelines for gamblers to: stop if they are not having fun, keep a household budget, keep a dedicated gambling budget, have a fixed amount they can spend, engage in other leisure activities, avoid gambling when upset or depressed, not use credit for gambling, avoid gambling to make	**Safer gambling cognition and behaviour**	**Transparency of Information and Education for Safer Gambling**

[171] Columb, D., Wong, M. C., O'Mahony, V., Harrington, C., Griffiths, M. D., & O'Gara, C. (2020). Gambling advertising during live televised male sporting events in ireland: A descriptive study. *Irish Journal of Psychological Medicine.* https://doi.org/10.1017/ipm.2020.78

[172] Miers, D. (2015). Regulation and the management of risk in commercial gambling in Great Britain. *International Gambling Studies, 15(3)*, 422-434. https://doi.org/10.1080/14459795.2015.1068352

[173] Jones, P., Hillier, D., & Comfort, D. (2009). Corporate social responsibility in the UK gambling industry. *Corporate Governance, 9(2),* 189-201. https://doi.org/10.1108/14720700910946622

[174] McGivern, P., Hussain, Z., Lipka, S., & Stupple, E. (2019). The impact of pop-up warning messages of losses on expenditure in a simulated game of online roulette: a pilot study. *BMC Public Health*, *19*. https://doi.org/10.1186/s12889-019-7191-5

[175] Hing, N., Browne, M., Russell, A. M. T., Rockloff, M., Rawat, V., Nicoll, F., & Smith, G. (2019). Avoiding gambling harm: An evidence-based set of safe gambling practices for consumers. *PLoS ONE, 14(10),* 1–18. https://doi.org/10.1371/journal.pone.0224083

		money, and not think that strategies can help you win.		
17. (Breen et al., 2006)[176]	Qualitative; interview	In the state of Queensland, the study revealed mixed awareness of the Responsible Gambling Code of Practice in May 2002, limited implementation of its component elements and variable support for its likely effectiveness.	CSR reporting and assessment	Transparency of Corporate Social Responsibility and Individual Responsibility
18. (Armstrong et al., 2020a)[177]	Quantitative, RCT	Cognitive interventions that encourage gamblers to challenge gambling beliefs by reflecting on gambling involvement and promoting critical thinking may be an effective tool for reducing the time people invest in gambling activities.	Safer gambling cognition and behaviour	Transparency of Information and Education for Safer Gambling
19. (Auer et al., 2014)[178]	Quantitative, NRS	The data suggest that pop-up messages appear to be another potentially helpful social responsibility tool in reducing excessive play within session.	Effectiveness of RG tools; Trigger for receiving pop-up messages (Algorithmic transparency)	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
20. (Dowling et al., 2021)[179]	Quantitative, NRS	It attempted to identify and evaluate evidence-based low-risk gambling limits for Australia; the two limits related to gambling expenditure (gambling expenditure and gambling expenditure as a proportion of income) were consistently the best-performing.	Effectiveness of RG tools; Purposes and benefits of using personal data; Data usage and privacy protection	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
21. (Hassanniakalager & Newall, 2019)[180]	Quantitative, NRS	Betting odds are one salient feature that could be used to inform gamblers about product risk.	Fairness of games and gambler's gallacy; Potential Risks and Negative Consequences	Transparency of Information and Education for Safer Gambling
22. (Buil et al., 2015)[181]	Literature-based positions and discussions	Online gambling advertising may increase the risk of gambling amongst underage youth. Though gambling by minors is prohibited, evidence reveals that they gamble.	Transparency in advertising	Transparency in Advertising

[176] Breen, H., Buultjens, J., Hing, N. (2006). Implementing Responsible Gambling Practices in a Regional Area, *Journal of Hospitality and Tourism Management, 13(1),* 23-43. https://doi.org/10.1375/jhtm.13.1.23

[177] Armstrong, T., Rockloff, M., Browne, M., & Blaszczynski, A. (2020a). Training gamblers to re-think their gambling choices: How contextual analytical thinking may be useful in promoting safer gambling. *Journal of Behavioral Addictions, 9(3),* 766–784. https://doi.org/10.1556/2006.2020.00049

[178] Auer, M., Malischnig, D., & Griffiths, M.D. (2014). Is ''pop-up'' messaging in online slot machine gambling effective as a responsible gambling strategy? *Journal of Gambling Issues, 29,* 1-11. http://dx.doi.org/10.4309/jgi.2014.29.3

[179] Dowling, N. A., Youssef, G. J., Greenwood, C., Merkouris, S. S., Suomi, A., & Room, R. (2021). The Development of Empirically Derived Australian Low-Risk Gambling Limits. *Journal of clinical medicine, 10(2),* 167. https://doi.org/10.3390/jcm10020167

[180] Hassanniakalager, A. & Newall, P. (2019). A machine learning perspective on responsible gambling. *Behavioural Public Policy,* 1-24. http://doi.org/10.1017/bpp.2019.9

[181] Buil, P., Solé Moratilla, M. J., & García Ruiz, P. (2015). Online Gambling Advertising Regulations in Spain. A Study on the Protection of Minors. *Adicciones, 27(3),* 198–204.

23. (Ottosson, 2019)[182]	Thesis based on a series of qualitative and quantitative methods	It produced recommendations for design of modal windows to draw attention and require actions from gamblers, by showing information about how much money they had spent in total on their account.	Design Considerations for Improving Transparency	Design Considerations for Improving Transparency
24. (Torrado et al., 2019)[183]	Literature-based positions and discussions	Endorsing RG tools in preventive and Harm Reduction settings requires not only the ecological adaptation as well as the testing of the instruments (in the case of Harm Reduction tools) across different game types and in real-world settings.	Availability and Accessibility of RG tools; Personalisation of RG strategies	Transparency of RG Tools
25. (Donati et al., 2014)[184]	Quantitative, RCT	The integrated intervention consisting of different training techniques for the delivery of the educational contents is effective at in improving correct knowledge about gambling and reducing misconceptions, perception of gambling's profitability, and superstitious thinking.	Fairness of games and gamblers' fallacy; Safer gambling cognition and behaviour	Transparency of Information and Education for Safer Gambling
26. (Johansson & He, 2014)[185]	Thesis based on qualitative studies including case studies and interviews	Gambling companies differ in how they handle addiction, mainly because of diffuse concepts as CSR and RG. If gambling companies cooperate actively between themselves as well as with research of addiction, a balanced, sustainable society may be reached.	Division of responsibility; Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
27. (Blaszczynski et al., 2021)[186]	Literature-based positions and discussions	It draws a distinction between the outcome (i.e., responsible gambling) and the action of stakeholders who can bring about this situation. Governments are accountable for establishing the legal gambling environment, regulators need to ensure compliance with government standards, industry must comply with regulatory requirements, communities need to influence public policy and public health advocacy, and ultimately	Division of responsibility	Transparency of Corporate Social Responsibility and Individual Responsibility

[182] Ottosson, E. (2019). *Stop Creating universal design recommendations for modal windows as a responsible gambling strategy* [Umeå University]. http://www.diva-portal.org/smash/get/diva2:1351277/FULLTEXT01.pdf

[183] Torrado, M., Dinis, S., Bacelar-Nicolau, L., Eusébio, S., & Ouakinin, S. (2019). Responsible gambling and mental health: topics for an integrated strategy in prevention and harm reduction of behavioral addictions. *Revista Portuguesa de Psiquiatria de Saúde Mental, 5(4),* 62-75. http://hdl.handle.net/10451/44057

[184] Donati, M. A., Primi, C., & Chiesi, F. (2014). Prevention of problematic gambling behavior among adolescents: testing the efficacy of an integrative intervention. *Journal of gambling studies, 30(4),* 803–818. https://doi.org/10.1007/s10899-013-9398-1

[185] Johansson, D., & He, B. (2014). *Sustainable Gambling Business : -The responsibility of companies to protect gamblers from becoming addictive* (Dissertation). http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-226606

[186] Blaszczynski, A., Shaffer, H. J., Ladouceur, R., & Collins, P. (2021). Clarifying Responsible Gambling and its Concept of Responsibility. *International Journal of Mental Health and Addiction.* https://doi.org/10.1007/s11469-020-00451-5

		individuals are the decision-making agents.		
28. (Akcayir et al., 2021)[187]	Literature-based positions and discussions	Commonly suggested solutions are the creation of educational and awareness programs (e.g., information on the risks of gambling, resources for help seekers, how games really work) and further restrictions on gambling advertising. Health service providers are mostly given the responsibility to implement various strategies, followed by policy makers.	Fairness of games and gamblers' fallacy; Potential risks and negative consequences; Availability and accessibility of RG tools; Transparency in advertising	Transparency of Information and Education for Safer Gambling; Transparency of RG Tools; Transparency in Advertising
29. (Allsopp, 2021)[188]	Literature-based positions and discussions	Gamblers' behaviour is arguably being governed both at an individual level through disciplinary mechanisms of surveillance and correction, and at the level of the population through governmentality techniques applied to the gambling environment. These mechanisms of power are used to frame the choices of individuals and shape them into a productive population of responsible gamblers.	Division of responsibility	Transparency of Corporate Social Responsibility and Individual Responsibility
30. (Delfabbro & King, 2020b)[189]	Literature-based positions and discussions	Although more promising evidence appears to be emerging regarding voluntary limit-setting in online environments, the apparent behavioural impacts appear to be quite modest. By contrast, the study found that the emerging evidence concerning mandatory limit-setting systems in Norway appears to be more promising.	Effectiveness of RG tools; Individual autonomy; Trade-off determination	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
31. (Gainsbury et al., 2020a)[190]	Literature-based positions and discussions	This paper presented a framework making explicit the roles and responsibilities of each stakeholder to minimise Internet gambling-related harms, and it proposed open and transparent collaborative communication between stakeholder groups as a role for all stakeholders.	Division of responsibility	Transparency of Corporate Social Responsibility and Individual Responsibility

[187] Akcayir, M., Nicoll, F., Baxter, D.G., & Palmer, Z.S. (2021). Whose Responsibility Is It to Prevent or Reduce Gambling Harm? A Mapping Review of Current Empirical Research. *International Journal of Mental Health and Addiction*. https://doi.org/10.1007/s11469-020-00459-x

[188] Allsopp, R. (2021). Leveraging the 'power' of big data in the production of 'responsible gamblers': a Foucauldian perspective. *Information & Communications Law, 30(1)*, 54-74 https://doi.org/10.1080/13600834.2020.1807117

[189] Delfabbro, P. H., & King, D. L. (2020b). The value of voluntary vs. mandatory responsible gambling limit-setting systems: A review of the evidence. *International Gambling Studies*. https://doi.org/10.1080/14459795.2020.1853196

[190] Gainsbury, S. M., Black, N., Blaszczynski, A., Callaghan, S., Clancey, G., Starcevic, V., & Tymula, A. (2020a). Reducing Internet Gambling Harms Using Behavioral Science: A Stakeholder Framework. *Frontiers in Psychoiatry, 11*. https://doi.org/10.3389/fpsyt.2020.598589

32. (Michalska et al., 2020)[191]	Quantitative, NRS	People who play poker only are less prone to endorse the utility of information on excessive gambling and specialised healthcare centres. Setting money limits, online help, and peer support forums are the most commonly endorsed strategies.	Availability and Accessibility of RG tools; Personalisation of RG strategies	Transparency of RG Tools
33. (Jonsson et al., 2020)[192]	Quantitative, RCT	Personal contact with high-expenditure gambling customers in Norway that provided individualised feedback on expenditures was associated with reduced theoretical losses and greater use of responsible gambling tools over a 12-month period, compared with no contact. Telephone intervention with customers had a larger impact than a mailed letter.	Effectiveness of RG tools; Purposes and benefits of using personal data	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
34. (Jonsson et al., 2021)[193]	Quantitative, RCT	The choice of contact by letter or telephone did have different effects for the different gambling subtypes. Sending a letter seems like a cost effective alternative to telephone contact for the High Lottery type, but telephone contact performs better for High Casino, High Sport and High VLT customers. Responsible gambling interventions can be improved by subtyping of gamblers.	Personalisation of RG strategies; Effectiveness of RG tools	Transparency of RG Tools
35. (Jonsson et al., 2019)[194]	Quantitative, RCT	Contacting high consumers about their gambling expenditure appears to be an effective method for gambling companies to meet their duty to care for customers. A positive effect of the follow-up contact was limited to participants who at the initial call indicated an interest in receiving a follow-up call.	Effectiveness of RG tools; Individual autonomy; Purposes and benefits of using personal data	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies

[191] Michalska, P., Chatton, A., Penzenstadler, L., Izdebski, P., Jeannot, E., Simon, O., Dufour, M., Rochat, L., Lischer, S., & Khazaal, Y. (2020). Perspective of Internet Poker Players on Harm-Reduction Strategies: A Cross-Sectional Study. *International journal of environmental research and public health, 17(23),* 9054. https://doi.org/10.3390/ijerph17239054

[192] Jonsson, J., Hodgins, D.C., Munck, I., Carlbring, P. (2020). Reaching out to big losers leads to sustained reductions in gambling over 1 year: a randomized controlled trial of brief motivational contact. *Addiction, 115(8),* 1522-1531. https://doi.org/10.1111/add.14982

[193] Jonsson, J., Hodgins, D. C., Munck, I., & Carlbring, P. (2021). Reaching Out to Big Losers: How Different Types of Gamblers are Affected by a Brief Motivational Contact Initiated by the Gambling Provider. *Journal of gambling studies*, *37*(2), 387–401. https://doi.org/10.1007/s10899-020-09978-7

[194] Jonsson, J., Hodgins, D. C., Munck, I., & Carlbring, P. (2019). Reaching Out to Big Losers: A Randomized Controlled Trial of Brief Motivational Contact Providing Gambling Expenditure Feedback. *Psychology of Addictive Behaviors*, *33*(3), 179-189. http://dx.doi.org/10.1037/adb0000447

36. (Lalande et al., 2020)[195]	Quantitative, RCT	Participants estimated having less chance of losing during a slot machine session after exposure to the exaggerated return rate, suggesting that using exaggerated return rates may incite players to behave differently than they would otherwise during a gambling session.	Fairness of games and gamblers' fallacy	Transparency of Information and Education for Safer Gambling
37. (Auer & Griffiths, 2020)[196]	Quantitative, NRS	Targeted personalised information (i.e., feedback concerning their own actual gambling behaviour in the form of text messages) can be an effective tool for online gambling companies to reduce gambling expenditure among their clientele.	Effectiveness of RG tools; Purposes and benefits of using personal data	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
38. (Elbers et al., 2020)[197]	Literature-based positions and discussions	Local services had difficulties identifying problem gamblers and signposting for support. Leadership requires a Health in All Policies approach to ensure gambling-related harm is not seen as a narrow niche issue, led by public health staff.	Division of responsibility; Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
39. (Livingstone & Rintoul, 2020)[198]	Literature review	The discourse of RG is inadequate for preventing or minimising gambling harm. A public health focused approach to prevent and minimise gambling harm is likely to be far more effective but will be opposed by vested interests.	Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
40. (Griffiths & Pontes, 2020)[199]	Literature-based positions and discussions	The paper argues that like the gambling industry, the video game industry has an abundance of behavioural tracking data that should be used to learn more about the acquisition, development, and maintenance of gaming and gaming disorder among its clientele. While there is the need for such cooperation, the integrity of independent research should not be jeopardized nor undermined in this process.	Boundary between gaming and gambling; Purposes and benefits of using personal data; Research evidence and funding sources	Transparency of Information and Education for Safer Gambling; Transparency of Data-driven Approaches and Persuasive Technologies; Transparency on Research Evidence and Funding Sources

[195] Lalande, D., Emond, M., & Belanger, E. (2020). Return Rates of Online Slot Machines in Trial Mode Influence Players' Errors of Estimation. *Journal of gambling studies*, 45, 1-17. http://doi.org/10.4309/jgi.2020.45.1

[196] Auer, M. & Griffiths, M.D. (2020). The use of personalized messages on wagering behavior of Swedish online gamblers: An empirical study. *Computers in Human Behavior, 110,* 1-9. https://doi.org/10.1016/j.chb.2020.106402

[197] Elbers, M., Rowlands, J., Boo, M., & Cameron, I. (2020). Building momentum for local action on problem gambling in Leeds and Yorkshire. *Public health, 184,* 67–70. https://doi.org/10.1016/j.puhe.2020.04.019

[198] Livingstone, C., & Rintoul, A. (2020). Moving on from responsible gambling: a new discourse is needed to prevent and minimise harm from gambling. *Public health, 184,* 107–112. https://doi.org/10.1016/j.puhe.2020.03.018

[199] Griffiths, M.D. & Pontes, H.M. (2020). The Future of Gaming Disorder Research and Player Protection: What Role Should the Video Gaming Industry and Researchers Play? *International Journal of Mental Health and Addiction, 18(3),* 784-790. https://doi.org/10.1007/s11469-019-00110-4

41. (Louderback et al., 2020)[200]	Literature-based positions and discussions	It described how particular Open Science practices can enhance industry-funded research.	Research evidence and funding sources	Transparency on Research Evidence and Funding Sources
42. (Delfabbro & King, 2020a)[201]	Literature-based positions and discussions	Gambling harm can really only be reduced by changing the behaviour of individuals, and this objective is very much informed by the principles and practices of 'individual-focused disciplines' including psychology, social work and the medical sciences.	Safer gambling cognition and behaviour	Transparency of Information and Education for Safer Gambling
43. (Abbott, 2020b)[202]	Literature-based positions and discussions	The paper claimed policy responses are individually oriented and inadequately address corporate harm determinants.	Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
44. (Drosatos et al., 2020)[203]	Qualitative (interview); literature-based positions and discussions	It identified three types of limits (money, time and access) and identified areas to consider such as who should set these limits and their duration, and considerations for designing interventions (such as visualisation of the gambling data) and regarding the type of data collected (such as betting history and location).	Availability and accessibility of RG tools; Purposes and benefits of using personal data; Individual autonomy; Design Considerations for Improving Transparency	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies Design Considerations for Improving Transparency
45. (Gainsbury et al., 2020b)[204]	Quantitative, NRS	Participants predominately did not use the restrictive tools, including activity statements, deposit limits, and time-outs (temporary self-exclusion), as they did not see these as relevant for them, and they were perceived to be intended for people with gambling problems.	Availability and accessibility of RG tools; Safer gambling cognition and behaviour	Transparency of RG Tools; Transparency of Information and Education for Safer Gambling
46. (Killick & Griffiths, 2020)[205]	Qualitative, content analysis	Over 90% of the tweets, posted by the operators during the opening weekend of the 2018-2019 English Premier League football season, contained no responsible gambling information.	Transparency in advertising	Transparency in Advertising

[200] Louderback, E. R., Wohl, M. J. A., & LaPlante, D. A. (2020). Integrating open science practices into recommendations for accepting gambling industry research funding. *Addiction Research & Theory*, *29*(1), 79–87. https://doi.org/10.1080/16066359.2020.1767774

[201] Delfabbro, P. H., & King, D. L. (2020a). On the Limits and Challenges of Public Health Approaches in Addressing Gambling-Related Problems. *International Gambling Studies, 18(3)*, 844-859. https://doi.org/10.1007/s11469-020-00276-2

[202] Abbott, M. (2020b). Gambling Control and Public Health: Let's Be Really Honest. *International Journal of Mental Health and Addiction, 18(3)*, 825– 834. https://doi.org/10.1007/s11469-020-00266-4

[203] Drosatos, G., Arden-Close, E., Bolat, E., & Ali, R. (2020). Gambling Data and Modalities of Interaction for Responsible Online Gambling: A Qualitative Study. *Journal of Gambling Issues,* 139-169. https://doi.org/10.4309/jgi.2020.44.8

[204] Gainsbury, S. M., Angus, D. J., Procter, L., & Blaszczynski, A. (2020b). Use of Consumer Protection Tools on Internet Gambling Sites: Customer Perceptions, Motivators, and Barriers to Use. *Journal of Gambling Studies, 36(1),* 259-276. https://doi.org/10.1007/s10899-019-09859-8

[205] Killick, E. A., & Griffiths, M. D. (2020). A Content Analysis of Gambling Operators' Twitter Accounts at the Start of the English Premier League Football Season. Journal of Gambling Studies, 36(1), 319–341. https://doi.org/10.1007/s10899-019-09879-4

47. (Auer et al., 2020a)[206]	Quantitative, NRS	Results demonstrated that there were no differences with regard to age and gender but that among the most gambling-intense players, those who had voluntarily set limits gambled significantly less money a year later compared with those who had not.	Personalisation of RG strategies; Effectiveness of RG tools	Transparency of RG Tools
48. (Auer et al., 2020b)[207]	Quantitative, NRS	The introduction of a global loss limit had a positive impact among Norsk Tipping's clientele.	Effectiveness of RG tools	Transparency of RG Tools
49. (Lopez-Gonzalez et al., 2020)[208]	Quantitative, NRS	Compared to participants not engaging in in-play betting, in-play bettors reported higher (i) problem gambling severity, (ii) sport watching involvement, (iii) consumption of sport to escape from everyday preoccupations, and (iv) consumption of junk food and/or alcohol while watching sport.	Transparency in advertising; Personalisation of RG strategies	Transparency in Advertising; Transparency of RG Tools
50. (Malischnig et al., 2020)[209]	Quantitative, NRS	The higher the number of responsible gambling training sessions completed in the past and the more positive the attitude towards mystery shopping, the higher the compliance rate not to sell a lottery product to young mystery shoppers.	Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
51. (Hernandez-Ruiz, 2020)[210]	Qualitative, content analysis	It explored the consumer protection policies posted on online gambling websites in Spain related to (1) information and awareness-raising, and (2) the promotion of specific prevention measures. In general terms, real compliance with basic prevention criteria requires improvements both in terms of the content and form of these communications.	Transparency in advertising	Transparency in Advertising
52. (Forsstrom et al., 2020a)[211]	Quantitative, NRS	The majority of the gamblers used Playscan (an RG tool) for a short period of time, indicating the participants did not gamble less after	Effectiveness of RG tools	Transparency of RG Tools

[206] Auer, M., Hopfgartner, N., & Griffiths, M.D. (2020a). The Effects of Voluntary Deposit Limit-Setting on Long-Term Online Gambling Expenditure. *Cyberpsychology Behavior and Social Networking, 23(2),* 113-118. https://doi.org/10.1089/cyber.2019.0202

[207] Auer, M., Reiestad, S., & Griffiths, M. (2020). Global Limit Setting as a Responsible Gambling Tool: What Do Players Think? *International Journal of Mental Health and Addiction*, *18*(1), 14–26. https://doi.org/10.1007/s11469-018-9892-x

[208] Lopez-Gonzalez, H., Griffiths, M.D., & Estevez, A. (2020). In-Play Betting, Sport Broadcasts, and Gambling Severity: A Survey Study of Spanish Sports Bettors on the Risks of Betting on Sport While Watching It. *Communication & Sport, 8(1),* 50-71. https://doi.org/10.1177/2167479518816338

[209] Malischnig, D., Griffiths, M.D. & Meyer, G. (2021). Selling Lottery Products To Minors: Factors Affecting Retailer Compliance. *International Journal of Mental Health and Addiction 19,* 745–763. https://doi.org/10.1007/s11469-019-00184-0

[210] Hernandez-Ruiz, A. (2020). Consumer protection on online gambling websites hosted by licensed operators in Spain. *ADICCIONES*, *32*(3), 216–224. https://doi.org/10.20882/adicciones.1262

[211] Forsstrom, D., Rafi, J. & Carlbring, P. (2020a) Dropouts' usage of a responsible gambling tool and subsequent gambling patterns. *Cogent Psychology, 7(1).* https://doi.org/10.1080/23311908.2020.1715535

		using Playscan. The low level of use in this sample and in other studies implies that strategies to increase is needed.		
53. (Auer & Griffiths, 2019)[212]	Quantitative, NRS	The results demonstrated that it is possible to predict future limit-setting based on player behaviour. The random forest algorithm appeared to predict limit-changing behaviour much better than the other algorithms. However, on the independent test data, the random forest algorithm's accuracy dropped significantly.	Algorithmic transparency; Purposes and benefits of using personal data	Transparency of Data-driven Approaches and Persuasive Technologies
54. (Procter et al., 2019)[213]	Quantitative, NRS	Past tool use, attitudes and subjective norms, but not perceived behavioural control, were positively correlated with intention to use consumer protection tools. Positively influencing individual attitudes, perceived views of others and past tool use could increase online wagering customers' use of consumer protection tools.	Safer gambling cognition and behaviour; Availability and accessibility of RG tools	Transparency of Information and Education for Safer Gambling; Transparency of RG Tools
55. (Engebo et al., 2019)[214]	Quantitative, NRS	Positive beliefs about RG measures can relate to needs for external based countermeasures to minimise or reduce problems. Negative views may reflect a wish to play without obstacles, take risks or to trust in self-control.	Safer gambling cognition and behaviour	Transparency of Information and Education for Safer Gambling
56. (Tetrevova & Patak, 2019)[215]	Qualitative, content analysis	The level of web-based CSR communication of gambling operators operating in the Czech Republic is low, both in comparison with controversial companies and also with non-controversial companies.	Transparency in advertising	Transparency in Advertising
57. (Luquiens et al., 2019)[216]	Quantitative, NRS	Self-exclusion seems efficient in the long term. However, the effect on money spent of self-exclusions and of short-duration self-exclusions should be further explored among the most heavily involved gamblers.	Effectiveness of RG tools	Transparency of RG Tools

[212] Auer, M. & Griffiths, M.D. (2019). Predicting Limit-Setting Behavior of Gamblers Using Machine Learning Algorithms: A Real-World Study of Norwegian Gamblers Using Account Data. *International Journal of Mental Health and Addiction,* 1-18. https://doi.org/10.1007/s11469-019-00166-2

[213] Procter, L., Angus, D. J., Blaszczynski, A., & Gainsbury, S. M. (2019). Understanding use of consumer protection tools among Internet gambling customers: Utility of the Theory of Planned Behavior and Theory of Reasoned Action. *Addictive Behaviors*, *99*. https://doi.org/10.1016/j.addbeh.2019.106050

[214] Engebo, J., Torsheim, T., Mentzoni, R.A., Molde, H., & Pallesen, S. (2019). Predictors of Gamblers Beliefs About Responsible Gambling Measures. *Journal of Gambling Studies, 35(4),* 1375-1396. https://doi.org/10.1007/s10899-019-09835-2

[215] Tetrevova, L. & Patak, M. (2019). Web-Based Communication of Socially Responsible Activities by Gambling Operators. *Journal of Gambling Studies, 35(4),* 1441-1445. https://doi.org/10.1007/s10899-019-09842-3

[216] Luquiens, A., Dugravot, A., Panjo, H., Benyamina, A., Gaiffas, S., & Bacry, E. (2019). Self-Exclusion among Online Poker Gamblers: Effects on Expenditure in Time and Money as Compared to Matched Controls. *International Journal of Environmental Research and Public Health, 16(22).* https://doi.org/10.3390/ijerph16224399

58. (Shaffer et al., 2020)[217]	Literature-based positions and discussions	Paradoxically, although stakeholders are in agreement about the general principles and objectives to minimize gambling disorders and related harms, differences are evident in the manner different interventions are chosen and applied in efforts to achieve common goals.	Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
59. (Lole et al., 2019)[218]	Quantitative, NRS	Very few fixations were placed on, or near, responsible gambling messages, compared to other wagering information, meaning that, in their current form, they are unlikely to be effective in protecting against gambling harm. Preliminary evidence shows that presenting messages on a high-contrast/block-colour background increases the number of fixations on these.	Transparency in advertising; Design Considerations for Improving Transparency	Transparency in Advertising Design Considerations for Improving Transparency
60. (Shaffer et al., 2019)[219]	Systematic literature review	Gambling industry funded studies were no more likely than studies not funded by the gambling industry to report either confirmed, partially confirmed, or rejected hypotheses. Nonetheless, studies funded by the gambling industry and studies with disclosed funding sources were more likely than other types of funding sources to include a conflict of interest statement.	Research evidence and funding sources	Transparency on Research Evidence and Funding Sources
61. (Tong et al., 2019)[220]	Quantitative, NRS	Health Belief Model factors (i.e., perceived susceptibility, perceived severity, perceived benefit, perceived barrier, cue to action, and self-efficacy) were shown to explain one's adherence to RG practices in general but the effectiveness of varied across RG practices.	Safer gambling cognition and behaviour	Transparency of Information and Education for Safer Gambling
62. (Lopez-Gonzalez et al., 2019b)[221]	Qualitative, interview	Participants reported two fundamental characteristics of sports betting social perception: (1) the absence of negative connotations	Boundary between gaming and gambling;	Transparency of Information and Education for Safer Gambling;

[217] Shaffer, H.J., Blaszczynski, A., & Ladouceur, R. (2020). Whose Responsibility Is It to Prevent or Reduce Gambling Harm? A Mapping Review of Current Empirical Research. *International Journal of Mental Health and Addiction, 18(3),* 806-818. https://doi.org/10.1007/s11469-019-00149-3

[218] Lole, L., Li, E., Russell, A. M., Greer, N., Thorne, H., & Hing, N. (2019). Are sports bettors looking at responsible gambling messages? An eye-tracking study on wagering advertisements. *Journal of Behavioral Addictions, 8(3),* 499–507. https://doi.org/10.1556/2006.8.2019.37

[219] Shaffer, P.M., Ladouceur, R., Williams, P., Wiley, R.C., Blaszczynski, A., & Shaffer, H.J. (2019). Gambling Research and Funding Biases. *Journal of Gambling Studies, 35(3),* 875-886. https://doi.org/10.1007/s10899-019-09875-8

[220] Tong, K.K., Chen, J.H.L., & Wu, A.M.S. (2019). Application of Health Belief Model to Practice of Responsible Gambling. *Journal of Gambling Studies, 35(3),* 1047-1062. https://doi.org/10.1007/s10899-019-09871-y

[221] Lopez-Gonzalez, H., Estevez, A., & Griffiths, M. D. (2019). Can Positive Social Perception and Reduced Stigma be a Problem in Sports Betting? A Qualitative Focus Group Study with Spanish Sports Bettors Undergoing Treatment for Gambling Disorder. *Journal of Gambling Studies, 35(2),* 571–585. https://doi.org/10.1007/s10899-018-9799-2

		associated with sports betting comparative to other gambling forms; and (2) the presence of positive connotations that sanitised sports betting as a harmless practice.	Transparency in advertising	Transparency in Advertising
63. (Hing et al., 2019b)[222]	Quantitative, NRS	The results imply that current approaches to marketing these inducements are likely to lead consumers to overestimate their attractiveness and underestimate their cost. To enhance RG practice, these promotional offers should be presented in ways that enable informed decision-making.	Transparency in advertising	Transparency in Advertising
64. (Caillon et al., 2019)[223]	Quantitative, RCT	Self-exclusion had no short-term impact but did have a medium-term impact on gambling habits.	Effectiveness of RG tools	Transparency of RG Tools
65. (Ladouceur et al., 2019)[224]	Systematic literature review	Results do not support claims that funding exerts influence on the design or methodologies of RG studies. However, there are many reasons for failing to find differences, or interpretation of findings. It also highlights the need for more open and transparent disclosures.	Research evidence and funding sources	Transparency on Research Evidence and Funding Sources
66. (Houghton et al., 2019)[225]	Qualitative, content analysis	The affiliates were more direct in their posting style whereas operators followed a more indirect approach, reflective of a branding strategy. Future research should address how interacting with different types of gambling content on social media impacts upon gambling attitudes and behaviour.	Transparency in advertising	Transparency in Advertising
67. (Reith, 2008)[226]	Editorial	The notion of responsibility is based on possession of power and implies accountability. The increasing liberalization and deregulation of commercial gambling is accompanied by rising demands for self-control and responsible gambling by players themselves. The individual player is	Division of responsibility	Transparency of Corporate Social Responsibility and Individual Responsibility

[222] Hing, N., Browne, M., Russell, Alex M. T., Greer, N., Thomas, A., Jenkinson, R., Rockloff, M. (2019b). Where's the Bonus in Bonus Bets? Assessing Sports Bettors' Comprehension of their True Cost. *Journal of Gambling Studies, 35(2),* 587–599. https://doi.org/10.1007/s10899-018-9800-0

[223] Caillon, J., Grall-Bronnec, M., Perrot, B., Leboucher, J., Donnio, Y., Romo, L., & Challet-Bouju, G. (2019). Effectiveness of At-Risk Gamblers' Temporary Self-Exclusion from Internet Gambling Sites. Application of Health Belief Model to Practice of Responsible Gambling. *Journal of Gambling Studies, 35(2),* 601-615. https://doi.org/10.1007/s10899-018-9782-y

[224] Ladouceur, R., Shaffer, P., Blaszczynski, A., & Shaffer, H. J. (2019). Responsible Gambling Research and Industry Funding Biases. *Journal of Gambling Studies, 35(2),* 725-730. https://doi.org/10.1007/s10899-018-9792-9

[225] Houghton, S., McNeil, A., Hogg, M., & Moss, M. (2019). Comparing the Twitter posting of British gambling operators and gambling affiliates: a summative content analysis. *International Gambling Studies, 19(2),* 312-326. https://doi.org/10.1080/14459795.2018.1561923

[226] Reith, G. (2008). Reflections on Responsibility. *Journal of Gambling Issues, 22.* [Editorial]. https://doi.org/10.4309/jgi.2008.22.12

		also the focus of public health strategies, which aim to provide information and education to facilitate informed choice and responsible play.		
68. (Nikkinen, 2019)[227]	Literature-based positions and discussions	In the cases of Finland and Norway personal gambling licensing could be combined with loyalty cards introduced by monopoly operators. This would provide a feasible alternative to current practices of responsible gambling.	Division of responsibility; Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
69. (Ivanova, et al., 2019b)[228]	Quantitative, RCT	Prompting online gamblers to set a voluntary deposit limit of optional size did not affect subsequent net loss compared to unprompted customers, motivating design and evaluation of alternative pre-commitment tools.	Effectiveness of RG tools	Transparency of RG Tools
70. (Leung, 2019)[229]	Qualitative, case study	Voluntary responsible gambling initiatives are liable to be used only in symbolic fashion, without offering genuine engagement or full commitment to the most vulnerable stakeholder group.	Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
71. (Gainsbury et al., 2018b)[230]	Qualitative (focus group); literature review	The wording of message content will likely influence the effectiveness of such messages differentially across various groups of gamblers for engaging gamblers in harm reduction tools.	Effectiveness of RG tools; Design Considerations for Improving Transparency	Transparency of RG Tools; Design Considerations for Improving Transparency
72. (Buhringer et al., 2018)[231]	Literature-based positions and discussions	Governments and market providers are responsible for balancing the knowledge deficits of consumers in cases of "asymmetric information". Gambling providers should implement specific protections to address vulnerable gamblers.	Division of responsibility; Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
73. (Kraplin & Goudriaan, 2018)[232]	Literature review	RG strategies need to provide transparent and safe gambling for the majority of gamblers and for early identification, intervention, and harm reduction for the minority of	Availability and accessibility of RG tools; Gambling policy and staff training	Transparency of RG Tools; Transparency of Corporate Social

[227] Nikkinen, J. (2019). Responsible gambling in practice: A case study of views and practices of Swedish oriented gambling companies. *NORDIC STUDIES ON ALCOHOL AND DRUGS, 36(2),* 108-124. http://doi.org/10.1177/1455072518811029

[228] Ivanova, E., Magnusson, K., & Carlbring, P. (2019). Deposit Limit Prompt in Online Gambling for Reducing Gambling Intensity: A Randomized Controlled Trial. *Frontiers in Psychology, 10.* https://doi.org/10.3389/fpsyg.2019.00639

[229] Leung, T.C.H. (2019). Legitimacy-seeking strategies in the gambling industry: the case of responsible gambling. *SUSTAINABILITY ACCOUNTING MANAGEMENT AND POLICY JOURNAL, 11,* 97-125. http://doi.org/10.1108/SAMPJ-04-2018-0121

[230] Gainsbury, S. M., Abarbanel, B. L. L., Philander, K. S., & Butler, J. V. (2018b). Strategies to customize responsible gambling messages: a review and focus group study. *BMC Public Health, 18.* https://doi.org/10.1186/s12889-018-6281-0

[231] Buhringer, G., Kotter, R., Czernecka, R., & Kraplin, A. (2018). Beyond Reno II: Who cares for vulnerable gamblers? *SUCHT-ZEITSCHRIFT FUR WISSENSCHAFT UND PRAXIS, 64(5-6),* 325-334. https://doi.org/10.1024/0939-5911/a000566

[232] Kraplin, A., & Goudriaan, A.E. (2018). Characteristics and risk factors of gambling disorder as basis for responsible gambling strategies. *International Gambling Studies, 64(5-6),* 247-256. https://doi.org/10.1024/0939-5911/a000559

		individuals at risk for gambling disorders. All land-based and online gambling segments should be regulated and controlled within a common framework.		Responsibility and Individual Responsibility
74. (Luquiens et al., 2018)[233]	Quantitative, NRS	Losses in the previous month were greater before second self-exclusions than before the first. The process of self-exclusion should be optimised from the first occurrence to protect heavy gamblers.	Effectiveness of RG tools	Transparency of RG Tools
75. (Auer et al., 2018)[234]	Quantitative, NRS	Those gamblers receiving personalised feedback in relation to limit-setting showed significant reductions in the amount of money gambled	Effectiveness of RG tools	Transparency of RG Tools
76. (Tong et al., 2018)[235]	Qualitative (interview); quantitative (NRS)	Future RG promotion needs to be more specific and behaviour-oriented and it should also address various procedural concerns on how RG practices can be implemented.	Transparency in advertising; Availability and accessibility of RG tool	Transparency in advertising; Transparency of RG Tools
77. (Hubert & Griffiths, 2018)[236]	Quantitative, NRS	The fact that situational characteristics are more attractive to online gamblers confirms differences between online and offline pathological gamblers and suggests that this preferred attractiveness may enhance problem gambling potential.	Potential risks and negative consequences	Transparency of Information and Education for Safer Gambling
78. (Theriault et al., 2018)[237]	Quantitative, NRS	The study failed to find any evidence that the use of RG strategies was related to the risk of problem gambling in older adults, raising questions about the utility of strategies used for RG.	Effectiveness of RG tools	Transparency of RG Tools
79. (Harris & Griffiths, 2018)[238]	Literature review	There was a consistent finding across studies that games with faster speeds of play were preferred and rated as more exciting for all gamblers, ranging from non-problem to problem gamblers. Fast games are particularly appealing to those suffering with a gambling problem.	Potential risks and negative consequences	Transparency of Information and Education for Safer Gambling

[233] Luquiens, A., Vendryes, D., Aubin, HJ., Benyamina, A., Gaiffas, S., Bacry, E. (2018). Description and assessment of trustability of motives for self-exclusion reported by online poker gamblers in a cohort using account-based gambling data. *BMJ OPEN, 8(12).* https://doi.org/10.1136/bmjopen-2018-022541

[234] Auer, M., Hopfgartner, N., & Griffiths, M. D. (2018). The effect of loss-limit reminders on gambling behavior: A real-world study of Norwegian gamblers. *Journal of behavioral addictions*, *7*(4), 1056–1067. https://doi.org/10.1556/2006.7.2018.106

[235] Tong, K.K., Hung, E.P.W., Lei, C.M.W., & Wu, A.M.S. (2018). Public Awareness and Practice of Responsible Gambling in Macao. *Journal of Gambling Studies*, *34(4)*, 1261–1280. https://doi.org/10.1007/s10899-018-9750-6

[236] Hubert, P. & Griffiths, M.D. (2018). A Comparison of Online Versus Offline Gambling Harm in Portuguese Pathological Gamblers: An Empirical Study. *International Journal of Mental Health and Addiction, 16(5),* 1219-1237. https://doi.org/10.1007/s11469-017-9846-8

[237] Theriault, E. R., Norris, J. E., & Tindale, J. A. (2018). Responsible Gambling Strategies: Are They Effective Against Problem Gambling Risk in Older Ontarians? *Journal of Gambling Issues*, *39*, 204–221. https://doi.org/10.4309/jgi.2018.39.7

[238] Harris, A., & Griffiths, M. D. (2018). The Impact of Speed of Play in Gambling on Psychological and Behavioural Factors: A Critical Review. *Journal of Gambling Studies, 34(2),* 393–412. https://doi.org/10.1007/s10899-017-9701-7

80. (Hing et al., 2018a)[239]	Quantitative, NRS	More impulsive sports bettors were characterised as having higher trait impulsiveness, higher problem gambling severity, more frequent sports betting and a shorter history of sports betting.	Availability and accessibility of RG tool; Personalisation of RG strategies	Transparency of RG Tools
81. (Harris et al., 2018)[240]	Literature-based positions and discussions	Emotional mechanisms can be used to influence a gambler to cease gambling, by focusing their emotional decision-making on positive external and personally relevant factors, such as familial impact or longer-term financial factors.	Availability and accessibility of RG tool; Personalisation of RG strategies; Purposes and Benefits of Using Personal Data	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
82. (Cerezo, 2018)[241]	Literature-based positions and discussions	It highlighted the important troubles that "welcome bonuses" can show in the violation of two of the most fundamental principles of consumers law: the right to information and the right to health.	Transparency in advertising	Transparency in Advertising
83. (Hing et al., 2018b)[242]	Systematic literature review; qualitative (content analysis); quantitative (NRS)	Key principles underpinning responsible consumption of gambling (RCG) are: Affordability, Balance, Informed choice, Control, Enjoyment, and Harm-free. Development of guidelines for consumers and public health efforts for harm minimisation should be based on a consistent definition and set of RCG principles.	Division of responsibility; Safer gambling cognition and behaviour	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency of Information and Education for Safer Gambling
84. (Parke & Griffiths, 2018)[243]	Literature-based positions and discussions	The following RG features were deemed relevant for consideration in online poker: informed player choice, voluntary self-exclusion, employee intervention, pre-commitment, in-game feedback, behavioural tracking tools, and age restriction and verification.	Availability and accessibility of RG tool; Effectiveness of RG tools	Transparency of RG Tools
85. (Wohl, 2018)[244]	Literature review	Structuring loyalty programmes to reward the use of RG instruments with time on device or even non-monetary	Availability and accessibility of RG tool Effectiveness of RG tools	Transparency of RG Tools

[239] Hing, N., Li, E., Vitartas, P., & Russell, A. M. T. (2018a). On the Spur of the Moment: Intrinsic Predictors of Impulse Sports Betting. *Journal of Gambling Studies, 34(2),* 413-428. https://doi.org/10.1007/s10899-017-9719-x

[240] Harris, A., Parke, A., & Griffiths, M. D. (2018). The Case for Using Personally Relevant and Emotionally Stimulating Gambling Messages as a Gambling Harm-Minimisation Strategy. *International Journal of Mental Health and Addiction, 16(2),* 266–275. https://doi.org/10.1007/s11469-016-9698-7

[241] Cerezo, A.H. (2018). Consumer protection and arousal to compulsive gambling linked to welcome bonuses by the online betting houses. *IDP-INTERNET LAW AND POLITICS,* 59-82. https://doi.org/10.7238/idp.v0i26.3122

[242] Hing, N., Russell, A. M. T., & Hronis, A. (2018b). A definition and set of principles for responsible consumption of gambling. *International Gambling Studies, 18(3),* 359–382. https://doi.org/10.1080/14459795.2017.1390591

[243] Parke, A. & Griffiths, M. D. (2018) Identifying risk and mitigating gambling-related harm in online poker. *Journal of Risk Research, 21(3),* 269-289. http://doi.org/10.1080/13669877.2016.1200657

[244] Wohl, M.J.A. (2018). Loyalty programmes in the gambling industry: potentials for harm and possibilities for harm-minimization. *International Gambling Studies, 18(3),* 495-511. https://doi.org/10.1080/14459795.2018.1480649

		prizes may be incompatible with harm-minimisation efforts.		
86. (Hing et al., 2017d)[245]	Quantitative, NRS	Given the potential for incentivised bets offering financial inducements and for in-play micro-bets to undermine harm minimisation and consumer protection, regulators and wagering operators should reconsider whether these bet types are consistent with their RG objectives.	Boundary between gaming and gambling; Gambling policy and staff training	Transparency of Information and Education for Safer Gambling; Transparency of Corporate Social Responsibility and Individual Responsibility
87. (Hing et al., 2017e)[246]	Systematic literature review; qualitative (content analysis)	Behaviours and cognitions considered most important for problem gamblers related to ensuring gambling is affordable, limiting persistence at gambling, and using help and support. For non-problem gamblers, important behaviours and cognitions related to understanding gambling, keeping gambling in balance, and positive motivations for gambling.	Safer gambling cognition and behaviour	Transparency of Information and Education for Safer Gambling
88. (Forsstrom et al., 2017)[247]	Qualitative, interview	Lack of feedback from the tool and confusion counteracted positive attitudes that should have promoted usage of the RG tool. Providing more feedback directly to users is a suggested solution to increase usage of the RG tool.	Effectiveness of RG tools; Availability and accessibility of RG tool	Transparency of RG Tools
89. (Hing et al., 2017c)[248]	Qualitative, content analysis	Play-through conditions of bonus bets were particularly difficult to interpret and failed basic requirements for informed choice. Website advertisements for inducements were prominently promoted but few contained a responsible gambling message.	Transparency in advertising	Transparency in Advertising
90. (Subramaniam, et al., 2017)[249]	Qualitative, interview	The study highlights the significant role that families play in Asian societies in imposing RG. Education of family members both in terms of the importance of RG, and communication	Personalisation of RG strategies; Safer gambling cognition and behaviour	Transparency of RG Tools; Transparency of Information and

[245] Hing, N., Vitartas, P., & Lamont, M. (2017d). Understanding persuasive attributes of sports betting advertisements: A conjoint analysis of selected elements. *Journal of Behavioral Addictions, 6(4),* 658-668. https://doi.org/10.1556/2006.6.2017.062

[246] Hing, N., Russell, A.M.T., & Hronis, A. (2017e). What Behaviours and Cognitions Support Responsible Consumption of Gambling? Results from an Expert Survey. *International Journal of Mental Health and Addiction, 15(6),* 1320-1341. https://doi.org/10.1007/s11469-017-9793-4

[247] Forsstrom, D., Jansson-Frojmark, M., Hesser, H., & Carlbring, P. (2017). Experiences of Playscan: Interviews with users of a responsible gambling tool. Internet interventions, 8, 53–62. https://doi.org/10.1016/j.invent.2017.03.003

[248] Hing, N., Sproston, K., Brook, K., & Brading, R. (2017c). The Structural Features of Sports and Race Betting Inducements: Issues for Harm Minimisation and Consumer Protection. Journal of Gambling Studies, 33(2), 685-704. https://doi.org/10.1007/s10899-016-9642-6

[249] Subramaniam, M., Satghare, P., Vaingankar, J. A., Picco, L., Browning, C. J., Chong, S. A., & Thomas, S. A. (2017). Responsible gambling among older adults: a qualitative exploration. *BMC Psychiatry, 17*. https://doi.org/10.1186/s12888-017-1282-6

		of the ways in which older adults can incorporate RG behaviours including the use of exclusion in specific scenarios is important.		Education for Safer Gambling
91. (Hing et al., 2017b)[250]	Quantitative, NRS	Predictors of lower-risk gambling included: greater confidence in their understanding of RG; endorsement of lower gambling expenditure and frequency limits; fewer erroneous gambling beliefs; being less likely to gamble to win money, challenge their skills/beat the odds, or forget about worries and stresses; and being more likely to gamble for pleasure.	Safer gambling cognition and behaviour	Transparency of Information and Education for Safer Gambling
92. (Harris & Griffiths, 2017)[251]	Literature review	Several harm-minimisation strategies have been devised that aim to facilitate self-awareness and self-control within a gambling session. Such strategies include the use of breaks in play, 'pop-up' messaging, limit setting, and behavioural tracking.	Availability and accessibility of RG tools	Transparency of RG Tools
93. (Mulkeen et al., 2017)[252]	Quantitative, NRS	Policy recommendations include: develop more effective systems for 'self-exclusion and self-help' (e.g., enhance their players knowledge of how to access and use support tools, standardise the way in which RG information is presented on gambling websites, reduce player fears of using support tools, introduce compulsory setting of effective time and financial limits, and develop an effective industry-wide self-exclusion system); and be aware of addictive aspects of game design.	Availability and accessibility of RG tools; Safer gambling cognition and behaviour; Gambling policy and staff training; Design Considerations for Improving Transparency	Transparency of RG Tools; Transparency of Information and Education for Safer Gambling; Transparency of Corporate Social Responsibility and Individual Responsibility; Design Considerations for Improving Transparency
94. (Ladouceur et al., 2017)[253]	Literature review	These empirical studies revealed five primary RG strategies: setting gambling limits; self-exclusion programs; behavioural tracking; game features (warning messages) and	Availability and accessibility of RG tools	Transparency of RG Tools

[250] Hing, N., Sproston, K., Tran, K., & Russell, A.M.T. (2017b). Gambling Responsibly: Who Does It and To What End? *Journal of Gambling Studies, 33(1),* 149-165. https://doi.org/10.1007/s10899-016-9615-9

[251] Harris, A., & Griffiths, M. D. (2017). A Critical Review of the Harm-Minimisation Tools Available for Electronic Gambling. *Journal of Gambling Studies, 33(1),* 187–221. https://doi.org/10.1007/s10899-016-9624-8

[252] Mulkeen, J., Abdou, H.A.H., & Parke, J. (2017). A three stage analysis of motivational and behavioural factors in UK internet gambling. *Personality and Individual Differences, 107*, 114-125. http://dx.doi.org/10.1016/j.paid.2016.11.007

[253] Ladouceur, R., Shaffer, P., Blaszczynski, A., & Shaffer, H. J. (2017). Responsible gambling: A synthesis of the empirical evidence. *Addiction Research & Theory, 25(3),* 225–235. https://doi.org/10.1080/16066359.2016.1245294

		training of venue employees intervening with problem gamblers.		
95. (Marionneau & Jarvinen-Tassopoulos, 2017)[254]	Qualitative, content analysis	The paper suggests improving the implemented RG tools by increasing provider responsibility, making all tools mandatory and binding, active promotion of available RG features, and removing scientifically inaccurate information on problem gambling.	Availability and accessibility of RG tools; Division of responsibility; Gambling policy and staff training	Transparency of RG Tools; Transparency of Corporate Social Responsibility and Individual Responsibility
96. (Mijic & Varga, 2017)[255]	Quantitative, NRS	The paper presents a novel machine learning driven solution for implementing the responsible gaming facility. A larger, complete dataset that would enable the thorough testing and performance measurement of various classification algorithms.	Algorithmic transparency; Purposes and benefits of using personal data	Transparency of Data-driven Approaches and Persuasive Technologies
97. (Fogarty, 2017)[256]	Qualitative, case study	Acknowledgement and engagement with cultural diversity is critical to 'responsible gambling' practice, to enable people from culturally diverse backgrounds to make informed choices.	Personalisation of RG strategies	Transparency of RG Tools
98. (Tanner et al., 2017)[257]	Systematic literature review	Industry-implemented strategies that were most effective in reducing gambling time or expenditure included: self-appraisal pop-up messages, $1 maximum bets, removal of large note acceptors and ATMs, reduced operating hours, and smoking bans.	Effectiveness of RG tools	Transparency of RG Tools
99. (Mouneyrac et al., 2017)[258]	Quantitative, NRS	Messages informing about the risks and messages correcting erroneous beliefs have a higher level of communicative value than messages promoting responsible gambling.	Fairness of games and gamblers' fallacy; Potential risks and negative consequences	Transparency of Information and Education for Safer Gambling
100. (Rodrigues-Silva, 2017)[259]	Literature-based positions and discussions	Scratch cards may lead vulnerable people to bias their choices and develop problematic gambling. Scratch cards are very easily available,	Boundary between gaming and gambling;	Transparency of Information and Education for Safer Gambling;

[254] Marionneau, V., & Jarvinen-Tassopoulos, J. (2017). Consumer protection in licensed online gambling markets in France: The role of responsible gambling tools. *Addiction Research & Theory, 25(6),* 436–443. https://doi.org/10.1080/16066359.2017.1314464

[255] Mijic, D., & Varga, E. (2017). Machine learning driven responsible gaming framework with apache spark. *2017 25th Telecommunication Forum (TELFOR),* 1-4. https://doi.org/10.1109/TELFOR.2017.8249466

[256] Fogarty, M. (2017). The place of cultural competency in "responsible gambling' practice: challenging notions of informed choice. *Addiction Research & Theory, 25(6),* 444-450. https://doi.org/10.1080/16066359.2017.1311875

[257] Tanner, J., Drawson, A. S., Mushquash, C. J., Mushquash, A. R., & Mazmanian, D. (2017). Harm reduction in gambling: A systematic review of industry strategies. *Addiction Research & Theory, 25(6),* 485–494. https://doi.org/10.1080/16066359.2017.1310204

[258] Mouneyrac, A., Floch, V. Le, Lemercier, C., Py, J., & Roumegue, M. (2017). Promoting responsible gambling via prevention messages: insights from the evaluation of actual European messages. *International Gambling Studies*, *17*(3), 426–441. https://doi.org/10.1080/14459795.2017.135019

[259] Rodrigues-Silva, N. (2017) Scratch cards in Portugal: a hidden threat. *International Gambling Studies, 17(2),* 332-334, http://doi.org/10.1080/14459795.2017.1317355

		and impossible for precommitment preferences, such as self-exclusion and money-limiting strategies. These features clearly raise major concerns and urgent policy is needed.	Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
101. (Auer & Griffiths, 2016)[260]	Quantitative, NRS	The results support the hypothesis that personalised behavioural feedback can enable behaviour change in gambling but that normative feedback does not appear change behaviour significantly more than personalised feedback.	Effectiveness of RG tools; Purposes and benefits of using personal data	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
102. (Forsstrom et al., 2016)[261]	Quantitative, NRS	Results show that overall the functions of a RG tool that tracks behaviour and supplies personalised feedback had a high initial usage and a low repeated usage. Five distinct classes of users were associated with different risk levels of excessive gambling.	Effectiveness of RG tools; Personalisation of RG strategies; Purposes and benefits of using personal data	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
103. (Blaszczynski et al., 2016)[262]	Quantitative, RCT	Breaks in play in isolation might produce counterproductive, unintended, and even perverse effects. Breaks in play ought to be accompanied with warning and/or personal appraisal messages if optimal effects in reducing within session gambling expenditure are to be achieved.	Effectiveness of RG tools	Transparency of RG Tools
104. (Selin, 2016)[263]	Qualitative, content analysis	A partial shift has taken place due to the more stringent market regulations, but the operators' self-regulation has hindered the shift in the context of the addiction-potential assessment of new gambling products.	Gambling policy and staff training; CSR reporting and assessment	Transparency of Corporate Social Responsibility and Individual Responsibility
105. (Miller et al., 2016)[264]	Quantitative, thematic analysis	Government and industry expect gamblers to behave responsibly. As a consequence, problem gamblers become constructed as a deviant group. This may have significant	Division of responsibility	Transparency of Corporate Social Responsibility and Individual Responsibility

[260] Auer, M., & Griffiths, M. D. (2016). Personalized Behavioral Feedback for Online Gamblers: A Real World Empirical Study. *Frontiers in psychology, 7,* 1875. https://doi.org/10.3389/fpsyg.2016.01875

[261] Forsstrom, D., Hesser, H., & Carlbring, P. (2016). Usage of a Responsible Gambling Tool: A Descriptive Analysis and Latent Class Analysis of User Behavior. *Journal of Gambling Studies, 32(3),* 889-904. https://doi.org/10.1007/s10899-015-9590-6

[262] Blaszczynski, A., Cowley, E., Anthony, C., & Hinsley, K. (2016). Breaks in Play: Do They Achieve Intended Aims? *Journal of Gambling Studies*, *32*(2), 789–800. https://doi.org/10.1007/s10899-015-9565-7

[263] Selin, J. (2016). From self-regulation to regulation – An analysis of gambling policy reform in Finland. *Addiction Research & Theory, 24,* 199-208. https://doi.org/10.3109/16066359.2015.1102894

[264] Miller, H. E., Thomas, S. L., Smith, K. M. & Robinson, P. (2016). Surveillance, responsibility and control: an analysis of government and industry discourses about "problem" and "responsible" gambling. *Addiction Research and Theory, 24 (2),* 163-176. https://doi.org/10.3109/16066359.2015.1094060

		consequences for problem gamblers, such as the creation of stigma.		
106. (Gainsbury et al., 2016)[265]	Qualitative, content analysis	Online gambling operators included gambling content in conjunction with related news and events and unrelated content, as way of normalising gambling. Social media gambling promotion messages were positively framed and tended to encourage gambling using a range of tactics to emphasise the winning aspect of gambling.	Transparency in advertising	Transparency in Advertising
107. (King & Delfabbro, 2016)[266]	Literature review	This review presents a two-pathway model that conceptualises the potential risks and benefits of early exposure to a variety of digital simulated gambling activities (e.g., 'free-to-play' online casinos, gambling-like video games, and social casino games).	Potential risks and negative consequences; Boundary between gaming and gambling	Transparency of Information and Education for Safer Gambling
108. (Phillips & Landon, 2016)[267]	Quantitative, NRS	Induced emotional states (e.g., winning or losing) are important as they influence the likelihood that people will listen to online advice. Designers of Behaviour Change Support Systems should consider methods of contingently implementing advice.	Effectiveness of RG tools; Personalisation of RG strategies	Transparency of RG Tools
109. (Haeusler, 2016)[268]	Quantitative, NRS	The number and amount of deposits, variance of withdrawals, amount of funds subject to reversed withdrawals and usage of mobile phone billing were positively associated with self-exclusion; the number of active gambling months and usage of electronic wallets and prepaid cards negatively.	Effectiveness of RG tools	Transparency of RG Tools
110. (Percy et al., 2016b)[269]	Quantitative, NRS	It was possible to identify other gamblers whose behaviour is similar to those who decided to use self-exclusion tools could, for instance. However, operators need to	Algorithmic transparency; Purposes and benefits of using personal data	Transparency of Data-driven Approaches and Persuasive Technologies

[265] Gainsbury, S. M., Delfabbro, P., King, D. L., & Hing, N. (2016). An Exploratory Study of Gambling Operators' Use of Social Media and the Latent Messages Conveyed. *Journal of Gambling Studies, 32(1),* 125-141. https://doi.org/10.1007/s10899-015-9525-2

[266] King, D. L., & Delfabbro, P. H. (2016). Early exposure to digital simulated gambling: A review and conceptual model. *Computers in Human Behavior, 55(Part A),* 198–206. https://doi.org/10.1016/j.chb.2015.09.012

[267] Phillips, J. G., & Landon, J. (2016). Dynamic changes in the use of online advice in response to task success or failure. *Behaviour & Information Technology, 35(10),* 796–806. https://doi.org/10.1080/0144929X.2016.1186734

[268] Haeusler, J. (2016) Follow the money: using payment behaviour as predictor for future self-exclusion. *International Gambling Studies, 16(2),* 246-262. https://doi.org/10.1080/14459795.2016.1158306

[269] Percy, C., Franca, M., Dragicevic, S., & Garcez, A.D. (2016b). Predicting online gambling self-exclusion: an analysis of the performance of supervised machine learning models. *International Gambling Studies, 16(2),* 193-210. https://doi.org/10.1080/14459795.2016.1151913

		understand how accurate models can be and which techniques work well.		
111. (Gainsbury et al., 2015d)[270]	Qualitative, interview	Operators sought to use social media as an indirect way to maintain their customer base and attract new customers. Few operators provided specific responsible gambling messages.	Transparency in advertising	Transparency in Advertising
112. (Wood & Griffiths, 2015)[271]	Quantitative, NRS	Problem players were significantly more likely than positive players to gamble with family and friends, suggesting that, contrary to a popular RG message, social play may not be inherently safer than gambling alone. Players (generally) may identify more with the term 'positive play' than 'RG' which is frequently interpreted as being aimed at people with gambling problems, rather than all players.	Effectiveness of RG tools	Transparency of RG Tools
113. (Orazi et al., 2015)[272]	Quantitative, NRS	Compared to material consequences (loss or gain of money) in RG advertisements, social consequences (disruption or exclusion of social circles) are at a higher construal level and are more effective in reducing the propensity to gamble.	Transparency in advertising; Potential risks and negative consequences	Transparency in Advertising; Transparency of Information and Education for Safer Gambling
114. (Auer & Griffiths, 2015a)[273]	Quantitative, NRS	Responsible gambling tools providing personalised feedback may help the clientele of gambling companies gamble more responsibly, and may be of help those who gamble excessively to stay within their personal time and money spending limits.	Effectiveness of RG tools	Transparency of RG Tools
115. (Salmon et al., 2015)[274]	Literature-based positions and discussions	Education-based tools may be used to undermine the client's cognitive distortions and promote adherence to a pre-set limit. Monetary and time limit setting tools is an effective means to teach clients with moderation goals (in contrast to abstinence goals) how to minimise excessive play. Personalised feedback (e.g., player account data or	Effectiveness of RG tools; Personalisation of RG strategies; Safer gambling cognition and behaviour	Transparency of RG Tools; Transparency of Information and Education for Safer Gambling

[270] Gainsbury, S.M., King, D.L., Hing, N., & Delfabbro, P. (2015d). Social media marketing and gambling: An interview study of gambling operators in Australia. *International Gambling Studies, 15(3),* 377-393. https://doi.org/10.1080/14459795.2015.1058409

[271] Wood, R. T. A., & Griffiths, M. D. (2015). Understanding Positive Play: An Exploration of Playing Experiences and Responsible Gambling Practices. *Journal of Gambling Studies*, *31*(4), 1715–1734. https://doi.org/10.1007/s10899-014-9489-7

[272] Orazi, D.C., Lei, J., Bove, L.L. (2015). The nature and framing of gambling consequences in advertising. Journal of Business Research, *68(10),* 2049-2056. https://doi.org/10.1016/j.jbusres.2015.03.002

[273] Auer, M., & Griffiths, M. D. (2015a). PThe use of personalized behavioral feedback for online gamblers: an empirical study. *Frontiers in psychology, 6*. https://doi.org/10.3389/fpsyg.2015.01406

[274] Salmon, M., Wohl, M. J. A., Sztainert, T., & Kim, H. S. (2015). Potential Clinical Applications of Responsible Gambling, The Canadian Journal of Addiction, 6(2), 72-77.

		personalised gambling behaviour reports) can facilitate discussions about the future course of treatment.		
116. (Wood & Wohl, 2015)[275]	Quantitative, NRS	Informing at-risk players who have opted to receive feedback about their gambling appears to have a positive impact on subsequent expenditures.	Effectiveness of RG tools	Transparency of RG Tools
117. (Hing et al., 2015)[276]	Qualitative, interview	The most frequently identified aspects of internet gambling leading to impaired control were use of digital money, access to credit, lack of scrutiny and ready accessibility. More comprehensive RG measures are required of internet gambling operators.	Availability and accessibility of RG tools; Potential risks and negative consequences	Transparency of RG Tools; Transparency of Information and Education for Safer Gambling
118. (Haefeli et al., 2015)[277]	Quantitative, NRS	One algorithm uses predictors derived from written correspondence with players and thereby opens up a so far unused resource for the early detection of gambling-related problems.	Algorithmic transparency	Transparency of Data-driven Approaches and Persuasive Technologies
119. (Auer & Griffiths, 2015b)[278]	Quantitative, NRS	Pop-up messages influence only a small number of gamblers to cease long playing sessions and that enhanced messages are slightly more effective in helping gamblers to stop playing in-session	Effectiveness of RG tools	Transparency of RG Tools
120. (Gainsbury et al., 2014)[279]	Literature review	There is mixed evidence on the effectiveness of limits on opening hours and gambling venue density and increased taxation to minimise harms. Given increases in trade globalisation and particularly the global nature of Internet gambling, jurisdictions should take actions to harmonise gambling public health policies.	Effectiveness of RG tools; Gambling policy and staff training	Transparency of RG Tools; Transparency of Corporate Social Responsibility and Individual Responsibility
121. (Zaman et al., 2014)[280]	Qualitative, interview	Playing for real money could not be considered as a purely extrinsic motivation as it greatly determined	Personalisation of RG strategies;	Transparency of RG Tools;

[275] Wood, R. T. A., & Wohl, M. J. A. (2015). Assessing the effectiveness of a responsible gambling behavioural feedback tool for reducing the gambling expenditure of at-risk players. *International Gambling Studies*, *15*(2), 1-16. https://doi.org/10.1080/14459795.2015.1049191

[276] Hing, N., Cherney, L., Gainsbury, S. M., Lubman, D. I., Wood, R. T., & Blaszczynski, A. (2015). Maintaining and losing control during internet gambling: A qualitative study of gamblers' experiences. *New Media & Society, 17(7),* 1075–1095. https://doi.org/10.1177/1461444814521140

[277] Haefeli, J., Lischer, S., & Haeusler, J. (2015). Communications-based early detection of gambling-related problems in online gambling. *International Gambling Studies, 15(1),* 23–38. https://doi.org/10.1080/14459795.2014.980297

[278] Auer, M., & Griffiths, M. D. (2015b). Testing normative and self-appraisal feedback in an online slot-machine pop-up in a real-world setting. *Frontiers in psychology, 6*. https://doi.org/10.3389/fpsyg.2015.00339

[279] Gainsbury, S.M., Blankers, M., Wilkinson, C., Schelleman-Offermans, K., & Cousijn, J. (2014). Recommendations for International Gambling Harm-Minimisation Guidelines: Comparison with Effective Public Health Policy. *Journal of Gambling Studies, 30(4),* 771-788. https://doi.org/10.1007/s10899-013-9389-2

[280] Zaman, B., Geurden, K., De Cock, R., De Schutter, B., & Vanden Abeele, V. (2014). Motivation profiles of online poker players and the role of interface preferences: A laddering study among amateur and (semi-) professionals. *Computers in Human Behavior, 39,* 154–164. https://doi.org/10.1016/j.chb.2014.07.009

		the game play dynamics and experiences, and this both in the (semi-) professionals and amateur players. Results suggested responsible gaming features should reconcile monetary worth with values of control, trust, entertainment and game play action.	Safer gambling cognition and behaviour	Transparency of Information and Education for Safer Gambling
122. (Lee et al., 2014)[281]	Quantitative, NRS	Perceived behavioural control does not have a significant effect on the two gambling passions but has a direct and significant influence on behavioural intention. Supplementary RGS had concurrent positive impacts on harmonious and obsessive passion.	Effectiveness of RG tools	Transparency of RG Tools
123. (Malischnig, 2014)[282]	Literature-based positions and discussions	Pop-up messages to aid time management, the verification of player registration details, and the provision of (self-)exclusion options all also make further important contributions to responsible gaming and player protection for online gaming.	Effectiveness of RG tools	Transparency of RG Tools
124. (Auer & Griffiths, 2013a)[283]	Quantitative, NRS	Voluntary limit setting had a specific and significant effect on the studied gamblers. Therefore, voluntary limits appear to show an appropriate effect in the desired target group (i.e., the most gaming intense players).	Effectiveness of RG tools	Transparency of RG Tools
125. (Braverman et al., 2013)[284]	Quantitative, NRS	It is possible to identify risk factors that are associated with future gambling problems based on actual online betting behaviours, and that it is possible to make this identification during the first month of gambling.	Purposes and benefits of using personal data	Transparency of Data-driven Approaches and Persuasive Technologies
126. (Lemarie & Chebat, 2013)[285]	Literature-based positions and discussions	It proposed a model that explains why and under which conditions message-induced resistance to gambling ads may be more efficient than an awareness-raising message on gambling-related risks.	Transparency in advertising; Safer gambling cognition and behaviour	Transparency in Advertising; Transparency of Information and Education for Safer Gambling

[281] Lee, J., Chen, C.C., Song, H.J., & Lee, C.K. (2014). The Role of Responsible Gambling Strategy and Gambling Passion in the Online Gamblers' Decision-Making Process: Revising the Theory of Planned Behavior. *Journal of Gambling Studies, 30(2),* 403-422. https://doi.org/10.1007/s10899-013-9359-8

[282] Malischnig, D. (2014). Online Gaming: Potential risks and forms of prevention. *Psychiatria Danubina, 26(4),* 384-388.

[283] Auer, M. & Griffiths, M.D. (2013a). Voluntary Limit Setting and Player Choice in Most Intense Online Gamblers: An Empirical Study of Gambling Behaviour. *Journal of Gambling Studies, 29(4),* 647-660. https://doi.org/10.1007/s10899-012-9332-y

[284] Braverman, J., LaPlante, D. A., Nelson, S. E., & Shaffer, H. J. (2013). Using cross-game behavioral markers for early identification of high-risk internet gamblers. *Psychology of addictive behaviors : journal of the Society of Psychologists in Addictive Behaviors, 27(3),* 868–877. https://doi.org/10.1037/a0032818

[285] Lemarie, L. & Chebat, J.C. (2013). Resist or comply: Promoting responsible gambling among youth, *Journal of Business Research, 66(1),* 137-140. https://doi.org/10.1016/j.jbusres.2012.09.005

127. (Gainsbury et al., 2013)[286]	Quantitative, NRS	The results suggest that responsible gambling features, such as the ability to set spending limits, should be implemented on Internet gambling sites to increase consumer trust and favourable attitudes towards online gambling operators.	Availability and accessibility of RG tools	Transparency of RG Tools
128. (McMullan & Kervin, 2012)[287]	Qualitative, content analysis	Online poker sites were encouraging and enabling youth to see and learn about poker, while warning them that they could not play until they legally came of age on the other hand.	Transparency in advertising; Gambling policy and staff training	Transparency in Advertising; Transparency of Corporate Social Responsibility and Individual Responsibility
129. (Gray et al., 2012)[288]	Quantitative, NRS	Indices of the intensity of gambling activity (e.g., total number of bets made, number of bets per betting day) best distinguished cases from controls.	Purposes and benefits of using personal data	Transparency of Data-driven Approaches and Persuasive Technologies
130. (Blaszczynski et al., 2011)[289]	Literature-based positions and discussions	Key components of RG programs aimed at prevention should address the following six areas including company policy, features of games, environmental features, informing players, location of the venue, and marketing gambling in the community.	Gambling policy and staff training; Availability and accessibility of RG tools; Transparency in advertising	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency of RG Tools; Transparency in Advertising;
131. (Haefeli et al., 2011)[290]	Qualitative, interview	Communication-based indicators could constitute an effective component of early detection. The predictive model could be combined with other models, relying on the analysis of gambling behaviour.	Purposes and benefits of using personal data	Transparency of Data-driven Approaches and Persuasive Technologies
132. (Martin et al., 2010)[291]	Quantitative, NRS	College-based RG efforts should consider targeting misperceptions of approval regarding gambling behaviour (i.e., subjective norms),	Fairness of games and gamblers' fallacy;	Transparency of Information and Education for Safer Gambling

[286] Gainsbury, S., Parke, J., & Suhonen, N. (2013). Consumer attitudes towards Internet gambling: Perceptions of responsible gambling policies, consumer protection, and regulation of online gambling sites. *Computers in Human Behavior, 29(1),* 235-245. https://doi.org/10.1016/j.chb.2012.08.010

[287] McMullan, J.L. & Kervin, M. (2012). Selling Internet Gambling: Advertising, New Media and the Content of Poker Promotion. *Int J Ment Health Addiction 10,* 622–645. https://doi.org/10.1007/s11469-011-9336-3

[288] Gray, H.M., LaPlante, D.A., & Shaffer, H.J. (2012). Behavioral Characteristics of Internet Gamblers Who Trigger Corporate Responsible Gambling Interventions. Psychology of Addictive Behaviors, 26(3), 523-535. https://doi.org/10.1037/a0028545

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[291] Martin, R. J., Usdan, S., Nelson, S., Umstattd, M. R., LaPlante, D., Perko, M., & Shaffer, H. (2010). Using the Theory of Planned Behavior to Predict Gambling Behavior. *Psychology of Addictive Behaviors, 24(1),* 89–97. https://doi.org/10.1037/a0018452

		personal approval of gambling behaviour (i.e., attitudes), and perceived behavioural control to better manage gambling behaviour in various situations.	Safer gambling cognition and behaviour	
133. (Jardin & Wulfert, 2009)[292]	Quantitative, NRS	The findings suggest that reminders about the random nature of games and the overall negative rate of return might lead to more responsible gaming.	Fairness of games and gamblers' fallacy	Transparency of Information and Education for Safer Gambling
134. (Monaghan, 2009)[293]	Literature-based positions and discussions	This paper proposes the use of pop-up messages encouraging self-awareness to effectively increase responsible gambling and reduce the incidence of problem gambling.	Effectiveness of RG tools;	Transparency of RG Tools
135. (Peller et al., 2008)[294]	Systematic literature review	Attempts to develop and implement safety features for new gambling technology are promising, but methodologically are rudimentary and limited in scope. Improved study methods and collaboration among policymakers, manufacturers, and researchers can increase understanding.	Effectiveness of RG tools; Division of responsibility	Transparency of RG Tools; Transparency of Corporate Social Responsibility and Individual Responsibility
136. (Sevigny et al., 2005)[295]	Quantitative, NRS	Some sites provided inflated payout rates (over 100%) in the demo session, but these unrealistic high rates were not maintained when playing for real money. In addition, some sites used marketing strategies reinforcing false beliefs about the notion of chance and randomness.	Transparency in advertising; Fairness of games and gamblers' fallacy	Transparency in Advertising; Transparency of Information and Education for Safer Gambling
137. (Planzer & Lycka, 2019)[296]	Literature-based positions and discussions	It discussed the scope of duty of care and the compliance burden of regulated gambling operators. A key aspect in this regard is advertisement. It also considers whether RG can form part of an operator's DNA on corporate social responsibility.	Gambling policy and staff training; Transparency in advertising	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency in Advertising
138. (Armstrong	Literature-based	Educating gamblers on how they make decisions and encouraging them to think more analytically may help to	Fairness of games and gamblers' fallacy;	Transparency of Information and

[292] Jardin, B., & Wulfert, E. (2009). The Use of Messages in Altering Risky Gambling Behavior in College Students: An Experimental Analogue Study. American Journal on Addictions, 18(3), 243–247. https://doi.org/10.1080/10550490902786918

[293] Monaghan, S. (2009). Responsible gambling strategies for Internet gambling: The theoretical and empirical base of using pop-up messages to encourage self-awareness. Computers in Human Behavior, 25, 202–207. https://doi.org/10.1016/j.chb.2008.08.00

[294] Peller, A.J., LaPlante, D.A., & Shaffer, H.J. (2008). Parameters for safer gambling behavior: Examining the empirical research. Journal of Gambling Studies, 24(4), 519-534. https://doi.org/10.1007/s10899-008-9097-5

[295] Sevigny, S., Cloutier, M., Pelletier, M.-F., & Ladouceur, R. (2005). Internet gambling: Misleading payout rates during the "demo" period. Computers in Human Behavior, 21(1), 153–158. https://doi.org/10.1016/j.chb.2004.02.017

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et al., 2020b)[297]	positions and discussions	reduce the strength with which erroneous beliefs about gambling are endorsed, resulting in safer gambling decisions.	Safer gambling cognition and behaviour	Education for Safer Gambling
139. (Currie et al., 2008)[298]	Quantitative, NRS	The majority of those surveyed endorsed the need for low-risk limits and rated the limits as being face valid. Concerns voiced pertaining to the potential for creating a false sense of security among gamblers, encouraging people to gamble and difficulties in applying the limits across different forms of gambling.	Effectiveness of RG tools; Safer gambling cognition and behaviour	Transparency of RG Tools Transparency of Information and Education for Safer Gambling
140. (Auer et al., 2019b)[299]	Quantitative, NRS	Those who set voluntary limits would be more loyal to the gambling operator over time (in this case, a 1-year period). It found that relatively few gamblers set voluntary limits.	Effectiveness of RG tools	Transparency of RG Tools
141. (Price, 2020)[300]	Quantitative, NRS	Many of the risk associations presented in emerging COVID-19-related studies and past research on global economic crisis relating to gambling risk, mental health concerns and substance use.	Potential risks and negative consequences	Transparency of Information and Education for Safer Gambling
142. (Turner et al., 2018)[301]	Literature review, quantitative (NRS) and qualitative (interview)	It proposed evidence-based best practices for the prevention of problem gambling among older adults (55 years and over) in Ontario.	Safer gambling cognition and behaviour	Transparency of Information and Education for Safer Gambling
143. (Reilly & Smith, 2015)[302]	Comments on an article by Rebecca Cassidy (2014)	Peer-reviewed research should inform policymakers, such as regulators and public health leaders, and that all published studies should be transparent about the sources of funding. However, the discussion in the article by Cassidy was incomplete and often inaccurate due to the sample bias.	Research evidence and funding sources	Transparency on Research Evidence and Funding Sources

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[299] Auer, M., Hopfgartner, N., & Griffiths, M. D. (2019b). An Empirical Study of the Effect of Voluntary Limit-Setting on Gamblers' Loyalty Using Behavioural Tracking Data. *International Journal of Mental Health and Addiction*. https://doi.org/10.1007/s11469-019-00084-3

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144. (Smith & Rubenstein, 2011)[303]	Qualitative (interview); literature-based positions and discussions	Consumer protection for gamblers is uncertain; citizens lack appropriate information to hold the government accountable for its gambling operations; RG initiatives lack rigor; and the government's inherent conflict of interest as gambling provider, regulator, and major beneficiary of gambling proceeds compromises its ability to act in the public interest.	Division of responsibility; CSR reporting and assessment	Transparency of Corporate Social Responsibility and Individual Responsibility
145. (Shaffer et al., 2017)[304]	literature-based positions and discussions	This evidence reveals that the overall effectiveness and impact of these RG activities remains uncertain. Consequently, the field has not yet progressed to best practices that are supported by scientific evidence.	Effectiveness of RG tools; Research evidence and funding sources	Transparency of RG Tools; Transparency on Research Evidence and Funding Sources
146. (Forsstrom & Ornberg, 2019)[305]	Qualitative, interview	Both the licensed and the unlicensed companies in Sweden rely on informed choice in preventing gamblers from developing problems, lacking a critical perspective when discussing RG. There is a need for companies not only to provide RG measures, but to take an active role in preventing harm among gamblers.	Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
147. (Auer & Griffiths, 2013b)[306]	Literature-based positions and discussions	In order to be certified by leading accreditation agencies (e.g., GamCare), specific responsible gaming procedures have to be implemented. Such protocols include: Age and identify verification; Player education; Mandatory and voluntary limit setting; 'In-play' notifications. Behavioural tracking tools indicate both objectivity and transparency and help empower trust.	Gambling policy and staff training; Availability and accessibility of RG tools; Purposes and benefits of using personal data	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
148. (Bowman et al., 2020)[307]	Quantitative, NRS	Most of the work conducted to date uses fixed markers of harm, rather than considering gambling behaviour	Algorithmic transparency;	Transparency of Data-driven Approaches

[303] Smith, G., & Rubenstein, D. (2011). Socially responsible and accountable gambling in the public interest. *Journal of Gambling Issues, 25.* https://doi.org/10.4309/jgi.2011.25.5

[304] Shaffer, H. J., Blaszczynski, A., & Ladouceur, R. (2017). Truth, alternative facts, narrative, and science: What is happening to responsible gambling and gambling disorder? *International Journal of Mental Health and Addiction, 15(6),* 1197–1202. https://doi.org/10.1007/s11469-017-9779-2

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[306] Auer, M., & Griffiths, M. (2013b). Behavioral Tracking Tools, Regulation, and Corporate Social Responsibility in Online Gambling. *Gaming Law Review and Economics, 17,* 579-583. https://doi.org/10.1089/GLRE.2013.1784

[307] Bowman, C., Brown, R., Grindrod, P., & Wardle, H. (2020). Online Gambling: Hidden Markov Models for Behavioural Changes. Retrieved from: https://www.researchgate.net/profile/Peter-

		as dynamic and changing. The Hidden Markov Models presented here thus suggest a potentially fruitful way of assessing dynamic changes in gambling behaviours over time.	Purposes and benefits of using personal data	and Persuasive Technologies
149. (Ji & Kale, 2020)[308]	Literature-based positions and discussions	Effective long-term RG education is needed in Macao to further people's understanding of gambling and gamblers' fallacy. The government should take leadership in influencing all stakeholders toward effective initiatives and behaviours related to RG education.	Fairness of games and gamblers' fallacy; Gambling policy and staff training	Transparency of Information and Education for Safer Gambling; Transparency of Corporate Social Responsibility and Individual Responsibility
150. (Nower & Caler, 2018)[309]	Literature-based positions and discussions	Initiatives to reduce gambling-related harm should adopt a broader perspective, involving stakeholders from diverse syndemic problem areas (i.e., other comorbid conditions and social and environmental factors).	Potential risks and negative consequences	Transparency of Information and Education for Safer Gambling
151. (Forsstrom et al., 2020b)[310]	Systematic literature review	Only two measures (long term educational programs and personalised feed-back) had an impact on gambling behaviour. Follow-up period was short, and measures did not include gambling as a problem. The certainty in most outcomes was very low. A consensus statement regarding execution and methods to collect and analyse data for preventive gambling research is needed.	Effectiveness of RG tools; Research evidence and funding sources	Transparency of RG Tools; Transparency on Research Evidence and Funding Sources
152. (Planzer & Wardle, 2012)[311]	Literature review	The rapid evidence assessment established there is no published empirical evidence which directly addresses the comparative effectiveness of regulatory approaches to gambling. A closer interaction between normative regulators and empirical researchers is needed.	Division of responsibility; Research evidence and funding sources	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency on Research Evidence and Funding Sources

Grindrod/publication/341271000_Online_Gambling_Hidden_Markov_Models_for_Behavioural_Changes/links/5eb6c5a6a6fdcc1f1dcb0fb2/Online-Gambling-Hidden-Markov-Models-for-Behavioural-Changes.pdf

[308] Ji, C. & Kale, S.H. (2020). Strengthening the weak link of Macao's responsible gambling practices: a consumer education perspective. *Asian Education and Development Studies*. https://doi.org/10.1108/AEDS-02-2020-0026

[309] Nower, L., & Caler, K. R. (2018). Widening the net: A syndemic approach to responsible gambling. *SUCHT*, *64*(5–6), 317–323. https://doi.org/10.1024/0939-5911/a000565

[310] Forsstrom, D., Spangberg, J., Petterson, A., Brolund, A. & Odeberg, J. (2020b). A systematic review of educational programs and consumer protection measures for gambling: an extension of previous reviews, *Addiction Research & Theory*. http://doi.org/10.1080/16066359.2020.1729753

[311] Planzer, S., & Wardle, H. (2012). What We Know about the Comparative Effectiveness of Gambling Regulation. *European Journal of Risk Regulation, 3(3),* 410-416. http://doi.org/10.1017/S1867299X00002312

153. (UK Gambling Commission, 2020b)[312]	Statistics and Research Release	Gambling industry statistics published by UKGC includes statistics on Gross Gambling Yield (GGY) by sector, along with the numbers of licensed operators and premises. It is based on data reported to us by the operators. However, data about RG practices and revenue generated from individual groups are missing.	CSR reporting and assessment; Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
154. (UK Gambling Commission, 2021b)[313]	Statistics and Research Release	Gambling behaviour survey data is available to the public. It shows online gambling participation increased by 3% compared to the previous year. Levels of agreement that gambling is conducted fairly and can be trusted remained stable at 29%.	CSR reporting and assessment; Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
155. (UK Gambling Commission, 2018)[314]	Briefing paper	UKGC positioned that gambling-related harm should be considered as a public-health issue.	Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
156. (Breen et al., 2005)[315]	Qualitative and quantitative	It identified facilitators of implementation of a voluntary RG code of practice in Queensland, including adequate staff training and education.	Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
157. (UK Gambling Commission, 2021a)[316]	Blog	Responsibility for safer gambling was perceived to sit across three parties: personal, companies and government.	Division of responsibility	Transparency of Corporate Social Responsibility and Individual Responsibility
158. (UK Gambling Commission, 2020a)[317]	Statistics and Research Release	Lockdown has prompted online gambling consumers (during May 2020) to try new products and this can correlate to higher levels of moderate-risk and problem gambling.	Potential risks and negative consequences	Transparency of Information and Education for Safer Gambling
159. (UK Gambling Commission, 2021c)[318]	Policy (License information)	Gaming machines used to play games of change require a licence or permit, but for skill-based games (i.e., skill with prizes), no license is required.	Boundary between gaming and gambling	Transparency of Information and Education for Safer Gambling

[312] UK Gambling Commission. (2020b). Gambling Industry Statistics. https://beta.gamblingcommission.gov.uk/statistics-and-research/publication/industry-statistics-november-2020

[313] UK Gambling Commission. (2021b). Levels of agreement that gambling is conducted fairly and can be trusted have remained stable at 29%. https://www.gamblingcommission.gov.uk/statistics-and-research/publication/year-to-december-2020

[314] UK Gambling Commission. (2018). Gambling-related harm as a public health issue. https://www.gamblingcommission.gov.uk/PDF/Gambling-related-harm-as-a-public-health-issue.pdf

[315] Breen, H., Buultjens, J., & Hing, N. (2005). Evaluating Implementation of a Voluntary Responsible Gambling Code in Queensland, Australia. *International Journal of Mental Health and Addiction*, *3*(1), 3–13. https://doi.org/10.11575/PRISM/9499

[316] UK Gambling Commission. (2021a). Blog: Responsibility for safer gambling. https://www.gamblingcommission.gov.uk/news-action-and-statistics/Statistics-and-research/Research/Blog-Responsibility-for-safer-gambling.aspx

[317] UK Gambling Commission. (2020a). Covid 19 and its impact on gambling - July 2020. https://www.gamblingcommission.gov.uk/statistics-and-research/publication/covid-19-and-its-impact-on-gambling-july-2020

[318] UK Gambling Commission. (2021c). Skill with prizes (SWPs). https://www.gamblingcommission.gov.uk/for-gambling-businesses/Compliance/Sector-specific-compliance/Arcades-and-machines/Skill-with-prizes-SWPs.aspx

160. (UK Gambling Commission, 2021d)[319]	Policy	It sets out remote gambling and software technical standards, including requirements and implementation guidance.	Gambling policy and staff training; CSR reporting and assessment	Transparency of Corporate Social Responsibility and Individual Responsibility
161. (UK Gambling Commission, 2021e)[320]	Public information online	Safer gambling is derived in an industry that takes care of its customers and provides them with the necessary knowledge to manage their gambling.	Safer gambling cognition and behaviour	Transparency of Information and Education for Safer Gambling
162. (Revealing Reality, 2021)[321]	Report	The three user-centred pillars of RG (i.e., key areas of challenges and opportunities regarding RG) are: enabling informed choice, improving self-awareness, and creating supportive environments.	Fairness of games and gamblers' fallacy; Safer gambling cognition and behaviour; Availability and accessibility of RG tools; Gambling policy and staff training	Transparency of Information and Education for Safer Gambling; Transparency of RG Tools; Transparency of Corporate Social Responsibility and Individual Responsibility
163. (Responsible Gambling Strategy Board, 2016)[322]	Report	In order to achieve the objectives (e.g., develop more effective harm minimisation interventions and improve treatment), the recommended actions include: understanding and measuring harm, engagement with relevant sectors and agencies to encourage greater acceptance of responsibility, consolidating a culture of evaluation, education to prevent gambling-related harm, identifying harmful play and piloting interventions, widening and strengthening the research field and improving knowledge exchange etc.	Potential risks and negative consequences; Safer gambling cognition and behaviour; Division of responsibility; Gambling policy and staff training; CSR reporting and assessment; Availability and accessibility of RG tools; Personalisation of RG strategies;	Transparency of Information and Education for Safer Gambling; Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency of RG Tools; Transparency on Research Evidence and Funding Sources

[319] UK Gambling Commission. (2021d). Remote gambling and software technical standards. https://assets.ctfassets.net/j16ev64qyf6l/1KdHqgC205yZOnZbKKhjoz/a18598c19de61ef1f515c4dc98fe7d06/Remote_gambling_and_software_technical_standards__Feb21_.pdf

[320] UK Gambling Commission. (2021e). Safer gambling. https://www.gamblingcommission.gov.uk/for-the-public/Safer-gambling/Safer-gambling.aspx

[321] Revealing Reality (2017). Responsible Gambling: Collaborative Innovation, Identifying good practice and inspiring change. https://www.revealingreality.co.uk/wp-content/uploads/2017/10/Gamble-Aware-Report.pdf

[322] Responsible Gambling Strategy Board (2016). The National Responsible Gambling Strategy 2016-17 to 2018-19. https://www.begambleaware.org/media/1230/rgsb_strategy_2016-2019.pdf

			Research evidence and funding sources	
164. (The Guardian, 2020)[323]	News	More than 20 MPs have called for strict curbs on gambling during the Covid-19 lockdown, including a moratorium on advertising, calling for stricter curbs to protect vulnerable people during the pandemic.	Division of responsibility; Gambling policy and staff training; Transparency in advertising	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency in Advertising
165. (European Commission, 2011)[324]	Report	The development of internet and the increased supply of on-line gambling services have made it more difficult for the different national regulatory models (one based on licensed operators providing services within a strictly regulated framework and the other on a strictly controlled monopoly (state owned or otherwise)) to co-exist.	Division of responsibility; Gambling policy and staff training	Transparency of Corporate Social Responsibility and Individual Responsibility
166. (Gaming Inspection and Coordination Bureau Macao SAR, 2014)[325]	Report	It reports activities for promotion of responsible gambling, prevention and treatment of problem gambling, with the cooperation from the government, the players and their families and friends, gaming operators, problem gambling prevention and treatment centers, educational institutions, and other communities.	Division of responsibility; Gambling policy and staff training; Safer gambling cognition and behaviour	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency of Information and Education for Safer Gambling
167. (William Hill, 2021)[326]	Report	The annual report includes market overview and strategies, sustainability (including customer protection and safer gambling policies and activities), financial and nan-financial information, directors' report, etc. The safer gambling commitments and customer protection strategies include monitoring play patterns for markers of harm and intervention, providing RG tools and promoting safer gambling behaviours, safer gambling messages across digital marketing and social media channels.	Gambling policy and staff training; Availability and accessibility of RG tools; Transparency in advertising; Purposes and benefits of using personal data	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency of RG Tools; Transparency in Advertising; Transparency of Data-driven Approaches

[323] The Guardian (2020). Impose strict curbs on gambling during Covid-19 lockdown, MPs urge. https://www.theguardian.com/society/2020/apr/03/impose-strict-curbs-on-gambling-during-covid-19-lockdown-mps-urge

[324] European Commission, 2011. Green paper on on-line gambling in the Internet Market. https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0128:FIN:en:PDF

[325] Gaming Inspection and Coordination Bureau Macao SAR (2014). Report on Responsible Gambling 2009-2013. http://www.dicj.gov.mo/web/files/responsible/Report%20on%20RG%202009-2013_En.pdf

[326] William Hill PLC (2021). Annual Report and Accounts 2020: Delivering on Our Strategy. https://www.williamhillplc.com/media/13906/william-hill_2020-annual-report.pdf

				and Persuasive Technologies
168. (GVC Holdings, 2020)[327]	Report	The annual report includes strategic report on marketplace, regulatory update, business model, CSR, risks, divisions of responsibilities, directors' report, financial statements, etc. The Group created The GVC Global Foundation in 2019 and one of its focus areas is safer gambling (including investment in research and sports integrity). The strategies for safer gambling covered education, advertising, RG tools and product design to help stay safe.	Division of responsibility; Gambling policy and staff training; Availability and accessibility of RG tools; Transparency in advertising	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency of RG Tools; Transparency in Advertising
169. (Ladbrokes Coral Group, 2017)[328]	Report	The annual report includes strategic report on business review, financial review, risk management, corporate governance, CSR (the prioritised areas include promotion of RG behaviours, providing better player information and harm minimisation strategies, staff and customers' safety, customer privacy and security, etc), directors' report, financial statements, etc.	Gambling policy and staff training; Availability and accessibility of RG tools; Data usage and privacy protection	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
170. (Bet365 Group Limited, 2020)[329]	Report	The report includes strategic report, directors' report, corporate governance, financial statements, accounting policies, etc. Safer gambling section includes development of a risk protection tool using quantitative analysis for markers	Gambling policy and staff training; CSR reporting and assessment;	Transparency of Corporate Social Responsibility and Individual Responsibility;

[327] GVC Holdings PLC (2020). Annual Report 2019: For the Good of Entertainment. https://entaingroup.com/wp-content/uploads/2020/04/GVC-2019-Annual-Report-and-Accounts.pdf

[328] Ladbrokes Coral Group (2017). A Shared Goal: Annual Report and Accounts 2016. https://entaingroup.com/wp-content/uploads/2018/02/Ladbrokes-Coral-Annual-Report-2016.pdf

[329] Bet365 Group Limited (2020). Report and Financial Statements. https://s3.eu-west-2.amazonaws.com/document-api-images-live.ch.gov.uk/docs/w4N83u_B3cwtd7R5huhylzu6-Ox56YFMpJgzX_bPsBE/application-pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=ASIAWRGBDBV3IB2PDKXB%2F20220126%2Feu-west-2%2Fs3%2Faws4_request&X-Amz-Date=20220126T192810Z&X-Amz-Expires=60&X-Amz-Security-Token=IQoJb3JpZ2luX2VjEID%2F%2F%2F%2F%2F%2F%2F%2F%2F%2FwEaCWV1LXdlc3QtMiJHMEUCIQCFpwge4%2FpZMugUpWl5AC9ogKFoqd1r7fixwKvA98h0vQIgZhd7Mq%2BTAaSDKCAqauu4yYix1ajcsLby7FwTImO%2BfAkqgwQIqf%2F%2F%2F%2F%2F%2F%2F%2F%2FARAEGgw0NDkyMjkwMzI4MjIiDPjqbUxHnpMn5Z5z7yrXA3BnjW%2BKZ4tpAnev41MZp41d9GGKnDh3uu1ezi%2FdCCKsk9iVQDeM2E4xRbkJElvmXekVdk4KEvKVIH8Nxr0Mfxrw9T1XhzdGFjrEEHRy8114nesQrwPHv8gDrzX9k0yXocq2BUtXWbqW9F1wIdmWeba7w6Ur7C9zUggjCvYXFgBhJv0B2dOaHV3vsB7Eo6q1XYJYz9mtaveyz2BMdlZCPu%2Bfx4OtWtDVOuiTvL1jBTViDo%2FLsBvP8Y%2F8%2BM60jt7ILLi3RiILqYwztFumJMNwo3rZDcmaUEpKuTXXMvHsn3XzRAt9qFAfs8aFjAvq%2F4tp6jMuGBPv3MJsqiOb%2Fk9oc%2BJXYE4LhVhlWC%2B067QON7UZNYNUo9h5lDMJq1yXtOa2XBYDjm%2FnrhmQipLOjxNACRZNdOWO6YzTTWsY%2FVYdnCt667aaHTArKifLV%2BtBK7gKOXDNH%2B2Xta9COGKuZwHKRn13Md7Fipqf%2FRCynQaPt4cpLG%2FGucekLW3GFrHDQmDSfyTbg6ewjqTXRqKZI3j3ARETUqUVFljg%2BmCd2Mzs2NKSFC87%2Fm%2BbZVbj8ptlchM1IdMBiBGFiweQCJ%2BNFF3rJpdDiOXJkMrqZDsFSCZBbNjSFDeoQFODZPjCF1sWPBjqlAfTsvnMyfxo%2B%2BXHLfmSHFTgyz1x7LtkSYDG7cbuBD18k%2FMG7PqEI2j9wa9PtIBeVZ%2BhKGfaOEkfKLXPE5uBlpFQoyp7VNODvEwevlLsXOiPTF09qGlhCJ4kfRUunBsXC6a2M5JDOjupmaWHcJVnv5uKbtR2T9jg%2BpeXiunsOli2JL4bKx1v5UusXereXfy00Ar7bTkP7i%2Bkdzr9548VwaF7j4v%2Burw%3D%3D&X-Amz-SignedHeaders=host&response-content-disposition=inline%3Bfilename%3D%22companies_house_document.pdf%22&X-Amz-Signature=4c78baff122f8a278f4af7baa98092473538abfa20efa7e74f3b46151e917d84

		of harm, RG tools, customer interactions to raise awareness of safer gambling tools and information, gambling research to explore how anchoring techniques could help customers set sensible limits, and reflection on gambling policies.	Availability and accessibility of RG tools; Purposes and benefits of using personal data	Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
171. (Flutter Entertainment, 2021)[330]	Report	The annual report includes strategic report on business model, sustainability, financial review, corporate governance, financial statements, etc. Safer gambling activities include spending marketing budget on safer gambling messages, education to raise awareness, predictive models to identify at-risk customers, implementing RG tools, investment in research, and providing robust, transparent and constructive responses to the request for evidence.	Gambling policy and staff training; CSR reporting and assessment; Safer gambling cognition and behaviour; Availability and accessibility of RG tools; Purposes and benefits of using personal data	Transparency of Corporate Social Responsibility and Individual Responsibility; Transparency of Information and Education for Safer Gambling; Transparency of RG Tools; Transparency of Data-driven Approaches and Persuasive Technologies
172. (Currie, 2019)[331]	Positions and research plan	The research plan attempts to define Canada's first low-risk that will include quantitative thresholds for safe gambling to be validated from population data. Groups for which more conservative limits or even abstinence may be recommended because they are more vulnerable to the harms from excess gambling—in the same way that the Low-Risk Alcohol Drinking Guidelines and Lower-Risk Cannabis Use Guidelines identify high risk populations.	Potential risks and negative consequences; Safer gambling cognition and behaviour; Personalisation of RG strategies	Transparency of Information and Education for Safer Gambling; Transparency of RG Tools

[330] Flutter Entertainment plc (2021). Changing the game: Annual Report & Accounts 2020. https://www.flutter.com/sites/paddy-power-betfair/files/Annual%20reports/annual-report-and-accounts-2020.pdf

[331] Currie, S.R. (2019). A research plan to define Canada's first low-risk gambling guidelines. *Health Promot Int, 34(6),* 1207-1217. https://doi.org/10.1093/heapro/day074