Conceptualising Risk and Mitigating Gambling-Related Harm in Online Poker

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Abstract

The present paper conducts a critical analysis of the potential for gambling-related harm in relation to online poker participation, and a theoretical evaluation of current responsible gambling strategies employed to mitigate harm in online poker gambling. Theoretically, the primary risk for harm in online poker is the rapid and continuous nature of poker provisions online, and has been demonstrated to be associated with disordered gambling behaviour, including the *chasing* of monetary losses. The following responsible gambling features were deemed relevant for consideration: informed player choice, voluntary self-exclusion, employee intervention, pre-commitment, in-game feedback, behavioural tracking tools, and age restriction and verification. Although current responsible gambling features are evaluated as theoretically robust, there remains a fundamental need for experimental validation of their effectiveness. Furthermore, despite online poker gamblers perceiving the responsible gambling features as valuable tools, in reality very few players regularly use available responsible gambling features. Ultimately, for the online poker gambling industry to retain market credibility and avoid substantial top-down regulation, it is imperative to demonstrate effectiveness of responsible gambling approaches, and increase customer utilisation of available harm-mitigation features.

Key words: Problem Gambling; Harm-mitigation; Online Gambling; Poker; Corporate Social Responsibility

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Introduction

As technology continues to drive the gambling market and creating a proliferation of gambling opportunities as a result of high accessibility, the regulation and conduct of online gambling companies has become an important area of interest in terms of social policy (Griffiths, 2012; Hancock, Schellinck & Schrans, 2008; Shaffer & Korn, 2002). The public concern regarding online gambling has centred upon the proposition that increasing availability of gambling through information technology has led to an increase in problem gambling in various jurisdictions (Moore et al, 2011; Sassen et al., 2011; Thomas et al., 2011). Furthermore, it has been argued that a large proportion of profits from online gambling are generated from problem gamblers (Hancock et al, 2008; Productivity Commission, 1999, 2010; Wood & Williams, 2007). Hancock et al. (2008) argue that many states are not motivated to address this problem rapidly or effectively because of the conflict of interest arising from valuing the tax revenue generating from online gambling.

Independent of top-down regulation of online gambling, there is a strong sentiment that for the online gambling market to have credibility and continue to grow, there is a need to safeguard the potential for gambling-related harm through the development of responsible gambling strategies (Monaghan, 2009). Although there remains hesitancy about the implementation of specific responsible gambling initiatives, because of the low evidence base and the potential to disrupt non-problematic gambling (Cameron, 2007), there is an acceptance that responsible gambling is a crucial element of corporate social responsibility in the online gambling industry (Griffiths, 2012; Lee, Chen, Song & Lee, 2014). Indeed, the development of responsible gambling features and overall strategy is considered to be an important source of creating competitive advantage in a saturated market (Luo & Bhattacharya, 2006; Song, Lee, Norman & Han, 2012) as customers' positive image of the reputation of an online firm's integrity and customer safety is strongly related to behavioural intention (Jolley, Mizerski & Olaru, 2006; Wood & Griffiths, 2008). Moreover, there are further commercial benefits to the implementation of responsible gambling features, as research clearly demonstrates that corporate social responsibility is a fundamental element of employee retention, job satisfaction, and performance (Hillman & Keim, 2001; Lee et al, 2013).

Over the last decade, online poker has become one of the fastest growing forms of gambling (Biolcati, Passini & Griffiths, 2015). Online poker is a form of gambling that is known to be problematic for a minority of players (e.g., Wood, Griffiths & Parke, 2007) and therefore gaming operators should do all they can in relation to player protection and harm minimisation. Ultimately, the online poker gambling industry must consider the importance of implementing a responsible

gambling strategy, including features that assist in minimising gambling-related harm experienced by customers using their product, in order to sustain the credibility and growth of the online poker market. The present paper identifies the challenges in meetings this goal based on the limitations of the evidence base, the risk for harm in online poker gambling and critical evaluation of the effectiveness of responsible gambling strategies currently employed in the online poker gambling industry.

Limitations of Evidence Base

Despite the public concern regarding the proliferation of online gambling (Korn & Shaffer, 2004), and the common finding that online gamblers are more likely than offline gamblers to be problem gamblers (Griffiths et al, 2009; LaBrie et al, 2007; Wood & Williams, 2009), relatively little is known about the psychosocial risk factors for online gamblers (de Soriano, Javed & Yousafzai, 2012). The large majority of internet gambling research categorises online gamblers as a homogenous population (Wardle & Griffiths, 2011) and have compared online gamblers and offline gamblers. One of the main problems with this convention is that online gamblers typically gamble offline also. In the 2007 British Gambling Prevalence Survey (BGPS: Wardle, Sproston, Orford, Erens, Griffiths, Constantine & Pigott, 2007) the vast majority of online gamblers (98%) also gambled offline. These data suggested that in Great Britain, 'online only' gambling is a low prevalence activity (i.e. 5% of BGPS respondents had gambled online in the last year but only 0.1% had only gambled online in the past year). Therefore, given that the behavioural patterns categorised as online gambling in such comparative studies is not representative of most online gambling, it is important to proceed cautiously when using such findings in consideration of online gambling social policy and regulation. Secondary analysis of the BGPS clearly demonstrates that the concept of *online gambler*, including *online poker gambler*, is not homogenous (Wardle & Griffiths, 2011).

Furthermore, it has been repeatedly identified that it is erroneous to consider all online gambling activities as being remotely homogenous, given the observed variation in not only the game structure but in the types of individuals that play specific games (Gainsbury et al, 2013; Griffiths & Auer, 2013; Griffiths & Parke, 2007; Laakusuo et al, 2014; Wood et al., 2014). At present, policy decisions surrounding online gambling – particularly in relation to problem gambling (and including problematic online poker players) – are often made by conceptualising online gambling as a single entity. The BGPS research findings based on just a few basic variables including the medium in which people gamble, the type and number of activities engaged in, and the regularity with which people

gamble, produces a complex picture of online gambling and demonstrates its heterogeneity (Wardle, Moody, Griffiths et al., 2011). Fundamentally, it is not prudent to assume that behavioural patterns between online casino gamblers, for example, and online poker gamblers are similar, and in turn, that the responsible gambling features developed in response to online casino gambling patterns of harmful play are as applicable to online poker gamblers. Extending this point further, it is also widely accepted that patterns of problem gambling behaviour vary significantly across jurisdictions (Bernhard et al, 2006; Lee et al., 2006), meaning that the primary target behaviours to reduce through responsible gambling features may differ within different geographical and cultural contexts.

Evaluation of Risk for Gambling Related Harm in Online Poker

Risk for Harm in Online Gambling

In the absence of a robust evidence base from which to inform corporate social responsibility strategy and regulatory policy, one is required to proceed cautiously by critically evaluating available research and theory. Current research shows that internet gamblers are more likely to display problem gambling criteria than land-based gamblers (Kuss & Griffiths, 2012; LaBrie et al, 2007; Petry, 2006; Wood & Williams, 2007, 2009). However, it is important not to interpret this finding as evidence that gambling online necessarily is a causal factor in problem gambling. Problem gamblers are more likely to gamble on a range of gambling activities across a range of different platforms (Holtgraves, 2009; Wardle et al., 2011; Welte et al, 2004), therefore one would expect that more involved problem gamblers would be engaged in newer and more technologically advanced forms of gambling such as internet-based gambling. Equally, the lack of causal evidence demonstrating the inherent risk of gambling online for developing problem gambling patterns does not mean that it is not a causal factor. Rather, as is the case with many problem gambling questions, there is currently a paucity of evidence from which to draw valid conclusions.

At the forefront of theoretical concerns regarding the potential for online gambling to cause gambling-related harm, is the fact that digital and internet technology enables rapid and continuous gambling activities (Griffiths, 2003; Wood & Williams, 2011) and such games are more likely to precipitate dissociation when gambling which is linked to reckless and undisciplined gambling behaviour (Hopley & Nicki, 2010; Hopley et al., 2011). Essentially, when a player dissociates while gambling, they engage in less informed and attentive decision-making, and therefore are more likely to exceed non-problematic time and monetary limits. As losses mount, the probability of chasing one's losses, in an emotion-driven attempt to repair financial and esteem deficits, increases

significantly. Chasing losses is one of the strongest predictors of gambling-related harm (Blaszczynski & Nower, 2002; Gainsbury et al, 2014; Svetieva & Walker, 2008).

The proposition that the primary risk of online gambling is the increased likelihood of experiencing dissociative states, exceeding responsible gambling limits and feeling compelled to chase losses, is supported by the analysis of the behavioural data within online gambling datasets (Delfabbro, King & Griffiths, 2012). Research reliably identifies that the online gamblers who demonstrate volatility, intensity and high frequency in their gambling, showing significant variation in their gambling patterns that is suggestive of reactive gambling patterns (i.e. chasing), are significantly more likely to be problem gamblers (Auer & Griffiths, 2013; Braverman & Shaffer, 2010; Delfabbro, King & Griffiths, 2012; Shaffer & Martin, 2011).

Risk for Harm in Poker (Offline and Online)

Empirical evidence indicates that for the vast majority of online gamblers, their gambling behaviour is moderate, occasional and associated with little harm (e.g., Braverman & Shaffer, 2012; Fiedler, 2011). Furthermore, many argue that the popularity of poker, particularly online poker, is because of the relatively high content of skill involved in the determination of betting outcomes (Bjerg, 2011; Shead et al, 2008; Wood et al, 2007; Griffiths, Parke, Wood & Rigbye, 2010). The relatively high skill-content in poker is argued to be the reason that poker gambling is less associated with gambling-related harms in comparison to other forms of gambling that are largely chance-based (Bjerg, 2010; Dedonno & Detterman, 2008; Linnet, 2010; Linnet et al, 2012; St. Germain & Tenenbaum, 2011). Linnet et al (2012) argued that the deeper understanding of gambling probability observed in poker versus casino game gamblers is a direct result of the skill-based nature of poker. Furthermore, it appears that as a player gains more experience in poker, the more likely they are to have positive gambling outcomes (Linnet et al, 2012), and that gambling cognition is based more upon rational decision-making rather than contemplation of winning (St. Germain & Tenenbaum, 2011). It is argued that because poker gambling can be discontinuous and skill-based, there is less opportunity for dissociation, meaning monetary loss is less predictive of harm (Auer & Griffiths, 2013; Fiedler, 2011; Gainsbury et al, 2014).

However, it must be noted that relatively little is known or understood about potential cognitive biases in poker (Linnet et al, 2012), or indeed which factors are predictive of problem gambling within poker (Barrault & Varescon, 2013). Exploratory research suggests that illusion of control may be a predictive of disordered poker gambling (Barrault & Varescon, 2013), and despite the high skill-

content of poker appearing to be a protective factor against harm, many skill-based gamblers over-estimate their probability of winning (Cantinotti et al, 2004). It is reasonable to conclude that the skill-content of poker may provide an opportunity to rationalise engagement in pleasurable risk behaviour despite, in reality, experiencing gambling-related harm (Parke & Griffiths, 2011). In other words, poker players who are experiencing punishment in the form of monetary loss may be able to flexibly discount such losses by attributing them to poor effort or simply a need to develop one's skills further. Either way, this flexible attribution to account for harms encountered enables the individual to rationalise gambling further. Khazaal et al. (2013) suggest that online poker sites deliberately over-emphasise the role that skill has in determining poker gambling outcomes, to encourage an illusion of control in poker players beyond the reality of what probability would objectively dictate.

In addition to illusion of control, research indicates that gambling-related harm in association with poker gambling is largely a result of poor self-regulation and emotionally-based behaviour. Impulsivity is believed to be a core predictor of problem gambling within poker gambling (Barrault & Varescon, 2013; Laakusuo et al, 2014). It is evident from predictive modelling that online poker players that have high variation and frequency in betting, indicative of emotionally-based gambling, are more likely to self-exclude which is considered by some as a reliable proxy for problem gambling (Braverman & Shaffer, 2012) (I now have data from Unibet showing otherwise which is why I've added 'by some as'). Griffiths et al (2010) also concluded that patterns of *undisciplined* gambling behaviour (i.e., erratic and highly variable betting) are predictive of problem gambling. Furthermore, Wood et al (2007) demonstrated that one of the strongest predictors of patterns of problem gambling in online poker players was negative mood states.

The term used to describe impulsive and emotional gambling in poker gambling is *tilting*. It is argued to be the key reason for monetary loss, and therefore harm, in poker gambling (Palomaki et al, 2014). Tilting describes reckless and emotionally driven gambling behaviour, where players find it difficult to cease gambling as they seek to chase incurred monetary losses and regain their damaged gambling self-identity and esteem (Lesieur, 1984; Palomaki et al, 2014; Rosenthal, 1995). Conversely, evidence shows that 'safe' poker gambling is dependent upon being able to incur losses and yet retaining emotional self-regulation (Moore et al, 2011; Palomaki et al, 2014; Williams et al, 2011). Therefore, when considering the primary source of risk in poker gambling, emphasis must be placed on minimising the likelihood of a customer tilting and maintaining composed control of both emotional reaction to gambling outcomes and betting behaviour (Barrault & Varescon, 2013).

Palomaki et al (2013) proposed developing players' understanding of probability, and that fundamentally loss and *bad beats* are normal and to be occasionally expected. Consequently, this understanding may reduce self-rumination and negative mood states that precipitate problem poker gambling.

Corporate Social Responsibility in Online Poker

Conceptualisation of Responsible Gambling Strategy

Blaszczynski, Collins, Fong, et al. (2011) noted that – just like the conceptualisation of problem gambling – there is significant confusion regarding what constitutes responsible gambling. They argue that, as a minimum requirement, responsible gambling programs will seek to reduce and minimise attitudes, perspectives and behaviours that are related to, or precipitate gambling-related harm and problem gambling. Responsible gambling strategies can vary in breadth from individually-based interventions to more substantial and general public health approaches (Dickson-Gillespie et al, 2008). In the absence of a robust definition of responsible gambling strategy, Blaszczynski et al (2011) contend that three approaches must underpin any strategy: (i) educating the customers and potential customers about risks involved, (ii) encouraging gambling within limits that mitigate harm, and (iii) facilitating informed choice regarding gambling. Being more prescriptive, arguably the primary aim of responsible gambling is to ensure players (including online poker players) gamble within monetary and time limits that are appropriate to their individual contexts (Blaszczynski, Gainsbury & Karlov, 2014).

With respect to modern video lottery terminals (VLTs), Wohl, Parush, Kim and Warren (2014) argue that the programmable, interactive and flexible digital interface of such products make them suitable for the introduction of responsible gambling features, in comparison to other less technologised traditional forms of gambling. Fundamentally, the same principle applies to online peer-to-peer poker gambling. Despite evidence indicating that online gambling, because of its highly accessible provision of rapid and continuous gambling opportunities, is more commonly linked to problem gambling in vulnerable individuals (Griffiths & Barnes, 2008; LaBrie et al, 2007; Petry, 2006; Wood & Williams, 2007, 2009), the increased scope to implement responsible gambling features must be acknowledged.

Several researchers have identified that one of the most significant problems limiting the ability to implement effective responsible gambling features, is that there is an erroneous perception of

homogeneity across gambling activities rather than an attempt to consider the effectiveness of a combination of features in relation to a specific gambling activity, for example online poker (Gainsbury, Parke & Suhonen, 2013; Laakuso et al., 2014; Wood, Shorter & Griffiths, 2014). Therefore when evaluating the potential effectiveness of responsible gambling features for online poker one must use judgement to infer which features and strategies may be related and appropriate to this form of gambling. In short, the following responsible gambling features were deemed relevant for consideration to online poker gambling: informed player choice (Blaszczynski et al, 2005; Wohl et al, 2013), voluntary self-exclusion (Griffiths et al, 2009), employee training (Giroux et al, 2009), pre-commitment (limit-setting) (Auer & Griffiths, 2013; Blaszczynski et al, 2014), in-game feedback (messaging) (Auer & Griffiths, 2015), player intervention and personalised feedback (Auer & Griffiths, 2015; Cloutier et al, 2006; Monaghan & Blaszczynski, 2010), and age restriction and verification (Griffiths, 2011).

Informed Player Choice

Blaszczynski et al. (2005) argued that without informed player choice (IPC), responsible gambling is not feasible and that determining what information must be presented to individuals to make informed gambling choices must be based upon scientific research rather than *common sense* evaluations. Furthermore, for IPC to be executed, the starting point must be acceptance and a willingness of customers taking personal responsibility for their gambling behaviour (Auer & Griffiths, 2013; Blaszczynski et al, 2005; Wood et al., 2014). Auer and Griffiths (2013) noted that for responsible gambling features to be used and valued by customers, there is a requirement for self-awareness with regard to their gambling behaviour. Indeed, Wohl et al. (2014) argue that the objective of this approach is to transform gamblers into informed consumers who are in a position to evaluate risk and make rational gambling decisions, by presenting a clear picture of the realities of their behaviour and the realistic chances of being successful.

Griffiths (2012) advocated that online gamblers should be given a wide range of information including (but not necessarily limited to: (i) information pages about various aspects of the game (probability of winning, pay out structure, game rules), (ii) information and advice about staying in control along with other relevant responsible gambling messages, and (iii) information and advice about problem gambling. However, little research has been carried out as to whether such information is of help to gamblers, at-risk gamblers, and/or problems gamblers.

In terms of educating customers about the realistic chances of winning (i.e., creating awareness and understanding of probabilities of certain outcomes), research indicates that despite increases in knowledge being observed in response to such initiatives, actual gambling behaviour is often not influenced (Turner et al, 2008; Williams & Connolly, 2006) and this particularly true in problem gambling populations (Williams et al, 2007). Delfabbro (2004) attempted to account for this phenomenon by proposing that disordered gamblers will 'selectively misuse' the objective knowledge, and only consider the real probability of winning when it is favourable to their contextualised gambling motivation. In other words, providing customers with clear and detailed knowledge about the chances of winning does not necessarily inhibit a motivated gambler from interpreting the information erroneously. Additionally, Wohl et al (2014) demonstrated that the presentation of knowledge regarding probability of winning deteriorates relatively rapidly, and therefore it is advisable to consider the presentation of such knowledge a continuous effort rather than a *one-shot* procedure.

Wood et al (2014) highlighted that understanding and knowledge of probability is only one form of knowledge that gamblers require in making informed choices, and that the operator should facilitate informed choice by providing features that enable behavioural transparency for the customer. It is interesting to note that of all the responsible gambling features that have been investigated, the most consistently favoured and valued informational feature to gamblers was the accounting facility (i.e., spending history), outlining the various monetary outcomes and patterns of one's gambling behaviour (Bernhard et al., 2006; Griffiths, Wood & Parke, 2009; Nisbet et al, 2005; Parke et al., 2007). Not only does the provision of knowledge regarding gambling wins and losses not diminish the enjoyment of the game (Blaszczynski et al, 2014), but players value such features that enable them to be personally responsible in their gambling behaviour (Bernhard et al, 2006; Griffiths et al., 2009; Parke & Griffiths, 2007). However, it is also clear from the studies reviewed in this section, that none of them specifically relate to online poker.

Voluntary Self-exclusion

Voluntary self-exclusion (VSE) is a straight-forward principle that is founded upon the premise of informed player choice, where players accept accountability for their gambling behaviour and exercise the judgement that they are experiencing difficulty with gambling and in response aim to voluntary exclude themselves from a specific gambling venue (offline or online). According to a review by Gainsbury (2010), the assessments of VSE programs internationally generally find that the

majority of participants benefit from such schemes. These benefits include: (i) decreases in gambling expenditure and improved financial circumstances, (ii) decreases in gambling frequency and time spent gambling, (iii) reduction in problem gambling severity and negative consequences of gambling, (iv) reduction in related psychological difficulties including depression and anxiety, and (v) a feeling of having more control over their circumstances. A comprehensive review by Williams et al. (2012) concluded:

> *"The most unambiguous impact is that most people who enter into these programs have a significant reduction in their gambling and problem gambling symptomatology. Undoubtedly, a good portion of this effect is due to the fact that some people taking this step have a recognized they have a problem, are highly motivated to do something about it, and have made a public proclamation that they do not intend to re-enter casinos. The subsequent behavioural changes observed in self-excluders are not fundamentally different that what is observed in people presenting themselves to any form of gambling treatment. The additional utility of self-exclusion lies in its potential to provide additional external constraints on the person's gambling when his/her motivation falters"* (Williams et al, 2012; p.49).

However, there are a number of methodological issues. Most research on the topic comprises typically very small sample sizes using self-report methods. The research is also limited to just a few countries or jurisdictions (Australia, New Zealand Canada, Holland, Germany, Austria, Switzerland, a few US states). Most research is only carried out on casino gamblers and only assesses the effect on their casino gambling. Future research needs to assess other important factors (e.g., are the self-excluders enrolled in a treatment program, the amount of social support, the actual reasons for self-excluding, etc.).

No studies have ever examined VSE specifically in relation to online poker players but self-exclusion is a relatively simplistic responsible gambling feature to offer. It has also been found that online gamblers appear to appreciate temporary self-exclusion facilities even if they do not have a problem with gambling. Research has shown that a seven-day exclusion period appears to be the most useful to players (Griffiths, Wood, and Parke, 2009). One-month and one-day self-exclusion periods are also popular among players. These types of self-exclusion are likely to be associated with non-problem gamblers who may want to restrict their gambling behaviour to a very specific instance such as

preceding a night of heavy drinking (e.g., a 'drunk button' for 24-hour self-exclusion) or a particular time of the year like the run-up to Christmas (e.g., one-month self-exclusion).

Another short-term voluntary self-exclusion tool is a 'panic button' (sometimes termed a 'pause button'). Some online gaming companies (such as *RAY* [*Raha-automaattiyhdistys*] in Finland) have implemented a panic button specifically for online poker players who may go 'on tilt' (Griffiths, 2012). As soon as players press the button, the online gambling session immediately stops. Panic buttons therefore offer online poker players an instant way to immediately suspend their account for 12 hours.

Employee Responsible Gambling Intervention

Employee responsible gambling training primarily relates to educating gaming operator personnel regarding the nature of disordered gambling, and the expected role of employees in response to encountering disordered gambling and the required processes to enact in specific contexts. Existing literature demonstrates that effective employee training not only significantly increases problem gambling knowledge and literacy (LaPlante et al, 2013) but also increases employees' understanding of the responsible gambling role (Giroux et al, 2008). Research also clearly identifies that employees who fully understand problem gambling and their responsible gambling role have increased effectiveness in this role (Ladouceur, Boutin, Doucet, Dumont, Provencher, Giroux et al., 2004; McCain et al, 2009). Giroux et al. (2008) argued that if employee training is to be an effective responsible gambling feature, it is important for training to be an ongoing process, extending and reinforcing initial training, and thus demonstrating the importance of the responsible gambling role for employees. This is prudent given that often employees retain hesitation about the responsible gambling role, when to many, superficially at least, the reduction of excessive gambling is incongruent to the commercial interests of the gambling venue (Hing, 2007; Hing & Nuske, 2011).

With respect to online peer-to-peer poker gambling, the effectiveness of employee training as a responsible gambling feature will be limited by default because the vast majority of employees will not be able to overtly observe gambling behaviour, in order to identify problematic patterns of play or interact with customers who are displaying signs of distress. In short, the majority of online poker employees can only respond reactively to customers who self-identify and make the first step of raising an issue with customer services. Nevertheless, online poker customer service employees retain a crucial responsible gambling role here, and must be effective in adequately *signposting*

vulnerable customers to appropriate services that are available (Blaszczynski et al, 2011). This is more challenging than one may immediately assume given that customer service employees are often dealing with a multicultural and multinational customer base, and therefore a uniform and standardised response to a customer self-identifying as a problem gamblers is not feasible.

Pre-Commitment (Limit-Setting)

With respect to online gambling in general, the opportunity to set voluntary limits on monetary and time limits is considered to be a crucial responsible gambling feature in reducing problem gambling (Stewart & Wohl, 2012). To date, only two studies have examined the effects of voluntary limit setting in online gamblers. Using behavioural tracking data, Broda et al. (2008) examined the effects of player deposit limits on Internet sports betting by customers of *bwin Interactive Entertainment*. Overall, the study found that less than 1% of the players (0.3%) attempted to exceed their deposit limit. Using the behavioural tracking data among 100,000 real-world players, Auer and Griffiths (2013) found that voluntary time and money limits had different effects on different types of players. Overall the study showed voluntary limits had the highest impact on most gambling intense players. Whereas online casino players profited the most from monetary limits, the impact of time limits was highest on online poker players. The results of this real world study demonstrated that limit setting works but that the effect of voluntary-limit setting depended on gamblers' specific playing patterns and type of game played. In short, the study clearly showed that for the most involved online gamblers, limit setting appears to be effective in reducing overspending and gambling-related harm.

It is entirely feasible for online peer-to-peer poker sites to offer limit setting responsible gambling features to customers, although there will be some translational considerations in its implementation in contrast to online casino gambling (Auer & Griffiths, 2013; Fielder, 2011). For example, the structure of online poker cash games and tournaments are not as defined as online casino games meaning isolating specific time limits may not be as simplistic as one would assume.

Intervention via Behavioural Tracking

There have been exploratory investigations into the possibility of using online gambling behavioural patterns in an attempt to engage in predictive modelling that would enable the identification of problem gamblers (Braverman et al., 2013). Some online gaming companies including *Svenska Spel*

[Sweden], *Norsk Tipping* [Norway], *RAY* [Finland] already use such predictive modelling particularly those that use the behavioural tracking tool *PlayScan*, which also has separate behavioural tracking modules specifically for online poker. Although research to date is limited, the ability to use predictive modelling for employees is potentially valuable. More specifically, this would enable earlier and more proactive responsible gambling interventions that are more likely to be effective (Braverman et al, 2013).

Another potential way of trying to enable behavioural change in gambling is the use of normative feedback. Normative beliefs have significantly influenced the behavioural outcome in studies getting individuals to quit smoking (Van den Putte, Yzer, Willemsen, & de Bruijn, 2009), using condoms (Yzer, Siero, & Buunk, 2000) and reducing marijuana consumption (Yzer, Fishbein, & Cappella, 2007). Auer and Griffiths (2015a) compared the effects of an enhanced pop-up message to a simple pop-up message on subsequent gambling behaviour. An existing pop-up message was enhanced that informed players about the length of their current gambling session with a normative component, a self-efficacy component, and a response-efficacy component. As hypothesised the additional components doubled the effect of the existing pop-up message. In order to be effective, players have to be provided with the right message, depending on their past and current behaviour. This is a preventive approach to harm-minimisation that helps players to better understand and control their own gambling.

Another study by Auer and Griffiths (2014) investigated the behavioural change in 279 online gamblers that received personalised feedback after they had signed up to a voluntary behavioural tracking service at a European online gaming website. Those signing up to use the personalised feedback system were compared with matched controls. For instance, if a player significantly increased the amount of money they had deposited over a half-year time period, they received the following message: *"Over the last 6 months the amount of money deposited into your account has increased. Are you spending more money than you intended? You can check the amount you have spent gambling on your account page and use our helpful tools to set a daily/weekly/monthly limit."* The preliminary results of the study showed that personalised behavioural feedback within a motivational framework appeared to be an effective way of changing gambling behaviour in a positive way (i.e., players significantly reduced the amount of time and/or money they spent gambling after receiving personalised feedback).

In a follow-up study, Auer and Griffiths (2015b) evaluated the effectiveness of *mentor* among 1,015 online gamblers at a European online gambling site, and compared their behavior with matched

controls (n=15,216) on the basis of age, gender, playing duration, and theoretical loss. The results showed that online gamblers receiving personalized feedback spent significantly less time and money compared to controls. The results suggested 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. These examples clearly shows that the messages were non-confrontational, personal, and motivational. Such approaches are based on both the 'stages of change' model (Prochaska & DiClemente, 1983; Prochaska & Prochaska, 1991) and motivational interviewing (Miller & Rollnick, 1991).

In-Game Feedback ('Pop Up' Messaging)

One of the primary risks associated with online gambling is the high accessibility of rapid, continuous forms of gambling, as this is argued to lead to temporary dissociative states where some gamblers lose capacity to attenuate to information that is crucial to making rational behavioural decisions (Hopley & Nicki, 2010; Hopley, et al., 2012; Wood & Williams, 2011). In response, there have been significant attempts to develop interruptions to dissociative states when gambling via the use of pop-up messaging (Auer & Griffiths, 2015a; Auer, Malischnig & Griffiths, 2014; Blaszczynski et al., 2014; Cloutier et al, 2006; Monaghan & Blaszczynski, 2010; Wohl et al, 2014).

Evaluating the effectiveness of pop-up messaging as a responsible gambling feature, a number of studies have concluded that in order to capture the attention of the engaged customer, and to be adhered to as a valuable source of information, pop-up messages must be dynamic and personally relevant, rather than containing generic and repetitive information (e.g., Monaghan, Blaszczynski & Nower, 2009; Monaghan & Blaszczynski, 2010; Gallagher, Nicki, Otteson & Elliot, 2011; Stewart & Wohl, 2013; Wohl et al., 2010; Wohl, Gainsbury, Stewart and Sztainert; 2013). However, all these studies rely on self-report and/or laboratory data support the effectiveness of pop-up messages on subsequent behaviour or gambling-related thoughts

To date, only two real-world studies have been conducted examining pop-up messaging (i.e., Auer, Malischnig & Griffiths, 2014; Auer & Griffiths, 2015). These studies investigated the effects of an online pop-up message that appeared after one hour of consecutive slot play. In the first study comprising an analysis of 800,000 gambling sessions, Auer, Malischnig and Griffiths (2014) found that players were nine times more likely to end their session when confronted with a pop-up that

reminded them of the number of games they had just played (but that the number of gamblers that actually stopped gambling was very small (less than 1%).

Auer and Griffiths (2015) investigated the effects of normative and self-appraisal feedback in a slot machine pop-up message compared to a simple (non-enhanced) pop-up message. The study was again conducted in a real-world gambling environment by comparing the behavioural tracking data of two representative random samples of 800,000 gambling sessions (i.e., 1.6 million sessions in total) across two conditions (i.e., simple pop-up message versus an enhanced pop-up message). The results indicated that the additional normative and self-appraisal content doubled the number of gamblers who stopped playing after they received the enhanced pop-up message. The data suggested that pop-up messages influence only a small number of gamblers to cease long playing sessions but that enhanced messages are significantly more effective in helping gamblers to stop playing in-session. Much like pre-commitment responsible gambling features, although it is entirely feasible for online poker gambling sites to provide pop-up messaging, the structural features of online poker may mean that the value of such applications to poker gamblers is reduced in contrast to online casino games with more simplistic and defined structures.

Age Restriction and Verification

Age restriction as a responsible gambling protocol is fundamental as under-age gamblers (including young adults) in various jurisdictions, are more at risk of developing gambling disorders (Griffiths, 2011; Volberg, Gupta, Griffiths et al., 2010) and are more vulnerable to chasing behaviour which is one of the primary indicators of gambling-related harm (Gainsbury, 2012). Age limit restriction and verification procedures should also be required for 'demonstration' and/or free play poker games. A British study by *Ipsos MORI* (2009) surveyed 8,598 schoolchildren (aged 11- to 15-years) who reported that just over one-quarter of the sample had played in 'money-free mode' on internet sites in the week preceding the survey. Further analysis of these data by Forrest, McHale and Parke (2009) demonstrated that gambling in money-free mode was the single most important predictor of whether the child had gambled for money, and one of the most important predictors of children's problem gambling. This finding, and other similar findings relating to youth access of 'free play' gambling sites, has been discussed in comprehensive reviews of youth gambling on the internet (see Griffiths & Parke, 2010; Griffiths, King & Delfabbro, 2014).

Arguably, because of the use of secure online payment systems that require identity verification, online gambling sites can be just as effective in eliminating under-age participation as land-based gambling venues. However, special consideration in online gambling should be given to responsible gambling strategies relating to underage gambling, because online gambling marketing is appealing to younger adults (Smith & Rupp, 2005) and adolescents. With respect to reducing underage involvement online poker, participatory or otherwise, online poker marketing must be conscientious in avoiding encouraging under-age individuals to engage with online poker.

Player Usage of Responsible Gambling Features

In terms of e-commerce, and with particular reference to online gambling, it is widely recognised that customer service in terms of meeting customer needs and alleviating difficulties (Phillips et al, 2013) and subsequent trustworthiness (Riegelsberger et al, 2005; Wood & Griffiths, 2008) increase the likelihood of a customer using that company (Lee et al, 2014). Research has previously demonstrated that customers perceive online gambling operators' attempts to reduce player gambling-related harm positively, and beyond more favourable attitudes can lead to an increase in desire and intention to gamble with that operator (Song et al, 2012; Wood & Griffiths, 2008). However, this positive attitude towards operators' responsible gambling features is dependent upon the voluntary nature of the responsible gambling features provided (Gainsbury et al, 2013; Griffiths et al, 2009; Parke et al, 2007; Schellinck & Schrans, 2007).

Indeed, there is reticence and hesitation from many players in welcoming responsible gambling features being made available because they are concerned that such features will eventually lead to less voluntary and more mandatory invasive and restrictive features (Bernhard et al, 2006). Therefore, it is reasonable to conclude that for responsible gambling features in online poker to be positively received and valued by customers, it is important that they are applications that assist and facilitate informed player choice rather than presented as a safety net to reduce loss of control.

Evaluating customer perceptions and attitudes of responsible gambling features in relation to online poker specifically, it is evident that online poker gamblers perceive such features as being largely redundant for them and that they are tools that may assist when playing casino games online (Gainsbury et al., 2013). The foundation of this attitude is likely to be based upon the perception that poker has a large skill component and not subject to a house edge that has a negative expected utility. This means that, ostensibly, gambling extensively on poker over a long period of time is less likely to be irrational and problematic.

In fact, the superficial perception may be that longer gambling periods may be beneficial to a skilled player. Naturally, the veracity of this perception is dependent upon the player being skilled and having appropriate emotional self-regulation when incurring chance-based losses. It is acknowledged that poker players often over-estimate the impact that skill has on gambling outcomes (Cantinotti et al, 2004). Ultimately, in order to improve online poker players perceived value of responsible gambling features it is important to emphasise the potential to lose control and engage in tilting, and to promote a realistic understanding of the impact of skill on poker gambling outcomes.

Research shows that, despite customers having favourable attitudes towards operator-based responsible gambling features such as temporary self-exclusion tools (e.g., Griffiths et al., 2009), the uptake of such available features is relatively low (Productivity Commission, 2010; Schellinck & Schrans, 2007). As well as players failing to see the relevance of such responsible gambling features as setting monetary limits in online poker gambling, a large proportion of online gamblers perceive most features as only being relevant to problem gamblers (Griffiths et al, 2009; Parke et al, 2007; Wood et al, 2007) although there are some exceptions such as short-term self-exclusions as noted above (Griffiths et al., 2009).

As a result, if responsible gambling features are to be perceived as relevant to social and at-risk gamblers, and not just those already experiencing problems, it is incumbent upon operators to increase customer awareness regarding the potential value of such features to all gamblers. Arguably, one approach to changing customer perceptions about the relevance of all players using such features is to emphasise informed choice and personal responsibility for gambling behaviour as the pivotal factor in any responsible gambling strategy (Blaszczynski et al, 2011; Wood et al, 2014).

Moreover, improving customer awareness regarding the importance of vigilantly monitoring one's own gambling behaviour could be facilitated by emphasising the potential negative consequences of losing control and exceeding appropriate gambling limits. Based on the Elaboration Likelihood Model, Munoz, Chebat and Suissa (2010) argued that, such warnings need to be substantial enough for each customer to perceive a possible threat to one's wellbeing, yet emphasises efficacious responses that are within the customers' grasp. Put simply, when increasing awareness about the potential negative consequences of online poker gambling it is important to immediately present the

available responsible gambling features as applications that will inhibit any potential negative consequences.

Equally, it is also important to recognise the low uptake of responsible gambling features may be testament to their poor quality. Wohl et al. (2014) intuitively asserted that the lack of effectiveness of existing responsible gambling tools is likely to be a result of developing such tools based on accepted wisdom rather than a foundation of robust empirical evidence. For example, Wohl et al (2014), in a critique of their own research into messaging as a responsible gambling feature, outlined that they violated the basic principles of Human-Computer Interaction (HCI), such as providing customers with a sense of control over the functionalities of the messaging feature, and failed to integrate even the basic Principles of Persuasion Design (PSD: Fogg, 2003) that would increase the probability of the messaging features being effective. Wohl et al.'s (2014) indictment of the development of such features is a reasonable evaluation of the current effectiveness of existing responsible gambling features.

Conclusion

Although online poker appears to be less associated with gambling related harm than other forms of online gambling (Wardle et al., 2011), it is imperative for the credibility and long-term viability of the market for the online poker gambling industry to be taking steps to mitigate harm that online poker players may experience as a result of regular participation. Currently, it is difficult to develop effective responsible gambling strategy and features specific to online poker because the evidence base available is significantly limited by erroneous assumptions of homogeneity across online gamblers and online gambling activities.

Because of the significantly limited evidence base available, online poker specific corporate social responsibility approaches must be informed cautiously from a critical analysis of available and research and theory regarding the risk potential for harm from participation in poker and online gambling. Theoretically, the primary risk for harm in online poker is the rapid and continuous nature of poker provisions online, which has been demonstrated to be associated with disordered gambling behaviour, including the *chasing* of monetary losses.

Currently, there are multiple responsible gambling features available on online poker websites that inhibit player dissociation and therefore potentially limit harmful play. Although theoretically sound, two fundamental problems remain before such responsible gambling approaches can be concluded as effective in mitigating harm in online poker. Firstly, although the scarce evidence available

indicates that such features are effective for online gambling in general, experimental research is required to demonstrate their effectiveness in online poker settings specifically. This is a result of the differential structural features of online poker in contrast to other online gambling activities and therefore differential patterns of disorder play are probable. Secondly, although online poker gamblers perceive such responsible gambling features positively, there is reluctance by the majority of players to use the features regularly, therefore significantly limiting the potential effectiveness of available features. This could be a result of limited player awareness about the potential value and importance of consistently utilising responsible gambling features to avoid experiencing gambling-related harm, and perhaps their poor functionality as perceived by the players. Ultimately, it is clearly evident that current responsible gambling approaches in online poker, although theoretically sound, have limited evidence of effectiveness and therefore present an urgent goal to address, if the online poker gambling market is to claim corporate social responsibility as a core business objective.

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