NOVAMEDIA/POSTCODE LOTTERIES: A GAME RISK ASSESSMENT

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EXECUTIVE SUMMARY

- Ten years ago, I conducted a social responsibility risk assessment on the *People's Postcode Lottery*. That previous analysis focused on the potential risk of the game for vulnerable players as the most at risk group of players generally.

- This report updates the previous report and carries out another social responsibility risk assessment of *Postcode Lotteries* across the five countries where the game is currently available. The analysis focused on the potential risk of the game for vulnerable players as the most at risk group of players generally.

- In carrying out a risk assessments of the *Postcode Lottery* game in the five different countries, the game risk tool *GAM-GaRD (Gaming Assessment Measure – Guidance about Responsible Design)* was used. The measure examines the structural and (relevant) situational characteristics of the game, that is, the features of the actual game design that make it rewarding to play.

- Scores on *GAM-GaRD* range between 11 and 100. The higher the score, the riskier the game is to vulnerable people. The *GAM-GaRD* measure provided the *Postcode Lotteries* with total scores of between 27 (for Great Britain and Norway) and 29 (for The Netherlands, Germany, and Sweden) and 33 (for Germany). More specifically:

    - Green = low risk for vulnerable players (scores of less than 40):
    - Amber = medium risk for vulnerable players (scores of 41 to 60);
    - Red = high risk for vulnerable players (scores of over 60).

- On the basis of the five *GAM-GaRD* scores, the *Postcode Lottery* game was rated as a 'low risk' game for vulnerable individuals.

- Rapid event frequency is widely accepted as one of the most influential factors for vulnerable gamblers developing gambling problems. In this respect, the *Postcode Lottery* game can be considered a very safe game in comparison to almost any other game currently on the market.

- Other factors noted that help decrease the risk potential for the *Postcode Lottery* game include characteristics such as:

    - The discontinuous nature of the game

    - No chance to reinvest any winnings in the game
    - No illusion of control elements in the game
    - No near misses designed into the game
    - The fixed stake size of a game

- The *GAM-GaRD* scores compared to other gambling games makes the *Postcode Lottery* game one of the least risky (i.e., safest) games in the worldwide gambling market. Overall, the *Postcode Lottery* was found to be low risk for vulnerable and normal players.

- The *Postcode Lottery* game does not appear to have any specific appeal for under-aged players.

UNITED POSTCODE LOTTERIES:
A GAME RISK ASSESSMENT

Background

Ten years ago, I conducted a social responsibility risk assessment on *People's Postcode Lottery*. This is an updated version of that report and uses relevant information from that original report alongside more updated scientific and empirical evidence including a game risk of the game in each country that the game is offered.

The Postcode Lottery

Novamedia, a social enterprise based in The Netherlands currently operates seven lottery games in five different countries (Germany, Great Britain, The Netherlands, Norway, and Sweden). The games have over 13 million subscriptions (i.e., players sign up in advance to play). Most of the draws are monthly (although a few are weekly) which means the event frequency is very low. I have been informed that over the past three decades, these lottery games have generated more than €10 billion for civil society. Table 1 outlines some of the key structural and situational characteristics of the Postcode Lottery in the five countries where the game currently operates.

Table 1. Key structural and situational features of the Postcode Lottery in the five countries where the game is played

	British Postcode Lottery	German Postcode Lottery	Dutch Postcode Lottery	Norwegian Postcode Lottery	Swedish Postcode Lottery
Frequency of draws	Monthly	Monthly	Monthly (+ 2 special draws)	Monthly	Monthly
Number of draws per year	20 draws a month on the same day each month.	12	14	12	12
Pay out interval after draw	Within four weeks	Within four weeks	Four to six weeks	Four weeks	Within four weeks
Payment methods	Direct debit or *PayPal* (debit cards only)	Direct debit, credit card or *PayPal*	Direct debit (monthly)	Direct debit, Vipps mobile payment, OCR payment	Direct debit, credit card (monthly)
Limits on number of tickets bought	Yes (six tickets per month)	Yes (three tickets per month)	No	Yes (20 tickets per month)	Yes (20 tickets per month)
Marketing avoids targeting young people	Yes	Yes	Yes	Yes	Yes

Table 1 clearly shows that the event frequency for the Postcode Lottery game is monthly. In my previous report, I reviewed the evidence on why low event frequency lottery games have a very low association with problem gambling

by briefly overviewing the empirical literature on the structural characteristics of gambling. This is repeated and updated in this report.

The Postcode Lottery also adheres to a seven-point Code of Conduct. The Code of Conduct is noted below and taken (almost) verbatim from documents I was sent by *Novamedia*:

(1) *Safe offer: Novamedia* operates lotteries to create a better world. Their lottery games are safe games. This means the time between purchasing a subscription and finding out if you have won, is not instant. Playing the lottery should be fun, and it should in no way lead or cause problem gambling behaviour.
(2) *Limit: Novamedia* restricts the number of subscriptions a player can play with, ensuring that their players cannot spend excessive and unaffordable amounts playing on their lotteries. They have regular contact with those that choose to play with the maximum subscriptions to ensure that they are satisfied that they are not at risk of problem gambling or have other vulnerabilities.
(3) *Payment:* In countries where payment by credit card is allowed (Sweden, Germany), *Novamedia* limit this option and encourage payment by Direct Debit. In Great Britain, the Netherlands and Norway, they do not accept credit cards as a payment method.
(4) *Research*: *Novamedia* commits to knowing their players so that they make the right choice for their circumstances, to the extent permitted by the General Data Protection Regulation (GDPR). Within these boundaries they try to ensure that their players have the mental capacity to understand the financial commitment and will identify individuals who should not be playing because of the presence of vulnerabilities which affect their decision making.
(5) *Information: Novamedia's* lotteries provide clear information for (potential) players about the characteristics, rules and costs of their lottery. Their websites contain all relevant information and their Customer Service departments are open every working day to answer questions. They provide signposting for gambling support services through their Customer Experience team or online.
(6) *Responsible marketing:* Players can easily opt-out of receiving marketing messages and *Novamedia* ensures that their marketing is straightforward not misleading in any way, and is not designed in such a way as to appeal to children, young people, or infer that financial problems will be solved by winning a prize.
(7) *Knowledge requirements: Novamedia's* teams understand their commitment to responsible play, and those in relevant positions have the knowledge and insight required to ensure the appropriate procedures, standards and values are maintained to keep their players safe.

Structural and situational characteristics in gambling

Structural characteristics are typically those features of a game that are responsible for reinforcement, may satisfy gamblers' needs and may (for some 'vulnerable' players) facilitate excessive gambling (Griffiths, 1993; 1999; Griffiths & Auer, 2013; Harris & Griffiths, 2018). By identifying particular structural characteristics, it is possible to see how needs are identified, to see how information about gambling is perceived, and to see how thoughts about gambling are influenced (Griffiths, 1993; Parke & Griffiths, 2007).

Showing the existence of such relationships has great practical importance as potentially 'risky' forms of gambling can be identified. Furthermore, by identifying particular structural characteristics it may be possible to understand more about gambling motivations and behaviour, which can have useful clinical, academic and commercial implications (Griffiths & Auer, 2013; McCormack & Griffiths, 2013; Parke & Griffiths, 2007).

Situational characteristics are typically those that get people to gamble in the first place. These characteristics are primarily features of the environment and can be considered the situational determinants of gambling (Griffiths & Parke, 2003; McCormack & Griffiths, 2013). These characteristics can refer to both 'purchase' and 'play' environments and can include such characteristics as the location of the gambling outlet, the number of gambling outlets in a specified area, and the use of advertising in stimulating people to gamble. These variables may be very important in the initial decision to gamble and may help clarify why some forms of gambling are more attractive to particular socio-economic classes (Griffiths & Wood, 2001).

Some situational characteristics overlap with structural characteristics. For example, the accessibility of the gambling activity can determine both the ease with which a game is accessed (situational) as well as how the game appears, and is experienced (structural).

The importance of a structural characteristic approach to gambling is the possibility to pinpoint more accurately where an individual's psychological constitution is influencing gambling behaviour (Griffiths, 1999). Such an approach also allows for psychologically context-specific explanations of gambling behaviour rather than global explanations such as 'addictive personality' (Parke & Griffiths, 2006; Griffiths, 2017).

Although most (if not all) gambling-inducing structural characteristics (e.g., event frequency and consequent reinforcement) are dependent on individual psychological factors, they are a direct result of the structural characteristics and are unlikely to have influenced gambling behaviour independently. This is

what Griffiths (1993) has described as a 'psycho-structural' interaction. It is for this reason above all others that a structural approach is useful. Structural characteristics are still capable of producing psychologically rewarding experiences even in financially losing situations (e.g., the psychology of the near win) (Griffiths, 1999).

It has been widely accepted that structural and situational characteristics influence the acquisition, development, and maintenance of gambling behaviour. However, it would appear that the role of structural characteristics has become even more significant within the past two decades (Griffiths & Auer, 2013; Harris & Griffiths, 2018; Parke & Griffiths, 2006; 2007). Arguably, some of these more technologically advanced structural characteristics have an even greater potential to induce excessive gambling in some cases.

Such sophisticated features include interactive feature plays, increased skill orientations, faster and more continuous game play, and better graphical interfaces. These features when combined with a gambler's individual characteristics have the potential to produce psychologically immersive games (Griffiths, 2003; Griffiths et al, 2006; McCormack & Griffiths, 2013; Wood et al, 2004; Wood & Griffiths, 2007; Wood, Parke & Griffiths, 2007). Therefore, any effective measures aimed at reducing the risk of 'vulnerable players' developing problems needs to consider the 'risky' elements of games during their development stages.

By applying a suite of responsible gaming measures, I was able to undertake an in-depth analysis of both the structural characteristics of the *Postcode Lottery* and the gaming environment. Such an analysis is designed to focus on the risk potential for vulnerable players. These vulnerable players are defined as any adult with either a biological, psychological and/or emotional pre-disposition to gamble excessively, or for those players whose personal circumstances may put them at a greater risk of developing gambling problems (e.g., low income individuals, those with co-morbid disorders), as well as recovering problem gamblers. The number of people in a population who can be considered vulnerable will depend on variable factors such as the economic status of the country. A vulnerable person is also more susceptible to other problems such as alcoholism and substance abuse not just gambling.

Therefore, gambling is just one of several possible behaviours that they could conceivably develop a problem with. However, the percentage of people who develop any kind of gambling problem tends to be in the range of 0.5-3% of the population depending upon the country and the way that problem gambling is measured (Calado, Alexandre & Griffiths, 2017; Calado & Griffiths, 2016). The risk for normal players is also considered but will, by definition, be far less than for vulnerable players. The risk for problem

gamblers playing is not directly assessed as problem gamblers have already reached a point where preventative measures are no longer effective, and as such can only be helped through treatment measures. However, the analysis will also consider the overall appeal and accessibility of *Postcode Lottery* games.

METHODOLOGY EMPLOYED

In carrying out this risk assessment, the following sources and resources were utilised in the risk assessment of *Postcode Lottery* game.

- Use of the latest version of the gaming risk assessment tool *GAM-GaRD* (see next section and Appendices 1 and 2 for further explanation). GAM-GaRD has undergone a number of updates and iterations in the past 10 years.
- Materials supplied by *Novamedia*, responses to email questions about the structural characteristics of the *Postcode Lottery* game, and information from *Postcode Lottery* websites in the countries in the group).
- Evaluation of the relevant psychological literature on problem gambling in relation to structural and situational characteristics.
- My own 33-year experience of working in the problem gambling field (see Appendix 3).

GAME DEFINITION AND ASSESSMENT PARAMETERS

Definition: The game is broadly similar across the five countries in which it operates. For instance, in Great Britain, the *People's Postcode Lottery* game is a lottery game where players win when the chosen ticket matches a player's postcode. This means entire streets and surrounding neighbourhoods have the opportunity to win together if residents have chosen to become players. Regularly, the *People's Postcode Lottery* awards a £30,000 Street Prize to one winning postcode (although the prize plan changes slightly over time). In addition to this, there is a "Postcode Millions" prize pot of at least £3 million twelve times a year. In this (due to *Gambling Act 2005* restrictions) each ticket is capped at winning 10% of the value of ticket sales in the draw, up to a maximum of £500,000. At the time of writing the maximum prize therefore worked out at £209,622 due to the level of ticket sales. A £10 monthly subscription enters individuals into 20 draws per month and payment is made in advance either by Direct Debit or PayPal.

Assessment parameters: For the purposes of this report, I have taken the largest possible jackpot prize to be £500,000 (even though the total winnings are

variable), and I have been informed by *Novamedia* that in Great Britain approximately 40% of the stake money is paid back out in prizes. At the time of writing this report, it is possible to have up to three simultaneous subscriptions per campaign but no limit on the number of subscriptions in total in one country (i.e., The Netherlands; players who have more than ten subscriptions are contacted to check if this is an active choice; this is not a requirement by law/license but part of the operator's customer service policy) but that the other four countries have limits on how many tickets that can be bought per month (see Table 1). The game has no deliberately manufactured 'near miss' or 'illusion of control' elements, and it is a discontinuous game as the draws typically take place once a month. Finally, for assessment purposes I have technically classed *Postcode Lottery* as a game that can be played online although there is a strong argument that payment of the game occurs online but players do not actually play online. I will return to this point later in the report. See the table in Appendix 1 for a complete overview of how each characteristic scored.

RISK ASSESSMENT OF POSTCODE LOTTERY

In carrying out a risk assessment of the *Postcode Lottery* game, a social responsibility tool developed by Dr. Richard Wood and myself was used. The measure was developed to examine the structural and (relevant) situational characteristics of the game, that is, the features of the actual game design that make it rewarding to play. This social responsibility tool is known as the *Gaming Assessment Measure – Guidance about Responsible Design (GAM-GaRD)* (Wood, Griffiths & Parke, 2007; Griffiths, Wood, Parke & Parke, 2007). *GAM-GaRD* and was designed so that it can be used to assess any gambling type game by anyone with a basic knowledge of the features of the game. *GAM-GaRD* contains ten items that relate to structural and situational characteristics of games (see Appendices 1 and 2 as applied to *Postcode Lottery*). The latest version of *GAM-GaRD* also includes some items that can reduce scores but none of these items are applicable to the Postcode Lottery.

The measure provides each game tested with a total score (out of 100) that gives a 'traffic light' rating of either: green = low risk for vulnerable players (scores of up to 40): amber = medium risk for vulnerable players (scores of 41 to 60); red = high risk for vulnerable players (scores of over 60). Scores on the measure range between 11 and 100. The higher the score, the riskier the game is to vulnerable people. The *Postcode Lottery* across the five countries scored between 27 and 29 (out of 100), which compared to other gambling games, makes it one of the least risky games (i.e., among the safest) in the worldwide gambling market.

GAM-GaRD was developed (and its subsequent iterations) through a combination of examining the current state of research on structural and situational characteristics worldwide, and by employing a team of leading world experts, in terms of researching responsible gambling issues and treating problem gamblers. All the research team had considerable knowledge of these issues and their insight of problem gambling is far greater than 'vulnerable' individuals, who often do not understand the causes of their gambling difficulties, or not at least until the later stages of their treatment. For this reason, the research focused on developing a measure using expert knowledge and extensive reviewing of all the research data currently available. Final testing of the measure compared the results to the known risks associated with established games.

STRUCTURAL RISK FACTORS IN GAMES

Rapid event frequency is widely accepted as one of the most influential factors for vulnerable gamblers developing gambling problems (Griffiths, 1993; Parke & Griffiths, 2007; Harris & Griffiths, 2018). This is largely because a rapid event frequency provides the opportunity for chasing behaviour (one of the major risk factors of problem gambling). Another consequence of rapid event frequencies is that they produce short payout intervals. This means that any guilt or frustration about losing on an individual gamble is quickly forgotten as the gambler is already staking money on the next gamble (Parke & Griffiths, 2006; 2007).

Furthermore, rapid games are more likely to promote dissociation whereby a player gambles in order to change their mood state, often to escape from their problems (although it must be acknowledged that any game that keeps the players' minds occupied can be susceptible to dissociation). In these respects, the *Postcode Lottery* game can be considered a very safe game in comparison to almost any other game currently on the market. The *Postcode Lottery* game has a low event frequency because the event frequency is typically once a month (although some draws are weekly). This is one of the lowest event frequencies for any worldwide gambling game.

Other factors that help decrease the risk potential for the *Postcode Lottery* game include characteristics (see Appendices 1 and 2) such as:

- The discontinuous nature of the game
- No chance to reinvest any winnings in the game
- No deliberately manufactured illusion of control elements in the game
- No deliberately manufactured near misses designed into the game
- The fixed stake size of the game

Theoretically players could originally buy as many tickets as they wanted on the Postcode Lottery although four of the five countries now have self-imposed restrictions on the number of tickets that an individual can buy in any one month. It should also be noted that the number of individuals known to buy excessive amounts of tickets for weekly or bi-weekly lottery draws (i.e., discontinuous forms of gambling) is believed to be very low (Griffiths & Wood, 2001). The player must take sole responsibility for the choice of buying several tickets at once. Jackpot sizes for *People's Postcode Lottery* are generally modest but at present have the capacity twelve times a year to be relatively large (i.e., over £200,000). However, large jackpot sizes tend to be problematic to vulnerable and susceptible individuals if they are combined with high frequency games (as these two characteristics combined can facilitate chasing behaviour). On its own, a large jackpot is an important factor in acquisition behaviour (i.e., the larger the jackpot, the more likely an individual is to play) (Griffiths & Wood, 2001; Griffiths, 2010). However, this is not problematic in itself especially in low event frequency activities such as the *Postcode Lottery* game.

The use of virtual cash (such as the use of credit or debit cards, or playing games online) can (in some circumstances) be problematic as the psychological value of money is likely to be perceived as less than when using actual cash (known as 'the suspension of judgement' when companies use virtual representations of money such as chips, tokens, smart cards). In addition, playing with credit rather than the players' own money can sometimes be dangerous as the player maybe more likely to spend money that they cannot afford to lose (Griffiths, 1993).

OTHER IMPORTANT FACTORS TO CONSIDER

One of the potential problems with gambling relates to losing too much time rather than too much money. It has been shown that problem gamblers tend to play for relatively long periods of time. This is all but impossible with the *Postcode Lottery* game. It is also known that vulnerable players may play a game in order to dissociate and escape from everyday problems (Griffiths, Wood, Parke & Parke; 2006; Wood & Griffiths, 2007). Whilst excessive play may not always have serious financial implications, it has also been found that excessive play can have serious implications for those who neglect work, family, or other social responsibilities. Again, this is highly unlikely with the *Postcode Lottery* game. There is also the possibility that vulnerable players may believe that the game is more skilful than it really is even though the game is totally chance-determined. However, this is not something that can be controlled by the operator unless there are deliberate illusion of control

features designed into gambling products. The *Postcode Lottery* game does not feature any illusion of control features at all.

THE POSTCODE LOTTERY SELLS TICKETS ONLINE BUT IS NOT A FORM OF ONLINE GAMBLING

In carrying out the risk assessment on the *Postcode Lottery,* I made a technical decision to class the game as a form of online gambling on the basis that people can pay for the lottery tickets online (or take out a subscription over the phone) because tickets are not sold in retail. However, the game is regulated in the five countries as an offline form of gambling because the draws take place offline. The selling of tickets online meant that the game scored the maximum score (10 out of 10) and accounted for approximately one-third of the total score in each country's version of the game.. Anyone with even a brief acquaintance of the game will see that payment of the game is online (or by telephone) but the players do not actually play the game online as the game draw is carried out elsewhere and the player is not actually playing the game as it happens. Therefore, this game is nothing like playing an 'instant win' game on the internet (e.g., an electronic scratchcard) or playing online bingo or poker. In fact, there is no actual gambling taking place in the online environment at all, just the up-front payment to play the game. Moreover, the *Postcode Lotteries* are not for profit. Their mission is to raise funds for charities which differs from the commercial motives of online gambling operators.

PROBLEM GAMBLING IN THE COUNTRIES WHERE THE POSTCODE LOTTERY OPERATES

Appendix 4 briefly outlines the key nationally representative studies that have been carried out on the five countries where the Postcode Lottery currently operates. As can be seen, the most recent surveys carried out in each of the country shows that the prevalence of problem gambling is relatively low: Germany (0.39%), Great Britain (0.6%), The Netherlands (0.46%), Norway (1.4%), and Sweden (0.6%). It should also be noted that the Postcode Lottery was not specifically mentioned in any of these reports and that lottery gambling more generally was not associated with problem gambling in any of these different countries. When examined by game type, the types of gambling most associated with problem gambling were those activities with high event frequencies such as slot machine gambling, casino games, and sports betting.

CONCLUSIONS

The *Postcode Lottery* game in the European market place is unlikely to have much, if anything, of an effect on either 'normal' or 'vulnerable' players. Whilst the *Postcode Lottery* game is a game that includes only chance elements,

some vulnerable players may believe that the game is more skilful than it really is (even though the *Postcode Lottery* does not include any illusion of control features into the game). Therefore, clear statements about the chance-based nature of the game need to be emphasized at the point-of-sale to fulfil social responsibility obligations.

Overall, I would rate the *Postcode Lottery* game as a very low risk for both vulnerable players and normal players. Players should be able to clearly understand the extent of their playing both in terms of the amount they have spent and the length of time that they have been playing (which in this case would be minimal). As such, any features relating to a player's play history should be actively encouraged. Recent research has indicated that players do not object to the presence of such features, and that they can in fact increase feelings of trust toward the gaming operator (Auer, Reiestad & Griffiths, 2020; Wood & Griffiths, 2008).

The appeal of the *Postcode Lottery* game to under-aged players is unlikely to be any greater than other lotteries. The *Postcode Lottery* game should not be a problem as long as adequate measures are in place to ensure that under-aged players cannot buy tickets. There are no retail sales and all sales are carried out online or via phone sales. Age verification procedures are an obvious and essential requirement. Overall, the *Postcode Lottery* game does not use characters or design features that are associated specifically with any aspects of youth culture.

In summary, and based on the evidence presented in this report, I would conclude that it is highly unlikely that there would be any addiction/dependency problem with the *Postcode Lottery* game in any of the five countries in which it currently operates.

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Appendix 1: Individual Postcode Lottery game risk scores on GAM-GaRD by country

Structural characteristic	*British Postcode Lottery*	*German Postcode Lottery*	*Dutch Postcode Lottery*	*Norwegian Postcode Lottery*	*Swedish Postcode Lottery*
Event frequency	2	2	2	2	2
Multi-game/stake opportunities	4	4	6	4	4
Variable/fixed stake size	2	2	2	2	2
Prizeback percentage	2	2	2	2	2
Jackpot size	3	3	3	3	3
Near win opportunities	0	0	0	0	0
Continuity of play	0	0	0	0	0
Accessibility	10	10	10	10	10
Payment options	4	6	4	4	6
Illusion of control elements	0	0	0	0	0
Total score	27 (low risk)	29 (low risk)	29 (low risk)	27 (low risk)	29 (low risk)

APPENDIX 2: RISK ASSESSMENT OF *THE PEOPLE'S POSTCODE LOTTERY* IN GREAT BRITAIN USING *GAM-GARD* (TOTAL SCORE: 27/100)

Characteristic	Question	People's Postcode Lottery
Event frequency (*GAM-GaRD* Score: 2 out of 40)	What is the time gap between one gambling opportunity, getting the result, and engaging in another gambling opportunity on the same game?	The event frequency for the *People's Postcode Lottery* is once a month as players can only purchase tickets once a month (although there are more draws, these take place on the same day of the month).
Multi-game/stake opportunities (*GAM-GaRD* Score: 4 out of 6)	Is there an opportunity to play multiple games/ stakes at the same time?	There is an absolute maximum of six subscriptions a month (subscriptions are £10 each, so a maximum of £60).
Variable/fixed stake size (*GAM-GaRD* Score: 2 out of 8)	To what extent can a player determine the stake size?	*The People's Postcode Lottery* has a fixed stake of £10 per month that entitles the player to be entered in 20 draws a month.
Prize back percentage (*GAM-GaRD* Score: 2 out of 6)	What is the average percentage of the stake that is paid back in winnings?	40% of the fixed stake is returned in prizes. Of the remainder 32% is returned to charities and the remaining 28% covers operating costs.
Jackpot size (*GAM-GaRD* Score: 3 out of 6)	What is the largest amount of money that a player can possibly win per game?	The *People's Postcode Lottery's* maximum jackpot is currently approximately £370,000 This can increase further as ticket numbers grow up to an absolute maximum of £500,000 under the existing legislation, which stipulates the maximum prize is 10% of the value of tickets in the draw.
Near win opportunities (*GAM-GaRD* Score: 0 out of 4)	Are there any instances when the player believes that they nearly won?	There are no deliberately manufactured 'near win' opportunities in the *People's Postcode Lottery*
Continuity of play (*GAM-GaRD* Score: 0 out of 10)	To what extent can the gambling be continuous?	Offering the chance to only pay for tickets once a month provides an enforced break on spending money. No continuous play-win-play is possible.
Accessibility points (*GAM-GaRD* Score: 10 out of 10)	Where is the game played (Online? Offline? Gambling premises? Shop?)	*People's Postcode Lottery* sells subscriptions by telephone and online.
Payment options *(GAM-GaRD* Score: 4 out of 6)	What is the type of payment used to gamble and its ease of use (e.g., cash, credit cards, accounts, etc.).	*People's Postcode Lottery* accepts direct debit payments via a person's bank account (as well as other options such as *PayPal*). No credit card sales are made.
Illusion of control elements (*GAM-GaRD* Score: 0 out of 4)	To what extent does the game suggest that there is skill involved (e.g. nudge buttons, stopping device)?	There is no deliberately manufactured illusion of control elements in playing *People's Postcode Lottery*.

APPENDIX 3: RISK ASSESSMENT OF *THE DEUTSCHE POSTCODE LOTTERIE* USING *GAM-GARD* (TOTAL SCORE: 29/100)

Characteristic	Question	Deutsche Postcode Lotterie
Event frequency (*GAM-GaRD* Score: 2 out of 40)	What is the time gap between one gambling opportunity, getting the result, and engaging in another gambling opportunity on the same game?	The event frequency for *Deutsche Postcode Lotterie* is once a month as players can only purchase tickets once a month (although there are more draws, these take place on the same day of the month).
Multi-game/stake opportunities (*GAM-GaRD* Score: 4 out of 6)	Is there an opportunity to play multiple games/ stakes at the same time?	The number of tickets is limited to three per month at *Deutsche Postcode Lotterie.*
Variable/fixed stake size (*GAM-GaRD* Score: 2 out of 8)	To what extent can a player determine the stake size?	A fixed stake of €12,50 entitles the player to one draw a month.
Prize back percentage (*GAM-GaRD* Score: 2 out of 6)	What is the average percentage of the stake that is paid back in winnings?	30% of the fixed stake is returned in prizes.
Jackpot size (*GAM-GaRD* Score: 3 out of 6)	What is the largest amount of money that a player can possibly win per game?	The maximum price is currently €650.000 per ticket. This price is usually shared among several tickets.
Near win opportunities (*GAM-GaRD* Score: 0 out of 4)	Are there any instances when the player believes that they nearly won?	There are no deliberately manufactured 'near win' opportunities in *Deutsche Postcode Lotterie.*
Continuity of play (*GAM-GaRD* Score: 0 out of 10)	To what extent can the gambling be continuous?	Offering the chance to only buy tickets once a month provides an enforced break on spending money. No continuous play-win-play is possible.
Accessibility points (*GAM-GaRD* Score: 10 out of 10)	Where is the game played (Online? Offline? Gambling premises? Shop?)	*Deutsche Postcode Lotterie is allowed to* sell lottery tickets online, via telephone (inbound) and via coupons (newspaper/magazine supplements).
Payment options *(GAM-GaRD* Score: 6 out of 6)	What is the type of payment used to gamble and its ease of use (e.g., cash, credit cards, accounts, etc.).	*Deutsche Postcode Lotterie* is allowed to accept payments by debit, credit card and PayPal.
Illusion of control elements (*GAM-GaRD* Score: 0 out of 4)	To what extent does the game suggest that there is skill involved (e.g. nudge buttons, stopping device)?	There are no deliberately manufactured illusion of control elements in the game *Deutsche Postcode Lotterie.*

APPENDIX 4: RISK ASSESSMENT OF *THE NORSK POSTKODELOTTERI* *GAM-GARD* (TOTAL SCORE: 27/100)

Characteristic	Question	Norwegian Postcode Lottery (NOPL)
Event frequency (*GAM-GaRD* Score: 2 out of 40)	What is the time gap between one gambling opportunity, getting the result, and engaging in another gambling opportunity on the same game?	The event frequency for *NOPL* is once a month as players can only purchase tickets once a month, and wait for the draw (one every month, but result communicated more often) and then wait another month to participate in the next draw.
Multi-game/stake opportunities (*GAM-GaRD* Score: 4 out of 6)	Is there an opportunity to play multiple games/ stakes at the same time?	It is possible to buy up to 20 tickets a month
Variable/fixed stake size (*GAM-GaRD* Score: 2 out of 8)	To what extent can a player determine the stake size?	A ticket in NOPL costs 200 NOK per month
Prize back percentage (*GAM-GaRD* Score: 2 out of 6)	What is the average percentage of the stake that is paid back in winnings?	40% of the fixed stake is returned in prizes
Jackpot size (*GAM-GaRD* Score: 3 out of 6)	What is the largest amount of money that a player can possibly win per game?	A ticket can win a maximum of 2 Million NOK, according to the law.
Near win opportunities (*GAM-GaRD* Score: 0 out of 4)	Are there any instances when the player believes that they nearly won?	There are no deliberately manufactured 'near win' opportunities in NOPL. However, if your neighbour wins, you probably would have won if you had a ticket.
Continuity of play (*GAM-GaRD* Score: 0 out of 10)	To what extent can the gambling be continuous?	The tickets are offered as a subscription, so every month the cost for the ticket should be paid. If you don´t pay the ticket, it will not be included in the draw.
Accessibility points (*GAM-GaRD* Score: 10 out of 10)	Where is the game played (Online? Offline? Gambling premises? Shop?)	It is sold in various ways, by telemarketing, by field marketing, by Direct Marketing, and by online sales. Costumers use their direct debit account for payments for the most part, some pay by debit card. But the game itself is not played in any way, the monthly draws are communicated in TV and on the site, and direct to all winners personally.
Payment options *(GAM-GaRD* Score: 4 out of 6)	What is the type of payment used to gamble and its ease of use (e.g., cash, credit cards, accounts, etc.).	Debit cards, direct debit accounts, Vipp (online transfer)
Illusion of control elements (*GAM-GaRD* Score: 0 out of 4)	To what extent does the game suggest that there is skill involved (e.g. nudge buttons, stopping device)?	There is no involvement of the player after the purchase, they will be contacted personally if they win, by email, phonecalls or mails.

APPENDIX 5: RISK ASSESSMENT OF *THE NATIONALE POSTCODE LOTTERIJ* USING *GAM-GARD* (TOTAL SCORE: 29/100)

Characteristic	Question	Dutch Postcode Lottery
Event frequency (*GAM-GaRD* Score: 2 out of 40)	What is the time gap between one gambling opportunity, getting the result, and engaging in another gambling opportunity on the same game?	The event frequency for the *Dutch Postcode Lottery* is 14 times a year; one draw per month, and two extra draws (usually in Spring and Fall)
Multi-game/stake opportunities (*GAM-GaRD* Score: 6 out of 6)	Is there an opportunity to play multiple games/ stakes at the same time?	Technically it is possible to play with an unlimited number of subscriptions. Our customer service department informs player if they have more than 10 subscriptions to check if this is a deliberate choice. On average people play with 1.5 subscriptions.
Variable/fixed stake size (*GAM-GaRD* Score: 2 out of 8)	To what extent can a player determine the stake size?	The price of a subscription is 14,25 EUR per draw. This is including the Streetprize Doubler of 1.25 EUR. Players can choose to play without this, so for 13 EUR per draw.
Prize back percentage (*GAM-GaRD* Score: 2 out of 6)	What is the average percentage of the stake that is paid back in winnings?	Around 40% of the fixed stake is returned in prizes
Jackpot size (*GAM-GaRD* Score: 3 out of 6)	What is the largest amount of money that a player can possibly win per game?	The highest prize is the December draw of 54,9 million EUR. However, this is shared with the whole neighbourhood. Last year, the highest prize an individual player won was 8,8 million EUR.
Near win opportunities (*GAM-GaRD* Score: 0 out of 4)	Are there any instances when the player believes that they nearly won?	There are no deliberately manufactured 'near win' opportunities in the *Dutch Postcode Lottery*.
Continuity of play (*GAM-GaRD* Score: 0 out of 10)	To what extent can the gambling be continuous?	Offering the chance to only buy tickets once a month provides an enforced break on spending money. No continuous play-win-play is possible.
Accessibility points (*GAM-GaRD* Score: 10 out of 10)	Where is the game played (Online? Offline? Gambling premises? Shop?)	Tickets can be bought via Direct Mail, online and phone. No sales in retail.
Payment options *(GAM-GaRD* Score: 4 out of 6)	What is the type of payment used to gamble and its ease of use (e.g., cash, credit cards, accounts, etc.).	Only via direct debit
Illusion of control elements (*GAM-GaRD* Score: 0 out of 4)	To what extent does the game suggest that there is skill involved (e.g. nudge buttons, stopping device)?	There are no deliberately manufactured illusion of control elements in the game th*e Dutch Postcode Lottery*.

APPENDIX 6: RISK ASSESSMENT *OF THE SVENSKA POSTKODLOTTERIET* IN USING *GAM-GARD* (TOTAL SCORE: 29/100)

Characteristic	Question	The Swedish Postcode Lottery (SPL)
Event frequency (*GAM-GaRD* Score: 2 out of 40)	What is the time gap between one gambling opportunity, getting the result, and engaging in another gambling opportunity on the same game?	The event frequency for *SPL* is once a month as players can only purchase tickets once a month, and wait for the draw (one every month, but result communicated more often) and then wait another month to participate in the next draw.
Multi-game/stake opportunities (*GAM-GaRD* Score: 4 out of 6)	Is there an opportunity to play multiple games/ stakes at the same time?	It is possible to buy up to 20 tickets a month
Variable/fixed stake size (*GAM-GaRD* Score: 2 out of 8)	To what extent can a player determine the stake size?	A ticket in the SPL costs 170 SEK per month
Prize back percentage (*GAM-GaRD* Score: 2 out of 6)	What is the average percentage of the stake that is paid back in winnings?	40% of the fixed stake is returned in prizes
Jackpot size (*GAM-GaRD* Score: 3 out of 6)	What is the largest amount of money that a player can possibly win per game?	Jackpots are arranged three times yearly. No limit on prize sum per person.
Near win opportunities (*GAM-GaRD* Score: 0 out of 4)	Are there any instances when the player believes that they nearly won?	There are no deliberately manufactured 'near win' opportunities in SPL. However, if your neighbour wins, you probably would have won if you had a ticket.
Continuity of play (*GAM-GaRD* Score: 0 out of 10)	To what extent can the gambling be continuous?	The tickets are offered as a subscription, so every month the cost for the ticket should be paid. If you don´t pay the ticket, it will not be included in the draw.
Accessibility points (*GAM-GaRD* Score: 10 out of 10)	Where is the game played (Online? Offline? Gambling premises? Shop?)	It is sold in various ways, by telemarketing, by field marketing, by Direct Marketing, and by online sales. Costumers use their direct debit account for payments for the most part, some pay by debit/credit card. But the game itself is not played in any way, the monthly draws are communicated in TV and on the site, and direct to all winners personally.
Payment options *(GAM-GaRD* Score: 6 out of 6)	What is the type of payment used to gamble and its ease of use (e.g., cash, credit cards, accounts, etc.).	Debit cards, credit cards, direct debit accounts, Swish (online transfer)
Illusion of control elements (*GAM-GaRD* Score: 0 out of 4)	To what extent does the game suggest that there is skill involved (e.g. nudge buttons, stopping device)?	There is no involvement of the player after the purchase, they will be contacted personally if they win, by email, phonecalls or mails.

Appendix 7: Operational definitions of characteristic included in GAM-GaRD

Characteristic	Description	Examples and further explanations
1. Event frequency	The average time taken to purchase a game, get the result, and purchase the game again.	A bi-weekly lottery ticket requires that the player wait several days before they can get the result. On a slot machine the player can get the result and gamble again within seconds. The more rapid the event frequency, the more problematic it can be for a 'vulnerable' player.
2. Multi-game/stake opportunities	The opportunity to play multiple games/ stakes at the same time	A game that only allows the player to play one or two games at the same time, or place one or two stakes, will be less risky than a game with unlimited game or stake opportunities.
3. Variable/fixed stake size	The extent to which a player can determine the stake size	A lottery ticket tends to be a fixed price. However, in sports betting a player can usually choose how much to stake.
4. Prizeback percentage	The average percentage of the stake that is payed back in winnings.	On average, slot machines can have a payback of over 80% of the stake money. Higher paybacks are more appealing to 'vulnerable' players.
5. Jackpot size	The largest amount of money that a player believes that they can possibly win. This includes any possible bonuses and may be across several games if a cumulative prize is possible.	On its own this has a marginal effect, but it is an important factor for acquisition. The overall effect is highly dependent upon win probability and/or stake size.
6. Near win opportunities	Intentionally manufactured instances when the player believes that they nearly won (i.e. not occurring purely by chance).	A scratchcard manufactured to have several symbols that are very similar, or combinations that are one symbol short of winning. This has the effect of making the player think they almost won.
7. Continuity of play	How long the game can be played without a mandatory break occurring.	Most slot machines can be played indefinitely game after game without a break. Games like bingo (usually) have a short break between each game.
8. Accessibility points	The ease by which a player can access a game.	Remote access games, such as playing a scratchcard on the Internet, are easier and more convenient to access than buying scratchcards from a shop.
9. Payment options	The type of payment used to gamble and its ease of use (e.g., cash, credit cards, accounts etc.).	Gambling with real cash highlights the actual amount staked. Paying by credit card lowers the psychological value of the money (i.e., it doesn't seem as real).
10. Illusion of control elements	The extent to which game features suggest that there is skill involved (e.g. nudge buttons, stopping device) or when the player is given a hint that they believe will help them to win.	Features that imply the player has some control over the outcome of a game can lead vulnerable players to believe that the game is determined by skill rather than (or as well as) chance. For example, giving hints and clues on where to find a winning symbol on an online probability game.

Appendix 8: Prevalence of problem gambling in the countries where the Postcode Lottery operates (Germany, Great Britain, The Netherlands, Norway, and Sweden

Country	Study	Measures used	Sample characteristics	Gambling prevalence	Problem gambling prevalence
Germany	Buth & Stover (2008)	DSM-IV	National, 7,980 aged 18-65 recruited by telephone interview and online survey	39.2% (past-year)	DSM-IV: Problem gambling (3-4): 0.64%; Pathological gambling (5+): 0.56%; Combined rate: 1.2% (past-year prevalence)
Germany	Bühringer et al (2007)	DSM-IV	National, 7,817 people aged 18-64 recruited by self-administered email survey supplemented with telephone interviews	1.5% (lifetime)	DSM-IV Problem gambling (3-4): 0.29%; Pathological gambling (5+): 0.2%; Combined rate: 0.5% (past-year prevalence)
Germany	Federal Center for Health Education (BzgA) (2008)	SOGS	National, 10,001 aged people 16-65 interviewed by telephone	Not reported	SOGS Problem gambling (3-4): 0.41%; Pathological gambling (5+): 0.19%; Combined rate: 0.6% (past-year prevalence)
Germany	Sassen et al (2011)	DSM-IV	National, 8,006 adults aged 18 -64 recruited by postal questionnaires (46%), telephone interviews (42%) and online (12%)	48% (past-year)	DSM-IV: Sub-threshold for pathological gambling (1-4): 1.1%; Pathological gambling (5+): 0.3%; (past-year prevalence)
Germany	Meyer et al (2015)	DSM-IV	National, 15023 individuals aged 14-64 years recruited by telephone interviews (landline and mobile phone	Not reported	DSM-IV: Sub-threshold for gambling problems (1-4): 1.7%; Pathological gambling (5+): 0.3% (past-year prevalence)
Germany	Banz (2019)	SOGS	National, 11503 individuals aged 16 to 70 years recruited via telephone	37.7% (past-year)	SOGS: 0.39% problem gambling
Great Britain	Orford et al (2003)	SOGS and DSM-IV	National, 7680 aged 16 and over recruited by face-to-face interviews	72% (past-year)	SOGS: Problem gambling (5+): 0.8%; (past-year prevalence)
Great Britain	Orford et al (2010)	PGSI and DSM-IV	National, 9,003 people aged 16 and over recruited by face-to-face interviews, or by an online questionnaire, that was also available	68% (past-year)	PGSI: Problem gambling (8+): 0.5% (past-year prevalence) DSM-IV: 0.3% (3-4); 0.3% (5+); combined rate: 0.6% (past-year prevalence)
Great Britain	Wardle et al, (2012)	PGSI and DSM-IV	National, 7,756 people aged 16 and over recruited by computing- assisting interviewing, supplemented by telephone interview for those who refused to participate	73% (past-year)	PGSI: Problem gambling (8+): 0.7% (past-year prevalence) DSM-IV Problem gambling (3-4): 0.5%; Pathological gambling (5+): 0.4%; combined rate: 0.9% (past-year prevalence)
Great Britain	Wardle et al, 2009)	DSM-IV	National, 7403 adults aged 16 and over recruited by face-to-face interviews	65.9% (past-year)	DSM-IV: Problem gambling (3-4): 0.7%; Pathological gambling (5+): 0.3%; Combined rate: 1% (past-year prevalence)
Great Britain	Seabury & Wardle (2014)	DSM-IV and PGSI	11774 English and Scottish adults aged 16 and over recruited by face-to-face interviews	65% (past-year)	DSM-IV: Problem gambling (3+): 0.5% PGSI: Problem gambling (8+): 0.4% (past-year prevalence)

Great Britain	Gambling Commission (2020)	PGSI Mini-screen	National, 4003 adults aged 16 and over recruited by telephone	47% (past four weeks)	PGSI Mini-screen: 0.6%
The Netherlands	De Bruin et al (2006)	SOGS	National, 5,575 people aged 16 and over recruited predominantly by telephone interview. Participants could also complete an online questionnaire	Not reported	SOGS: Problem gambling (3-4): 1.5%; pathological (5+): 1%; combined rate:2.5% (lifetime prevalence) Problem gambling (3-4): 0.6%; Pathological (5+): 0.3%; combined rate: 0.9% (past-year prevalence
The Netherlands	Bieleman et al (2011); Goudriann (2014)	DSM-IV	National, almost 6000 participants (no more information is provided)	Not reported	SOGS: Problem gambling (3-4): 0.68%; pathological (5+): 0.15%; combined rate: 0.8% (past-year prevalence)
The Netherlands	Kruize et al (2016)	SOGS	National, 5873 people aged over 16 years recruited by telephone	62.1% (past-year)	SOGS: Problem gambling: 0.46% (report estimated 79,000 problem gamblers from population of 17 million)
Norway	Gotestam & Johansson (2003)	SOGS and NODS	National, 2,014 adults aged 18 and over recruited by telephone interview	68.2% (lifetime)	DSM-IV: Problem gambling (3-4): 0.45%; Pathological gambling (5+):0.15%; combined rate:0.6% (no specific time frame is provided)
Norway	Lund & Nordlund (2003); Jonsson (2006)	NODS	National, 5,235 adults aged 15-74 recruited by telephone interview or postal enquiries if the person was not reachable by phone	80.6% (past-year)	NODS: Problem gambling (3-4):0.4%; pathological gambling (5+):0.3%; combined rate: 0.7% (past-year prevalence) Problem gambling (3-4): 0.8%; Pathological (5+):0.6%; combined rate: 1.4% (lifetime prevalence) SOGS: Problem gambling (3-4):0.4%; Pathological gambling (5+): 0.2%; Combined rate: 0.6% (past-year prevalence) Problem gambling (3-4): 0.7%; Pathological (5+): 0.3%; Combined rate: 1% (lifetime prevalence)
Norway	Bakken et al (2009)	SOGS-R	National, 3,482 people aged 16-74 recruited by self-administered email surveys	67.9% (past-year)	NODS: Problem gambling (3-4): 0.4%; (5+): 0.3%; Combined rate: 0.7% (past-year prevalence) Problem gambling (3-4):1%; Pathological gambling (5+): 0.7%; combined rate: 1.7% (lifetime prevalence)
Norway	Pallessen et al (2020)	PGSI	National, 9248 adults aged 16-74 years	63.6% (past-year)	PGSI: problem gambling: 1.4%
Sweden	Volberg et al (2001)	SOGS	National, 7,139 people aged 15-74 recruited mainly by phone interview (89%) and by email (11%)	95% (lifetime)	SOGS: Problem gambling (3-4): 2.7%; pathological gambling (5+): 1.2%; combined rate: 3.9% (lifetime prevalence) Problem gambling (3-4): 1.4%, pathological gambling (5+): 0.6%;

					combined rate: 2% (past-year prevalence)
Sweden	Abbott et al (2014)	PGSI	National, 8165 people aged 16-84 recruited by phone interview, supplemented by email for those who could not be contacted by phone	72% (past-year)	PGSI: Problem gambling (8+): 0.3% (past-year prevalence) SOGS: Problem gambling (3-4): 2.5 %; pathological gambling (5+):2%; Combined rate: 4.5% (lifetime prevalence) Problem gambling (3-4): 1.3%, pathological gambling (5+): 0.9%; combined rate: 2.2% (past-year prevalence)
Sweden	(Folkhalsomyndigheten, 2019)	PGSI	National, 9520 people aged 19-84 and 4000 teenagers aged 16-18 years	58% (past-year)	PGSI: Problem gambling: 0.6%

Appendix 9: Brief Biography of the Report Author

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Dr. Mark Griffiths is a Chartered Psychologist and Distinguished Professor of Behavioural Addiction at the Nottingham Trent University, and Director of the *International Gaming Research Unit*. He is internationally known for his work into gambling and gaming addictions and has won 23 national and international awards including the American 1994 *John Rosecrance Research Prize* for *"outstanding scholarly contributions to the field of gambling research",* the 1998 European *CELEJ Prize* for best paper on gambling, the 2003 Canadian *International Excellence Award* for *"outstanding contributions to the prevention of problem gambling and the practice of responsible gambling"* and a North American 2006 *Lifetime Achievement Award For Contributions To The Field Of Youth Gambling "in recognition of his dedication, leadership, and pioneering contributions to the field of youth gambling"*. In 2013, he received the *Lifetime Research Award* from the US National Council on Problem Gambling.

He has published over 1150 refereed research papers, six books, over 170 book chapters, and over 1,500 other articles. He has served on numerous national and international committees (e.g. *BPS Council, BPS Social Psychology Section, Society for the Study of Gambling, Gamblers Anonymous General Services Board, National Council on Gambling* etc.) and is a former National Chair of *Gamcare*. He also does a lot of freelance journalism and has appeared on over 3500 radio and television programs since 1988.

He has been the keynote speaker at national gambling conferences in the UK, USA, Canada, China, Macao, Taiwan, South Korea, Singapore, Japan, Australia, Germany, Spain, Sweden, Norway, Denmark, France, Luxembourg, Switzerland, Finland, Poland, Slovenia, Malta, Italy, Ireland, Holland and Belgium. He has also given keynote addresses to the US National Academy of Sciences (Washington DC), and the US National Center for Addiction (New York). He has also acted as a consultant for many Government bodies including the *Gambling Board for Great Britain, Gambling Commission, UK Home Office, Department of Culture, Media and Sport, Department of Health, Victorian Casino and Gaming Authority* (Australia) and various international Governments (including the US, Australia, Sweden, Norway and Finland). In 2004 he was awarded the *Joseph Lister Prize for Social Sciences* by the *British Association for the Advancement of Science* for being one of the UK's *"outstanding scientific communicators"*. Other awards include the 2006 *Excellence in the Teaching of Psychology Award* by the *British Psychological Society* and the *British Psychological Society Fellowship Award* for *"exceptional contributions to psychology"*.