

# EVALUATING RESPONSIBLE GAMBLING TOOLS USING BEHAVIOURAL TRACKING DATA



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**C**ustomer data is the lifeblood of any company and online gamblers provide tracking data that can be used to compile customer profiles. Such data can tell gambling operators which games their customers are gambling on, for how long, how much money they are spending, and what games are the profitable. This information can help in the retention of customers, and can also link up with existing customer databases and operating loyalty schemes. Consequently, gaming companies can tailor its service to the customer's known interests.

On joining loyalty schemes, players supply lots of information including name, address, telephone number, date of birth, and gender. Those who operate online gambling sites are no different. Basically, gambling operators can track the playing patterns of any gambler. They arguably know more about the gambler's playing behaviour than the gamblers themselves. They are able to send the gambler offers and redemption vouchers, complimentary accounts, etc. These are done to enhance customer experience (Griffiths & Wood, 2008a). However, more unscrupulous operators have the means to entice known problem gamblers back onto their premises with tailored freebies (such as the inducement of "free" bets in the case of internet gambling). However, it has been long argued that behavioural tracking data can potentially be used to help identify problem gamblers rather than exploit them, and to use behavioural tracking data for research purposes (Griffiths & Wood, 2008b; Griffiths, Wood, Parke & Parke, 2007).

Over the past decade, behavioural tracking has increasingly been used in innovative ways by researchers. For instance, the use of behavioural tracking data has been used to examine the influence of structural characteristics in slot machine gambling (Leino et al., 2015), examine the amount of gambling behaviour

engaged in when comparing gambling behaviour in alcohol and non-alcohol serving venues (Leino et al., 2017), develop and evaluate new measures of gambling intensity (i.e., theoretical loss which is the amount of money staked by gamblers multiplied by the probability of winning on a specific gambling activity) (Auer & Griffiths, 2014), identify behavioural markers of high-risk online gambling (Braverman & Shaffer, 2012; Braverman et al., 2013; Gray et al., 2012), compare online gamblers who self-exclude with those that do not (Dragicevic et al., 2015), and test classic psychological theories such as cognitive dissonance (Auer & Griffiths, 2017b). Other studies have used tracking data to demonstrate that what money individuals say they have spent gambling is different from their actual gambling behaviour with all studies showing that the more someone gambles, the less reliable they are about estimating what they have financially spent gambling (Auer & Griffiths, 2017a; Braverman et al., 2014; Wohl, Davis & Hollingshead, 2017).

**Evaluation of responsible gambling tools using tracking data**

Another innovative use of behavioural tracking data is in evaluating responsible gambling tools (e.g., limit-setting tools, pop-up messages, personalized feedback, temporary self-exclusions). Responsible gambling tools are a way of facilitating players to gamble in a more responsible manner (Harris & Griffiths, 2017). However, very few of these tools have been evaluated empirically in real gambling environments. The next sections examine the studies that have used behavioural tracking data to evaluate limit setting, pop-up messaging, personalized feedback, and specific behavioural tracking tools (i.e., PlayScan and mentor).

Limit setting: Broda et al. (2008) examined the effects of player deposit limits on Internet sports betting by customers of bwin Interactive Entertainment. Their study examined 47,000 subscribers to bwin over a period of two years and compared the behaviour of players who tried to exceed their deposit limit with all other players. Deposit limit referred to the amount of money deposited into a player’s spend account excluding any accumulated winnings. At the time of initial data collection in 2005, bwin set a mandatory deposit limit of no more than €1000 per day or €5000 per 30 days. Players could also set their own deposit limits (per 30 days) below the mandatory limits. Overall, the study found that less than 1% of the players (0.3%) attempted to exceed their deposit limit. However, Wood and Griffiths (2010) argued that the large mandatory limit may be the main reason for this finding as LaPlante et al. (2008) noted that the majority of online gamblers never reached the maximum deposit limit. In fact, 95% of the players never deposited more than €1050 per 30 days (i.e., one-fifth of the €5000 maximum). Furthermore, LaPlante and colleagues did not distinguish between those who attempted to exceed either their own personally set deposit limits or mandatory limits.

Using the same dataset, Nelson et al. (2008) examined online gamblers that voluntarily set limits on the bwin gambling website over an 18-month period. A total of 567 online gamblers (out of more than 47,000) used the voluntary limit-setting feature and the findings demonstrated that limit-setting gamblers bet more heavily and played a wider variety of games prior to setting limits. After setting voluntary limits, these online gamblers reduced their gambling activity, but not the amount wagered per bet.





A study by Auer and Griffiths (2013a) used behavioural tracking data to evaluate whether the setting of voluntary time and money limits helped players who gambled the most (i.e., the most gambling intense individuals using ‘theoretical loss’ [Auer & Griffiths, 2014]). Data were collected from a representative random sample of 100,000 online players who gambled on the win2day gambling website during a three-month test period. This sample comprised 5,000 registered gamblers who chose to set themselves limits while playing on win2day. During the registration process, there was a mandatory requirement for all players to set time and cash-in limits. For instance, the player could limit the daily, weekly and/or monthly cash-in amount and the playing duration. The latter could be limited per playing session and/or per day. In the three-month test period, all voluntary limit setting behaviour by online gamblers was tracked and recorded for subsequent data analysis. Changes in gambling behaviour were analysed overall and separately for casino, lottery and poker gambling.

The results of this study clearly showed that voluntary limit setting had a specific and statistically significant effect on high intensity gamblers (i.e., voluntary limit setting had the largest effect on the most gaming intense players). More specifically, the analysis showed that (in general) gaming intense players specifically changed their behaviour in a positive way after they limited themselves with respect to both time and money spent. Voluntary spending limits had the highest significant effect on subsequent monetary spending among casino and lottery gamblers. Monetary spending among poker players significantly decreased after setting a voluntary time limit. Studies such as this highlight the advantageous way in which behavioural tracking methodologies can be used to provide results and insights that would be highly difficult to show using other more traditional methodologies.

Pop-up messaging: Auer, Malischnig and Griffiths (2014) investigated the effect of a pop-up message that appeared after 1,000 consecutive online slot machine games had been played by individuals during a single gambling session. The study analysed 800,000 gambling sessions (400,000 sessions before the pop-up had been introduced and 200,000 after the pop-up had been introduced comprising around 50,000 online gamblers). The study found that the pop-up message had a limited effect on a small percentage of players. More specifically, prior to the pop-up message being introduced, five gamblers ceased playing after 1,000 consecutive spins of the online slot machine within a single playing session (out of approximately 10,000 playing sessions). Following the introduction of the pop-up message, 45 gamblers ceased playing after 1,000 consecutive spins (i.e., a nine-fold increase in session cessations). In the latter case, the number of gamblers ceasing play was less than 1% of the gamblers who played 1,000 games consecutively.

In a follow-up study, Auer and Griffiths (2015a) argued that the original pop-up message was very basic and that re-designing the message using normative feedback and self-appraisal feedback may increase the efficacy of gamblers ceasing play. As in the previous study, the new enhanced pop-up message that appeared within a single session after a gambler had played 1,000 consecutive slot games. In the follow-up study, Auer and Griffiths (2015) examined 1.6 million playing sessions comprising two conditions (i.e., simple pop-up message [800,000 slot machine

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sessions] versus an enhanced pop-up message [800,000 slot machine sessions]) with approximately 70,000 online gamblers. The study found that the message with enhanced content more than doubled the number of players who ceased playing (1.39% who received the enhanced pop-up compared to 0.67% who received the simple pop-up). However, as in Auer et al.'s (2014) previous study, the enhanced pop-up only influenced a small number of gamblers to cease playing after a long continuous playing session.

Personalised feedback: Auer and Griffiths (2016) in a study of the efficacy of personalised feedback, examined whether the use of three types of information (i.e., personalized feedback, normative feedback, and/or a recommendation) could enable players to gamble more responsibly as assessed using three measures of gambling behaviour, i.e., theoretical loss, amount of money wagered, and gross gaming revenue (i.e., net win/loss). By manipulating the three forms of information, data from six different groups of players were analysed. The participant sample drawn from the population were those that had played at least one game for money on the Norsk Tipping online platform (Instaspill) during April 2015. A total of 17,452 players were randomly selected from 69,631 players that fulfilled the selection criteria. Gambling activity among the control group (who received no personalized feedback, normative feedback or no recommendation) was also compared with the other five groups that received information of some kind (personalized feedback, normative feedback and/or a recommendation). Compared to the control group, all groups that received some kind of messaging significantly reduced their gambling behaviour as assessed by theoretical loss, amount of money wagered, and gross gaming revenue. The results supported the hypothesis that personalized behavioural feedback can enable behavioural change in gambling. However, normative feedback did not appear change behaviour significantly more than personalized feedback.

Behavioural tracking tools: Auer and Griffiths (2015) evaluated the effectiveness of mentor (a responsible gambling tool that provides personalized feedback to players) among 1,015 online gamblers at a European online gambling site, and compared their behaviour with matched controls (n=15,216). The

results showed that online gamblers receiving personalized feedback spent significantly less time and money gambling compared to controls that did not receive personalized feedback. The results suggest that responsible gambling tools providing personalized 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.

Wood and Wohl (2015) obtained data from 779 Svenska Spel online players who received behavioural feedback using PlayScan. Feedback to players took the form of a 'traffic-light' risk rating that was created via a proprietary algorithm (red=problematic gambling, yellow=at-risk gambling, and green=no gambling issues). In addition, expenditure data (i.e., amounts deposited and gambled) were collected at three time points (i) the week of PlayScan enrolment, (ii) the week following PlayScan enrolment, and 24 weeks after PlayScan enrolment. The findings indicated that those players at-risk (yellow gamblers) who used PlayScan significantly reduced the amounts of money both deposited and gambled compared to those who did not use PlayScan. This effect was also found the week following PlayScan enrolment as well as the 24-week mark. Overall, the authors concluded that informing at-risk gamblers about their gambling behaviour appeared to have a desired impact on their subsequent monetary spending.

**Concluding Comments**

When it comes to studying online gambling behaviour, behavioural tracking methodologies are an innovative way of collecting data. Findings presented here suggest that limit setting and personalised feedback appear to be responsible gambling tools with high efficacy but that further replication studies are needed. The studies evaluating pop-up messaging are far from conclusive and suggest that on their own, pop-up messages only help a very small percentage of within-session intense gamblers.



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