

Report 1. Identifying harm?

Potential markers of harm from industry data

Authors: Heather Wardle, Jonathan Parke and Dave Excell

Overview

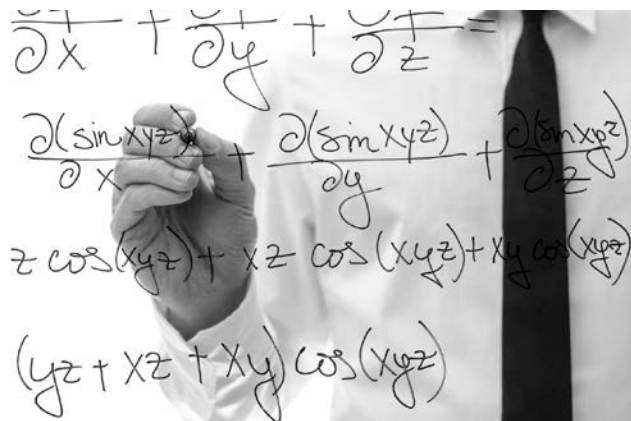
This report is part of the Responsible Gambling Trust's Machines Research Strategy which aimed to explore whether industry data generated by machines in bookmakers could be used to identify harmful patterns of play. This report documents the different patterns of play that could be considered harmful and that might be recorded in industry data (called potential markers of harm). Once this list was generated, examples of industry data were used to see how these patterns of play varied within the data and how this might be analysed to identify those experiencing gambling-related harm (see Report 3 for fuller details).

Key Findings

Following a rapid review of the evidence and consultation with key stakeholders, nineteen different potential markers of harm were identified. These included patterns of play that could be measured across time (such as frequency of machine gambling), those that might be observed within a single session of play (such as exhausting funds on a debit card) and those that were more contextual (such as how the person behaves whilst gambling on machines).

More evidence exists for markers from registered play. To look at patterns of play across time, machine gambling needs to be registered to an individual, for example via a loyalty card. However, simply having this information is not enough. More work is needed to better define the thresholds that distinguish harmful from non-harmful play. For example, when looking at frequency of play how much is too much? This is important to clarify if certain thresholds are to be used to 'trigger' responsible gambling interventions.

Evidence base is sparse: This is particularly true for markers of harm that can only be identified within a single session of play. Most markers are plausible as a potential marker of harm and some are consistent with existing knowledge, but there is very little information about how well these distinguish between those experiencing harm and those who are not. For example, increasing stake sizes after a series of losses is a plausible pattern indicating that someone is losing control of their play and is starting to chase their losses, but is it harmful? The answer, probably, is that it depends on the circumstances of the individual. This highlights an important gap in understanding as most data industry hold is not registered to an individual and patterns of machine gambling can only be traced within a single session of play.



Key Conclusions

Theory and evidence can provide a useful starting point

There are significant gaps in knowledge around what patterns of harm are most likely to suggest that someone is experiencing harm. However, this review has provided a useful starting point by identifying what might be measured using industry data and making suggestions about what else is needed.

Work needed on definitions and concepts

More work is needed to clarify what is meant by some behaviours (i.e., chasing losses) and what thresholds are most likely to capture those who are experiencing harm whilst excluding those who are not.

Holistic approach needed

Identifying harm is likely to require a more holistic approach to understanding behaviour and consideration of the way different patterns of play interact.

Contextual information will be important

Further contextual information about the person, their circumstances and their broader gambling will be vital when attempting to identify those most at risk of harm.

Limitations

Whilst the aims of this research programme were to attempt identify harmful patterns of play, most of the evidence reviewed focused on problem gambling. Problem gambling is different from gambling-related harm and we acknowledge this change in focus from the original research objective.

Reports 2 and 3. Identifying problem gamblers: results from a survey and analysis of industry data

Main authors: David Excell, Heather Wardle and Georgiy Bobashev

Overview

The objective of the Responsible Gambling Trust's Machines Research programme was to see if industry data could be used to identify harmful patterns of gambling on machines in bookmakers. Problem gambling was measured using a widely accepted screen, the Problem Gambling Severity Index (PGSI), as a proxy for harmful play. Survey responses were linked to loyalty card data for individuals and patterns of machines gambling analysed.

Approach

Problem Gambling Severity Index (PGSI) scores were obtained from a random sample of 4,727 loyalty card holders who had gambled on machines in a bookmaker's. Survey responses for 4,001 participants were linked to loyalty card data which details their betting transactions on machines. Response rates were between 17-19%.

Key Findings

Loyalty card holders were highly engaged gamblers, more so than machine players generally. Looking at their machine data, it was possible to distinguish between problem and non-problem gamblers. Predictive models showed that there was a 66% improvement in the accuracy of detecting problem gamblers compared with current responsible gambling interventions used by bookmakers (for example, breaks in play that are enforced if someone has played for 30 minutes). The results of this model show we would correctly identify twice as many problem gamblers whilst maintaining a consistent 80% rate of non-problem gamblers being excluded from an intervention.

Further analysis showed that the predictive models performed better among those with higher PGSI scores (19 or more), showing an additional 25% improvement in predictive accuracy.

The best results were obtained using loyalty card data which tracks people over time as the single most important predictor of problem gambling was frequency of play. The majority of industry data is not tracked to an individual. Predictive models only using data from a single session of play were less successful. Nonetheless they still provided a 550% improvement on the current industry standard.

The behaviours of problem and non-problem gamblers overlap. Perfect prediction of problem gambling is impossible, however, problematic behaviours can be distinguished. Trade-offs will need to be made: policy makers and industry must accept that to intervene with problem gamblers you are likely to also intervene with some non-problem gamblers.



Conclusions

It is possible to distinguish between harmful and non-harmful gaming machine play.

This was a first attempt to predict problem gambling; the accuracy of such approaches is likely to increase as new behaviours are considered, but the results are ready to be operationalized in the context of a wider Corporate Social Responsibility strategy.

Further support for a policy shift

Evidence from this study shows that focusing on one element of gambling alone—such as the reduction of stake size—will not provide a better prediction of problem gambling or decrease the rates of gambling harm. Problem gambling is complex and all interventions must be evaluated and tested for efficacy.

A series of firsts...

This was the first time the five largest bookmakers in Great Britain made their data available for analysis by independent researchers, that land-based industry data have been analysed alongside information from a problem gambling screen, and that a large-scale independent research project into problem gambling behaviour has been conducted in Great Britain.

Limitations

Loyalty card customers are more engaged than non-loyalty customers, and therefore the results are skewed towards those who may already be at higher risk of harm. Despite this, the research serves as a reliable methodology for future work among gamblers engaged on multiple levels.

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Investigating gaming machines in licensed betting offices

Patterns of Play

**Authors: Heather Wardle, Eleanor Ireland,
David Excell, and Daniel Gonzalez-Ordenez**



Overview

This research aimed to document patterns of betting on gambling machines in bookmakers. Data from the five main bookmakers in Great Britain (William Hill, Ladbrokes, Coral, BetFred and Paddy Power) was used to do this.

Approach

The data analysed was from between Sept. 2013 – June 2014 and relates to:

- 8297 shops
- 32, 650 machines
- 6.7 billion individual bets
- 178 million machine gambling sessions

Key Findings

Stake. The average stake per bet on these machines was £5.13. However, when looking at games with the highest stakes and prizes (called B2 games) the average stake was £14.08 per bet. Out of all 178 million sessions, there was one session where £13,532.20 was won over three and half hours and one where £13,776.80 was lost over seven and half hours. Stake size was lower in more deprived areas. Size of stake varied by time of day and was over £10 per bet on average for those playing after 10pm at night. Looking at B2 games only, 3% of sessions involved betting at the maximum £100 stake this rose to 6% after 10pm. This means that 5.4 million machine play sessions (out of 178 million) included a £100 stake.

Net Expenditure. Between 70-80% of sessions resulted in an overall loss to the gambler. On average, gamblers lost £7 per session. However, there was a broad range. Net expenditure varied based on what type of game people were playing. For those playing B2 games only it was £6; for those playing both B2 and B3 games within a session (which have a maximum stake of £2) it was £14. This is likely a reflection of the lower return to player rates on B3 games.

Sessions Length. Sessions lasted 11 minutes on average. Session length was considerably longer when people played both B2 and B3 games (around 23 minutes on average).

Machine Category. B2 games were the most popular. 73% of all bets were on a B2 games and roulette was the most popular type of B2 game. The popularity of B2 games increased throughout the day and by 10pm over 81% of sessions were B2 games only.

Conclusions

Closing Time

Average stake size doubled after 10pm, and is likely related to the preference for B2 games among those gambling late at night. These variations need further investigation as its unclear why these patterns are occurring. However, it suggests those gambling late at night may be a group at greater risk of harm.

Mixing it up

Gamblers who play both B2 and B3 games in the same gambling session, played for longer and lost the most money. This group warrants further consideration.

Maximum stake, minimal application

Overall, 3% of sessions involved betting at the maximum £100 stake, with 2% of sessions seeing people 'build' up to a maximum stake bet. The percentages are low but this accounts for a large absolute number of sessions. Future research could examine the patterns of play that lead up to someone placing a maximum stake bet.

Regional differences observed

There were some regional differences evident; in London, stake sizes were higher and session lengths longer. People in Scotland did not display as strong a preference for roulette games as elsewhere. Regional patterns need more attention as they might mask local variations that are important for the prevention of harm.

Stake Size and Impact on Control

**Authors: Adrian Parke, Andrew Harris,
Jonathan Parke, Paul Goddard**

Overview

There has been concern that stake size in gambling is a significant risk factor in determining gambling-related harm, yet evidence is both scarce and poor. As a first step, this lab-based experiment sought to examine whether gambling at higher stakes disrupts 'executive functioning', self-control and decision-making processes.

Approach

Lab-based experiment was conducted with 32 (2 females) regular non-problem gamblers who were given £132 of real money for gambling. The impact of increased stake size was observed on decision-making, inhibition and arousal.

Key Findings

Higher stakes impaired decision-making quality. Interestingly this impact occurred for BOTH winning and losing outcomes. Deliberation time and amount of information used when making decisions were not affected by stake size.

Impaired decision-making occurred at lower stakes also. Although the impact was stronger at £20 stakes, quality of decision-making was also compromised at £2 stakes.

Limitations

In order to isolate the specific effect of stake size on the dependent variables it was necessary to use an artificial, simplified version of virtual roulette.

The impact of losses was 'muted' (participants lost money that was provided to them at the start of the experiment).

In non-laboratory gambling settings stake size will influence gambling behavior in integration with other game-related and environmental factors (e.g., speed of play, volatility, social interaction) and not in isolation.



Key Conclusions

Higher stakes may reduce self-regulation after the gambling event by impairing quality of evaluative processes in decision-making

Higher stakes may thus increase risk of gambling-related harm through spending more money or time than intended. This needs to be replicated in real gambling environments to determine whether the impairment in decision-making affects gambling-specific behavioural decisions.

Frustration less likely to play a role

Frustration and negative mood has often been suspected as being important, however impairments were observed not just when losing but also when winning.

Next steps

Explore these findings in more realistic (more ecologically valid) settings and using more realistic forms of gambling assessing how impaired decision-making might influence self-regulation and excessive play.

Examine interaction of stake size with other game features (e.g., game speed, game content) and environmental features.

Explore options for harm minimisation to enhance self-control and quality of decision-making within gambling sessions (e.g., pop-up messaging).

Understanding Return to Player Messaging

Authors: Debbie Collins, Sophie Green, Jo d'Ardenne, Heather Wardle, Shauna-Kaye Williams

Overview

The purpose of this research was to develop a better understanding of machine players' understanding of the 'return-to-player' (RTP) messaging displayed on gaming machines. These messages advertise what proportion of the money paid into the machine is returned to players in prizes on average over time, and form part of a package of measures to promote responsible gambling.

Approach

A small-scale, qualitative study, using cognitive interviewing methods was undertaken to explore players' understanding and perceived utility of RTP information, involving face-to-face interviews with 25 players.

Some Key Findings

Results suggest that RTP messages are not well understood for a number of reasons.

Messages use **technical language** that does not hold the same meaning for the general population as industry specialists.

The provision of messages in **English only** adds to difficulties with understanding them for those for whom English is a second language.

The use of **mathematical concepts** and language such as 'average' payout, 'random' payout schedule and the expression of win chance as a percentage assume a level of mathematical literacy that some players do not possess.

For some, this lack of understanding **promoted confusion** and or **mistrust**. Moreover there was some evidence to suggest that some players are misinterpreting current messages, in some circumstances, and consequently they may overestimate their chances of winning, which may encourage excessive play.

Participants were largely split between those who felt RTP messages imparted useful information and those who did not. **Views were mixed** with regards to whether alternative messages (i.e., the odds of winning, loss rate and average net expenditure) would be useful or not.



Some Key Conclusions

Counterproductive unless messaging clear

Messages should be clear, accessible and presented in the appropriate language.

Impact must be evaluated

The wording of messages needs to be carefully formulated and tested to ensure that they are being understood as intended do not have unintended consequences (e.g., encourage chasing).

Next steps

Impact must be evaluated

Future research should test alternative wordings of RTP messages, to assess their performance in terms of interest to players, being correctly understood, and influencing players' behaviour as intended. The optimal positioning of messaging should be explored to maximize impact.

Changes in Player Behaviour: Interim Findings

Authors: Heather Wardle and Dan Philo

Overview

This report gives a brief overview of how machine gambling behaviour has changed among participants to either the Health Survey for England (HSE) 2012, the Scottish Health Survey (SHeS) 2012 or the British Gambling Prevalence Survey (BGPS) 2010.

Exploring changes in machine use is important as it helps us to understand which types of people are starting to play machines and why, and who is stopping machine play and why. Looking at the profile of these people gives insight into whether particular types of individuals are attracted to gambling machines; whether people are switching and swapping their machine use between different venues and how machine engagement is being integrated into changes in gambling behaviour more broadly.

Approach

To look at how machine gambling varies over time, the same person needs to be interviewed on multiple occasions. To do this, a sample of people who were interviewed in the BGPS 2010, HSE 2012 or SHeS 2012 (called baseline studies hereafter) and who agreed to take part in future research were selected to be interviewed again about their gambling behaviour. This allowed changes between first interview and second interview (this study) to be explored.

This study focused on:

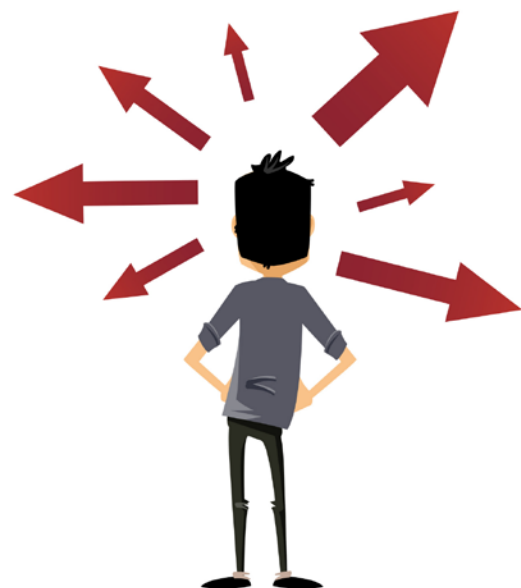
- 1) Those that had either played slot machines or machines in a bookmaker's in the baseline studies. This was so we could see how many of this group were still gambling on machines after their original interview and,
- 2) A sample of people who had not gambled on machines but who had similar characteristics to machine players. This was so we could boost the number of people who may have been likely to start playing machine.

Headline Findings

Starting Machine Play

Overall, 13% of non-machine gamblers at baseline had now gambled on machines in the past year. 4% had now gambled on machines in a bookmaker and 11% had now gambled on slot machines in other venues.

Rates of starting to play machines in a bookmaker's were highest among those aged 18-34 (9%) and lowest among those aged 55 and over (1%).



Those with lower incomes (7% for those in the lowest income quintiles) were more likely to start to play machines in a bookmaker's than those with higher incomes.

'Switching' and Stopping Machine Play

Overall, 50% of those who previously gambled on machines now no longer did so. Nearly two out of three (63%) people who had previously only gambled on machines in a bookmaker had not done this in the current study.

Overall women were more likely to have stopped playing machines (57% for women compared with 45% for men). Conversely men were more likely to have changed their type of machine that they gambled on than women; estimates were 23% for men and 8% for women.

Conclusions

Machine gambling behaviour is clearly dynamic and changes over time, with people starting, stopping and switching machine gambling. This means there is a likely to be a diverse range of experiences among machine players at any given time. Responsible gambling interventions and communications should reflect this diversity and reach as many different types of people as possible.

Next Steps

Further in depth research is currently being conducted to understand why people start, stop and switch machine play.