BEHAVIORAL TRACKING IN GAMBLING: NEW EMPIRICAL DATA AND THE DEVELOPMENT OF A NEW SOCIAL RESPONSIBILITY TOOL

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BRIEF OVERVIEW OF PRESENTATION

(a) Brief overview of behavioral tracking technologies including a critique of both advantages and disadvantages of such technologies

(b) Results from some studies carried out by the authors using behavioral tracking

(c) Description of a new behavioral tracking tool [called *mentor*] co-developed by the authors that provides detailed help and feedback to players based on their actual gambling behavior.

"I had a doctor staple my eyelids open. Now I can gamble online around the clock!"
INCREASE IN USE OF BEHAVIOURAL TRACKING DATA

• In 2002, two separate academic papers examined BT:

• Wang & Aquino (2002) highlighted the advantages to the gaming industry in relation to slot machines

• Griffiths & Parke (2002) highlighted the disadvantages to the players in relation to Internet gambling

• Both papers claimed that companies could keep track of what the customer was playing
• Behavioural tracking can clearly be used both positively and negatively.

• However, various companies are now beginning to use tracking technologies as a way of helping problem gamblers rather than exploiting them (e.g., Svenska Spel, 888.com).

• Evaluation is therefore needed on whether these tracking interventions really work.

• Tracking technologies may also have implications for future diagnostic criteria for problem gambling (Griffiths, 2009; Griffiths & Whitty, 2010)
• There have been a number of different approaches to collecting information about online gamblers.

• Most of the published studies have used one of two approaches – BT studies and self-report studies (e.g., survey studies).

• Both of these approaches have advantages and disadvantages. These are now briefly evaluated:
BEHAVIOURAL TRACKING STUDIES VERSUS SELF-REPORT STUDIES
(Griffiths & Auer, 2011)

• Behavioural tracking data provides a totally objective record of an individual’s gambling behaviour on a particular online gambling website

• (Individuals in self-report studies may be prone to social desirability factors, unreliable memory, etc.).

• Behavioural tracking data provide a record of events and can be revisited after the event itself has finished (whereas self-report studies cannot).
• BT data usually comprise very large sample sizes whereas self-report studies are based on smaller sample sizes.

• BT data collected from only one gambling site tells us nothing about the person’s Internet gambling in general (as Internet gamblers typically gamble on more than one site)

• BT data does not account for the fact that more than one person can use a particular account
• BT data always comes from unrepresentative samples (i.e., players that use one particular internet gambling site)

• Whereas the very best self-report studies (e.g., the BGPS in Great Britain) use random and nationally representative samples.

• BT data tell us nothing about why people gamble (whereas self-report data can)
• BT data cannot be used for comparing online and offline gambling as data are only collected on one group of people (i.e., online gamblers).

• BT data cannot be used for making comparisons about whether online gambling is safer or more dangerous than offline gambling as data are only collected on one group of people (i.e., online gamblers).

• Self-report methods can be used to compare two (or more) groups of gamblers and is the only method we currently have to infer to what extent one medium of gambling may or may not be more or less safe.
• Some self-report studies have the potential to use nationally representative samples of gamblers.

• Whereas BT studies rely on self-selected samples of gamblers who use the online gambling website in question.

• BT data tell us nothing about the relationships between gambling and other behaviours (e.g. alcohol and tobacco use, health).
• BT data cannot examine problem gambling using current diagnostic criteria (whereas self-report studies can).

• In fact, BT data studies cannot tell us anything about problem gambling as this is not a variable that has been examined in any of the published studies to date.
OTHER PROBLEMS: BET SIZE & FREQUENCY

• Authors mostly use bet size to measure the intensity of play.

• However, the bet size does not reflect the intensity of play across game types.

• The bet size does not account for the degree of risk of a game. Ranking players according to the bet size does not guarantee risky players to be top ranked.

• Gambling intensity measured via the number of bets also problematic.
• Both measures are unsuitable as they do not reflect the intensity of play uniformly across different games and game types.

• In case of sports betting, the risk of losing is much higher for games with higher odds than for games with lower odds.

• Bet size is not a very good indicator as it is not comparable across games and game groups.

• Theoretical Loss is a more stable and reliable measure of gaming intensity across different game types.
THEORETICAL LOSS (Auer, Schneeberger & Griffiths, 2012)

• We define gambling intensity as the amount of money that players are putting at risk when playing.

• This might be considered easy to do (e.g., by using ‘bet size’), but the element of chance is rarely accounted for, especially when a random win occurs.

• For instance, two gamblers putting the same amount of money at risk might end up with different wins/losses at the end of similar length gambling sessions because of chance.

• For this reason, we use a measure that is completely independent of random events and takes into account the true amount of money that players are prepared to risk (bet size multiplied by house advantage).
THEORETICAL LOSS SIMULATION STUDY
(Auer, Schneeberger & Griffiths, 2012)

• Simulation study of 300,000 online gamblers over 13 game types
• Bet size explained 56% of the variance leaving 44% unexplained
• Number of games played explained 32% of the variance leaving 68% unexplained
• Next study replicated this using real online gambler behavioural tracking data.
THEORETICAL LOSS EMPIRICAL STUDY
(Auer & Griffiths, 2013)

• Empirical study of 100,000 online gamblers over eight game types on win2day site
• Bet size explained 72% of the variance leaving 28% unexplained
• Difference because house advantages are not as different as assumed in previous simulation study.
• This lack of accuracy is even more pronounced for gamblers who play a variety of games.
LIMIT SETTING EMPIRICAL STUDY
(Auer & Griffiths, 2013)

• Data collected from a representative random sample of 100,000 players who gambled on the win2day gambling website.

• During a three-month period, all voluntary time and/or money limit setting behaviour by a subsample of online gamblers (n=5000) within this mandatory framework was tracked and recorded for subsequent data analysis.

• From the 5,000 gamblers, the 10% most intense players (as measured by theoretical loss) were further investigated.
• 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.

• The highest significant decrease in playing duration was among poker players after setting a voluntary playing duration limit.

• The results of the study demonstrated that voluntary limit setting had a specific and significant effect on the studied gamblers.

• Therefore, voluntary limits appear to show voluntary limit setting had an appropriate effect in the desired target group (i.e., the most gaming intense players).
This study investigated the effects of a slot machine pop-up message in a real gambling environment by comparing the behavioural tracking data of two representative random samples of 400,000 gambling sessions before and after the pop-up message was introduced. (Comprising around 200,000 gamblers in total) The results indicated that demonstrably more gamblers ceased their gambling session following the viewing of a pop-up message after 1000 consecutive gambles on an online slot machine game compared to those who had not viewed a pop-up message.
• The data suggest that pop-up messages can influence a small number of gamblers to cease their playing session

• Pop-ups appear to be another potentially helpful social responsibility tool in reducing excessive play within session.
TYPES OF TRACKING DATA

• **Account data** (user ID, DoB, gender, postal codes).

• **Game data** (game ID, game type, amount of winnings, amount of money spent, number of bets/spins)

• **Financial data** (amount of deposits, number of money withdrawals, number of accounts).

• **Responsible gaming limit data** (time and spend limits, changes of limits)

• **Miscellaneous data** (length of playing session, login information, number of ‘cool-off periods’)

22/04/2013
**BEHAVIOURAL TRACKING SR TOOLS**

- *Svenska Spel* launched package of SR tools (*PlayScan*) that aims to prevent problems with gaming in an active way.

- *PlayScan* designed to detect players at risk of developing gaming problems and offers them tools to change their behaviour.

- *PlayScan* has been compared to a safety belt (i.e., something you use without intending to actually make use of).

- The tool measures increases and/or decreases of players’ gaming behaviour and uses a ‘traffic light’ identification system.

- The use of the system is voluntary, but *Svenska Spel* strongly recommends its customers to use it.
WHAT DO PLAYERS THINK ABOUT SR TRACKING TOOLS?

• To date, only one study has collected empirical data regarding what online gamblers think about behavioural tracking SR tools.

• Griffiths, Wood and Parke (2009) surveyed 2,438 online gamblers (all customers of Svenska Spel).

• A quarter of the players (n=570) were PlayScan users. Our results showed that:
### Ratings of useful features of *PlayScan* as rated by respondents

<table>
<thead>
<tr>
<th><em>PlayScan</em> feature</th>
<th>Completely useless</th>
<th>Quite useless</th>
<th>Don’t know</th>
<th>Quite useful</th>
<th>Very useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>To view my current gambling profile (e.g., green, yellow, red)</td>
<td>12.8%</td>
<td>12.7%</td>
<td>25.5%</td>
<td>37.8%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Getting information on future predicted gambling profile</td>
<td>13.7%</td>
<td>16.1%</td>
<td>34.4%</td>
<td>27.4%</td>
<td>8.4%</td>
</tr>
<tr>
<td>Setting a spending limit</td>
<td>8.2%</td>
<td>10.5%</td>
<td>11.2%</td>
<td>33.2%</td>
<td>36.8%</td>
</tr>
<tr>
<td>Performing a self-test of my gambling behaviour</td>
<td>11.8%</td>
<td>12.6%</td>
<td>29.3%</td>
<td>32.3%</td>
<td>14%</td>
</tr>
<tr>
<td>Self-excluding myself for a specific period of time</td>
<td>16.7%</td>
<td>15.1%</td>
<td>26%</td>
<td>24.6%</td>
<td>17.7%</td>
</tr>
<tr>
<td>Getting information about support for gambling issues</td>
<td>17.4%</td>
<td>11.8%</td>
<td>31.2%</td>
<td>24%</td>
<td>15.6%</td>
</tr>
</tbody>
</table>
• Respondents were also asked which features of PlayScan (if any) they had used.

• Over half (56%) had used spending limits, 40% had taken a self-diagnostic problem gambling test, 17% had used a self-exclusion feature, and 0.4% had contacted a gambling helpline.

• They were asked about which particular self-exclusion features were the most useful to them personally.

• The most useful self-exclusion feature was the 7-day self-exclusion rated as ‘quite/very useful’ by just under half of respondents (46%).

• This was followed by 1-month self-exclusion (24%), 24-hour self-exclusion (24%), and permanent self-exclusion (16%).
DEVELOPMENT OF MENTOR

• Collaboration with neccton to develop a new SR tracking tool that takes the best features of PlayScan and addresses the weaknesses.

• The most important difference is game type independence.

• The outcome of the proposed tool does not depend on the specific types of games offered.

• mentor can be used by players to assess their total playing behaviour across all games that they play.

• A further advantage of game type independence is that it minimizes costs dramatically as no modifications are necessary when new games are incorporated.
It seems that your losses have increased during the last couple of months. Have you spent more money on gambling than you intended? To make sure you can check...

30.09.2011

It seems that you are spending more time playing lately. Are you gambling longer than you planned? The Informed Player Choice Cockpit can ...

14.08.2011

Sometimes it can help you to better understand your gambling if you compare your gambling involvement with that of other players. This way you can see ...

10.07.2011
CONCLUSIONS

• Behavioral tracking technologies are changing the way that we view problem gambling behavior.

• There are many advantages of these data but there are also many weaknesses.

• Behavioral tracking studies are a useful addition to the gambling studies field.

• Behavioral tracking software can be used to develop social responsibility tools to help players gamble more responsibly.

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