Smartphone betting on sports, esports and daily fantasy sports amongst young adults

Final Report

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Executive summary

Key findings

- Portability is the main feature that distinguishes smartphone betting from betting using computers and land-based venues. Portability allows betting anywhere at any time, increasing the ease, speed and convenience of betting, and access to betting opportunities, betting information, and wagering inducements.

- While bettors value this convenience, the platform characteristics and situational features of smartphone betting interact in ways that can elevate harmful behaviours.

- These harmful behaviours include more frequent betting, impulsive betting, placing less well researched and a wider variety of bets, and betting more than usual when smartphone betting is done in social situations.

- Three situational features of betting sessions were significantly associated with consequent betting-related harm: 1) privacy while betting, 2) ability to bet anywhere anytime, and 3) greater access to inducements and betting options.

- In combination, these features can *only* be accommodated when betting on a smartphone and were found to elevate the likelihood of betting harm.

Introduction

Mobile betting using smartphones accounts for much of the recent growth of online betting in Australia (Roy Morgan Research, 2018). Most Australians who bet on sports, esports and daily fantasy sports (DFS) use a smartphone to bet on these activities (Hing et al., 2021a). However, scant research has examined how the use of mobile betting platforms impacts on betting behaviour and harm, including amongst young adults who are the group most likely to use a smartphone for betting.

Smartphone betting has distinctive platform characteristics and situational features compared to the main alternative platforms of betting using a computer and in land-based venues. Platform characteristics comprise the innate structural features of each betting platform, such as portability, ease of use, and proximity to the user. These platform characteristics impact on the situational features provided by the different betting platforms, such as the ability to bet anywhere anytime, have quick and convenient access to betting, and easily access betting inducements. This study was particularly interested in how the situational features enabled by mobile betting platforms impact on betting behaviour and betting-related harm amongst young adults.

Aim

The study aimed to investigate how the distinctive platform characteristics and situational features of smartphone betting on sports, esports, and DFS impact on the betting behaviours of young adults and their consequent gambling problems and harm.

Methods

- Stage 1 constituted a narrative literature review that identified the platform characteristics and situational features of smartphone betting that appear likely to impact on betting behaviour, problems and harm, compared to betting with a computer and in land-based venues.

- Stage 2 involved in-depth interviews with 33 adults, aged 18-29 years, who lived in New South Wales (NSW) and bet at least fortnightly on sports, esports and/or DFS. This stage provided 1) a rich interpretive analysis of how the platform characteristics and situational features of the different betting platforms (smartphone, computer, land-based venues) are perceived to differentially influence betting behaviour; and 2) a set of situational features of betting platforms for use in Stage 3.

- Stage 3 surveyed 616 respondents aged 18-29 years who bet at-least monthly on sports, esports or DFS. A discrete choice experiment required respondents to make 'trade-offs' in their choice of important features of betting platforms by presenting combinations of features to select from. The experiment examined 1) preferred situational features of betting platforms and 2) whether these preferences are associated with gambling problems and harm.

- Stage 4 involved an ecological momentary assessment (EMA) to examine the impact of platform characteristics on situational sports betting behaviours and related harms. Respondents (N = 267) aged 18-29 years who bet on sports, esports or DFS at-least fortnightly were surveyed weekly for 10 weeks about their most recent betting session during the past 7 days. Based on the 1,378 betting sessions reported, the EMA examined 1) platform characteristics and situational features associated with potentially harmful betting behaviours and short-term betting-related harm; and 2) whether these varied by betting form, problem gambling severity, and demographics.

Results

Please see the report chapters for detailed results.

Characteristics of smartphone betting are different compared to betting using computers and land-based venues

The literature review identified substantial variation in the structural characteristics of online and land-based betting platforms and the situational features they provide. Compared to betting in a land-based outlet, online betting platforms facilitate the ease and speed of betting, access to betting information, betting with multiple operators, immediate financial transactions, and the use of credit to bet. Online betting affords easier physical access, greater privacy, avoids the safety risks of going to venues, and enhances social accessibility for people who may dislike betting venues. Online betting increases exposure to and personalisation of betting inducements, which are delivered directly to the betting device through push notifications. Online platforms allow 24/7 access to betting while also facilitating betting on events held in different time zones.

There is little published research on smartphone betting, but the interviews identified several distinguishing characteristics that bettors value. Portability was the most

important since it allows betting anywhere at any time, increasing the ease, speed and convenience of betting. Smartphones enable betting when at home, work, commuting, waiting for service, and while socialising in venues and other social settings, including while watching betting events. The literature review found that many young people constantly check their phone and use it for multiple short bursts of activity. Prior research and the interviews revealed how these features allow betting to be integrated into an individual's everyday activities, consumption patterns, and leisure pursuits.

Bettors value the situational features of smartphone betting since they provide consumer benefits

The discrete choice experiment found that certain situational features of smartphone betting identified from the literature review and interviews were particularly valued by consumers. Within each of the six categories examined, the following features were prioritised when betting. In descending order of importance, these were:

- Convenience: Being able to bet instantly 24/7 from any location.

- Ease of researching betting information: Being moderately easy to find betting information online.

- Number of operators/betting opportunities: Being able to bet with multiple operators.

- Financial transactions: Being able to use electronic transactions.

- Access to betting promotions: Receiving a moderate amount of betting promotions.

- Privacy: Being able to bet either when alone or in a social setting.

Notably, this *whole* set of features is *only* available in smartphone betting, indicating that consumers put the most value on the distinctive *combination* of situational features enabled by this betting platform.

Bettors report that the characteristics of smartphone betting nurture certain betting behaviours

While consumers value the convenient instant accessibility that smartphone betting provides, the 33 interviewees reported that its platform characteristics and situational features facilitate potentially harmful betting behaviours:

- Increased participation in betting, since many interviewees found retail venues unappealing and inconvenient, and reported they would not bet at all if they needed to go to a venue.

- A greater number of bets and more frequent betting, facilitated by the proximity, speed, and ease of betting on a smartphone, and 24/7 access to unlimited betting opportunities.

- Impulsive betting, in response to push notifications with inducements, and to betting opportunities they became aware of while routinely scrolling on their phone.

- Placing a wider variety of bets, particularly exotic bets such as multi-bets, facilitated by having accounts with multiple operators and multiple betting apps on their phone.

- Placing spontaneous bets that were less well researched, because researching betting information is more difficult on a small smartphone screen.

- Betting more than usual when in social situations, because friendly rivalry, bravado, shared betting tips and peer pressure were likely to escalate their betting.

Situational features are more important than the betting platform *per se* in determining within-session betting behaviour and short-term betting harm

The EMA found that situational features were more important than the betting platform *per se* in explaining numerous indicators of gambling intensity. However, the situational features that bettors prefer are reflected in their choice of betting platform, since the platforms vary in their capacity to provide each feature. Accordingly, the platform is important in driving betting behaviour and harm, but only insofar as it reflects the preferred situational features for a particular betting session. These findings indicate that the situational features of betting interact in important ways with the structural platform characteristics to influence betting behaviours and betting-related harm.

The five situational betting features examined were differentially related to indicators of gambling intensity by prioritising:

- quick easy access from home was significantly associated with placing more bets and spending more time and money on betting than planned, but also with less uptake of betting inducements, betting with fewer operators, and lower short-term betting harm.

- ability to bet anywhere anytime was significantly associated with more impulse betting, greater uptake of betting inducements, betting with more operators, and greater short-term betting harm.

- privacy when betting was significantly associated with greater uptake of betting inducements, and greater short-term betting harm, but less likelihood of placing more bets than planned.

- greater access to promotions and betting options was significantly associated with greater uptake of betting inducements, betting with more operators, and greater short-term betting harm, but less likelihood of impulse betting.

- the use of electronic financial transactions was significantly associated with spending more time and money on betting than planned, and less uptake of some types of betting inducements.

When controlling for these situational features, betting with a smartphone was significantly associated with greater likelihood of betting impulsively, compared to when betting using a computer/laptop/tablet.

Certain situational features are associated with greater short-term betting harm

In the EMA, greater short-term betting harm was significantly associated with three situational features. In order of strength, these were:

- Privacy when betting. Privacy is greatest when betting on a smartphone because it is not obvious to others that the person is betting. Privacy can facilitate harmful betting since there is no social pressure to moderate gambling. Alternatively, those betting at harmful levels may prefer to keep their betting private.

- Ability to bet anywhere anytime. This is only possible through a smartphone due to its portability, which increases instant access to betting. This situational feature was also associated with betting behaviours that are likely to indirectly contribute to harm: impulsive betting, greater uptake of inducements, and betting with more operators.

- Prioritising greater access to promotions and betting options. Smartphones provide instant access to betting inducements sent directly to customers' betting devices. Those prioritising this feature were more likely to take up these offers, and to bet with more operators which increases the inducements received. Greater access to inducements that smartphones allow heightened the likelihood of betting harm.

Situational features associated with greater short-term betting harm, in combination, can only be accommodated by smartphone betting

An important finding is that *only* smartphones combine all three features that significantly elevate the likelihood of short-term betting harm – privacy when betting, ability to bet anywhere anytime, and greater access to inducements and betting options. It is these situational features that are enhanced by smartphone betting that heighten the likelihood of betting-related harm.

Bettors with higher problem gambling severity are more likely to prefer some situational features associated with greater short-term betting harm, and to experience short-term betting harm

The EMA found that bettors with higher Problem Gambling Severity Index (PGSI) scores were significantly more likely to report greater short-term betting harm and prioritise two situational features associated with this harm. These were the ability to bet anywhere anytime and privacy when betting. Bettors with higher problem gambling severity are likely to experience gambling urges, and instant accessibility allows them to immediately act on an urge. People with a gambling problem may also prefer to keep their betting private. Bettors with higher PGSI scores also reported greater likelihood of other potentially harmful behaviours, including taking up inducements, betting with more operators, and betting on key events or micro-events. Bettors with an existing gambling problem had a greater tendency to report harm from their recent betting sessions.

Conclusions

Smartphones have facilitated physical, temporal and social accessibility to betting, increased the ease and speed of betting, and extended betting opportunities, access to betting information, and exposure to wagering inducements. While online betting using other devices provides some of these features, the portability of smartphones has significantly enhanced instant accessibility to betting anywhere anytime. This instant accessibility is unique to smartphone betting and allows bettors to immediately act on a gambling urge. While bettors value the convenience of this instant accessibility, the platform characteristics and situational features of smartphone betting interact in ways that can elevate harmful behaviours.

This study found that it is not the platform characteristics of smartphone betting *per se* that nurture harmful betting behaviours. Instead, these platform characteristics elevate situational features that heighten the risk of harm. Three situational features of betting sessions were significantly associated with consequent betting-related harm: 1) privacy while betting, 2) ability to bet anywhere anytime, and 3) greater access to inducements and betting options. In combination, these features can *only* be accommodated when betting on a smartphone and were found to elevate the likelihood of betting harm.

Strengths and limitations of the study

This study obtained sufficient respondents in groups of interest for rigorous analyses. The sample of 33 interviewees was large for the qualitative study, while the 616 respondents in the discrete choice experiment enabled rigorous testing of feature preferences. The EMA analysed data pertaining to 1,378 betting sessions and asked about betting activity in the last 7 days to reduce recall bias. All empirical stages relied on self-report data, which may be subject to social desirability and other biases. However, the innovative methodologies used have expanded our understanding of smartphone betting well beyond previous findings based mainly on small interview studies. The mixed-methods design also increases confidence in the results, with generally consistent findings across the stages.

Unfortunately, COVID-19 affected the EMA, with Sydney in lockdown for nearly the entire EMA period and other areas of NSW for much shorter periods. During lockdowns, land-based betting venues were closed, so the EMA respondents reported fewer betting sessions in land-based venues than otherwise expected. This may have reduced the analytical power needed to detect some differences relating to the betting platforms used during the EMA. However, the analysis was still able to detect important differences in the situational features associated with the different betting platforms and their relationship to risky betting behaviours and betting-related harm.

Implications of the findings

- Of the three harmful situational features of smartphone betting, there is greatest scope to constrain betting inducements. This study and previous research have consistently found that wagering inducements elevate risky betting behaviours and gambling harm and that there are high levels of community concern about the proliferation of wagering marketing. Reducing or banning the inducements that bettors receive is one option that will help to reduce the harm from betting. Exposure to wagering inducements is a modifiable risk factor for gambling problems and harm that could be reduced through regulation, to reduce gambling harm and align their provision with community expectations.

- Bettors and concerned significant others (CSOs), would benefit from consumer education that raises awareness of the potential harm from betting, including the risky situational features identified in this research. Betting in private to conceal it, wanting to access betting at any time during the day or night, integrating betting into other activities conducted in a range of locations, and prioritising access to betting inducements, are all red flags that could alert bettors and their CSOs to potentially harmful betting behaviours.

- The results can inform guidelines for protective behavioural strategies that take into account how consumers engage with smartphone betting. Advice could include not concealing your betting from others, restricting times and locations for betting, limiting the uptake of betting inducements, and reducing the number of betting accounts. Bettors can be encouraged to use consumer protection tools to support adherence to these strategies, such as setting betting limits and opting out of wagering marketing. Similar strategies could inform treatment of problematic betting by encouraging these behavioural changes that they are linked to betting harm.

- Healthy smartphone use could also be promoted. This research focused on young adults who are typically avid smartphone users. More general consumer education and interventions to support young adults to limit excessive smartphone use may have benefits in protecting them from gambling harm.

- Few studies have examined characteristics of smartphone betting that distinguish it from the broader category of online gambling. Future research could examine smartphone betting on products including race betting, casino games and EGMs. Research is also needed with other socio-demographic and cultural groups, and vulnerable groups including treatment samples. Ethnographic, sociological and prospective research could also be employed. Many research questions remain unanswered. These relate to the prevalence of gambling problems linked to smartphone gambling, who is most at-risk of harm, and risk and protective factors.

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Chapter 1. Introduction to the study

Mobile betting using smartphones is responsible for much of the increase in online betting in Australia in recent years (Roy Morgan Research, 2018). Compared to betting using computers and in land-based venues, betting using smartphones has distinctive platform characteristics and situational features.

Platform characteristics comprise the innate structural features of each betting platform itself (smartphones, computers, land-based venues), such as whether it is portable, and its usual proximity to the user. These structural characteristics are inherent to the platform, regardless of what the platform is used for. When used for betting, these structural characteristics may impact on betting behaviour through their interaction with situational features.

Situational features interact with the platform characteristics and influence how, when and where the betting platform is used. For example, smartphones have the platform characteristic of portability, which enables betting to be conducted in any situation (e.g., at any time, in any location, alone or with others). Situational features therefore affect access and opportunity to gamble, which in turn may also influence betting behaviour. Situational features can include the ability to bet anywhere anytime, have quick and convenient access to betting, and easily access betting inducements.

Scant research has examined how these characteristics and features impact on young sports bettors' betting behaviour, and consequent problems and harm. Accordingly, knowledge is lacking on how to improve harm minimisation and consumer protection measures to enhance safer betting using mobile technologies. This study helps to address this critical need.

1.1. Project aims

The study aimed to investigate how the distinctive platform characteristics and situational features of smartphone betting on sports, esports, and daily fantasy sports (DFS) impact on:

- the betting behaviours of young adults; and
- their consequent gambling problems and harm.

1.2. Overview of the methodology

The study conducted the following four stages of research:

Stage 1 comprised a narrative literature review to contextualise the study and to review research evidence in relation to the platform characteristics and situational features of smartphone betting that appear likely to impact on betting behaviour, problems and harm, compared to betting with a computer and in land-based venues. Due to the limited prior research published on smartphone betting, no date range was set and

inclusion criteria were kept deliberately broad to capture all available studies. The search included bibliographic databases, as well as websites to source relevant government and industry reports.

In Stage 2, personal interviews were conducted with 33 young adults aged 18-29 years who resided in New South Wales (NSW) Australia, and who bet at least fortnightly on sports, esports and/or daily fantasy sports (DFS). They were recruited from multiple panel providers by Qualtrics The interviews aimed to explore how the use of different betting platforms (smartphone, computer, and venue betting facilities) influences their betting behaviour. Key outputs were 1) a rich interpretive analysis of important platform characteristics and situational features of smartphone, computer, and land-based betting, and how they are perceived to differentially influence betting behaviour; and 2) a set of situational features of smartphone, computer, and land-based betting for use in Stage 3.

In Stage 3, 616 respondents were recruited by an online panel aggregator and completed an online survey. Inclusion criteria were being aged between 18 and 29 years, residing in Australia, and betting on sports, esports or DFS for money at least once a month. A key element of the survey was a discrete choice experiment to examine 1) preferred situational features of betting platforms and 2) whether these preferences are associated with gambling problems and harm.

Stage 4 conducted an ecological momentary assessment (EMA) to examine the impact of platform characteristics (smartphone, computer, land-based) on young people's situational sports betting behaviours and related harms. Inclusion criteria were being aged 18-29 years, residing in NSW, and betting on sports, esports or DFS at-least fortnightly. The baseline survey recruited 267 respondents through an online panel aggregator, and they were surveyed weekly for 10 weeks. Based on data reported about 1,378 betting sessions, the EMA determined 1) platform characteristics and situational features associated with short-term betting-related harm; and 2) whether these varied by betting form (sports, esports, DFS), problem gambling severity, and demographics.

All empirical stages of the study were approved by CQU Human Research Ethics Committee.

1.3. Structure of the report

Chapter 2 presents the literature review completed for Stage 1. Chapter 3 presents the analysis of the interviews conducted in Stage 2. Chapter 4 presents the methods and results for the survey and discrete choice experiment in Stage 3. Chapter 5 presents the results from the EMA in Stage 4. Chapter 6 discusses the results, the study's strengths and limitations, and implications for policy and practice.

Chapter 2. Literature review

Key findings

- While research on smartphone betting is in its infancy, this review provides some preliminary, albeit tentative, evidence that it may increase the risk of gambling harm, compared to betting in land-based venues or on computers.

- Smartphones enable instant convenient access to betting and promotional offers, which can increase gambling participation, impulsive betting, and gambling problems and harms.

- Smartphone betting can be conducted 24/7 from anywhere, and can be integrated into daily activities, such as commuting, waiting, watching television, and during work. Smartphones are particularly suited to activities conducted in short bursts, such as placing bets.

- The use of smartphones as a personal device increases the privacy of betting, removing social constraints and allowing bettors to hide the extent of their betting.

- Wagering inducements are delivered directly to the betting device, which may increase impulse betting.

- Smartphone bettors appear to be more exposed to betting marketing, which has been found to increase betting participation, betting expenditure, and riskier betting.

- The above effects may be particularly pronounced amongst young adults, who are the major market for betting on sports, esports, and DFS.

To provide background and context for this study, this chapter presents a narrative literature review. Topics covered comprise: smartphones and the digital generation; betting on sports, esports, and DFS; modes used for betting; structural and situational characteristics of land-based and online gambling; and how smartphone gambling has changed the structural and situational characteristics of gambling.

Smartphone betting is relatively new and therefore the literature directly on the topic is very limited. In recognition of this constraint, this review employed a focused search of peer-reviewed scholarly articles and research reports, sourced from bibliographic databases including PsycINFO, ScienceDirect, Web of Science, and Google Scholar, to identify relevant literature. No date range was set. Searches were conducted using a range of keywords and logic (Boolean operators), including 'Smartphone OR mobile AND gambling OR betting OR wagering'; 'Internet OR online AND gambling OR betting OR wagering'; 'structural characteristics OR features AND gambling OR betting OR wagering'; and 'situational characteristics OR features AND gambling OR betting OR wagering'. Reference lists of publications included in this review were also searched to identify further relevant publications. Additional search methods were employed to identify literature outside academic sources, including: (1) government websites to source gambling prevalence and other relevant studies; and (2) industry reports, such

as those published by Roy Morgan and other companies that specialise in gambling and related market research.

2.1. Smartphones and the digital generation

Since modern smartphones became commercially available, these portable internet-enabled devices have removed barriers of time and distance in communications, media use, and engagement in a plethora of other leisure and entertainment activities, including gambling. The widespread use of smartphones has generated great interest in understanding the impact that engagement with these devices has on the user's wellbeing, as well as on society more generally (e.g., Billieux, 2012; Billieux et al., 2015; De-Sola Gutiérrez et al., 2016; Fjeldsoe et al., 2009; Geser, 2005; Pivetta et al., 2019; Sapacz et al., 2016; Weir, 2017).

These 'smart' devices are particularly appealing to young people, who are at heightened risk for smartphone 'overuse' – although, this digitally-native generation may differ from previous ones in the way they define *problematic* behaviours (Anshari et al., 2016; Busch & McCarthy, 2021; De-Sola Gutierrez et al., 2016; Haug et al., 2015; Tossell et al., 2015). Researchers have proposed that this heightened risk may be due to factors including young people's: increased familiarity with technology; decreased concern for privacy and security (Park & Jang, 2014; Savage & Waldman, 2015); greater importance placed on peer relationships (Sebastian et al., 2008); and immature developmental stage that impacts decision-making, impulsive tendencies, and reward-seeking behaviours (Bava & Tapert, 2010; Casey et al., 2008; Court, 2013; Park et al., 2012; Wilska, 2003).

The substantial impact of smartphone use – and overuse – has arguably been due to their structural features that make them useful, convenient, and easy and enjoyable to interact with, as well as their portability and wireless internet connectivity that allows their use in almost any context (De-Sola Gutierrez et al., 2016; Verkasalo et al., 2010). Others argue that these characteristics have very low impact on harmful and addictive behaviours; instead, it is the *content* being accessed on these devices (Ho et al., 2014; Holden, 2010; King et al., 2013; Kuss & Griffiths, 2017) and/or individual differences in personality and psychopathology that influence use and patterns of repetitive, disordered engagement (Elhai et al. 2018; Horwood & Anglim, 2018; Sansone & Sansone, 2013). The current literature has methodological limitations that prevent definitive conclusions to be made regarding the unique and combined impacts of smartphone use and its relationship to problematic behaviours (De-sola Gutierrez et al., 2016). Most of this research has primarily examined the self-reported correlates of smartphone use and misuse. Among others, these correlates include: decreased attention, impulse control, cognitive capacity and productivity, and academic performance; as well as sub-optimal sleeping patterns, distorted perceptions of time, and increased impulsivity, stress, anxiety, depression, emotional instability, risky behaviours, and dependency (e.g., Ahn & Jung, 2016; Busch & McCarthy 2021; Cheever et al., 2014; De-Sola Gutierrez et al., 2016; Drouin et al., 2012; Elhai et al., 2017; Han et al., 2017; Jo et al., 2017; Kim, 2018; Lee et al., 2014; Liebherr et al., 2020; Lin et al., 2015; Lopez-Fernandez et al., 2017; Lu et al., 2011; Park, 2019; Rosen et al., 2013; Thomée. 2018; Ward et al., 2017). It is most likely that a complex combination of

device design factors, applications used, and user characteristics influences problems attributed to this technology. Nevertheless, smartphones provide a powerful situational influence over behaviours, such as gambling, driven by their constant presence, proximity to the user, and general patterns of use that operate through learned associations, according to classical and operant conditioning principles (see Busch & McCarthy, 2021; Ferster & Skinner, 1952; Pavlov, 1902; Ramnero et al., 2019). For example, people typically carry their smartphone all the time, and report constant checking of these devices (Boase & Ling, 2013; Brevers et al., 2019; James et al., 2019; Lee et al., 2014; Oulasvirta et al., 2012). The key differences in the design, portability, and capabilities of smartphones, compared to other online technologies (i.e., personal electronic devices, such as tablets, laptops, and desktop computers), also have the potential to facilitate gambling and compound gambling problems (Gainsbury et al., 2015; Parke & Parke, 2019; Rodríguez et al., 2017).

There are several reasons why the platform characteristics of smartphones, and the situational contexts within which they can be used, may impact on the user's gambling behaviour. For example, uptake, continuation, and intensity of betting may be facilitated through: the increased accessibility of betting opportunities which smartphones allow; exposure to personalised betting advertisements received directly on the betting device; the ease and speed of betting using smartphone betting apps; the privacy of betting enabled by smartphones; and the ability to bet with a smartphone in social contexts (Drakeford & Hudson Smith, 2015; James et al., 2017, 2019; Jenkinson et al., 2018). More generally, the design features of gambling activities, as well as their wider contextual environment, have been shown to impact on the intensity and impulsiveness of gambling and risk of gambling problems (Abbott, 2007; Blaszczynski & Nower, 2002; Dowling et al., 2005; Griffiths & Auer, 2013; Lopez-Gonzalez et al., 2019; Sproston et al., 2000; Wardle et al., 2007, 2011).

Despite the rapid growth of smartphone use for sports betting, particularly amongst young adults, little research has examined how and why betting behaviour might differ when using a smartphone, compared to when using a desktop computer site or when betting in land-based venues. Whether and how smartphone betting may compound or protect against harmful gambling are also unknown. This review explores the characteristics of sports-based wagering, including betting on traditional sports, esports, and DFS. It then focuses on how the unique platform characteristics of smartphones (as distinct from online and land-based gambling modes) may interact with situational betting experiences, in order to evaluate their impact on betting and harmful betting behaviour. We first provide a brief background on the three types of sports betting that are the focus of this study.

2.2. Betting on sports, esports and DFS

This section describes the three types of sports betting included in this study, and provides an overview of participation rates, participants' profiles, and links with gambling problems.

2.2.1. Traditional sports betting

Sports betting is defined as the wagering on approved types of local, national or international sporting activities (other than the established forms of horse and greyhound racing; Queensland Government, 2020). Bets can be placed online, by telephone, in off-course betting shops, in gambling venues (hotels, clubs, casinos), and at live sporting events. Over 30 wagering operators are licensed to offer sports bets to Australian residents, and Australians can also access offshore betting sites, even though these operators may not be licensed to provide these services to Australian residents.

In Australia, sports betting losses totalled AU$961 million in 2018-19, representing 3.8% of all gambling expenditure (Queensland Government, 2020). Sports betting is the fastest growing gambling activity in Australia, growing 16.3% between 2016-17 and 2017-18, although it showed a small decline in 2018-19 (Queensland Government, 2020). Key factors facilitating the growth of sports betting have been increased internet access, faster internet speeds, and the uptake of mobile devices (Hing et al., 2018a, 2021a; Jenkinson et al., 2018). Access to betting has also increased due to the global expansion in the number of sports betting markets, and the increased broadcast coverage of sporting events on a range of platforms (Hing et al., 2014a, 2018a; Sproston et al., 2015). Consumers can choose from an extensive variety of Australian and international betting events, with National Rugby League and Australian Football League matches being the most popular in Australia. Advertising and promotions for sports betting are prolific across a wide range of media (Hing et al., 2018a; Jenkinson et al., 2018; Sproston et al., 2015).

In NSW, 6% of adults participate in sports betting (Browne et al., 2020), with this prevalence being highest amongst those who meet criteria for problem gambling (35%), followed by moderate-risk (34%), low-risk (24%), and non-problem gamblers (7%). Sports betting prevalence is higher amongst males (11%) than females (2%), and amongst younger adults (11% aged 18 to 24 and 10% aged 25 to 34 years), with participation declining with age. Australia-wide, 9.6% of adults reported betting on sports in 2019 (Hing et al., 2021a).

As noted above, sports betting is favoured by younger males, and is associated with a higher risk of problem gambling (Browne et al., 2020; Hing et al., 2021a). A study of 639 sports bettors in Australia (Hing et al., 2016a) also found that the risk of gambling problems was elevated amongst those who were young and male, as well as those who were single, more educated, and employed or studying full-time. Risk also increased with greater frequency and expenditure on sports betting, greater diversity of gambling involvement, and with more impulsive responses to betting opportunities, including in-play betting. Normative influences from advertising and significant others were also associated with higher problem gambling severity.

2.2.2. Esports betting

Esports are organised competitions between skilled video game players or teams, which audiences view online or live in-venue (Jenny et al., 2016). Esports competitions are easily accessible to Australian residents via online streaming channels, television and, increasingly, in-venue events. Approximately 15% of Australians watch esports, with

increased popularity among younger cohorts and, not surprisingly, among video gamers; specifically, 47% of those aged 18-24 years and 64% of heavy video gamers watch esports regularly (YouGov, 2018).

The rising popularity of esports has attracted the provision of esports betting services, which are now available from most licensed wagering operators in Australia (Greer et al., 2019; Macey & Hamari, 2019). Esports betting can also be accessed through offshore sports betting sites and exclusive esports betting sites. In addition to the usual payment methods for online gambling, offshore operators often allow esports betting with cryptocurrencies, which allow gamblers greater anonymity in accessing these websites. Further, unregulated sites allow the use of in-game virtual items, known as 'skins,' to bet on esports (as well as games of chance)—collectively known as 'skin gambling' or 'skin betting' (Grove, 2016; Hing et al., 2021b).

Reliable data on the characteristics and gambling behaviours of esports bettors are hard to obtain, because few studies exist and a large part of esports betting occurs offshore, is illegal, or unregulated (Chung et al., 2019). Australian studies measuring esports cash betting have found low prevalence amongst adults. The most recent estimates are 0.6% in NSW (Browne et al., 2020), 0.5% in Victoria (Rockloff et al., 2019a), and 0.6% Australia-wide (Hing et al., 2021a). These studies have found that the vast majority of esports cash bettors are younger men (Browne et al., 2020; Rockloff et al., 2019a). One study of sports bettors (Gainsbury et al., 2017), comparing those who also bet on esports with money to those who did not engage in esports betting, found that the former group was younger, more highly educated, had higher incomes, and had a higher proportion of women and people from Asian backgrounds. This group also reported starting gambling more recently, gambling more frequently, and were more likely to prefer gambling on illegal offshore sites, compared to the sports bettor-only group.

Esports betting with skins is a larger market than esports cash betting, but little research has examined this form of gambling. UK research indicates the prominence of using skins to bet on esports, with 90% of esports bettors betting with skins, 88% with money, and 78% with both (Gambling Commission, 2017). In this UK sample, nearly two-thirds of esports bettors were aged 18-34 years. Confirming the attraction of this type of betting to younger people, research in NSW found that a higher proportion of adolescents aged 12-17 years reported esports betting with skins (6.2%) than esports betting with cash (1.4%) in the previous 12 months (Hing et al., 2021c). Further, some studies have found that esports bettors have elevated rates of gambling problems and harm (Gainsbury et al., 2017; Rockloff et al., 2019a). Recent research by Greer et al. (2021) has shown that frequent esports skin betting was a significant predictor of gambling problems amongst esports bettors.

2.2.3. Daily fantasy sports betting

Fantasy sports allow players to assemble online virtual teams of sports players or esports players, made up of real-life professional players. There are free-to-enter and pay-to-enter competitions. In pay-to-enter competitions, each player deposits money into a prize pool, which is awarded to the competition's winner, determined by the statistical performance of each virtual player as it corresponds to the real-life player in

actual games (King, 2018). Traditionally, fantasy sports competitions have been conducted over an entire season for each sport and determining a winner may take months. Daily fantasy sports (DFS) are a more recent innovation, where the competitions are faster paced, being conducted over a single game or round of real-life sport or esport competition (Weiner & Dwyer, 2017).

Increased marketing of DFS has seen a dramatic increase in participation, with the total amount spent on entry fees tripling between 2014 and 2015 (Udland, 2015). In Australia, one estimate in 2016 was that there were 1.65 million DFS players, compared to 1.8 million sports bettors (Swinson, 2016). However, some contests are free to play, and the number of fantasy sports bettors appears much less than those who enter contests. Prevalence studies in Australia indicate that only 0.3% of NSW adults (Browne et al., 2020) and 0.4% in Victoria (Rockloff et al., 2019a) had bet on fantasy sports games for money in the past 12 months. In 2019, 0.6% of Australian adults reported betting on fantasy sports (Hing et al., 2021a).

The fast pace of DFS, where events occur in a single day or over one weekend, allows more betting opportunities and options than traditional fantasy sports, and this can facilitate increased and excessive betting (Nelson et al., 2019; Pickering, et al., 2016). International research on fantasy sports betting has indicated an association with gambling problems in both adolescent (Marchica et al., 2017) and adult populations (Martin et al., 2018; Nower et al., 2018). An Australian prevalence study in Victoria also found that fantasy sports bettors experienced elevated rates of gambling-related harm (Rockloff et al., 2019a).

Fantasy sports bettors are more likely to be male and younger (Browne et al., 2020; Rockloff et al., 2019a), while one study found they were also more likely to be employed, single, use substances, have drug or alcohol problems, engage in suicide ideation and attempts, and participate in other gambling activities and more frequently (Nower et al., 2018). Another study analysed data from 10,385 participants in American National Football League contests operated by a major fantasy sports operator (Draftkings). It identified a heavily involved sub-group of players but found modest median entry fees of US$87 and player losses of US$30.70 throughout the 2014 NFL contests (Nelson et al., 2019). A longitudinal analysis of data of 11,338 Draftkings participants in NFL contests revealed increasing engagement over time amongst a minority of the most involved players, but most participants exhibited elevated initial engagement followed by decreasing engagement over time (Edson & LaPlante, 2020).

In Australia, DFS are defined and regulated as gambling, with many operators licensed in the Northern Territory. Prominent DFS providers include Draftkings, Moneyball, and DraftStars (Gouker, 2018). However, there has been minimal Australian research into this form of gambling (Tacon & Vainker, 2017).

2.3. Modes of betting on sports, esports and DFS

In Australia, the main modes available for traditional sports betting are in land-based venues (on-course and off-course betting outlets, hotels, clubs, and casinos), online using a computer, tablet and smart TV, and online using a smartphone. Betting via a

telephone call is also available but is often used only to place in-play bets which cannot be placed online through Australian-licensed operators (Hing et al., 2021a). Smartphones are now the main mode used for sports betting. In a nationally representative Australian study (Hing et al., 2021a), 59.6% of sports bettors had placed sports bets with a smartphone in 2019, compared to 36.4% in a land-based venue, 23.5% by computer, tablet or smart TV, and 4.9% by making a telephone call.

In Australia, the increased use of online platforms for gambling, particularly smartphones, has been especially pronounced amongst sports bettors. For example, the NSW Gambling Survey 2019 (Browne et al., 2020) found that the proportion of sports bettors who gambled via the internet on sporting events has doubled since 2011 to 70% in 2019. Nearly two thirds (64%) had placed bets on a sporting event on a mobile device and 14% had done so using a desktop computer. Younger sports bettors, those aged 18-24 years, were most likely to place sports bets online (74%) and to place them using a smartphone (71%). Both online sports betting and sports betting using a smartphone declined in line with age. Similarly, research by Jenkinson et al. (2018) on a convenience sample of male sports bettors, aged 18-35 years, found that smartphone betting was the most common mode used (61%). This was followed by online betting using non-smartphone devices (e.g., computer or tablet; 18%), betting using both online and land-based modes (12%), and exclusively placing bets at a land-based venue (8%).

Use of smartphones for betting on esports also appears to have increased, with many esports betting operators providing mobile betting apps. These apps allow bettors to place in-play bets as well as standard bets and other special bets, to live stream events, and to conduct the full range of transactions, deposits, and withdrawals. Smartphones are now the preferred mode for esports betting. In 2019, 52.7% of Australian adults who bet on esports did so using a smartphone, while 49.3% used a computer or tablet, 11.9% used a gaming console, and only a small minority (2.1%) bet in a venue (Hing et al., 2021a). Similarly, all major fantasy sports betting operators provide mobile apps, as well as their desktop betting platforms. In 2019, 55.9% of Australian adult DFS bettors bet on DFS using a smartphone, compared to 51.0% who used a computer or tablet, and 6.2% who bet in a venue (Hing et al., 2021a). Mobile apps have enhanced access to esports and DFS betting opportunities from anywhere that a smartphone can be used.

Research has examined the association between use of different betting modes and problem gambling severity. Australian and overseas prevalence studies have consistently found that rates of problem and moderate-risk gambling amongst online gamblers are 2-4 times higher than for non-internet gamblers (Browne et al., 2020; Hing et al., 2014a, 2021a; Rockloff et al., 2019a; Woods et al., 2018). These elevated rates are not surprising given that many online gamblers also gamble on land-based forms, which may be the source of gambling problems for some. In fact, studies have found that gamblers using mixed modes (online and land-based) have higher problem gambling rates than online-only or land-based only gamblers (Gainsbury et al., 2015; Lind et al., 2021; Wardle et al., 2011). That is, people with gambling problems tend to gamble using multiple modes. Nonetheless, Australian gamblers who indicated that their problems specifically relate to online gambling are more likely to be male, younger, and experience problems with sports and race betting (Hing et al. 2015c).

Little research has examined direct associations between gambling problems and the use of mobile betting platforms. One study of 4,482 Australian gamblers found that

those who preferred to gamble online using mobile and supplementary devices had higher rates of gambling problems than those who preferred using computers (Gainsbury et al., 2016). Similarly, a study of 659 Spanish sports bettors found that those meeting criteria for problem gambling were more likely than lower risk groups to prefer to bet using a smartphone rather than a computer (Lopez-Gonzalez et al., 2019). In a nationally representative Australian study, the proportion of adults nominating smartphones as their most harmful mode of gambling doubled from 11.7% in 2020/11 to 25.2% in 2019 (Hing et al., 2021a). These results indicate a potential association between mobile betting and gambling problems and the value of examining the platform characteristics and situational features of smartphone betting that may facilitate regular and problematic betting.

2.4. Structural and situational characteristics of land-based and online gambling

Few studies have examined platform characteristics associated with different modes of betting (using a smartphone, computer or land-based venue) and how these platform characteristics impact on the situational features associated with each betting mode. However, several studies have examined the structural and situational characteristics *of different gambling activities*. This literature is briefly reviewed below.

Structural characteristics of gambling activities have been described as the features of the gambling activity itself that are responsible for reinforcement of the behaviour by satisfying consumers' needs and facilitating continued and/or excessive gambling (McCormack & Griffiths, 2013; Meyer & Hayer, 2005). That is, these structural characteristics contribute to the uptake, development, and maintenance of gambling behaviour, irrespective of biopsychosocial factors that may also be influential (Parke & Griffiths, 2006). These structural characteristics are the core features of the gambling activity that impact on gambling behaviour, primarily through ease of play, operant reinforcement schedules, and classical conditioning (Ferster & Skinner, 1952; Pavlov, 1902).

Several design features of gambling games are thought to be especially associated with addictive behaviours, although to varying degrees (Griffiths, 1993, 1999; Meyer & Hayer, 2005; Meyer et al., 2011; Parke & Griffiths, 2006; Wood et al., 2008). These features include: the capacity for rapid play via faster event frequency, cash-out intervals, and continuity of play; multi-game or multi-stake opportunities; higher and/or variable stake size; prize-back ratio; jackpot size; presentation of 'near-misses'; light and sound effects; and illusion of control features (e.g., perceived role of skill, chance, and rules). While the structural characteristics of gambling activities have most often been examined in relation to EGMs (e.g., Airas & Jarvinen, 2008; Dowling et al., 2005; Meyer et al., 2011), recent research has examined the sports betting context more explicitly. In, a study of 659 Spanish sports bettors, the use of functionalities such as cash out options and in-play betting were associated with higher problem gambling severity (Lopez-Gonzalez et al., 2019). In Australian research, problem gambling severity has also been found to be higher amongst sports bettors who place in-play bets (Hing et al., 2021a; Russell et al., 2019). In-play micro-betting essentially turn sports betting from a

one-time fixed-odds wager into a continuous, rapid form of gambling with a significantly increased number of gambling opportunities (Russell et al., 2019).

While previous research has led to important advancements in understanding the potential impact of these design features on online gambling and gambling problems and harm, relatively little empirical research makes up this evidence base. This is in part due to the infancy of technology itself, as well as the rapid changes observed. Much of this research is based on cross-sectional, correlational, self-report methodology that relies on self-selecting samples from a limited diversity of cultures and locations. Further research is needed to ascertain how these structural features specifically impact reinforcement, satisfy gamblers' needs, and facilitate gambling uptake and continuation, and the interplay with individual differences such as demographics and biopsychosocial variables. Research is also needed into the direction of causal influence of these features and how the structural characteristics of internet and smartphone technology itself (e.g., interactivity and anonymity) may promote addictive tendencies for vulnerable individuals (Griffiths, 1999; McCormack & Griffiths, 2014; Suler, 2004).

Situational characteristics of gambling activities have been described as the contextual features that enable or encourage uptake and participation in the gambling activity, including macro features of the broader environment and the micro features of the gambling venue or site (Finlay et al., 2010; McCormack & Griffiths, 2013). Research has shown that gambling in general is facilitated by easy access and wide availability, providing an opportunity for social interaction with family and friends who gamble, and may be promoted through advertising in various media (Airas & Jarvinen, 2008; Hing et al., 2018a). While the evidence base for these effects for online gambling is still emerging, research has indicated that certain situational features are more conducive to gambling harm than others, including: the opportunity to gamble at home and/or work (Hing et al., 2021a; Meyer et al., 2011); the availability and accessibility of multiple gambling opportunities (Meyer et al. 2011; Wood et al., 2008); and frequent exposure to gambling advertising and inducements (Hing et al., 2015a, 2018a).

Of note is that literature on the structural and situational characteristics of gambling activities is characterised by theoretical discussions, correlational designs and small qualitative studies. This is not surprising, given the difficulties of manipulating these characteristics to conduct experimental research and of isolating their impact in longitudinal studies. Overall, methodological limitations mean that the research evidence for the effects on gambling behaviour of different structural and situational characteristics of gambling activities is currently relatively weak.

2.5. How online gambling has changed the structural characteristics and situational features of gambling

National Australian studies of online gambling have estimated that its past-year prevalence in the adult population has increased from 8.1% in 2010/11 to 17.5% in 2019 (Hing et al., 2014a, 2021a). Estimated prevalence of online gambling in NSW in 2018/19 was 19% (Browne et al., 2020). Studies have yielded largely consistent demographic profiles of online gamblers, as tending to be young, male, more highly educated, and employed full-time (e.g., Conolly et al., 2017; Hing et al., 2014a, 2021a; Kairouz et al.,

2012; Wood & Williams, 2011). In Australia, the most popular online gambling activities align with those that can be legally provided: race betting, sports betting, and lotteries (Hing et al., 2014a, 2021a). The growth of online gambling and the higher rates of gambling problems amongst online gamblers (discussed earlier), especially on sports and race wagering amongst young men (Hing et al., 2015c), have drawn attention to its structural and situational characteristics that may facilitate participation, regular gambling, and harmful gambling. This literature has extended a previous focus on the structural and situational characteristics of the gambling activity itself, to also consider the platform characteristics of online modes of gambling and how these may affect its situational features.

Key reasons given by consumers for choosing to gamble online instead of in land-based venues provide some insights into how online gambling differs from land-based gambling. These reasons relate to structural characteristics, such as better prices and bonuses, and situational features including convenient, fast, and easy access, and the privacy of gambling online (Gainsbury, 2012; Griffiths et al., 2005; Hing et al., 2021a; Jenkinson et al., 2018). For example, online gamblers in a national Australian study (Hing et al., 2014a) nominated convenience as the major reason for gambling online, which also enabled faster betting, the avoidance of queues, and less risk of missing out on placing bets immediately before events. Price differentials, including more bonuses, free credits, and better odds and payout rates, were the second most cited advantage, followed by the physical comfort of gambling from home. However, the most cited disadvantages of online gambling were that it was easier to spend money and that this mode was too convenient, more addictive, and facilitated higher expenditure. A qualitative study, with 25 moderate risk and problem gamblers who gambled online, found that the most frequently identified aspects of online gambling leading to impaired control were use of digital money, access to credit, lack of scrutiny, ready accessibility, and the prolific betting inducements offered (Hing et al., 2015b). Similar features were identified in recent interviews with gamblers who had sought treatment for their online gambling (Hing et al., 2021a). These features included fast and easy access, 24/7 availability, and the convenience of gambling from home or any location. Participants described how their gambling increased due to the private, solitary and immersive nature of internet gambling and because electronic money had less immediate value than cash and could be instantly transferred. Prolific advertising and inducements were also reported by participants to increase their betting.

McCormack and Griffiths (2013) provide a thorough comparison of the situational and structural characteristics of gambling, and how these differ between online and land-based modes, across all gambling activities. They concluded that certain characteristics may be more problematic for online gamblers compared to offline gamblers. The most influential structural characteristics were reported as: event frequency, event duration, free practice games, multi-game opportunity, continuity of play, auto-play, bonus features and payment, as well as characteristics specific to the internet, including: embedding certain words in a site's meta-tags to increase traffic; circle jerks that prevent users from leaving a website through the constant use of pop-ups; online customer tracking; live remote wagering; and availability of multi-lingual sites. In addition, they concluded that online gambling was changing the nature of several situational features of gambling, principally availability, number of venues, accessibility, affordability, and location.

A grounded theory study drawing on behavioural data and in-depth interviews with 19 online sports bettors with a gambling problem identified salient contributors to harmful online sports betting. These bettors identified several characteristics of online betting that contributed to an 'online sports betting loop', characterised by persistent betting until funds were exhausted (Parke & Parke, 2019). These characteristics included unlimited betting opportunities, live betting, micro-betting, cash out options, instant depositing, easy accessibility and wagering marketing.

2.6. How smartphone gambling has changed the structural characteristics and situational features of gambling

Innate features of smartphones may make sports betting more attractive for smartphone bettors, compared to online and land-based bettors, increasing its potential for regular or harmful gambling. These innate platform characteristics are considered below, and then in relation to how they may change the situational features of smartphone betting, as well as betting behaviour.

2.6.1. Platform characteristics of smartphones

Ubiquity of ownership

Over 90% of Australian adults own a mobile phone, usually a smartphone, with ownership even higher amongst young adults (ACMA, 2020; Deloitte, 2019).

Wireless internet connection

While the features of smartphones vary, one that they all share is access to the internet through wireless technology. High-speed internet, combined with advanced artificial intelligence, means almost instantaneous access to the internet, including to online betting sites and apps. In Australia in 2019, smartphones were the most popular device used to go online (87%), followed by laptops (69%), tablets (56%), and desktop computers (48%), with almost three quarters (72%) of Australian adults using their mobile phone multiple times a day to access the internet (ACMA, 2020).

Portability and ease of use

The popularity and patterns of smartphone use are largely due to their portability and ease of use – they are lightweight and have a small touchscreen that can (usually) be held in one hand. Indeed, research has shown that overly complex device designs may discourage smartphone customers (Chen et al., 2017; Wei, 2008).

Sophisticated software and high-quality visual displays

Modern technology and engineering have produced sophisticated software and high-quality visual displays on smartphones that together enhance the speed, functionality, and quality of the user experience.

Location of use

People tend to carry their smartphone with them almost everywhere and most often use them in the bedroom when at home. In contrast, tablets and computers are most often used in general living spaces at home but are rarely taken outside the home (Harkin & Kuss, 2020; Muller et al., 2015).

Multi-tasking

Smartphone use is integrated into people's everyday activities and they are frequently used while multi-tasking (e.g., while watching television, eating, drinking, socialising; Zhang & Rau, 2016). They are primarily used for communication, especially phone calls, texting and social networking (ACMA, 2020; Liu et al., 2017). Smartphones are used frequently, but for shorter bursts of activity, and are preferred by younger generations (Muller et al., 2015). In contrast, tablets are primarily used for consumption of entertainment, especially for longer durations (e.g., watching movies), and computers are used more for work purposes.

Multi-use

Smartphones and their applications serve both utilitarian and hedonic functions, with their popularity explained by both their perceived usefulness and how enjoyable they are to use (Chun et al., 2012; Suominen et al., 2014; Verkasalo et al., 2010). They can be used to make and receive telephone calls, send messages, access the internet, listen to music, take photos, watch videos, and for numerous other internet applications (apps). Barriers to reducing smartphone use include forgoing their convenience, access to information, and the satisfaction provided by these devices (Zhang et al., 2010).

2.6.2. How the platform characteristics of smartphones may change the situational features of smartphone betting, as well as betting behaviour

The platform characteristics of smartphones have the potential to change the situational features of smartphone betting, compared to when betting is conducted via a non-mobile device (e.g., computer) or in a land-based venue. We discuss these potential changes below, but note that this discussion is somewhat speculative, given the dearth of research into smartphone betting.

Ease of use and user-interface

Gambling operators, including for traditional sports betting, esports betting, and DFS betting, now provide high quality mobile betting apps and mobile versions of betting websites designed for optimum functionality. In a small qualitative study, all except one participant considered that mobile betting apps were simpler and quicker to use than desktop sites and betting in land-based venues (Drakeford & Hudson Smith, 2015). Placing sports bets is an activity undertaken in short bursts, which aligns with the use of smartphones for activities of short duration.

However, *watching* the events bet on may be easier on devices with larger screens (computers, tablets, television) or in land-based venues where events are broadcast. This is because devices with smaller screens require more cognitive effort to navigate (Kim et al., 2011; Kong et al., 2011; Yu & Chan, 2013, 2015). Bigger and/or multiple screens may be preferred for viewing and monitoring DFS results from several

simultaneous matches, since the virtual team comprises players who, in reality, play for different teams. Likewise, viewers may prefer bigger screens to watch sporting matches and esports competitions, because these events typically last for several hours. For example, esports events average 2.2 hours per session (Chung et al., 2019; Superdata, 2015).

Graphics, lighting, colour, and sound effects have been identified as important elements of some gambling activities, such as EGMs and casino games (McCormack & Griffiths, 2013; Parke & Griffiths, 2006). These visual and auditory effects are of higher quality when the activity is provided in land-based venues and are enhanced in online gambling by sophisticated software and larger screens. However, very limited use of these effects in mobile sports betting apps and websites suggests that they are not particularly important to the betting experience, although they may be valued when watching sporting events.

Overall, however, ease of use is a key feature of gambling that impacts on its accessibility and uptake (Productivity Commission, 1999), and potentially increases impulsive bets and the overall number of bets (Drakeford & Hudson Smith, 2015). This effect is likely to be strongest amongst bettors with a gambling problem, potentially exacerbating their problem, given that trait impulsivity is a major risk factor for problem gambling (Browne et al., 2019a).

Ease of sourcing betting information

Sports, DFS, and esports betting are often marketed to utilise existing sports knowledge to win at gambling, potentially magnifying bettors' perceived control over their betting outcomes (Lopez-Gonzalez et al., 2017, 2018). However, even expert sports bettors rarely perform at better-than-chance levels (Andersson et al., 2005; Cantinotti et al., 2004; Steinkopf et al., 2011). Nevertheless, many sports bettors believe they can exercise a high degree of control over their betting outcomes, especially if they research their betting options, which may lead to increased risk taking and betting expenditure (Gordon et al., 2015). This research may take various forms, including accessing professional advice about how to bet (McCormack & Griffiths. 2013). One study found that self-described 'professional' or 'semi-professional' gamblers were more likely than self-described 'amateurs' to be male, younger, report chasing their losses, experience severe financial consequences from their gambling, and have problems with sports betting (Hing et al., 2016b). Jenkinson et al. (2018) found that 60% of the young male sports bettors in their study typically planned their wagers in advance, 30% placed their bets prior to event, but with no prior research into the wager (i.e., on impulse), and 10% usually bet on impulse live during the event. Smartphone betting may potentially serve all these markets and encourage increased betting volumes. For instance, they may enable online research, as well as text message and social media communication within an informal network of friends who gamble, at the same time being portable enough to allow impulsive betting. The ease of sourcing betting information online may contribute to bettors overestimating their skill and their level of control over betting outcomes (McCormack & Griffiths. 2013), leading to greater involvement in gambling (Parke & Griffiths, 2006).

Smartphones exponentially increase opportunities for bettors to research their betting options, due to the high proportion of time that people carry their device and the constant checking that characterises smartphone use. Participants in Jenkinson et al.'s

study (2018) reported that their betting decisions were informed by a range of sources, including their own sports knowledge (93%), face-to-face chats with others (59%), free tips from experts (57%), and via online chats via social media (e.g., Facebook and WhatsApp). Conversely, smartphones *may* make the process of sourcing betting information more difficult compared to on a computer. Viewing multiple websites or sources of information concurrently, which may be easier on larger computer screens, may help bettors compare odds, research team and player performance, and other relevant factors (e.g., home/away game, weather, etc.). Further research is needed to examine the influence of screen size on researching betting information. Nonetheless, smartphones provide more opportunities than land-based venues for sourcing betting information.

Speed of betting

Online gambling, including by smartphone, allows faster placement of bets, as there is no need to wait for an available operator or betting terminal which may be necessary in a land-based venue (Hing, et al., 2015b; Jenkinson et al., 2018). Being able to quickly deposit money into an online betting account also facilitates the speed of betting, and on a smartphone just requires a tap to deposit or bet. In contrast, betting in land-based outlets might require first accessing cash from an ATM or EFTPOS terminal, and these withdrawal amounts may also be subject to daily or per transaction limits (Drakeford & Hudson Smith, 2015). Speed of betting is also facilitated because bettors do not need to spend the time to travel to a venue, show ID, or sign in (Jenkinson et al., 2018). Smartphone betting also does not require the bettor to be in the same location as a computer or tablet, which may not always be instantly accessible. Drakeford and Hudson Smith (2015) note that this 'instant accessibility' is predominantly associated with being able to gamble quickly anywhere and is therefore only applicable to smartphone gambling. This means that smartphone betting is particularly conducive to impulsive betting, which is strongly associated with more frequent betting and problem gambling in sports bettors (Hing et al., 2018b, 2018c).

In Australia, in-play or live bets on sports or esports competitions can only be placed in person in a land-based venue, or by making a telephone call to a wagering operator. In-play bets cannot be placed with Australian-licensed operators via a smartphone app, browser or other connected device. However, betting via smartphone may reduce the barrier to placing in-play bets because smartphone betting apps contain links or buttons that, when pressed, call the operator immediately. For those betting on a computer, making a telephone call involves more steps: picking up and unlocking the phone and dialling the number. Thus, smartphones provide easier and faster access to in-play betting.

Accessibility and constant availability of betting

Accessibility refers to the availability of gambling opportunities and the ease with which they can be accessed, with high accessibility associated with increased gambling participation and problem gambling rates in the population (Productivity Commission, 1999; Williams et al., 2012). Accordingly, most jurisdictions with legalised gambling place some restrictions on the number of land-based venues, their location, opening hours, and the types of gambling that can be provided. The introduction of online gambling vastly increased the accessibility of gambling by providing 24/7 access from any internet-connected device. While some jurisdictions restrict the types of gambling that can be legally provided online, the difficulties of monitoring illegal gambling sites

mean that consumers typically have ready access to all online forms of gambling when connected to the internet.

Constant availability and convenience are known to increase the negative impacts of online gambling (Hing et al., 2014a, 2021a), and this effect is likely to be amplified for smartphone betting. Smartphones increase access, availability, and convenience due to their portability, such that consumers have a gambling device with them nearly all the time. Thus, smartphones provide the highest geo-temporal accessibility to gambling of all betting modes by removing barriers of distance to a venue or computer and restrictions on opening hours. Participants in Drakeford and Hudson Smith's (2015) and Hing et al.'s (2021a) qualitative studies consistently noted that these aspects of smartphone betting made it more accessible compared to betting via a computer, and vastly more accessible than betting in a land-based venue.

By increasing the number of locations in which betting can be conducted, smartphones also enable consumers to integrate gambling into their daily activities (Drakeford & Hudson Smith, 2015). They can gamble for short periods of time (e.g., while commuting, during work breaks), while engaged in other activities (e.g., watching television), in locations where individuals can smoke, and late at night and early in the morning when most land-based venues are closed. Participants in Jenkinson et al.'s (2018) study reported that they typically placed bets online via a smartphone (61%) or computer/tablet/TV (18%) in a range of different locations, including their home (86%), in licensed venues on their smartphone (56%), and at work, school, or university (55%), as well as in licensed venues on a self-serve terminal (49%).

Online gambling has been found to disrupt sleeping patterns, particularly amongst bettors with a gambling problem (Hing et al., 2014a). Poor sleep behaviour is also associated with smartphone use before bedtime and this may be compounded when combined with gambling. Lack of sleep is associated with a range of negative psychosocial effects in both young people and adults (Chung et al., 2018; Exelmans & Van den Bulck, 2016; Oh et al., 2015; Thomée et al., 2011; Vernon et al., 2018; West et al., 2010). Fatigue is also associated with poorer decision-making, including more risky decision-making when gambling (Frings, 2012; Killgore et al., 2012; Thorne et al., 2019).

Number of betting opportunities

The number of opportunities to bet is another aspect of accessibility, and for land-based gambling relates to the number of venues and the number of opportunities to gamble in any given venue (Productivity Commission, 1999). Gamblers consider greater choice of betting opportunities to be an advantage of online gambling over land-based gambling (Griffiths & Barnes, 2008; Hing et al., 2014a). Using an online platform enables consumers to access and bet with multiple betting operators. Many online sports bettors have accounts with multiple operators (Hing et al., 2014a, 2021a), and opening an account with additional operators is a quick and easy process (Jenkinson et al., 2018). Being able to access multiple betting sites enables consumers to easily compare prices and product offerings, and to bet on a wider variety of sports betting markets. In contrast, sports betting in land-based venues restricts customers to betting with only one operator offering a more limited selection of betting markets. Smartphone betting may further increase the number of betting opportunities because consumers can view and compare sports betting markets for multiple operators and sign up with additional operators while away from a desktop site.

Social and personal accessibility

Thomas et al. (2011, p. 88) described social and personal accessibility related to gambling venues as 'safe, social, easy entertainment experiences, and as an accessible retreat from life issues.' Social accessibility also includes the degree to which a venue provides a non-threatening and attractive environment for people who might otherwise feel excluded (Hing & Haw, 2009; Productivity Commission, 1999).

Land-based, computer, and smartphone betting vary on these dimensions. For example, computer betting is typically the safest mode if conducted from home or work, followed by smartphone betting if the user is in a safe location. Travelling to, and spending time in, land-based venues may decrease actual or perceived personal safety, by virtue of being around other people and in locations where alcohol is often served. However, being around other people increases the potential sociability of betting in land-based venues, which also often provide other entertainment and hospitality. In contrast, online gambling at home, whether using a computer or smartphone is often an asocial activity (Bonnaire, 2012), with limited options for social experiences, except via online channels. An exception may be the more social nature of DFS and esports, especially if people are betting as part of a team or with friends (Ballouli et al., 2013; Dwyer & Kim, 2011; Weiner & Dwyer, 2017).

Smartphone betting may also be conducted away from home and sometimes occurs in group settings while watching sporting events or at gambling venues, which encourages further betting to add interest to watching the game (Lamont & Hing, 2019). As described in Gordon et al.'s (2015) study of lifestyle consumption groups of sports bettors, demonstrating friendly rivalry, team loyalty, acumen, skill, and knowledge were mechanisms used within these groups to build social cohesion. All mobile betting participants in Drakeford and Hudson Smith's (2015) study preferred smartphone betting over using a computer because it was more sociable as they could bet with, or be in the company of, friends. Betting with peers may increase gambling, especially if peers are involved bettors. Compared to non-gamblers and non-problem gamblers, problem and at-risk gamblers are more likely to have gamblers and harmed gamblers in their social network, which may normalise and encourage gambling, especially if alcohol is being consumed (Russell et al., 2018a).

Numerous researchers have commented on the immersive nature of online gambling which facilitates dissociation, and spending more time and money than intended, which elevates the risk of gambling problems (Bonnaire, 2012; Gainsbury, 2012; Griffiths et al., 2005; Hing, 2014a; Williams et al., 2012). In this sense, online betting might provide an accessible retreat (Thomas et al., 2009) more so than betting in a land-based outlet. It is unclear whether betting on a smartphone is more or less immersive than on a computer. It is possible that smartphones increase the immersive experience due to the close distance from which they are viewed (Barnes et al., 2018). However, this may be counteracted by their small screen size and the greater likelihood of using them for betting in a social setting.

Land-based betting environments may not be attractive to some groups, particularly women, who may feel uncomfortable due to the predominantly male clientele (Cassidy, 2014). Female participation in sports betting appears to be increasing, perhaps driven by the greater gender neutrality of online gambling environments, where women are likely to feel less intimidated, less stigmatised, anonymous, and safer compared to in

land-based gambling venues (Corney & Davis, 2010; Griffiths, 2001; Hare, 2015). Younger adults may also find land-based betting outlets unappealing as they are often mostly patronised by older men (Lamont & Hing, 2019). Online and smartphone betting have therefore increased social accessibility to sports betting by groups who might not otherwise patronise land-based betting venues.

Privacy

Online gambling allows participants a large degree of privacy, compared to land-based modes (McCormack & Griffiths, 2013). This privacy, and the associated lack of scrutiny that might discourage excessive gambling, are considered by online gamblers to facilitate gambling problems, along with less guilt and stigma and increased problem denial and continued gambling (Hing et al., 2015b, 2021a). Online gambling occurs most often while at home and alone (Browne et al., 2020; Hing et al., 2021a). Smartphones afford even more privacy than other online gambling platforms, since they are password-protected personal devices that are primarily only accessed by the owner. Social norms in contemporary Australian culture generally reflect that smartphone use is an acceptable, common and essential part of everyday life (Ahn & Yung, 2016; Roberts et al., 2015; Saad, 2015). Therefore, gambling on these devices is very discreet and it is not readily apparent to others whether a person is gambling or not (Roberts et al., 2014). The ability to conceal betting on smartphones, even more so than on a computer, may facilitate greater involvement in betting and the development of harmful and disordered gambling patterns, particularly lying to conceal the extent of involvement with gambling (DSM-5; APA, 2013). Drakeford and Hudson Smith (2015) also noted that the ability to hide smartphone betting decreases the ability of significant others to notice the extent of the gambling and to encourage the person to seek help if their gambling is problematic.

Financial accessibility

Smartphone betting may impact the financial accessibility of gambling, which can include access to money, low initial stake requirements, relative pricing, and the perceived value of money (Productivity Commission, 1999; Thomas et al., 2009). As noted earlier, online betting allows faster financial transactions than in land-based venues, and this may be even faster using a smartphone (Drakeford & Hudson Smith, 2015). Further, consumers can bet online using a credit card, which also increases their access to cash. Easy access to money and the rapid speed of financial transactions have potential to increase impulse betting, which is common amongst sports bettors, particularly those with higher trait impulsiveness, higher problem gambling severity, greater sports betting frequency, and a shorter history of sports betting (Hing et al., 2018c).

Initial stake requirements may not differ by mode of betting, although the use of online platforms allows bettors to compare prices across multiple operators to seek the best odds. Online gambling operators have lower overheads compared to land-based venues, due to reduced staffing, operating, and ancillary costs. This means that better odds may be passed on to customers, making betting more affordable (Hing et al., 2014a). Moreover, online gambling omits travel and other costs associated with going to land-based venues. Smartphones have the added cost saving of typically being cheaper to purchase than a computer, which may further increase financial access to betting. Online gambling also provides access to bonus bets, which may reduce the cost of betting (Drakeford & Hudson Smith, 2015), although these may require matching

deposits, or a recycling of any winnings several times, before a withdrawal can be made. Most bettors underestimate the true cost of bonus bets with turnover requirements, which may lead them to spend more than intended (Hing et al., 2019a).

Betting using computers and smartphones is conducted with electronic money, while cash can be used in land-based venues. Several researchers have commented that using digital cash can lower the psychological value of money (Gainsbury, 2012; Hing, 2014a; Wood & Williams, 2009). In a national Australian survey, 17.2% of respondents reported that using electronic money, including credit cards, increased their spending on online gambling (Hing, 2014a). In qualitative research, those with moderate and severe gambling problems have noted that using digital cash lowers the perceived value of the money and increases their gambling expenditure (Hing et al., 2015b, 2021a). Further, they described how access to digital money via credit cards is particularly linked to loss of control over gambling, which manifests as chasing losses and subsequent debts. The ability to quickly accumulate large gambling debts undoubtedly contributes to gambling-related harm and problem gambling. However, it is not known whether the perceived value of money and the use of credit cards differ between smartphone and computer betting.

Greater exposure to sports betting advertisements and inducements

Gamblers report being influenced by marketing cues for gambling which can undermine their self-regulatory behaviour through creating reminders, triggers and temptations to gamble, similar to other addictive behaviours (Martin et al., 2013). In a multi-stage study involving longitudinal, experimental, and psychophysiological methods (Hing et al., 2018a), advertising and promotions for sports betting were found to: encourage riskier betting; increase betting expenditure; elicit attention, excitement, and desire to bet amongst at-risk and problem gamblers; and have negative effects on all gambler risk groups. Further, while aggregate exposure across all types of advertisements and inducements was associated with increased betting expenditure, those with the strongest effects were: direct messages from wagering operators (emails, texts, and telephone calls), and advertisements on betting websites and apps (Browne et al., 2019b). Additionally, an eye-tracking component of the study found that inducement information in wagering advertisements overrode attention to responsible gambling information (Lole et al., 2019).

Smartphone bettors are likely to be the most exposed to betting marketing because advertising and inducements are frequently sent by wagering operators to their account holders and are received directly onto their device. An analysis of 931 direct messages, received by 102 sports and 110 race bettors in Australia over a one-week period, found that they were saturated with inducements to bet, particularly bonus or better winnings, refund/stake back offers, and match your stake/deposit offers (Rawat et al., 2019). Analysis of the longitudinal data, collected with seven daily surveys, found positive associations between: receiving emails and betting intention; receiving texts and betting participation; receiving texts and higher betting expenditure; and receiving inducements with bonus winnings and sports betting participation (Russell et al., 2018b). These effects persisted when controlling for problem gambling status and signature betting events. The authors concluded that this push marketing, particularly texts, are powerful marketing tools, encouraging a nearly immediate betting response, which may increase gambling-related harms and problems.

Receiving these types of betting inducements is also associated with impulse betting. A study of 1,813 Australian sports bettors found that more frequent users of betting inducements had a greater tendency to place in-play bets on impulse; which was also predicted by problem gambling severity, higher buying impulsiveness, higher frequency of watching sports, younger age, and higher educational status (Hing et al., 2018b, 2018c). Jenkinson and colleagues (2018) found that 81% of the young male sports bettors they surveyed had taken up at least one promotional offer in the past and that many bettors reported having betting accounts with several operators so that they can survey the available deals and 'take advantage of these.' In-play micro-betting appeals almost exclusively to sports bettors with gambling problems (Russell et al., 2019) and is one of their most common ways of betting, even after accounting for frequency of gambling (LaPlante et al., 2014). They are posited to increase cognitive biases by encouraging impulsive decision making (Lopez-Gonzalez et al., 2019; Lopez-Gonzalez & Griffiths, 2017). Use of in-play bets in esports and DFS, and any association with problem gambling, is not unknown. While in-play bets cannot legally be offered on online betting platforms in Australia, many sports bettors access illegal offshore betting sites which offer in-play bets (Hing et al., 2021a).

The findings above indicate that greater exposure to betting marketing is associated with greater betting participation, riskier betting (placing bets with longer odds), impulsive betting, higher betting expenditure, and problem gambling. Smartphone bettors are likely to be most exposed to this marketing. Further, because a smartphone can be used as a betting device, its presence can provide a constant cue for betting which accompanies the user nearly everywhere.

Potential for a more personalised betting experience

The constant co-location of a smartphone with its owner, combined with powerful customer and location tracking technology, enables wagering operators to accurately track their online customers and tailor their advertising, such as through push notifications and nudges. Due to their proliferation, popularity, and portability, smartphones provide superior quality behavioural data, compared to data obtained from other less frequently used and non-mobile devices. This enables use of artificial intelligence to optimise betting offers, displays and advertising to each bettor's preferences, betting activity, and location (Brevers et al., 2018; Hing et al., 2014b). For example, operators can remind bettors of their previous winning bets on a sporting event to encourage further betting (Hing et al., 2018a). There is limited research into the use of behavioural tracking by sports betting operators to tailor their offerings based on a combination of betting history and the locational data available from an account-holder's smartphone. As such, it is unclear how operators utilise this tracking capability and any consequent effects on betting behaviour.

Access to responsible gambling features

Sports betting operators licensed in Australia are required to provide several responsible gambling features, such as responsible gambling messages, information about help services, self-exclusion options, ability to set deposit limits, and access to player activity statements. These features may be less visible due to the smaller screen size and the difficulty of navigating on smartphones compared to computers. Whether these potential barriers affect usage of responsible gambling features, and subsequent betting behaviour, is unknown. Further, the relative visibility of these features on smartphones and desktop sites varies amongst different operators, and these features may be difficult

to see or find, even on some desktop websites. Nonetheless, both mobile and desktop betting sites and apps provide these features, most of which are not available in land-based venues for non-account holders (e.g., self-exclusion, limit-setting, activity statements). At the same time, digital betting modes present unique challenges to responsible gambling that land-based features do not. For instance, one participant in Jenkinson et al.'s (2018) described being forcibly excluded by the operator from using their online account due to their potentially harmful gambling activity, whilst simultaneously receiving emails encouraging them to create a new account and start gambling again.

2.7. Chapter summary

This review has discussed the innate platform characteristics of smartphones that may interact with its situational features to impact on betting behaviour and harmful betting. The situational features that may differ for smartphone betting compared to betting on a computer and betting in a land-based venue included: ease of use and user-interface; ease of sourcing betting information; speed of betting; accessibility and constant availability of betting; number of betting opportunities; social and personal accessibility; privacy; financial accessibility; greater exposure to betting advertisements and inducements; potential for a more personalised betting experience; and access to responsible gambling features.

Based on this review, smartphones are potentially a very powerful influence on betting behaviours. Platform characteristics of smartphones, such as portability, ease of use and proximity to the user, make placing bets using smartphones easy and fast, and provide instant and convenient access to a myriad of betting opportunities and promotional offers. Based on previous research, the instant accessibility to gambling afforded by smartphones would be expected to increase gambling participation, impulsive betting, and gambling problems and harms.

The portability of smartphones also allows betting to be conducted in any setting. This increases the potential for social encouragement to bet, explicitly or implicitly from friends and family, including when watching sporting events and when consuming alcohol, which, in turn, lowers inhibition and increases risk-taking behaviours. Smartphone betting can also be conducted at any time of the day, further increasing the ability to gamble late at night, when fatigue can compromise rational decision-making. It can be integrated into daily activities, such as commuting, waiting, watching television, and during work, with smartphones particularly suited to activities conducted in short bursts, such as placing bets. The use of smartphones as a personal device increases the privacy of betting, allowing bettors to hide the extent of their betting and any gambling problems. Like other platforms used for online gambling, the use of electronic money and credit cards for smartphone betting may lower the perceived value of money, leading to greater betting expenditure, chasing losses, and subsequent debt.

Advertisements and inducements for sports betting are delivered directly to the betting device and are linked directly to the sports betting app or site, so that only one or two taps may be needed to place the promoted bet or to take up the inducement offered. This is likely to increase betting on impulse in response to this marketing. Smartphone

bettors appear to be more exposed to this marketing, compared to bettors who use desktop sites or gamble in land-based venues. Betting marketing provides cues to bet and can arouse gambling urges, and has been found to increase betting participation, betting expenditure, and riskier betting.

While research on smartphone betting is in its infancy, this literature review provides some preliminary, albeit tentative, evidence that this mode of betting increases the risks of gambling problems and harms above those already posed by the ability to bet in land-based venues or on computers. These effects may be particularly pronounced amongst young adults, who are the major market for betting on traditional sporting events, esports, and DFS. These findings indicate the importance of a detailed analysis of the unique situational betting features enabled by the smartphone platform, to better understand their role in sports betting and betting-related harm. The current study helps to address this gap in knowledge.

Chapter 3. Interviews with young sports bettors

> **Key findings**
>
> Interviews were conducted with 33 participants aged 18-29 years who bet at least fortnightly on sports, esports and/or DFS. They reported that smartphone betting facilitates the following potentially harmful betting behaviours:
>
> - Increased participation in betting, with many interviewees reporting they would not bet at all if they needed to go to a land-based venue.
>
> - More frequent betting, facilitated by the proximity, speed, and ease of betting, and 24/7 access to unlimited betting opportunities.
>
> - Impulsive betting, in response to push notifications with inducements, and to betting opportunities they became aware of while scrolling on their phone.
>
> - Placing a wider variety of bet types, facilitated by having accounts with multiple operators and multiple betting apps on their phone.
>
> - Placing spontaneous bets that were less well researched, because researching betting information is more difficult on a small smartphone screen.
>
> - Betting more than usual on their phone when in social situations since friendly rivalry, bravado, shared betting tips and peer pressure were likely to escalate their betting.

This chapter analyses qualitative interviews conducted with 33 young adults. It aims to explore how the use of different betting platforms (smartphone, computer, and venue betting facilities) influences their sports betting behaviour.

3.1. Methods

The interviewees were recruited from multiple panel providers by Qualtrics and provided informed consent to take part in a telephone interview. Participants met the following inclusion criteria: aged 18-29 years; resided in NSW; and bet at least fortnightly on sports, esports and/or DFS. While specific quotas were not set, the recruitment process sought diversity in the sample by age, gender, type of sports bet on, and whether born in Australia or not.

Semi-structured interviews were conducted by three experienced gambling researchers and each lasted 40-60 minutes. Appendix A contains the interview schedule. The interviews covered: the participant's betting behaviour; betting platforms used; situational features of their preferred betting platforms; and how these influenced their betting behaviour. The interviews were recorded and transcribed by a professional service and analysed using thematic analysis, which uses an iterative process of coding to identify recurring topics, ideas and patterns of meaning.

3.2. Participants

The 33 participants were aged 19-29 years, five were female, and one-quarter were born outside of Australia (mainly university students born in South Asia). All participants bet on traditional sports, while 13 also bet on esports, three on daily fantasy sports and three on seasonal fantasy sports. Thirty participants used a smartphone for betting, nineteen used a laptop or desktop computer for betting, and eleven had bet in-venue (but in-venue was not the main betting mode for any of them). Two participants mainly or sometimes used a tablet to bet. Twenty-five participants used multiple platforms for betting. Appendix B summarises the key characteristics of the participants, and details how the analysis was conducted.

3.3. Findings

This section presents key findings from the interviews on how the platform characteristics of smartphones change the situational features of smartphone betting, as well as betting behaviour. The most influential features were: ease and speed of use; the user interface; ease of sourcing betting information; accessibility, convenience and constant availability of betting; number of betting opportunities; social influences on betting; financial accessibility; privacy; anonymity; physical safety; exposure to online advertisements and promotions for betting; and access to responsible gambling features.

3.3.1. Ease and speed of use and the user interface appeal

Betting using smartphone apps: fast, easy and an adequate interface

The 30 participants who used their smartphones for betting generally agreed that betting apps were easy to use and navigate, even for novices. Commenting on the two apps he uses, this participant noted:

> I find both [apps], like, user friendly platforms. Even someone who is new to betting, if they were to log in…he can easily put his bet on, because it's so easy (27)

Some interviewees commented how the apps were designed to enable nearly instantaneous placement of deposits and bets: 'they have made it very streamlined and easy for you to quickly make a bet' (24). Another participant expanded on the importance of being able to navigate and place bets quickly and easily on an app:

> Because sometimes it can get hectic…[if] the app is not user-friendly, if you cannot find things easily, if it makes like a lot of work for you to do, then that really gets me…So this [app] is convenient…how quick it is and the user interface is good, I can find everything I want so I like it. (29)

Nearly all smartphone bettors used the app rather than the mobile version of the website. One participant identified some specific advantages of doing so: 'It's easier to get into them and there's no ads…it's always there, I don't have to log in and then go there. It's easier' (05). Another noted that app usability and functionality varies between operators:

> For a lot of companies, the website is a lot nicer, and they don't put as much effort into their app. [Betting company] have put the effort into the app, so that way it is faster and works just as good as the website. But I know a lot of the time the website is a lot better to use than say the app version on the phone. (18)

In addition to ease of navigation, participants articulated several reasons why they chose to use specific apps, including the variety of markets covered, betting options, odds, bonuses, operator reputation, visual appeal, and recommendations from friends. Most participants used one or two apps and stayed with these because familiarity added to the ease and speed of use. For example:

> I can figure out the layout of [betting company's app] really well, so I just kind of stick with that…I'm just the type of person that likes to use what I have always used…I don't really like changing to something else…everything has been pretty easy because I just do the same thing every week. (01)

While the functionality of smartphone betting apps was generally considered very good, small screens on phones meant that some participants preferred to bet using computers. Several interviewees commented that phone screen size was not a limiting factor for them, because they were used to using smartphones for multiple functions: 'I have been a smartphone guy for like five, six years, so it's pretty easy for me to navigate' (13). Other participants pointed out that their phone had a relatively large screen, while another noted the split screen function on his phone:

> My phone has this feature where you can have two windows open at once…so it's either like a website open and a chat open or you can have like the game open or a chat…my phone has a pretty huge screen it's like 6.5 inches…I get to easily get to all the features I need to on my phone. (09)

While several participants found the layout of betting websites easier to navigate on a larger computer screen, they tended to still use their phone if more convenient and found the app interface adequate for their needs. For example, this participant mainly chose her smartphone to bet, even though she identified some difficulties using the app:

> The way they categorise stuff, where it kind of ends up on the home page, like usually I just see exactly what I'm looking for as soon as I open it up…it's more just quick…[but] when you do multis or something along those lines, it is hard to see all the information…Sometimes that can be a little bit overwhelming but most of the time I'd say, no, I have never had an issue. (04)

Betting using computers: easier navigation due to a larger screen

Nineteen participants used a computer as their main or supplementary betting device. The main reason for using a computer rather than a smartphone was the larger screen size, which enabled easier navigation.

The functionality of betting websites using computers was described as good, and participants who used them identified some advantages over smartphone betting apps, in terms of increased ease and speed of betting. These included functions that were easier to find and that operated more smoothly on the website, fewer sub-menus to navigate through and less scrolling, and more prominent display of inducements. In relation to his esports betting, the following participant explained:

> I mostly prefer using my computer because the website does seem to be more streamlined for a PC browser. Sometimes I use my mobile phone but only if I'm out and about. So, the website just functions better, it's smoother to use…when using the mobile phone, the website can be a bit compact and you have to scroll to select sub menus, like lists, but for a PC browser it's like already there for you. It's got more options and it's just easier to find what you're looking for…Yeah on mobile you don't see all those bonuses and stuff. (07)

The larger screen size of computers was said to provide better visuals, in terms of seeing details and was described as inflicting less eye strain than smaller smartphone screens:

> You can see much more on the screen. So you can see a lot more markets, you can quickly change to different sites, if you want to look at injuries or lists or whatever, it is just easy to flick between what you want to bet on…sometimes I do put a multi on…and I find it annoying to navigate on the actual phone. On some matches…there's a million markets, so to scroll through them all…It adds to the time taken to place a bet…on the phone, I'll probably ignore more markets than I would on the computer…most of the time, I know what I want to bet on but on the phone, I'm less likely to sway from the original markets I wanted to bet on. (11)

A participant who bet on esports with skins, and another who bet on DFS, both explained that they preferred using a computer, due to the complexity of betting on these events and hence, the need to have multiple user interfaces open:

> The bigger screen monitor does help as well with the experience because staring at a mobile phone all day, it kind of gets in your eyes…also because there's so many different interfaces. So, you have your game, your game launcher, then you'd have CSGO Lounge and you'd trade skins and all that. You'd have to open a trading interface and confirmation, a whole bunch of things to actually deposit your skins on to the Lounge and that's why we use a laptop/desktop. (07)

> I've never used my phone for [a fantasy sports betting operator]. I always use my desktop…There's just more pieces to fantasy. There's all these players and all that stuff…honestly, if I had a choice I would probably stick to a computer, it's simpler…because you know deciding on players and whatnot, there's a lot more to it…you can look at a team layout and all that, so things like that can get more difficult if you do it on your phone. (10)

Betting in venues: relatively poor functionality compared to apps and websites

Eleven participants indicated that they sometimes supplemented their online gambling with betting in venues, including pubs and clubs, as well as in standalone TAB outlets. When doing so, they mainly used a TAB machine but sometimes placed bets with an attendant or bet using their smartphone instead. Participants who had used TAB machines typically considered them to be more difficult to use, and visually unappealing, compared to their smartphone or computer. One said the machines deterred him from placing unplanned bets:

> I personally hate the TAB machine interface…normally, I'll stick to exactly what I want on a TAB machine. I won't ever dare sort of try and go into other things…most of the time, the touch screen on them doesn't work properly because either they've been used and abused…some of them…you have to keep pressing it really hard…the interface…looks like it is from the '80s…if they had something easier to navigate, I might be enticed to…check out some of the other markets and maybe put some multis on if I'm at the pub as opposed to doing those on the app. (11)

3.3.2. Ease of sourcing betting information

Most participants accessed one or more sources to inform their betting. Information about upcoming matches, such as players, teams, injuries, and past performance, were accessed from sports, esports and fantasy sports websites, team websites, sports news sites, the form analysis provided by betting operators, and Twitter. Some participants compared prices between betting operators or used odds comparison sites, although several noted that prices were usually similar and that small differentials would have little impact on any winnings as their bets were relatively small. Some participants used independent sites for betting analyses, including professional tipsters' sites, as well as sports and betting television channels. A further source of information was friends, with chats about forthcoming matches and bets often conducted using Facebook Messenger.

Sourcing betting information using a smartphone: more limited than on computer

Some participants said that it was easy for them to source sufficient betting information using their smartphone and they preferred to do it this way:

> When I am putting bets on matches, I usually watch their past games, what happened, how they played, how well are their results and I analyse from that…and also players, how they are playing…it's easy to do on a mobile. (33)

Participants generally appeared to do far less research before placing bets if they were reliant on their phone for betting information. Participants explained that they tended to compare odds between fewer operators on these devices:

> You can see more on a laptop and compare different odds and things like that. Yes, so since I have bet more on my phone…I've done less of comparing between odds…that's a disadvantage of using the phone, yes for sure. (31)

Another interviewee explained that his smartphone betting tended to comprise spontaneous bets placed with little research, whereas he placed larger bets from home where he could research them on his computer:

> I don't bet too much on my smartphone and if it is, it's just a very quick bet. So, I think if I'm thinking a lot more about a bet, I'll probably do a lot more research into it [on computer] as well and then most likely put more money on it…I don't really look up bets if I'm just doing a quick one on my phone…because it's such a spontaneous bet as opposed to me spending time on my phone looking up different odds. (06)

Sourcing betting information using a computer: easier and allows more informed bets

Most interviewees preferred to source betting information on a computer because of the larger screen, bigger font, user-friendly layout, easier navigation, and the ability to have multiple pages open simultaneously. This was said to be much easier and quicker than sourcing information on a smartphone:

> I find it easier to, you know, find all the information…when you're using your phone, going back and forth is quite hard…I do like having that…[screen] size and getting more information on a page via the website on your computer, just because you can…synthesise a lot more information…It's a lot easier to take multiple tabs and multiple information…sources, all in the one place and go through them really quickly. (23)

Another interviewee who regularly bets and watches matches with friends at their homes noted he does his research the night before using a computer, and there is always a computer available on the day for further research. He also identified how 'technology has made betting so much easier' (08) compared to earlier times when people relied on newspapers and other printed publications for betting information:

> I can read it better. I'm not squinting, and I don't have to scroll from left to right…[or] up or down or try to expand what they've written because some of them the writing is terribly small…it's so much more convenient…than having big newspapers in front of you and flicking from paper to paper because each paper has different odds in it…you've got to think, 'Oh where did I see those odds?'. (08)

Participants discussed how the relative ease of sourcing betting information on a computer enabled them to make more considered and informed bets, compared to betting on a smartphone: 'It probably takes me maybe 20 minutes to make a bet…It would be a much more thoughtful bet' (06) and 'a better thing I think is…comparing two different websites…I can do more research on the laptop' (13). Other participants suggested that they did more research when betting on unfamiliar sports and used a computer to facilitate this. For example, when most professional sports were suspended due to COVID-19, the following participant explained:

> There was this Russian ping pong tournament that was going on that I never touched before…I did use my computer after using my phone, so I did a bit more research on that because I had no idea about…anything…I would say that was probably the only instance. Usually, I just use my phone. (18)

While some participants noted that they tended to research their more 'serious' bets using a computer, this participant felt that this worked the other way – that sourcing more detailed betting information on a computer resulted in him betting more:

> If I do it on the computer screen, everything is just there and I don't need to kind of scroll up and down too much to get the information to make the bets that I need to…I always find myself betting more on the computer, yeah. (32)

Sourcing betting information in a betting venue: very limited except on a smartphone

Sourcing betting information in a betting venue was not discussed by most participants, except that several noted that they used their smartphone for this purpose, even though they might bet using the TAB machine. One interviewee thought, however, that: 'they would have a little bit more [betting information] at the pub on those sorts of screens but I don't think I really look at it that much' (04).

3.3.3. Accessibility, convenience and constant availability of betting

Online betting through smartphones and computers enables 24/7 access to betting, whereas most land-based outlets have restricted opening hours. Further, betting using a smartphone enables betting from any location, due to the portability of the device. Several sub-themes relating to this heightened access to betting that a smartphone allows were identified.

Always have smartphone with them so betting is constantly available

Several participants noted that most people always carry their smartphone with them, which means that access to betting and betting information is constantly available:

> Wherever I go, I have a mobile with me so I can check the scores and check bets, how it's going…So, it's good to use a mobile for that…I have gone to watch games at the venues. It's easier to do bets on a mobile than computer, like, you don't have always access to your computer when you're outside. My mobile is always with me. (33)

Further, the constant checking of smartphones could also encourage frequent engagement with betting: 'Everyone is pretty much addicted to their phone, and like, gambling is an addiction…so it sort of feeds off each other. (03)

Quick and spontaneous betting

A frequent issue that participants noted was that the convenience and constant availability of betting on a smartphone made the betting process very fast: 'It's just an instantaneous thing that you can do in a second, so, I guess that's probably why I like doing it on my phone' (23). This speed meant that smartphones could be used to place bets while engaging in other tasks:

> At home…or at work doing work on the computer, I can pick my phone up, spend five minutes putting my bet on and go straight back to my work. (08)

Participants also discussed being able to respond quickly to wagering notifications and inducements using their phone: 'I have my mobile, and if any matches are going to happen, the notification will come, and then I just open the phone, and make the bet. It's easy' (25).

Several interviewees commented that betting via a smartphone, and the ease and speed with which they could bet, resulted in more 'spur of the moment' betting (24). Participants also noted potential dangers of such impulsive betting, which was less likely when betting on a computer:

> It's probably quite dangerous at times. I would probably talk about betting with people before, but now it's just so easy just to do it whenever, whether it's on the train on the way home from work, or when I'm out with people, or whatever. It's quick to spend money, too, because your card is already on your phone and you can deposit quite quickly. (04)

> If I use my phone to bet, I become a lot less cautious, like spontaneous, per se. I don't think about it as much, so I actually try to not bet that much on my phone. (06)

Convenience of betting from anywhere

The portability of smartphones meant that bets could be placed anywhere, at any time. Several participants compared this convenience to the restrictions of betting in venues: 'you don't have to get to a certain place by a certain time to fulfil that bet' (17). Another participant explained:

> Anywhere…it really doesn't matter where I am, whenever I get time…With my devices, it's much easier. It's more accessible. It's always available there. I don't really have to take time out like going to the venue. (05)

Participants mentioned several locations and situations where they frequently bet on their smartphone, including commuting on public transport, at work, when out with friends, at a gambling venue, when travelling away from home and in different locations at home:

> I've done plenty of sports bets when I've been out and about and maybe if I'm talking to a friend and they're like 'oh I put a bet down'…You know, I can just as easily start researching on my phone too and then place a bet…when I've been commuting, I've done that. Maybe on a lunch break or two as well. (10)

A few participants noted that using a smartphone, even at home, was easier than using a computer because of its portability:

> For the computer, if you're in your bed, you have to wake up, you have to sit to use, but mobile phone, you just have to lie down and you can see it and use it, you know? It's much easier. (16)

However, this immediate access to betting from any location could be problematic:

> Being able to bet on the train and then being able to bet at home and being able to bet while you're just waiting for friends to arrive, it's really nice to have…[but] I can definitely see the downside of having it. And you know, it can definitely become a problem if you have…immediate access anywhere you go and everywhere you go. (24)

Pass the time when bored or relaxing

Being able to access betting from any location meant that smartphone betting was engaged in to pass the time, either at home or when out:

> You never know where you're going to be, and you never know when you're going to need to pass time as well. So, for me, having that…availability anywhere you go, it's just…a comfort…a way that you can sort of relax and pass the time. (23)

Frequent checking of phones could also alert people to betting opportunities they were previously unaware of, resulting in placing unplanned bets:

> It [unplanned betting] would be on…mostly different things…when I have nothing to bet on…when I'm bored…when scrolling or something. Because, for example, there's a game going on soon when I open the app…during those times yeah. (13)

Another interviewee explained that he uses his smartphone in bed to check out betting information, watch sports and place bets when he cannot sleep:

> Well, when I can't sleep…I'll have a look…and because some sports you can watch over the phone as well. I use it to kill time as well, by betting on something and watching it for a bit. (22)

24/7 access to betting

Numerous participants bet regularly on international sporting fixtures, and noted that their smartphone or computer were integral to betting on these events as they often occurred in different time zones when venues were usually closed:

> When you've got overseas sport on, especially premier league because that's always played overnight and if you're on a late night out with mates…and something comes up and

you might want to put a small bet on something, then that's handy and you've always got that opportunity. (15)

Sometimes I'm looking at the basketball in America or English soccer or overseas soccer and they play at different times. I would have to be…really organised if I was to go into a land-based betting outlet rather than being able to sit on my phone and go 'okay so that game's coming up in an hour or two...I think I want to put a bet on for that one' and I'll do that. (17)

Having 24/7 access to betting also enabled people to act on tips, even if it was late at night when venues were closed:

Esports is always at night – like, you can't go to a TAB at four o'clock…in the morning...there was a good tip by my friend…'the favourite won't win…I know the other guy is going to win'…it was, like, two o'clock in the morning and he gave me this tip, and I placed a $200 bet, and there was a profit of $500. (16)

Another interviewee explained that 24/7 access to betting enabled him to get better odds:

A week in advance, the odds are usually…a lot higher…So if you bet on the favourite say a week before…they usually do pay a lot more…that's why I like the fact that it is 24 hours, because as soon as the bet drops, if you're doing it earlier, you usually get a lot more return as opposed to betting a lot closer to the actual game. (18)

A few other interviewees, who worked shift work, commented on the advantage of 24/7 access to betting. For example:

I do a bit of shift work…if I'm working at nights and then I need to get some sleep during the day…you can just use it [smartphone] wherever you want…it's really nice to have that 24-hour, 24/7 access. (23)

Disadvantages of betting in a venue

Numerous participants identified several disadvantages of using land-based betting venues, including inconvenience, the expense and time involved, crowds and being around people:

I've got to…pay for a taxi to get there and back, so there's $100 gone…I'm paying $5 a schooner. So, four schooners is another $20 gone, minimum. I've got to worry about getting into a fight if someone bumps me or spills my beer. I've got to worry about trying to see the TV screen in case there's a big crowd there. There's a lot of negatives. (08)

The venue, that might be a little too intimidating for me…intoxicated people…the image I have of the old smoky room…Just like a bunch of old fat people…that's not the sort of place that's really desirable for me. (19)

A few participants also referred to the hassle of keeping paper-based receipts and having to cash them in: 'I just don't like the tickets. You know, you might lose it or something. At least with the phone, it's all in the system' (22).

Several interviewees commented on the distraction and nuisance of having to 'deal with people' (07), particularly when trying to use the TAB machine to place bets. This might mean queuing to place a bet or missing a bet because another person was occupying the machine:

> Sometimes, there's someone stuck at the [TAB] machine and they're…either drunk or putting on heaps of bets so sometimes, you do miss out…a lot of venues will have multiple TAB machines for that purpose. Or you know, the bar staff can also do it for you. So, at the smaller pubs, yeah, I do have that issue sometimes where there's a single TAB machine and someone's occupying it. (11)

Because of these disadvantages, several interviewees used their smartphone to place bets in venues, which also enabled them to meet up with friends and watch the game on a big screen while conveniently placing bets:

> We usually pick a pub that we think won't be too blocked out that day…we get a nice table, a quiet area somewhere, where we can still see the big screen…we just like to be quiet, comfortable, away from yobbos. Just have a good old yack about work and life and so forth and put an occasional bet on…it's just a nice way to relax and get away with your mates and have some down time. (12)

Other participants, who usually bet using their smartphone when in a venue, occasionally also placed bets though the TAB machine or at the bar. This might occur if they were going to the bar for drinks or if better odds were available:

> I won't get up and go to the bar to bet. If I go to get a beer, I might think, I might look on the big screen and go okay it's better odds than what I'm getting on my phone. (12)

The disadvantages of betting in a venue were also said to apply to betting at live events:

> You go to the races or the football…trying to push through crowds to get to the bookie or get to the betting window to put your bet down. (08)

Importantly, numerous participants explicitly said that they would not bet at all if it were only available in venues:

> If both those options [computer and smartphone betting] were taken away from me I wouldn't do it at all…I'm probably just too lazy…It's just a hobby for me, it's not really like I have to do it. (30)

> So, if I didn't have my phone, I wouldn't be gambling. I wouldn't walk down to the pub and bet on the footy or the races. If it is on my phone and I am just sitting, I will. (03)

3.3.4. Number of betting opportunities

Smartphones and computers enable betting with multiple operators

Using an online platform, whether a computer or smartphone, enables people to bet with multiple betting operators, whereas venues offer betting only with the TAB. Approximately one-quarter of participants were content to use only one online operator because they were familiar with the betting platform, did not want to bother setting up additional accounts, and did not want their deposits spread across multiple accounts. A few participants also noted they had little to gain from betting with alternative operators as the price differentials were usually negligible:

> No one does stupid extraordinary odds to someone else, because it's a good way to get your fingers burnt or lose a lot of customers. You're trying to compete with the other bookies, so you want to be giving that bit of edge for people to come to you rather than go

elsewhere, but you don't want to give crazy odds on a game you know you're not going profit from. (12)

Other participants bet with multiple operators so they could compare and access better odds: 'Probably about two or three [operators]…Just because they all offer different odds' (21). Comparing and accessing special promotions and different types of bets were other reasons identified to use multiple betting apps on a smartphone: 'I have been more inclined to jump from app to app depending on specials that they may have' (24).

Overall, being able to bet with multiple operators using a smartphone or computer provided more choice for customers, allowing them to compare prices, products and specials. This could change their betting behaviour by enabling them to place a wider variety of bets, particularly exotic bets.

Betting in a venue and phone calls enable in-play betting

One type of bet that cannot be legally placed using a smartphone app or computer is in-play (live) betting. These bets can only be legally placed in a venue or by making a telephone call; the following participant explained his reasons for preferring the former:

> If I'm at the pub, it is very easy just to go put a live bet on the TAB machines…if your bet is losing…you're going to hedge your bet and put another one on. But if I'm at home…I don't like calling up and putting a live bet on…by the time you call up and get through to someone…the market could close or the odds change or that extra minute you know, is enough to sort of discourage me. (11)

Several other participants were deterred from making a phone call to place a live bet because it was 'annoying' (13), a 'hassle' (18) and 'inconvenient' (22). One noted: 'I'd honestly probably bet a little bit less if I had to call someone up' (32). Others suggested they would be embarrassed to place small bets by phone because: 'to be 100% honest, it's because I'm too self-conscious to call up a number and say can I bet $3?' (06). Another pointed out that he was deterred from placing live bets: 'because the live games they have the minimum bets' (31). Some interviewees had therefore used offshore sites for live betting because they could conveniently place these bets online. One explained that he could also use bitcoin to bet offshore on esports:

> Local bookies here do offer some esports games, but the better ones are overseas providers, and they mainly accept digital currency…mainly bitcoin…most of them just allow live betting…And some overseas providers do that on, you know, Australian sports as well…it is a lot more convenient that way because you know, you can just put a bet on to chase your loss. (12)

Several participants thought that they would bet more if they could place live bets online and by smartphone: 'I would make more bets for sure' (31). One commented on the potential danger in this:

> I'm happy it's not available on my phone to be 100 per cent honest…because I think it would be like a rabbit hole where I just end up chasing bets by betting on the same game. (06)

3.3.5. Social influences on betting

Most participants reported that their betting often occurred in social situations and the presence of others impacted on their betting. Smartphones were most often used to bet in these situations.

Betting in venues with friends

Nearly all participants who went to venues with friends to watch sporting events said they bet more in these situations compared to when they were watching a match and betting alone at home. This was the case, regardless of whether they were betting in venues using the TAB machines or their own smartphones:

> We would go to a pub to watch a sporting event…Normally, someone will always have a bet already on and then they will talk about it before the game starts and then that will sort of will entice others to go use the TAB machine and put their bets on (11)

> I would bet a lot more, say, if I am at a pub and I am watching it…If I am with people that are…betting as well, I bet a lot more. But…if I am by myself, I would bet a bit less. Bit more strategic bets that I think will win but probably don't anyway. Yeah, just have more time to think about it…[but] If I didn't have my phone with me [in the venue], I probably wouldn't bet at all. (03)

The interviewees identified several reasons that they bet more when watching matches with friends, including tips from friends, social bonding, friendly rivalry, bravado, peer pressure and excitement. One esports bettor said: 'I wouldn't really bet on esports if I didn't have mates doing it' (06). Other social influences on betting were described as follows:

> The whole excitement behind it is someone might win, and you've got people around you…if I'm at home, putting a bet on…it doesn't excite me as much. (15)

> I'd place bigger-slash-more bets when I'm out with other people…It kind of feels like a group mentality, 'Let's all do this together'. (04)

> If they [mates] give me a hot tip…if I think they know more than me then I would probably listen to them…that would probably boost my confidence in putting the bet on. Even though, if I was by myself, I probably would think better to say 'that probably won't happen'. (03)

Betting in private homes with friends

Being able to bet using smartphones enabled groups of friends to gather at one person's home to watch a match and bet. These young participants were generally averse to going to betting venues and many discussed regularly meeting at one person's home instead. The following participant described a typical night and how friends could influence others' betting:

> It's like 80% betting with friends, 20% by myself…'we've got the footy on tonight, does everyone want to come around to mine, bring some drinks and we'll watch it?'…It's very rare that we're not talking about sports and someone will be just like 'hey do you want to bet?'…Yeah 100%, all on our smartphones…we would nine out of 10 times just all bet on the same team. That way…we all lose together or…we all win together…Especially if…we've already been drinking…as opposed to our normal little safe bets, someone might 'gee everyone up' to go really hard and then everyone will go hard. Yeah, if we lose, we can always get smashed, whatever. But if we win it's okay awesome…Some friends…will do

that one bet and that's it. And then you've got other friends who will hype you up and if you lose that they'll say 'oh that's okay, let's do another bet and make it back'…It really depends on who you're hanging out with. (18)

Betting with friends while chatting online

Other groups of friends tended to chat online about the sports match and betting, rather than meeting up in person. This participant described his group chats online and the peer pressure he felt to bet more than he intended:

Usually when I'm betting it could be in a group chat, we are just like 'let's chuck like 20 bucks on Liverpool winning the league'…or let's do a group bet…it's usually online interaction…because we don't get a lot of time to meet these days…sometimes like we watch games…we talk about it online while we're all watching it…in our Facebook group…sometimes we just talk about bonus bets…if I'm on my phone I'll put on like five or six bucks or maybe 10 bucks, but with my mates, I'll put on like 20, 30 bucks…there's a bit of pressure there to bet a bit more. (09)

The following esports bettor often chatted online to friends and gathered with them at home to watch matches and bet. He reported betting more when physically with friends than when chatting online:

Basically, we have the bragging right…we do talk about our wins…brings the rivalry out…if it's a good match or it's a good game, then it really kind of amps up and there's better vibes…it can bring up the excitement…that kind of social environment when you're face to face. You're probably more likely to be more spontaneous…willing to take a gamble…whereas if I was doing it in front of a screen or, you know, talking to people, I'd be more likely to refrain myself. (32)

No social influence on betting

In contrast, a few participants reported that they did not bet, or discuss their betting, with friends. A few also reported that betting with friends had minimal impact on their betting behaviour, because they bet only for fun, there was little peer pressure to bet, and they made their own betting decisions. One explained:

None of us are hard core bettors, it's all a matter of having a bit of fun…No one says you've got to have a bet, you've got to be in it, we've grown up out of that stage…if you want to have a bet you do, we don't all get up and have a bet at the same time, some do, some don't…There's no judgement in our group. (12)

3.3.6. Financial accessibility

Convenience of financial transactions on smartphones and computers

Most participants used a debit card, or payment system such as PayPal, for financial transactions on smartphone betting apps and computer websites. Some participants used a betting operator's card. Fewer used a credit card because of the transaction fees involved and the desire to avoid gambling with credit.

Being able to do their financial transactions online using a smartphone or computer was said to be much more convenient than using cash in a venue and had the added benefit of not needing to carry cash:

It's more convenient to just transfer it digitally, especially as we're kind of moving to more of a cashless society. (24)

Many participants noted that electronic deposits into their betting account were instantaneous and easy, which was a further advantage over cash betting: 'Electronic money is better, because it's quick, it's quicker to deposit it' (16) and it takes 'three, four seconds, and then it's done' (25). The following participant also noted how easy the process is:

It's easy to understand and it's quick, it's easy to add money to the account, have the card linked to everything, it's easy to add money…also the minimum deposit amount is not high. (31)

One participant reported betting on esports with cryptocurrency:

With crypto, I find it a lot harder…if I have spare crypto lying around…then maybe I'll use it for, like, live betting. But most of the time…I'll have to actually plan it in advance. So, if I know I'm going to watch an esports match in two days' time, I'll start buying bitcoin say for example two days before and get that ready in advance. (11)

Withdrawals from betting accounts were reportedly slower than deposits: 'The debit card is linked to the account so it will go back into your account…it takes a few hours. The withdrawals are always slower than deposits' (10). Further, while winnings were deposited instantly on betting operators' cards, withdrawing money required using an ATM.

Easier to spend electronic money on smartphones and computers

About one-quarter of participants commented that it was easier to spend electronic money on betting, compared to betting with cash. This was mainly because electronic money did not feel as 'real', was invisible, was more difficult to track, did not require the hassle of going to an ATM, and the process was fast, convenient and private. This could result in betting more than planned: 'until your bank account is dry basically' (18). For example, two commented:

When you bet online or use an app, you can use electronic money rather than cash obviously and also use your credit card…the convenience of it does make it easier to put a bet on…that maybe you wouldn't if you had to put your details in every time…it's so much easier to punch some numbers in rather than hand over a note. [With cash] you feel like there's more value to it. (15)

It is a lot easier to deposit and top up online because going to the ATM in person, withdrawing cash, you know, people see you. It is a physical sort of effort to go do that…but online…it is so easy just to keep topping up an extra $50 here, $50 there and $50 there…I would spend more if I'm watching a match at home because, especially if you're losing, you start chasing your losses sometimes…if you put a $50 bet on then you'll go at half time and put $100 bet on and try and win your original bet back…But if I was at the pub, I probably would just say goodbye to the $50 and just focus on watching the rest of the game and then having a good night. (11)

In contrast, several participants felt that using electronic money to bet via smartphones or computers made no difference to their spending because: 'Either way I'm handing the money over and the money's come out of my account' (17).

3.3.7. Privacy

Smartphones and computers provide more privacy when betting than venue-based betting. This potentially affects the choice of betting platform and actual betting behaviours.

Privacy not important for some

About one-half of participants did not consider it particularly important to maintain privacy about their betting: 'Personally, it doesn't matter to me because I do feel like I have got a pretty good control over it' (01) and 'A lot of people know I just like gambling…I'd be happy to bet in person or over an app' (18). Another commented:

> No. I don't think I've hidden gambling or betting from anyone…I've always hung out with like-minded people, social people who do the same sort of stuff and if someone had an issue with it, it's not really something that would bother me. (04)

Privacy important for others

In contrast, other participants valued the privacy of betting online at home or betting on a smartphone in a venue: 'because it's more private, yeah you don't want to let people see that you bet all the time' (13) and 'I'd much prefer for people not to know…it's personal choice really. Just rather keep it to myself' (22). One participant wanted to avoid the stigma associated with gambling:

> You don't want anyone…close families and your partner to know, like, this guy is betting, because they still have a bad perception about the betting…so I find it quite good to keep it personal, because if you use your phone, nobody would know…[You could be] just browsing Instagram, but matter of fact, you were betting. (27)

Interestingly, a few participants preferred to keep their betting private because they bet only small amounts, which they felt more comfortable doing online. One participant valued the privacy of betting on his smartphone because he held superstitious beliefs, thinking that other people might curse him if they knew his bets:

> You don't want people to know all the bets you placed…it feels that they're trying to curse you in a way…Sometimes certain people, they don't have that motive for you, they don't want you to do well. Like around those sorts of people, I would definitely…[feel] a bit superstitious. (31)

One interviewee commented that his desire for privacy when betting would depend on the context, whether he felt that other people in a venue would be likely to judge him:

> You wouldn't want to just keep going up and…people looking at you thinking, 'this guy is putting heaps of bets on'. Whereas with your phone, you can just do it in secret…it depends where you were. Say you were at the pub, I don't think anyone would care but…say if you were sitting around people that don't bet and they just see you betting, they would probably think, 'what are you doing?'. (03)

Another participant commented on the dangers of increased privacy when betting. Referring to betting on a smartphone app, he said:

> It is like a silent sort of killer when you're in the venue. Like because your mates don't know you're really doing it…Whereas if you bet with cash at a machine, they'll see you go there. If they think you've…bet too much…then your mates can be responsible and say 'hey, I've

seen you've put two bets on already. Maybe you should stop'…Whereas if you're on your phone, you can just easily just smash your bank account without anyone knowing. (11)

3.3.8. Anonymity

Most participants were unconcerned that their online betting activity was not anonymous. Those betting with operators licensed in Australia were generally confident that their systems were secure. A typical comment was:

> It's a given you have to give them your phone number, address, bank account details sometimes. It's a trade-off, one thing for the other…We're paying them the big dollars, they should spend the money on big dollars security…If someone knows I've got a betting account I don't care (08)

Some participants purposefully used other payment mechanisms, such as PayPal or a betting operators' card, so that their betting transactions were not directly linked to their bank account. For some, this was to prevent their bank details from being hacked. For others, this was so that their ability to obtain loans, such as a home loan, was not compromised by having a record of betting. A few participants mentioned concern that their data might be sold or shared with other companies. This participant explained this range of concerns:

> I prefer to remain as anonymous as I can…bigger companies, they buy other betting companies. So, they pretty much inherit all that data so some of the bigger companies would have a pretty good data set on you. They know when you like to bet and what you like to bet on, how you like to bet sort of thing. So yeah, it is alarming...but I guess convenience sometimes overpowers that. But if I'm near a TAB machine, that's why I prefer to use them more just because the idea of physically using the cash and also the anonymity…gambling can be sensitive and also gambling can also affect many other things in life such as loan applications, home loans…the more data they have on you online, especially when it comes to gambling...I just feel like if there's a data leak somewhere or banks have access to this…It can negatively impact on you in other ways. (11)

3.3.9. Physical safety

Physical safety when going to a betting venue was not a concern for most participants, although some recognised the potential danger of being around people who are drunk, have lost at gambling, or might see them win a large cash prize. However, some interviewees noted they only patronise venues with good security or only went to venues in the daytime. The following participants explained:

> When you go in the night-time it's more risky…lots of the people in the pub, they watch the game there. And they are drunk and then yeah maybe some people might lose a million dollars betting…frustration might happen. (13)

> If you go to a really good club, a big club…I feel really safe over there, because there are security guards everywhere…But if you go to a pub…where there is usually mostly guys…and sometimes, when you get the cash, you feel like someone is watching you…[but] I don't think it influences me, because I usually go to the TAB in the daytime. (16)

3.3.10. Exposure to online advertisements and promotions for betting

Wagering advertisements in social media

Many participants who bet on smartphones and computers described frequently seeing wagering advertisements in their social media which they assumed resulted from advertisers tracking their use of betting websites and apps:

> I see it on Facebook a lot, I see a bit on Instagram, see a lot on YouTube…I've seen fantasy sports plenty of times popping up in ads as well…It's definitely tracking data…all those gambling ads, they're only showing up because they've seen my interest in betting. (10)

Push marketing by wagering operators

In contrast to venue-based cash betting, which is anonymous, betting online requires a personal account. This allows operators to send push marketing to customers via in-app messages, emails, texts and phone calls. This participant described receiving these messages often:

> Every second day…usually I kind of run with them…they often push me to make a bet…normally you get the push notifications and you can click through [to the bet]. (19)

Use of betting websites and apps further exposes customers to betting promotions advertised on these platforms: 'So, they'll usually have it on the banner on the website, that's how I usually see it first, but if not they send an email through' (30).

Inducements influence betting behaviour for many

Participants who bet using a smartphone or computer reported numerous ways in which bonuses and other wagering inducements impact on their betting behaviour. One was to remind them of upcoming events they could bet on:

> The reminder part. I think that's a big one…there's a match tonight and it's a match that you may not have thought about. (02)

> I get text messages as well from [three operators], not necessarily mentioning teams, it's more telling you about bonuses, etc…I've definitely done those $50 bets before…It reminds me that they still exist, so it definitely puts it in my head. (04)

These inducements could also act as triggers for betting even if the inducement itself was not attractive:

> I never click on them [adverts] but they can act as triggers sometimes for me to go and think about putting a bet down for sure…including fantasy sports as well, definitely. (10)

A few participants noted that they received promotions when they had not bet with an operator for a while: 'to incline you to jump back in and start betting again…I get a lot of messages about certain sports based on what my previous betting history has been' (24). The following participant described receiving these bonuses even when he had unsubscribed from notifications. These inducements usually resulted in him placing a bet in order to access the bonus. He also noted that some operators place a time limit on using the bonus, which added more urgency to place a bet:

> The main ones I get are when I stop or don't bet with them for a little while…They'll lure you back in with a bonus bet…even though I've unsubscribed from the text messages… They'll

send a text message. Sometimes it is an email as well…And normally, it is either a deposit bonus…or a $50 or a $20 bonus bet. And normally, that's enough to say to me like, 'oh, hey, I might check out what I can bet on this week and see what I can use it on'…I've noticed [operator] especially, they'll make the offers expire…within three days or something. (11)

This same participant noted that these inducements sometimes resulted in him reinstalling the betting app on his smartphone, although he might also use his computer to place the bet and access the bonus:

Most of the time, I'll uninstall the apps…if they offer a good bonus bet, I'll reinstall the app. Otherwise I might just wait until I'm on the computer next and use it then. (11)

Additional participants referred to the ease of accessing a bonus through betting on a smartphone. In fact, bonus bets were already in the customer's account when notifications were sent, which sometimes meant: 'I probably would use it straight away' (24).

Inducements ignored or blocked by some

A few interviewees reported they were resistant to responding to advertisements and adhered to their betting plans instead of being swayed by a promotion:

I don't sort of change the way I bet based on the offer…I don't want to have a problem…no matter what the situation is or whether it's an offer or not an offer, you sort of bet the same way. You do the same thing that you normally would. (23)

About one-quarter of participants reported having unsubscribed from push notifications from wagering operators or blocked advertisements on their devices. The most common reason for unsubscribing was finding this marketing to be too prolific and annoying, as expressed by these two participants:

I don't like getting offers…like messages or emails…they kind of spam my phone…they want to induce me to bet. (29)

The way they offer is like just a hassle, like constant text messages and emails and stuff. So, I feel it's just marketing so it's just more frustrating I guess, the constant notifications from them. (21)

3.3.11. Access to responsible gambling features

Awareness of responsible gambling features varied amongst participants, with a few not being aware of any: 'I don't think I ever have seen them' (20). Others had seen responsible gambling messages in other media, but not in the smartphone app: 'Not in the apps but I see them all the time on the tele, on the radio' (03), and 'The only thing I've ever noticed is the little asterisk that says, "gamble responsibly" underneath every advert' (04).

Some participants became aware of responsible gambling tools when they signed up with the operator, or had noticed them on the website or in the app's settings:

When I signed up. It definitely had a lot of that stuff that you could set your own limit, if you do too much you can get barred…and the Gambling Helpline number. (17)

Two participants had received responsible gambling messages which they thought were in direct response to their betting activity: 'Once or twice, when I've placed too many bets, I did get a warning…It does make you want to take a step back and like take some time out' (31). Another recalled:

> The other week me and my brother had a really big win, $3,500 each…That whole day we were kind of like betting, nothing crazy, but little things here and there…win, lose, win. We actually both got an email from [betting company] with their policy and guidelines saying 'gamble responsibly, we do have deposit limits…We also have how many times you can deposit in one day, hourly breaks and stuff like that. (18)

Several interviewees commented that responsible gambling features were not prominent on betting websites and apps, as information and links were placed in the margins and settings functions, so that people had to actively look to find them: 'at the bottom of the website…it's definitely not super visible' (02), and 'purely if I'm playing around with the settings' (06). One participant who bet only with a smartphone, and another who bet on DFS commented:

> Some operators make them more obvious than others. Like say on the deposit screen for example, some operators they will let you set a deposit limit whereas other operators, you've got to…dive into three separate pages and menus and find it that way. (11)

> [Fantasy sports betting operator] definitely has a responsible gambling section but I don't know about ads and stuff though or banners showing stuff like that, not that I remember…It's like a full section you can read up on. (10)

Use of deposit limits

Ten participants reported having used the deposit limit function, either to provide assurance they would not overspend or to help them bring their betting back under control. For example, two smartphone bettors said:

> I always put a limit on, just for safety's sake. But I never even reach close to my limit or my monthly limit ever. But, you know, I think it's nice to have…to keep everything under control. (23)

> I was spending too much money…and not realising how much you're actually spending at the time…when you go into 'deposit', there was a section where it tells you to set a betting limit. (21)

Setting a deposit limit was said to be easy, both through the betting app and website:

> I have used the betting limit once. I once got out of control. I was losing so much and then I was kind of chasing my losses, and then I had to do something about it, so I set a limit…It's right there in the settings. (14)

> I can deposit only $500 for this month…It's both on the app, on the website on the computer, but I use the app because it's much easier. (16)

However, a few participants noted that deposit limits applied only to their betting with individual operators, so they could easily circumvent their limit by going to different operators or to a venue. One explained:

They work and they don't. I mean, yes in the moment they probably help but…if you want to do something there's always a way to do it…so it really doesn't actually work to be honest…[you go to a] different operator or you just go in person to a TAB. (10)

Mostly, participants did not set deposit limits because they felt they could adequately self-regulate their gambling: 'I'm pretty good with my money and budgeting, so I only do the $10 each week and then that's it' (01). Another interviewee felt that a deposit limit might result in him missing specific betting opportunities: 'maybe I'll miss out on something and if there was a limit set and I wanted to place that extra bet on, I'd have to call up and try and sort that out' (11). Others were averse to setting a deposit limit because they did not like a 'big brother' approach and felt they could manage their betting without it:

I don't need someone else to babysit me. I'm an adult, I make my decisions…I have enough control to manage my money myself. Rather than big brother standing over me saying 'No, you can't do that.' (08)

Amongst those who had not set a deposit limit, some were explicit that they were useful for 'problem gamblers,' but not for them. Another concern was that setting a deposit limit might convey that the person has a gambling problem, and this information may be shared with other operators who might then limit their betting:

I think it's good if you can encourage people who have a problem to use those things, because it stops a lot of domestic violence, stops people betting the family income for that week. I mean, there's obviously a need for it…If it works for some people, great, but I don't need it. Like I said, I'm an adult I've made my choices in life, I'm surviving, my family is not going without food or clothing. I'm having a bit of down time, so I remain sane in my life – no it's not for me. (12)

If you set a limit on your account…they see you as maybe a problem gambler or something. You know, set a limit on that account and you have issues with other providers…they all share data with each other. (11)

Use of player activity statements

Only a few participants accessed player activity statements, and ease of access to them was said to vary across sites. Those that used them found them useful to keep track of their spending: 'Well, I just want to make sure that I'm winning, or not losing too much' (22). However, others noted that they use their activity statements to inform their betting decisions or to brag to mates:

If you see that like you've placed a bet on someone that is continuously losing…you're probably most likely not going to place a bet on that same person. (21)

There have been times…if you have a lot of green [wins] you send that screenshot to a couple of mates to kind of brag. But outside that, I don't really look at it to be honest. (24)

Several participants reported that they were not aware that player activity statements were available:

No, I haven't heard about [activity statements] – really, is there something?... No, because the thing is, if the…punters…see the activity statement, they won't bet again, because there's much more on the loss side than the win side. (16)

Other participants reported that they did not need, or want, to look at their activity statements. They either felt that their betting was under control, they kept their own records, they could tell from their account balance whether they were winning or losing, or they did not want to decrease their enjoyment of betting by knowing how much they had lost:

> I don't need to see it in black and white in front of me to remind me exactly how much I lost. If I did, I'd probably be pretty upset. Because you know a $100 a week, every week plus the extras over the years, that's a lot of money…But I've had my fun. (08)

Maintaining control at venues

In contrast to online betting, anonymous in-venue betting does not allow bettors to set deposit limits or access player activity statements, and information about other responsible gambling features is more limited. A few participants commented how they self-regulate their betting when at venues by taking only a certain amount of cash or by avoiding chasing losses:

> At venues, I'm mostly taking this amount of cash I have for betting, and I'll try and stick to it, rather than getting more cash out…I take my emergency cards and all that but not the ones I use daily. (05)

> I personally feel like I do have quite good self-control. Like, if I bet at a pub or club with friends, and I lost my first two bets, I'll stop and that's me done for the night. I try not to win my way out, like, try to win back the losses. (24)

3.4. Chapter summary

The 33 interviewees reported that the interaction of several platform characteristics with situational features of different betting platforms influenced their betting behaviour.

Ease and speed of use, the user interface and ease of sourcing betting information. Smartphone betting apps were considered easy and simple to use and enabled near instantaneous placement of bets. While some participants only used a smartphone to bet and were not deterred by the small screen size, many others preferred larger computer screens and only used a smartphone when more convenient. When they only had access to a smartphone, these participants tended to place more spontaneous bets that were less well researched because of the relative difficulty of sourcing betting information and comparing markets and odds. TAB machines were typically considered the most difficult platform to use. This could limit the range of bets placed to simple planned bets, although some participants also used them to place live bets. Some interviewees used their smartphone in venues to bet or to source betting information before placing a bet in a venue.

Accessibility, convenience and constant availability of betting. Smartphones provide 24/7 access to betting from any location. This accessibility was heightened because people tend to always carry and constantly check their smartphone. Further, betting on a smartphone is quick and easy and could be integrated into other activities at home, at work, while commuting, and when out, as well as to pass the time when bored. This accessibility was said to facilitate more frequent betting, and impulsive bets, such as in

response to push notifications from betting operators or betting opportunities they became aware of while scrolling on their phone. Access to online betting 24/7 also facilitated betting on international sports and esports events that occur when venues are closed. Many participants said they would not bet if they had to go to a venue, as they generally found them unappealing and inconvenient. Those who did go to venues, usually to socialise and watch matches, most often bet there using their smartphone.

Number of betting opportunities. Most participants had online betting accounts with multiple operators. This provided more choice, allowing them to compare odds, markets and promotions. This could change their betting behaviour by enabling them to place a wider variety of bets, particularly exotic bets. The inability to place in-play bets online appeared to limit this type of betting, as few participants placed bets in venues, and many were averse to placing live bets through a telephone call. Several participants thought they would bet more if they could place live bets online and by smartphone and would be tempted to chase losses within the one match.

Social influences on betting. Most participants reported that smartphones allowed them to bet in social situations and they regularly met up with friends in venues or private homes to bet and watch a match, or they chatted online to discuss betting and watch a game. Nearly all these participants reported that they bet more in these social situations than when betting alone at home, due to receiving betting tips from friends, friendly rivalry, bravado, peer pressure and added excitement.

Financial accessibility. Online betting, whether by smartphone or computer, heightens the convenience of financial transactions, with most participants having a bank card or PayPal account linked to their betting account. This enabled instantaneous bets and deposits, as well as credit betting. Several participants commented that, compared to cash, it was easier to spend electronic money on betting because it did not feel as 'real', was invisible, was more difficult to track, did not require going to an ATM, and the process was fast, convenient and private. Some participants reported that these features of online financial transactions resulted in them betting more, as well as chasing losses.

Privacy. Participants were divided on whether privacy when betting was important, although some preferred to keep their betting activity private by using a smartphone or computer. There was little explicit evidence that increased privacy influenced the participants' betting behaviour, although some recognised that it reduced barriers to betting more and could potentially increase harm compared to venue-based betting.

Anonymity. Most participants were unconcerned that their online betting activity was not anonymous, or they considered it a worthwhile trade-off for the convenience of betting using a smartphone or computer. Some used a betting operator's card or PayPal so transactions were not linked directly to their bank account. A few others bet in cash in venues when they were there to lessen their 'recorded' betting activity.

Physical safety. Most participants were not concerned about their physical safety when using a betting venue, although some recognised the potential danger of being around people who are drunk, have lost at gambling, or might see them win a large cash prize. Some participants went only to large venues with good security or went only in the daytime, while others avoided venues because they found them unappealing.

Exposure to online advertisements and promotions for betting. Online betting through a smartphone or computer greatly increases exposure to wagering marketing, including in social media and from push marketing through notifications, texts and emails. Wagering inducements advertised in these ways were reported to provide triggers and reminders to bet, lure customers back to betting after a break, and induce customers to place larger and more frequent bets to optimise bonuses and matching deposits.

Responsible gambling features. Most participants were aware of responsible gambling features and nearly one-third had used deposit limits, which they said were easily set on a website or app. However, some circumvented their limits by signing up with additional operators. Most saw no need to set limits because they felt in control of their gambling or viewed limits as needed only by 'problem gamblers'. Few participants accessed player activity statements because they were not aware of them, felt in control of their betting, or did not want to decrease their enjoyment of betting. Participants also commented that responsible gambling features were not prominent on websites and betting apps. While online betting using smartphones and computers can facilitate access to responsible gambling features, relatively low usage of these tools limited their potential to help consumers manage their betting. There was no evidence that access to responsible gambling features influenced participants' choice of betting platform.

Chapter 4. Survey and discrete choice experiment

Key findings

An online survey with a discrete choice experiment was conducted with 616 Australians aged 18-29 years who bet at-least monthly on sports, esports and/or DFS.

Within each of the six categories examined, the following features were prioritised when betting. In descending order of importance, these were:

- Convenience: Being able to bet instantly 24/7 from any location.

- Ease of researching betting information: Being moderately easy to find betting information online.

- Number of operators/betting opportunities: Being able to bet with multiple operators.

- Financial transactions: Being able to use electronic transactions.

- Access to betting promotions: Receiving a moderate amount of betting promotions.

- Privacy: Being able to bet either when alone or in a social setting.

Importantly, all these features in combination are only available when betting using a smartphone.

This chapter presents the methods and results for Stage 3 of the study, which was based on an online survey. The aim was to examine 1) preferred features of betting platforms and 2) whether feature preferences are associated with gambling problems and harm. The features examined were informed by previous stages of the study, and related to convenience, access to betting information, access to betting opportunities, financial transactions, betting promotions, and privacy of betting. These features have inherent variations, depending on whether betting is conducted using a smartphone, computer or in a land-based venue.

4.1. Method

4.1.1. Sampling, recruitment and data quality checks

Potential survey participants were recruited through an online panel aggregator, Qualtrics, which recruits participants from numerous panels across Australia, with quality checks to ensure that respondents can complete the survey only once. Participants were recruited to the survey between 15th April and 29th April 2021.

Inclusion criteria for respondents were: consenting to take part in the study, living in Australia, being aged between 18 and 29 years, and betting on sports, esports or daily

fantasy sports (DFS) for money at least once a month. A total of 3,979 potential respondents started the survey. Of those, 3,009 were excluded due to not meeting inclusion criteria. These included 2,020 for betting frequency, 331 for not consenting, 258 because they did not live in Australia, 82 because they were outside of the required age range, 13 because they were likely to be automated responses (bots), and 305 because the required sample size had been reached. Of the remaining 970 potential respondents, 124 were removed as they failed data quality checks. These included 55 who failed an attention check question, 5 who sped through the survey in less than one-third of the median completion time from an initial soft launch, and 64 who failed tests for straight-lining or gave inconsistent responses. Of the remaining 846 potential respondents, 230 started the survey but did not complete it, leaving a total sample of N = 616 (estimated completion rate amongst eligible respondents = 72.8%).

4.1.2. Survey sections and measures

The survey questionnaire is provided in Appendix C. It contained the following measures:

Screening questions: These comprised: age in years; postcode where they mainly live; how often they bet on sporting events and how often they bet on esports or DFS for money.

Detailed information on betting on sporting, esports or DFS: Respondents who indicated they bet on sporting events in the screening question were asked their typical monthly sports betting expenditure (over the previous 12 months). They were then asked the percentage of their sports betting expenditure done using each of a smartphone, computer/laptop/tablet, gambling console, land-based venues, and telephone calls, as well as their preferred platform. The same questions were asked in relation to esports and DFS betting if the respondent had bet on these forms.

Advertising and promotions: Participants were asked how often in the last 12 months, they saw or heard advertisements, promotions or commentary about betting on sports, esports or DFS at live sports or racing events, on television, on the radio, in print advertising, on outdoor advertising, in online and social media, and in direct messages. Participants were asked how often in the last 12 months, they saw or heard the following types of promotions for betting on sports, esports or DFS: sign-up bonuses, refer-a-friend bonuses, bonus bets for placing certain bets, better odds or winnings for certain combined bets, and money-back guarantees.

Short Gambling Harms Screen (SGHS; Browne et al. 2018). The SGHS is a validated and reliable measure of gambling-related harm. The 10-item SGHS was administered to all respondents. They were asked if, over the last 12 months, they had experienced any of 10 harms as a result of their gambling (yes/no).

Problem Gambling Severity Index (Ferris & Wynne, 2001). The PGSI was administered to all respondents, using the validated response options and scoring of 'never' = 0, 'sometimes' = 1, 'most of the time' = 2, and 'almost always' = 3. The analysis also used the PGSI's validated cut-off scores and categories. These comprised 'non-problem gambler' = 1, 'low risk gambler' = 1-2, 'moderate risk gambler' = 3-7, and 'problem gambler' = 8-27.

Barratt Impulsivity Scale – Brief (BIS-B; Steinberg et al., 2013). The BIS-B measures levels of impulsiveness. It's eight items (e.g., 'I don't pay attention') are measured on a 4-point scale from 'rarely/never' = 1 to 'almost always/always' = 4. Some questions are reverse-scored, with higher total scores indicating greater impulsiveness.

Preference: Participants were asked which type of betting they do the most often: sports betting, esports betting or DFS betting.

Features of betting platforms: Participants were asked, when betting on sports, esports or DFS, how important each of 24 features were to them, based on the findings from the literature review and interviews with young bettors. These features related to Speed, portability and convenience (e.g., being able to bet from any location); Ease of researching betting information (e.g., being able to easily research betting information); Number of operators/betting opportunities (e.g., being able to bet with more than one operator; Financial accessibility (e.g., being able to quickly access and transfer money for betting; Access to betting promotions (e.g., being able to access a wide range of betting promotions), Social accessibility (e.g., being able to bet in social settings); Privacy and anonymity (e.g., being able to keep their betting private); and Responsible gambling features (e.g., being able to access responsible gambling tools). Importance was measured on a 4-point scale from 0 = 'not at all important' to 3 = 'extremely important'.

Demographics: Participants reported their gender, age, the state or territory in which they mainly reside, marital status, household composition, highest level of education, work status, country of birth, language that they mainly speak at home, Aboriginal or Torres Strait Islander status, and their estimated household annual pre-tax income.

Discrete choice experiment (DCE): Also included in the survey was a conjoint (discrete choice) experiment, where participants indicated their preferences amongst different features that may vary when betting using a smartphone, computer or land-based venue. Six features were examined: 1) Speed, portability and convenience; 2) Ease of researching betting information; 3) Number of operators/betting opportunities; 4) Financial accessibility; 5) Access to betting promotions; and 6) Privacy and social aspects. These six features were derived from the interviews (Stage 2) and based on the apparent importance of these features in influencing the interviewees' betting behaviour, as well as the need to constrain the features in the DCE to no more than six. As explained later, several levels for each of these six features were included in the design that reflected how these features vary when using different betting platforms. Further details on the conjoint design and analysis are described later.

4.1.3. Data analysis

The analyses are presented in two main sections. The first section summarises the characteristics of the sample, including demographics, betting behaviour, PGSI and SGHS, platform spend and preferences, awareness of advertising and promotions, and preferred features of betting platforms. Gender differences across sample characteristics were assessed via chi-square tests and t-tests. ANOVA was used to compare differences in preferred platform, gender, age, type of betting, PGSI and SGHS across each of the betting platform features. Welch was used where noted, where the assumption of variance was violated. To assess the relationship between betting

platform features and impulsivity, Spearman's rank-order correlation was used as the assumption of normality was violated.

The second section explained the conjoint analysis methods and presents the results from the discrete choice experiment. Standard diagnostics were performed to determine whether assumptions were met for analyses. The regression models used to determine statistically significant differences were linear probability models. As such, we did not expect to see normal distributions of residuals, as we would in ordinary least squares regressions, and it is for this reason that these figures are not shown. However, other tests of assumptions were run, including tests of multicollinearity. No tolerance values fell below 0.1 (or variance inflation factors above 10), with the lowest tolerance being .35. Thus, no apparent issues with multicollinearity were detected.

4.2. Sample characteristics

This section summarises key characteristics of the sample, including demographic characteristics, betting behaviour, PGSI categories, platform spend and preferences, and awareness of advertising and promotions. It also provides descriptive results on the preferred features of betting platforms. Appendix D presents the descriptive statistics.

4.2.1. Demographics

Of the 616 respondents, 203 (33.0%) identified as male and 413 (67.0%) identified as female. Reported age ranged from 18 to 29 years with a mean age of 23.76 years (SD=3.38, median=24). The mean age for males (m=24.62, SD 3.16), was significantly higher than females (m=23.34, SD=3.42; Welch t(431.49)=21.33, p<.001). The sample mostly consisted of respondents from New South Wales, Victoria and Queensland, in line with the population distribution. Most of the sample were born in Australia (93.5%), spoke English as their main language at home (97.0%), and 40.5% had completed a university, college degree or postgraduate qualifications. Most respondents (69.2%) were in full-time, part-time, or casual work, and reported a median income of $50,000-$59.999. Male participants were more likely to be living in a single person household, live in New South Wales, have a university degree and work full time or be self-employed compared to females. Females were more likely to be living with a partner, live in Victoria or Queensland, not have completed higher education and be working part-time or in full-time home duties.

4.2.2. Betting behaviour

Around one-third of the sample bet on sports at least weekly (31.1%), followed by 17.2% betting at least weekly on esports, and 15.6% on fantasy sports. This high betting frequency reflects the survey inclusion criteria of betting at least monthly on one of these betting types.

4.2.3. PGSI, SGHS and impulsivity

Most of the sample were at some risk of gambling-related problems: 15.1% were non-problem gamblers, 18.2% low risk gamblers, 23.7% moderate risk gamblers and 43.0% were in the problem gambling category of the PGSI. The mean PGSI score was 7.26 (SD=6.33), median = 6. As assessed by the SGHS, most participants (n=452, 73.38%) experienced 1 or more harms, and 43% (n=265) experienced 4 or more harms. The mean number of harms reported was 3.30 (*SD* 2.95, median 3). BIS Brief Scores ranged from 8 to 30, with a mean of 19.37, higher scores reflect greater impulsiveness.

4.2.4. Characteristics of sports, esports and DFS bettors

Sports bettors in this sample (*n* = 524) were more likely to be female (64.7%), with a mean age of 23.9 years. On average they experienced 3.2 harms on the SGHS, and 40.6% met criteria for problem gambling, 23.7% for moderate risk gambling, 20.0% for low risk gambling, and 16.6% for non-problem gambling. In the esports bettors' sample (*n* = 311), 44.7% were male, with a mean age of 24.0 years. On average they experienced 3.8 harms on the SGHS, and 57.2% met criteria for problem gambling, 21.2% for moderate risk gambling, 14.5% for low risk gambling, and 7.1% for non-problem gambling. Amongst the DFS bettors (*n* = 302), 45.0% were male, with a mean age of 23.9 years. On average they experienced 4 harms on the SGHS, and 61.3% met criteria for problem gambling, 21.9% for moderate risk gambling, 9.9% for low risk gambling, and 7.0% for non-problem gambling. These subsamples included all respondents who reported participating in that type of betting at least monthly, so the subgroups were not mutually exclusive.

4.2.5. Platform spend and preferences

Of the respondents who bet on sports at least monthly (*n* = 524), the mean amount spent in a typical month across all platforms was $302.50 (SD=$2,647.00; median $60.00). The most used platform was a smartphone (72.9%), followed by a computer (12.5%) and land-based venues (7.3%). Most participants (85.7%) preferred sports betting via a smartphone. For at-least monthly esports bettors (*n* = 311), the mean amount spent in a typical month across all platforms was $176.20 (SD=$369.08; median $80.00). The most used platform was a smartphone (63.9%), followed by a computer (16.7%) and land-based venues (7.5%). Most participants (74.3%) preferred esports betting via a smartphone. Respondents who bet on DFS at least monthly (*n* = 302) typically spent a mean monthly amount of $153.63 (SD=$275.18; median $60.00) across all platforms. The most used platform was a smartphone (63.1%), followed by a computer (17.3%) and gaming console (7.9%). Most DFS bettors (68.5%) preferred DFS betting via a smartphone.

From the preferred platforms for each type of gambling, a combined variable was created. Most participants had a consistent preference for betting via a smartphone (75.6%). Just under 10% had a consistent preference for betting via their computer/laptop/tablet or gaming console. In contrast, 12.7% had a mixed preference for betting, depending on the type of betting they were doing at the time (e.g., an

individual preferred a smartphone for sports betting and a computer for esports betting). Just under 2% of participants preferred other betting platforms (e.g., at a venue).

4.2.6. Recall of betting advertising and promotions

Around half of the participants (49.1%) recalled advertisements, promotions, or commentary about betting on sports, esports or DFS at least once a week online or in social media. This was followed by on television (43.3% at least once a week), radio (34.9%) and direct messages (32.5%). The most common types of wagering promotions recalled were money-back guarantees (41.9% at least once a week), followed by bonus bets for placing certain bets (41.8%) and better odds for winnings for certain combined bets (41.5%).

4.3. Preferred features of betting platforms

4.3.1. Overall importance of betting platform features

Overall, the participants identified the most important features of betting platforms as being able to bet from any location (m=2.96), able to instantly place bets (m=2.94), being able to bet with electronic money (m=2.94) and being able to quickly access and transfer money for betting (m=2.92; Figure 4.1). The least important features were being able to bet with cash (m=2.38), being able to avoid other people while betting (m=2.46) and being able to bet anonymously (m=2.51). However, respondents on average rated all the features of betting platforms as at least moderately important. Please see Appendix D for a summary of statistical comparisons between these features.

Preferences

Feature	Mean
Being able to bet from any location	2.96
Being able to instantly place bets	2.94
Being able to bet with electronic money	2.94
Being able to quickly access and transfer money for betting	2.92
Being able to access betting promotions instantly	2.90
Being able to easily place bets	2.90
Being able to bet without having to travel somewhere	2.86
Being able to access a wide range of bets	2.86
Being able to access a wide range of betting promotions	2.85
Being able to link directly to betting promotions from your betting device	2.82
Being able to easily research betting information	2.82
Being able to bet at any time of the day or night (24/7)	2.82
Being able to bet while doing other things	2.81
Seeing frequent betting promotions, e.g. specials, bonus bets	2.77
Being able to access responsible gambling tools	2.74
Being able to place in-play bets (bets placed after a match has started)	2.72
Being able to bet alone, without other people around	2.66
Being able to bet with more than one operator	2.61
Being able to keep your betting private, without anyone else knowing	2.60
Being able to bet in social settings (e.g., in a venue, at friends' homes)	2.59
Being able to use a credit card for betting	2.54
Being able to bet anonymously so there is no record of your betting	2.51
Being able to avoid other people when you are betting	2.46
Being able to bet with cash	2.38

Figure 4.1 – Importance of features of betting platforms (N=616)

Questions: FBC_1-3. Note: higher betting features scores reflects a higher rating of importance.

4.3.2. Importance of betting platform features by groups

We explored the reported importance of each of the features of betting platforms across gender, age, type of betting, preferred platform, PGSI, SGHS and impulsivity. Detailed and inferential statistics are presented in Appendix D.

Age and gender

Male respondents rated several features as being more significantly important than rated by female respondents. The most significant differences across gender related to features associated with privacy (e.g., being able to bet alone, without other people around), which were all rated as more important for males than females.

Most betting platform features were rated as more important for older respondents than younger respondents. The most significant differences included being able to instantly place bets, being able to bet from any location, being able to quickly access and transfer

money, being able to bet anonymously and being able to bet without having to travel anywhere.

Type of sports betting

Sports bettors rated almost all the betting platform features as more important than non-sport bettors. Features relating to promotions (e.g. seeing frequent betting promotions) were all rated as significantly more important for sports bettors, as were features related to convenience (i.e. being able to easily place bets) and betting opportunities (e.g. being able to access a wide range of bets). Being able to bet with electronic money and to quickly access and transfer money for betting were also rated as significantly more important by sports bettors, as was being able to bet alone, without other people, and being able to bet in social settings.

Esports bettors rated several features as more important than non-esports bettors. These include being able to bet with more than one operator, with cash, use a credit card, bet anonymously and avoid other people when you are betting. Features that were rated significantly less important than non-esports bettors were: being able to easily place bets, instantly place bets, and bet while doing other things.

Participants who were at least monthly DFS bettors rated as significantly more important being able to bet with more than one operator, bet with cash or credit card, and many of the options associated with privacy. DFS bettors rated the following features as significantly less important than non-DFS bettors: being able to easily place bets, instantly place bets, easily research betting information, bet while doing other things and bet with electronic money.

Preferred betting platform

There were some significant differences for betting platform features by participants' preferred betting platform. Mixed platform users were those with different preferred platforms (smartphone or computer/laptop/tablet/gaming console) depending on what type of betting they are participating in (sports, esports or DFS). Those who preferred mixed platforms rated the following features as significantly more important than exclusive smartphone bettors: being able to bet with more than one operator, bet with cash or credit card, see frequent promotions, access betting promotions, bet anonymously and avoid other people while betting. There were no significant differences found in importance of any of the features of betting platforms between smartphone bettors and computer/laptop/tablet/gaming console bettors, or between computer/laptop/tablet/gaming console and mixed platform bettors.

PGSI

Participants with a PGSI score of 3 or over, rated several features as significantly more important than those with a PGSI score under 3. These included being able to bet with more than one operator, bet with cash, bet with a credit card, see frequent promotions, place in-play bets, and all the features associated with privacy (e.g., being able to bet alone, without other people around). The features that people with PGSI 3 or overrated significantly less important than those with a lower PGSI score were being able to easily place bets, bet while doing other things, and bet with electronic money.

Participants who scored 1 or more on the SGHS rated around half of the betting platform features as significantly more important than those who scored 0. These features included being able to bet with more than one operator, use a credit card, bet without having to travel, place in-play bets, all features associated with access to betting promotions (e.g. being able to access betting promotions instantly), and all features associated with privacy (e.g. being able to bet alone, without other people around), as well as being able to access responsible gambling tools.

Impulsivity

There were significant but weak correlations between impulsivity and the importance of many of the betting features. The strongest relationships were between higher levels of impulsivity and greater importance placed on being able to easily research betting information, access a wide range of bets and link directly to betting promotions from their betting devices.

4.4. Discrete choice experiment of preferences for betting platform features

This section explains the methods and presents the results of the discrete choice experiment of preferences for betting platform features.

4.4.1. Approach

To understand the importance of various features of betting platforms, this study employed a discrete choice modelling approach known as conjoint. Conjoint is an experimental surveying technique where respondents are asked to make trade-offs between several choices. The experimental design varies the features that go into these choices. Conjoint uses statistical modelling to explain a respondent's decisions in terms of the features of the options presented.

In this study the decision task was a response to the question: *"Please review the 2 options below. If you had to choose just ONE of these options, which would you PREFER when you are betting on the type of betting you do most often? Try to visualise yourself in each of these situations when you're betting on this activity."*

The respondent was given the option to select from two different choice sets composed of six features. Table 4.1 presents the features and the levels within in each feature.

Table 4.1 – Features and levels for the conjoint analysis.

Feature	Levels
Convenience	1.1 Can instantly place bets 24/7 from any location 1.2 Can instantly place bets 24/7 from home or work only 1.3 Can only place bets at a betting venue during opening hours
Betting Info	2.1 Moderately easy to research betting information online 2.2 Very easy to research betting information online 2.3 Can research betting information only from non-internet sources
Opportunities	3.1 Can access a wide variety of bets through multiple operators 3.2 Can bet with only one operator
Transaction	4.1 Can bet with electronic money (e.g., debit card, credit card, EFTPOS, bank transfer, etc.) 4.2 Can bet with cash
Promotions	5.1 See very frequent betting promotions 5.2 See moderately frequent betting promotions 5.3 See limited betting promotions
Privacy	6.1 Can bet alone and in social settings while keeping your betting private 6.2 Can only bet alone which keeps your betting private 6.3 Can only bet in social settings where others can see you bet

4.4.2. Conjoint analysis methodology

Conjoint analysis treats each feature (in this case, statement) as contributing to the overall utility of the package. Typically used in consumer choice studies, utility is the theoretical framework that respondents use to answer the question asked of them. Respondents are assumed to be utility maximisers and, as the utility of the package rises, the probability that it will be selected increases. Statistical modelling is used to estimate the utilities from respondents' decisions in the survey. To estimate the utilities of each feature, a hierarchical Bayesian multinomial logit model is used. The model is hierarchical in the sense that each respondent has individual utilities estimated, but they are tied together and estimated from the population distribution of a feature's utility distribution.

A person's individual utility for a single feature can thus be thought of as composed of a mean for that feature from the entire population, effect shifts for the specific covariate groups to which the respondent belongs, plus a final shift for the individual's unique preferences. For this study we estimated covariate effects for six different segments: gender, age (binary: 18-24 vs 25-29), PGSI score (binary: 0-2 vs 3-27), SGHS score (binary: 0 vs 1-10) and whether or not the respondent had bet on esports (or not) or DFS (or not). Table 4.2 shows the sample size of these various covariate segments in the sample.

4.4.3. Sample statistics

Table 4.2 – Number of respondents in each category split for the conjoint analysis

Category	Segment	Sample size
Gender	Female	413
	Male	203
Age	18-24	327
	25-29	289
PGSI	0-2	205
	3-27	411
SGHS	0	164
	1-10	452
Esports Betting (ESB)	No	305
	Yes	311
Daily Fantasy Sports Betting (DFSB)	No	314
	Yes	302
Total Sample		616

Note: The first segment for each category was coded as 0 for analysis, with the second segment coded as 1. For example, age 18-24 was coded as 0 and 25-29 coded as 1.

4.4.4. Understanding significant effects

Step 1

Statistical testing was undertaken using Linear Probability Models, employing Ordinary Least Squares Regression. A separate Linear Probability Model was run for each covariate, namely gender, age, PGSI, SGHS, ESB and DFSB. Included in each model was the main effect of each product feature, and the interaction between those main effects and the covariate. All variables were dummy coded. For the dummy coding of the covariates, 1 represented the greater score on the scale (rather than a lesser score), the presence of the target covariate (rather than its absence), and for gender whether the participant was male (vs female). For the dummy coding of the main effects, see the variable key for the variable naming convention and choice of reference level (Table 4.3). The dependent variable was whether an alternative within a choice set was chosen (1) or not (0).

The interactions in the models were the target of the analysis. All of the effects below indicate that one of those interaction terms were significant. A significant interaction indicates that the impact of the feature of the alternatives on the dependent variable (choice) is different between the groups of people represented by the covariate. Note that dummy coded variables have multiple p values, one for each of the variables used to represent the various levels of the attributes; only one variable needs to be significant for the whole attribute to be considered significant.

Step 2

A second analysis step is used to estimate the marginal means within the ordinary least squares interaction term and the confidence intervals for each marginal mean. This allows comparison of significance of choice probability across the covariates for each level of the features. The 95% confidence intervals were used for this determination. A simplified model is used where only the target attribute and a covariate is included.

Note: there may appear to be inconsistencies between the Step 1 and Step 2 results. This is to be expected. The Step 1 analysis looked at whether the WHOLE ATTRIBUTE was being impacted by for example, gender, but the Step 2 analysis is looking at whether a particular LEVEL within an attribute is being impacted.

Table 4.3 – Variable labels for each feature level for the conjoint analysis

Feature	*Levels*	**Variable name**
Convenience	1.1 Can instantly place bets 24/7 from any location	Convenience1
	1.2 Can instantly place bets 24/7 from home or work only	Convenience2
	1.3 Can only place bets at a betting venue during opening hours	Reference Category (= 0)
Betting Info	2.1 Moderately easy to research betting information online	BettingInfo1
	2.2 Very easy to research betting information online	BettingInfo2
	2.3 Can research betting information only from non-internet sources	Reference Category (= 0)
Opportunities	3.1 Can access a wide variety of bets through multiple operators	Opportunities1
	3.2 Can bet with only one operator	Reference Category (= 0)
Transaction	4.1 Can bet with electronic money (e.g., debit card, credit card…)	Transaction1
	4.2 Can bet with cash	Reference Category (= 0)
Promotions	5.1 See very frequent betting promotions	Promotions1
	5.2 See moderately frequent betting promotions	Promotions2
	5.3 See limited betting promotions	Reference Category (= 0)
Privacy	6.1 Can bet alone and in social settings while keeping your betting private	Privacy1
	6.2 Can only bet alone which keeps your betting private	Privacy2
	6.3 Can only bet in social settings where others can see you bet	Reference Category (= 0)

4.4.5. Conjoint results

Overall feature importance

Figure 4.2 shows the importance for each of the six feature groups tested. Feature importance is a measure of how impactful the items in each group are in terms of influencing choices made by respondents. The Convenience feature group is the most impactful overall, closely followed by the Transaction group. Features of comparatively lesser impact are Betting Info and Opportunities, followed by Privacy and Promotions.

The features that are significant predictors (main effects) of choice, in order, are:

- Convenience ($p < .01$)
- Transaction ($p < .01$)
- Betting Information ($p < .01$)
- Opportunities ($p < .01$)

The features that are NOT significant predictors (main effects) of choice are:

- Promotions ($p > .05$)
- Privacy ($p > .05$)
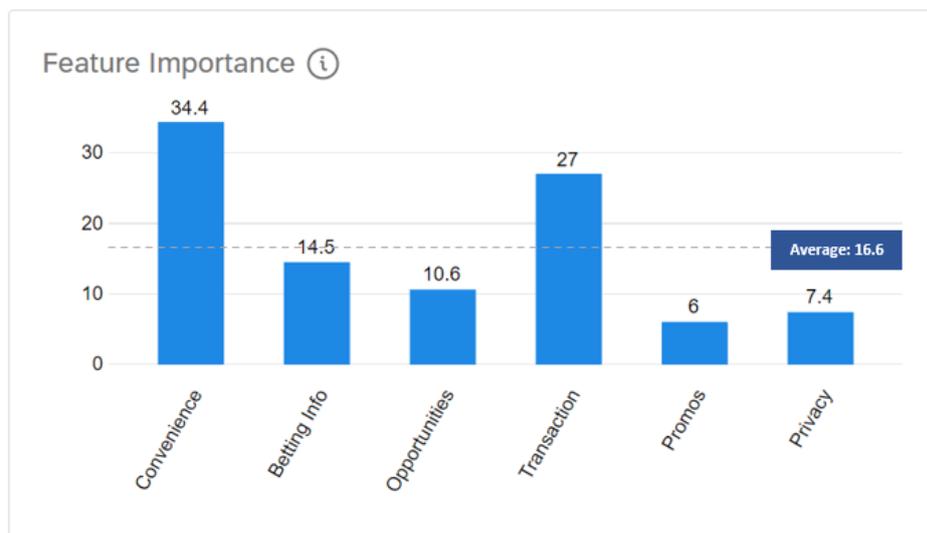
Figure 4.2 – Overall feature importance

Optimal combination of feature levels

Table 4.4 shows the optimal combination of feature levels that maximises utility for respondents. Being able to instantly place bets 24/7 from any location (Convenience) and using an electronic means of payment (Transaction) are the levels most likely to impact choice overall. Being able to find information online moderately easily (Betting info) and being able to bet with multiple operators (Opportunities) were optimal levels for the other features that significantly predicted choice.

Table 4.4 – Optimal combination of feature levels

Feature	Optimal levels
Convenience	Can instantly place bets 24/7 from any location
Betting Info	Moderately easy to research betting information online
Opportunities	Can access a wide variety of bets through multiple operators
Transaction	Can bet with electronic money (e.g., debit card, credit card, EFTPOS, bank transfer, etc.)
Promotions	See moderately frequent betting promotions
Privacy	Can bet alone and in social settings while keeping your betting private

Relative utility of each feature level

Figure 4.3 shows the overall relative utilities calculated from the survey. Levels relating to Convenience (Can instantly place bets 24/7 from any location) and Transaction (Can bet with electronic money) were the most impactful on choice of preferred betting situation. Other features that had a significant relationship with choice preferences include Betting Information (Moderately easy to research betting information online) and Opportunities (Can access a wide variety of bets through multiple operators). While Promos and Privacy were not significant main effects predicting choice, the optimal levels for these were moderate or limited promotions (vs frequent) and being able to bet alone *and* socially, rather than only betting in social situations where others can see you betting.

Convenience
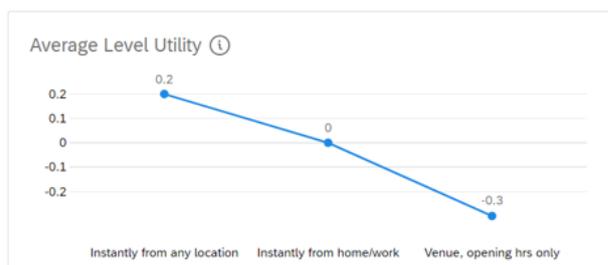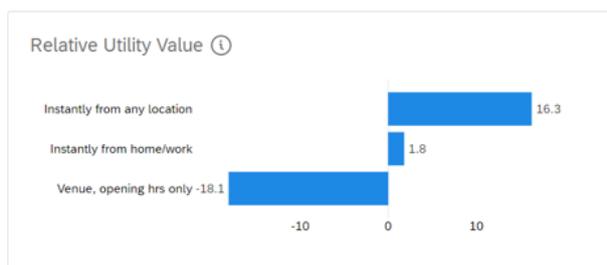
Betting Info
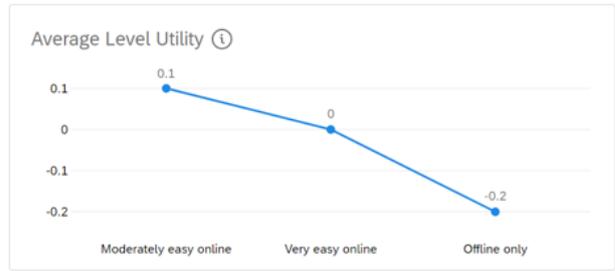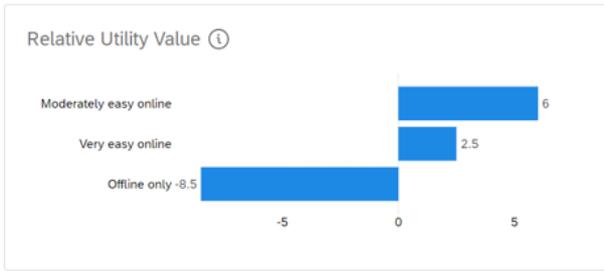
Opportunities
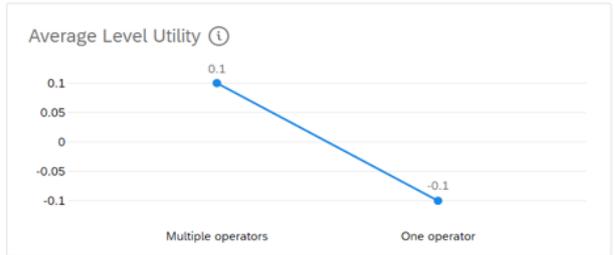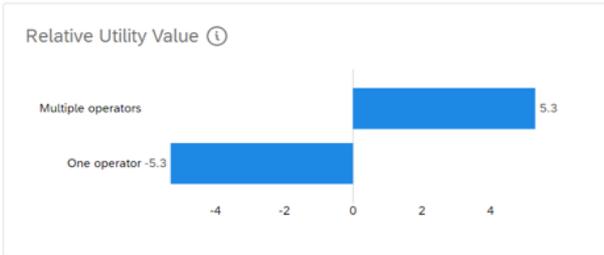
Transaction
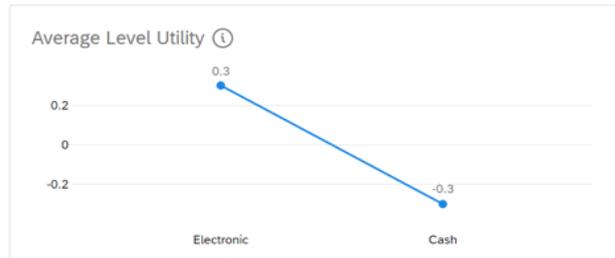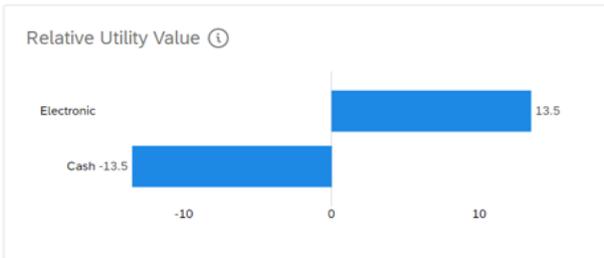
Promos
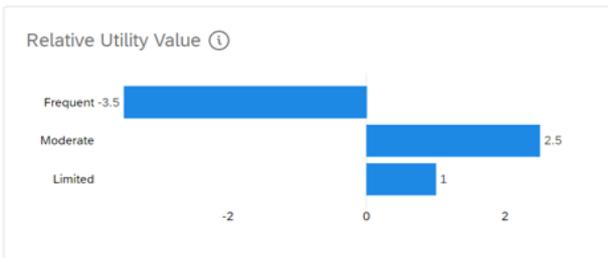
Privacy
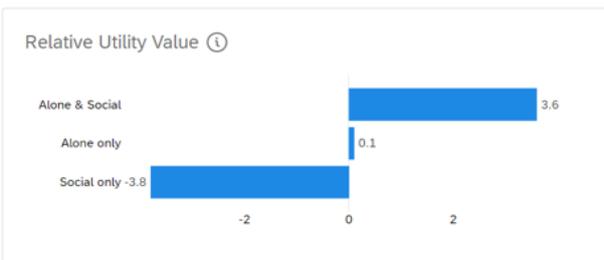
Figure 4.3 – Relative utility for each level of each feature

Preference share for each feature level

Another way of looking at relative utility is to examine preference share. Figure 4.4 below is a transformation of Figure 4.3 above, but in probabilistic terms. These plots show preference share between the levels shown to respondents. These bars are created by calculating what proportion of people would choose that statement if they were presented with a message that was identical in every way but varied by the statements within that group. Thus, the bars within each group sum to 100%.

This plot emphasises the relatively small differences in preference for some levels and much wider variation for more impactful items. For example, for the Betting Info feature, 'Moderately easy online' and 'Very easy online' are almost identical in terms of preference; however, both levels are notably more preferred to 'Offline only'. However, for Promos and Privacy, there is little difference amongst the levels.

The interpretation of these results is similar to that seen for the relative utility above. For Convenience, being able to bet instantly 24/7 from any location is preferred by 42% of respondents, and for transactions, 62% prefer an electronic means. These are not additional results to the previous section, but instead another way to interpret them. It is important to recognise that the numbers must be considered in relation to how many levels are in the category. For example, if two levels are presented, then 50% is the null value. If three levels are presented, 33% is the null value.

Convenience

Preference Share ⓘ

Instantly from any location	42%
Instantly from home/work	32%
Venue, opening hrs only	26%

Betting Info

Preference Share ⓘ

Moderately easy online	37%
Very easy online	35%
Offline only	28%

Opportunities

Preference Share ⓘ

Multiple operators	55%
One operator	45%

Transaction

Preference Share ⓘ

Electronic	62%
Cash	38%

Promos

Preference Share ⓘ

Moderate	35%
Limited	34%
Frequent	32%

Privacy

Preference Share ⓘ

Alone & Social	35%
Alone only	33%
Social only	31%
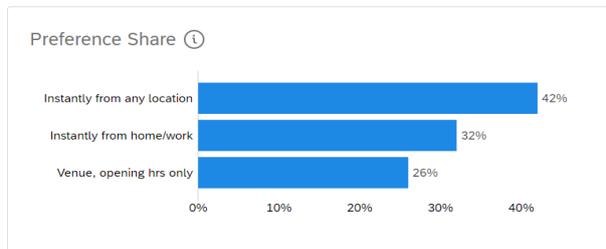
Figure 4.4 – Preference share for each level of each feature

We examined differences in overall feature importance and relative utility for feature levels by segment: gender (male vs female), age (18-24 and 25-29), PGSI score (PGSI 0-2 vs 3-27), SGHS score (SGHS 0 vs 1-10), esports bettors (vs non-esports bettor) and DFS bettors (vs non-DFS bettor). The results for both overall feature importance and relative utility were not significantly different by segment. These results are presented in Appendix D.

4.5. Chapter summary

The chapter has reported the results of an online survey and discrete choice experiment conducted with 616 Australian residents aged 18-29 years who bet at-least monthly on sports, esports and/or DFS. The aim was to examine 1) preferred features of betting platforms and 2) whether feature preferences are associated with gambling problems and harm. The types of features examined related to convenience, access to betting information, access to betting opportunities, financial transactions, betting promotions, and privacy of betting. These features have inherent variations, depending on whether betting is conducted using a smartphone, computer or in a land-based venue.

Preferred features of betting platforms

The descriptive survey results found that respondents rated the most important features of betting platforms as being able to bet from any location, instantly place bets, bet with electronic money, and quickly access and transfer money for betting. However, the mean importance scores for the 24 features that respondents were asked to rate had a narrow range and respondents on average rated all the features as at-least moderately important.

Instead of a simple rating of individual features, the discrete choice experiment required respondents to make 'trade-offs' in their choice of important features, by presenting combinations of features to select from. Consistent with the descriptive results, the experiment also found that the most important features were convenience (specifically being able to bet instantly 24/7 from any location), and the ability to use electronic financial transactions methods. Additionally, being able to access betting information online, either moderately easily or very easily, was important compared to only being able to access information offline. Being able to bet with multiple operators was also important, compared to only being able to bet with one operator. Access to promotions, and privacy, were relatively less important features.

The discrete choice experiment found that the optimal combination of betting features had the following components:

- Being able to bet instantly 24/7 from any location.

- Being moderately easy to find betting information online.

- Being able to bet with multiple operators.

- Being able to use electronic transactions.

- A moderate amount of promotions.

- Being able to bet either when alone or in a social setting.

Importantly, all these features are only available when betting using a smartphone.

Whether feature preferences are associated with gambling problems and harm

In the descriptive survey results, an analysis of whether feature importance was associated with gambling problems and harm identified several significant differences. Higher-risk gamblers (problem/moderate risk) rated several features as significantly more important than non-problem/low risk gamblers. These included being able to bet with more than one operator, bet with cash, bet with a credit card, see frequent promotions, place in-play bets, and all the features associated with privacy (e.g., being able to bet alone, without other people around). Not surprisingly, similar results were found when comparing feature importance amongst respondents who reported gambling harm (SGHS > 1) compared to those who did not (SGHS = 0). 'Harmed bettors' rated around half of the 24 features as significantly more important than those who scored 0. These features included being able to bet with more than one operator, bet with a credit card, bet without having to travel, place in-play bets, all features associated with access to betting promotions, all features associated with privacy when betting, and access to responsible gambling tools. Thus, betting with multiple operators, betting on credit, placing in-play bets, access to betting promotions, and privacy when betting, were more important to higher-risk and harmed bettors, compared to their lower-risk and unharmed counterparts.

However, the discrete choice experiment found no statistically significant differences between feature preferences or preferred feature levels based on PGSI and SGHS segments, nor based on gender, age, or type of betting. This result may reflect a similar combination of preferences amongst sports, esports or DFS bettors regardless of risk level and demographics. Alternatively, larger samples with more statistical power may be needed to detect any actual differences.

Chapter 5. Ecological momentary assessment study

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Key findings

- The EMA analysed 1,378 betting sessions on sports, esports and DFS, reported by 267 respondents (aged 18-29 years) over 10 weeks.

- Across all betting forms combined, prioritisation of different situational features was associated with varying betting behaviours and outcomes. Importantly, prioritising the *ability to bet anywhere anytime*, *privacy when betting* and *greater access to promotions and betting options* were associated with greater short-term betting harm.

- When controlling for these situational features, betting with a smartphone was significantly associated with greater likelihood of betting impulsively, compared to when betting using a computer/laptop/tablet.

- Gamblers with a higher PGSI score were more likely to prioritise *ability to bet anywhere anytime*, and *privacy when betting*. They were also more likely to bet on key events or micro-events within the match, take up promotional inducements, bet with more operators, and have greater short-term betting harm.

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This chapter presents the methods and results for Stage 4 of this study. It involved an ecological momentary assessment (EMA) to examine the impact of platform characteristics on situational sports betting behaviours and related harms. Based on the 1,378 betting sessions reported, the EMA examined 1) platform characteristics and situational features associated with potentially harmful betting behaviours and short-term betting-related harm; and 2) whether these varied by betting form, problem gambling severity, and demographics.

5.1. Methods

5.1.1. Inclusion criteria and exclusions

Respondents were required to be aged between 18 and 29, reside in NSW, and bet on sports, esports or daily fantasy sports (DFS) on an at-least fortnightly basis. Qualtrics recruited the respondents through several panel providers. Respondents were reimbursed for each survey in line with the regular practices of their panel provider.

The study involved a baseline survey that was open for two weeks, followed by 10 EMA surveys each conducted one week apart. Table 5.1 lists the survey dates and number of responses. Each EMA wave opened on a Tuesday, and respondents were sent up to three SMS reminders per week if they had not completed the EMA survey. Respondents were not required to provide their phone numbers to the research team; the messaging was conducted via their panel providers.

Table 5.1 – Dates of the baseline and EMA surveys

Wave	Open date	Close date	Number of completed responses
0 (Baseline)	19th June 2021	29th June 2021	267
1	29th June 2021	5th July 2021	198
2	6th July 2021	12th July 2021	196
3	13th July 2021	19th July 2021	192
4	20th July 2021	26th July 2021	172
5	27th July 2021	2nd August 2021	172
6	3rd August 2021	9th August 2021	161
7	10th August 2021	16th August 2021	164
8	17th August 2021	23rd August 2021	162
9	24th August 2021	30th August 2021	153
10	31st August 2021	6th September 2021	147

Note: The completed responses refer to the number of responses in each wave after exclusions and data quality checks.

The baseline survey served as a screening tool. Only those who were deemed eligible in the baseline survey were invited to the subsequent EMA surveys. A total of 567 potential respondents were invited to the baseline survey. Of those, three did not consent to take part in the survey; 22 were outside of the required age range; 19 did not live in NSW; 179 were deemed ineligible because they did not bet on sports, esports or DFS at the required frequency, and 36 started the survey after the required sample size had been met but before the survey was closed. Four respondents were screened out by an attention check question. Subsequent data scrubs excluded a further 23 because their IP address indicated they were not in Australia (n = 14), their IP addresses and other information indicated duplicate responses (n = 7), and because they sped through the survey (n = 2). Of the remaining 282 respondents, 15 started but did not complete the baseline survey, for a completion rate amongst eligible respondents of 94.7% (N = 267). Due to the different procedures of the different panels, it is unclear how many respondents were invited into the survey so a response rate cannot be calculated.

Each EMA wave was also screened for data quality. Because the respondents were pre-screened in the baseline survey, very few data quality issues were observed during the EMA surveys, and only seven responses were removed as probable duplicate responses. Importantly, these duplicate responses did not have implications for other waves of the study; that is, while these duplicates were found in two waves, this did not necessarily mean that there were also duplicate responses from the same respondents in other waves of the study.

5.1.2. Measures

Table 5.2 indicates the measures that were included in each wave of the study. EMA waves 1-10 were all identical, with the baseline survey including additional questions.

Table 5.2 – Measures in each wave of the study

Measures	Baseline	EMA waves 1-10
Demographics		
Age	Ö	
State	Ö	
Gender	Ö	
Marital status	Ö	
Household type	Ö	
Highest educational level	Ö	
Work status	Ö	
Country of birth	Ö	
Language other than English	Ö	
Aboriginal or Torres Strait Islander descent	Ö	
Personal income	Ö	
Last 12 months		
Problem Gambling Severity Index	Ö	
Betting frequency:		
Sports betting	Ö	
Esports betting	Ö	
DFS betting	Ö	
Betting expenditure		
Sports betting	Ö	
Esports betting	Ö	
DFS betting	Ö	
Betting devices used		
Sports betting	Ö	
Esports betting	Ö	
DFS betting	Ö	
Last 7 days		
Betting on each form (no/yes)	Ö	Ö
Platform most used	Ö	Ö
Number of bets vs usual	Ö	Ö
Betting expenditure vs usual	Ö	Ö
Time spent betting vs usual	Ö	Ö
% bet on impulse bets	Ö	Ö
% bet on final outcome, key events, micro-bets	Ö	Ö
Number promotional offers taken up	Ö	Ö
Number of operators used	Ö	Ö
Situational features (false/true)	Ö	Ö
Short Gambling Harms Screen (no/yes)	Ö	Ö

Note: Betting questions for the 'last 12 months' were asked for each form. Betting questions for the 'last 7 days' were asked for specific forms only, with priority given to DFS then esports (if respondents reported betting on multiple forms in the last 7 days), since their prevalence was expected to be lower than sports betting.

Demographics: Respondents were asked their age and state of residence (which also served as screening questions), gender, marital status, household type, highest education qualification, work status, country of birth, main language spoken at home, Aboriginal and Torres Strait Islander status, and personal annual pre-tax income.

Betting over the last 12 months: Respondents were asked how often over the last 12 months they had bet on sporting events (not including race betting), esports or DFS. For

each form that respondents had bet on during the last 12 months, they were asked their typical monthly expenditure, including online, by telephone or at land-based venues, and the percentage of their bets that were placed via smartphone, computer/laptop/tablet, gaming console, at land-based venues and using telephone calls, with responses over the five categories required to sum to 100%.

Problem Gambling Severity Index (PGSI; Ferris & Wynne, 2001): All respondents completed the PGSI at baseline, reflecting on their gambling overall in the previous 12 months, rather than only their betting on sports, esports and/or DFS. The PGSI consists of nine items, with response options never (0), sometimes (1), most of the time (2) and almost always (3). Items are summed for a total between 0 and 27. Cronbach's alpha and McDonald's omega were both .92 in this sample.

Betting during the last 7 days and on their most recent betting session: In the baseline survey and in each EMA survey, respondents were asked whether they had bet on sports, esports, and/or DFS (no, yes). This section of the survey was customised for each respondent, and questions asked about one of these betting forms only, even if respondents had bet on more than one. Because the prevalence of DFS and esports betting is much lower than sports betting in NSW (Browne et al., 2020), if a respondent indicated one of these forms, those forms were chosen over sports betting, rather than respondents being randomly allocated to a form, to ensure that we had data for the lower prevalence forms. The preference order was betting on DFS, esports, and then sports, so that people who were asked about sports betting were respondents who only took part in that form during the previous 7 days. This allocation was conducted separately for each survey, rather than respondents being allocated to one of the forms in the baseline survey and continually being asked about that form, as they may not have bet on that form during each 7-day period.

Each respondent was asked about their most recent betting session during the last 7 days on their allocated betting form. They were asked which channel they mainly used (smartphone, computer/laptop/tablet, gaming console, land-based venue, telephone call). They were also asked how the number of bets they placed, their expenditure and the time they spent betting compared to how much they had planned (much less than planned, a bit less than planned, about the same as planned, a bit more than planned, much more than planned). Respondents reported the percentage of their bets that were researched and planned in advance of the match, placed on the spur of the moment before the start of the match, or placed on the spur of the moment during the match. They were also asked the percentage of their bets that were placed on the final outcome of the match, on key events within the match, and on micro events within the match. Respondents reported how many special offers they used, specifically bonus bets, odds boosts, or money-back offers, and how many operators they placed bets with.

Situational features of their most recent betting session: Respondents were asked to rate 25 questions about their preferences for situational features of their most recent betting session as false or true. These questions included statements such as 'You wanted to bet with cash', 'You wanted to easily research betting information' and 'You wanted to bet from home'.

Short Gambling Harms Screen (Browne et al., 2018) in relation to the last 7 days: At baseline and in each EMA, respondents were asked to complete a modified version

of the SGHS. The modified version included the same 10 questions and response options as the original, but the timeframe was modified from 12 months to 7 days. Further, the SGHS asked about harms relating to whichever form respondents were allocated to: sports, esports or DFS. In each EMA, respondents who had not bet on any of these three forms within the last 7 days were asked to complete the SGHS in relation to their overall gambling in the last 7 days. Reliability at baseline was .87 for both Cronbach's alpha and McDonald's omega.

5.2. Analysis

5.2.1. Pre-processing

Data was recorded in SPSS and transferred to R (Core Team, 2020) for subsequent analyses.

Data from the 10 weekly EMA measurement periods were collated into a single 'long' format dataset with multiple rows per participant. Situational features were coded as binary variables (false/true). With few exceptions, variables did not require special coding prior to analysis. However, the number of operators bet with (free entry positive count) were thresholded at 5, so the few observations above 5 did not unduly affect the results. Relationship status was recoded to binary: 'in relationship' (married or de facto) or not. Employment status was recoded as being in full-time employment or not. Past-year PGSI and situational SGHS scores were not transformed as they did not appear as dependent variables in the analyses. The large set of 25 situational features were explored using oblique rotation factor analysis before aggregation. Because these were all recorded as binary indicators (true or not), the correlation matrix for the factor analysis was calculated using tetrachoric correlations. Education and income were ordinal categories and treated as a numeric integer score for analyses.

Two multiple-select outcome variables were transformed to binary prior to analysis. The response categories to the question, '*During this recent betting session, what percentage of your bets would you describe as…*' were originally recorded as: Researched and planned in advance / On the spur of the moment before the start of the match / On the spur of the moment during the match. For the purpose of analyses, the latter two categories were collapsed, and described below as 'Bet impulsively' (versus 'Researched and planned in advance'). The response categories to the question, '*During this recent betting session, what percentage of your bets did you place on…*' were originally recorded as: The final outcome of the match / Key events within the match (e.g., who will score the first point) / Micro-events within the match (e.g., whether the next try in NRL will be converted). The latter two categories were collapsed and described below as 'Bet on events or micro-events' (versus 'The final outcome of the match').

The betting channel for each session was originally recorded via five options: Smartphone (1), Computer/laptop/tablet (2), Gaming console (3), At land-based venues (4), and Using telephone calls (5). However, as shown below in the descriptive tables, less than 30 cases were recorded for three response options 3-5 due to the unexpected impact of COVID-19 on participant mobility and access to venues. No cases were recorded for telephone calls and this level was necessarily dropped. The small number

of instances of land-based venue betting sessions (11) were excluded for certain analyses that focused on channel. For other analyses, gaming console and land-based venue levels were retained as factor levels. However, caution should be exercised in interpreting these effects for these levels due to the small number of cases in these cells.

5.2.2. Regressions

The design of the study was in the form of an exploratory and descriptive EMA that focused on associations between the following classes of measures:

- *Situational features of betting choices*, such as keeping one's betting private.

- *Form*: sports betting, esports betting, or DFS betting.

- *Channel*: Smartphone, computer/laptop/tablet, gaming console or at land-based venues.

- *Betting behaviours and outcomes*, such as making more bets than planned, or scores on the short-term SGHS measure employed in the study.

- *Demographics and individual differences,* such as gender or 12-month PGSI.

Special note is made of the distinction between the SGHS and the PGSI in the present study. Gambling problems were assessed in terms of the prior 12 months (individual level variable), whilst gambling harms were assessed on the given week of assessment (week level variable). This entails that the PGSI is grouped with other individual differences measures, whilst SGHS is treated as an outcome that is potentially affected by the type of betting behaviour engaged in during the given period (last 7 days).

The regression tables below are organised with respect to a given class of measures as independent variables (IVs), and one or more variables with a different class as the dependent variable(s) (DVs). Whilst causal plausibility governed our choice of which classes featured as IVs or DVs, caution is advised that the design is not an experimental manipulation with clearly defined instrumental, control and outcome variables. Although the EMA design provides for control of individual differences, and the ability to assess within-subject variation over the time frame, it does not provide for unambiguous attribution of causality.

Systematic testing for Missing At Random (MAR) was explored, but deemed unsuitable for the present analysis. MAR testing is appropriate when there is a small and well-defined set of outcome measures, and when time domain effects are of greatest interest. This is because time-domain effects are those that are most affected by differential attrition, which increases over the duration of the study. The present design tested for associations over a broad range of measures and did not include time domain effects.

We employed generalised linear mixed effects (GLME) models to account for within-subjects differences using the lme4 package (Bates & Walker, 2015). A simple random intercept was included for participants, but no other random effects were modelled. For all regressions, both DVs and IVs were scaled, except for binary (0,1) outcomes. Thus,

all regression tables provide standardised regression coefficients, comparable in terms of effect size.

The residuals of the 25 fitted models were seen to be approximately normal by visual inspection. To illustrate, one way of detecting skew is to mark a large deviation of the median to the mean (i.e. 0), of the standardised residuals. In the present analysis, the mean absolute difference of the residual median was 0.094, indicating very little skew. In terms of outliers, the mean minimum standardised residual was 2.54 and the mean maximum standardised residual was 2.80. Thus, there did not appear to be any undue extreme values. The largest variable inflation factor (VIF) for any IV in any model was 1.36, with VIFs generally close to unity, indicating that shared covariance among predictors was not an issue. Visual inspection of plots of estimates versus IVs and residuals versus estimates showed no evidence of significant non-linearity of effect. Thus, assumptions for modelling were deemed to have been met.

5.3. Results

5.3.1. Descriptive statistics

Table 5.3 shows individual and session / weekly level univariate descriptive statistics for key variables. The mean age of participants was 24.8 years (Median 25, Min. 18, Max. 29). Income categories of respondents ranged from $0 to $9,999 per annum (1) to $160,000 or more (17). The median income category was $50,000 to $59,999 per annum (6), with slight positive skew yielding a mean category of 6.97, very close to $60,000 to $69,999 (7). As shown in Table 1, the sample included a much higher proportion of problematic gamblers than the general population, which is commonly found in panel samples and provides larger subgroups of interest (Russell et al., 2021).

Table 5.3 – Descriptive statistics

Between subject measures (N = 267)

	%	N		%	N
Education			**Gender**		
Year 10 or equivalent	3.4	9	Female	49.1	131
Year 12 or equivalent	19.1	51	Male	50.9	136
Trade, technical cert. or diploma	18.7	50	**Marital status**		
A university or college degree	45.7	122	Single/Never married	46.1	123
Postgraduate qualification	13.1	35	De Facto	32.6	87
Employment			Married	20.6	55
Full time	54.7	55	Divorced/Separated/Widowed	.6	2
Part time or casual	30.7	31	**Household**		
Self-employed	2.2	2	Single person	22.5	60
Unemployed	1.5	1	Single parent with children	5.2	14
Full time student	6.4	6	Couple with children	26.6	71
Full time home duties	3.7	4	Couple with no children	26.2	70
Sick or disability pension	0.7	1	Group household	18.0	48
Country of birth			Other	1.5	4
Australia	87.2	233	**PGSI**		
Other	12.7	34	Non-problem gambler (0)	11.2	30
Language			Low-risk gambler (1-2)	18.4	49
English	88.0	235	Moderate-risk gambler (3-7)	13.5	36
LOTE	12.0	32	Problem gambler (8+)	38.6	103

Within subjects measures (N = 1378)

	%	N		%	N
Forms*			**Channel**		
Sports	86.2	1188	Smartphone	82.9	1143
eSports	46.2	637	Computer/laptop/tablet	14.3	197
Fantasy sports	37.0	510	Gaming console	2.0	27
			Land-based venues	0.8	11
			Telephone	0.0	0

Note: * Non-exclusive categories

5.3.2. Factor analysis of situational features

A factor analysis was conducted on the situational features of betting sessions in order to collapse the large number of items to a smaller and more reliable set of motivations. Five factors were identified with eigenvalues above unity and checking of models involving smaller numbers of factors did not display a clear factor structure. As shown in Table 5.4, the five-factor solution yielded a reasonably clear factor structure. The factor labelled *quick easy access from home* included wanting to be able to bet without travelling, while doing other things, without waiting, easily without too much effort, and from home. The *ability to bet anywhere anytime* included wanting to bet in a social setting such as a venue or at friends' homes, in a gaming venue or betting agency, when away from home but not at a venue such as at work and while commuting, and when land-based venues were closed. *Privacy when betting* included wanting to bet alone without other people around, keep your betting private without anyone else knowing, and avoid other people when betting. *Greater access to promotions and betting options* included wanting to access to a wide range of betting promotions, instantly access promotions, link directly to promotions from a betting device, access a wide range of bets, and bet with more than one operator. Finally, *use of electronic*

financial transactions included wanting to bet with electronic money and not wanting to bet with cash. Two situational feature items, *access to responsible gambling tools* and *placing in-play bets*, did not have congruent content and/or split loadings with factors, and accordingly were excluded from subsequent regression analyses. Scores on factors were created by simple summation of the number of positive responses.

Table 5.4 – Results of a factor analysis of the important situational features of a betting session

Item	Situational Features	Privacy when betting	Ability to bet anywhere anytime	Quick easy access from home	Greater access to promotions and betting options	Use of electronic financial transactions	Communality
	You wanted to…						
22	avoid other people when you were betting	.89					1.0
23	keep your betting private, without anyone else knowing	.79					1.2
21	bet alone, without other people around	.78					1.2
24	bet anonymously so there is no record of your betting	.68					1.2
25	access responsible gambling tools (E)	.45					2.0
20	bet in a social setting		.85				1.2
5	bet in a gaming venue or betting agency		.66				1.4
4	bet away from home, but not at a betting agency		.66				1.1
6	bet when land-based betting venues were closed		.52				1.1
16	use a credit card for betting		.50				1.7
12	place in-play bets (E)		.43		.41		2.8
7	bet without having to travel somewhere			.69			1.0
9	bet while doing other things			.66			1.0
2	instantly place bets without waiting			.66			1.1
1	place bets easily without too much effort			.64			1.1
3	bet from home			.54			1.6
8	easily research betting information			.44			2.0
15	quickly access and transfer money for betting			.42			2.3
18	access betting promotions instantly				.80		1.2
19	link directly to betting promotions from your betting device				.70		1.1
17	access a wide range of betting promotions				.56		1.4
11	access a wide range of bets				.52		1.6
10	bet with more than one operator		.31		.38		3.2
13	to bet with electronic money					.58	1.4
14	bet with cash (R)		.50			-.50	2.2

Notes: The extraction method was factor analysis using minimum residual solution method. Factor loadings above .30 are shown. Reverse-scored items are denoted with (R). Items excluded from final factors extracted are denoted with (E). Highlighted cells indicated corresponding factors selected for subsequent analyses.

5.3.3. Associations between betting forms and betting channels

As shown in Table 5.5, for sports betting sessions, respondents were significantly less likely to use a computer/laptop/tablet or gaming console (compared to a smartphone). For esports betting sessions, respondents were significantly more likely to use a computer/laptop/tablet or gaming console (compared to a smartphone). For DFS betting, respondents were significantly more likely to use a computer/laptop/tablet (compared to a smartphone).

Table 5.5 – Regression coefficients of betting form on betting platform

Betting Form (DV)	Betting Platform (reference = smartphone)			Constant	Obs	RE
	Computer/ laptop/tablet	Gaming console	At land-based venues			
	Estimate (*SE*)	Estimate (*SE*)	Estimate (*SE*)	Estimate (*SE*)	*N*	
Sports	-1.013*** (0.262)	-1.424** (0.540)	-0.571 (0.935)	2.770*** (0.198)	1,378	1.43
Esports	1.139*** (0.237)	2.032** (0.636)	1.171 (0.769)	-0.544*** (0.132)	1,378	1.58
Daily Fantasy Sports	0.503* (0.242)	0.727 (0.530)	0.997 (0.834)	-1.127*** (0.162)	1,378	1.83

Notes: *p<0.05; **p<0.01; ***p<0.001; Effects significant at the .05 level highlighted: green (positive) and red (negative) effects, RE = Standard deviation of random effect (intercept) per participant.

5.3.4. Associations between betting forms and situational features

Generalised linear regressions were used to test if the betting form predicted situational features important to a betting session. Table 5.6 summarises beta coefficients for these analyses. For sports betting sessions, respondents prioritised *quick and easy access from home*, *ability to bet anywhere anytime*, and *greater access to promotions and betting options*. For esports betting sessions, respondents prioritised *ability to bet anywhere anytime*, *privacy when betting*, and *greater access to promotions and betting options*, but were less likely to prioritise *quick and easy access from home*. For DFS betting sessions, respondents prioritised *ability to bet anywhere anytime*, *privacy when betting*, and *greater access to promotions and betting options*, but were less likely to prioritise *quick and easy access from home* and *use of electronic financial transactions*.

Table 5.6 – Regression coefficients of situational features on betting form

Factors of betting features (DV)	Betting Form			Constant	Obs	RE
	Sports	Esports	Daily Fantasy Sports			
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	N	
Quick and easy access from home	0.196** (0.071)	-0.110* (0.053)	-0.121* (0.055)	-0.055 (0.086)	1,378	.61
Ability to bet anywhere anytime	0.218** (0.069)	0.243*** (0.051)	0.330*** (0.053)	-0.461*** (0.084)	1,378	.62
Privacy when betting	0.028 (0.072)	0.279*** (0.054)	0.323*** (0.056)	-0.277** (0.086)	1,378	.58
Greater access to promotions and betting options	0.248*** (0.073)	0.111* (0.055)	0.193*** (0.057)	-0.374*** (0.089)	1,378	.63
Use of electronic financial transactions	0.135 (0.079)	0.027 (0.059)	-0.159** (0.061)	-0.071 (0.091)	1,378	.51

Notes: *p<0.05; **p<0.01; ***p<0.001; Effects significant at the .05 level highlighted: green (positive) and red (negative) effects. RE = Standard deviation of random effect (intercept) per participant.

5.3.5. Associations between betting forms and betting behaviours and outcomes

Table 5.7 summarises the unique situational associations between betting form and betting behaviours and outcomes. Sports betting was related to placing more bets than planned, impulsive betting and taking up special offers including odds boosts and bonus bets. Both esports betting and DFS betting was related to using special offers including odds boosts, bonus bets and money-back offers, betting with more operators, and short-term betting harm. DFS was also associated with betting impulsively.

Table 5.7 – Regression coefficients of betting behaviours and outcomes on betting form

Betting behaviours (DV)	Betting Form			Constant	Obs.	RE
	Sports	Esports	Daily Fantasy Sports			
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	N	
Number of bets vs planned	0.210**	-0.020	-0.102	-0.120		.44
	(0.081)	(0.060)	(0.062)	(0.091)	1,378	
Expenditure vs planned	0.139	0.034	-0.061	-0.116		.42
	(0.082)	(0.061)	(0.062)	(0.091)	1,378	
Time spent vs planned	0.130	0.070	0.012	-0.149		.45
	(0.081)	(0.060)	(0.062)	(0.092)	1,378	
Bet impulsively	0.222**	-0.003	0.135*	-0.214*		.62
	(0.075)	(0.056)	(0.058)	(0.090)	1,378	
Bet on events or micro events	-0.071	-0.072		0.117		.68
	(0.114)	(0.077)	^	(0.128)	868	
Use special offers - odds boost	0.172*	0.232***	0.307***	-0.415***		.59
	(0.072)	(0.054)	(0.055)	(0.086)	1,378	
Use special offers - bonus bets	0.245*	0.375***	0.502***	1.161***		.85
	(0.106)	(0.079)	(0.082)	(0.127)	1,378	
Use special offers - money-back offers	0.208	0.480***	0.686***	0.960***		.87
	(0.109)	(0.081)	(0.084)	(0.130)	1,378	
Number of operators used	-0.021	0.146**	0.276***	-0.189*		.59
	(0.069)	(0.052)	(0.054)	(0.084)	1,378	
SGHS Score	0.112	0.261***	0.350***	-0.181*		.66
	(0.068)	(0.051)	(0.053)	(0.085)	1,378	

Notes: *$p<0.05$; **$p<0.01$; ***$p<0.001$; ^ excluded as events not applicable for fantasy sports; Effects significant at the .05 level highlighted: green (positive) and red (negative) effects. Each row summarises standardised beta coefficients for a separate multiple regression for a given dependent variable. RE = Standard deviation of random effect (intercept) per participant.

5.3.6. Situational features and betting channel associated with betting behaviours and outcomes

Table 5.8 summarises the results of regression models that were run to test the relationship between situational features and platform on betting behaviours and outcomes. It shows that:

- *Quick easy access from home* was significantly associated with placing more bets and spending more time and money on betting than planned, but also with less uptake of betting promotions, betting with fewer operators, and lower short-term betting harm.

- *Ability to bet anywhere anytime* was significantly associated with more impulse betting, greater uptake of promotional inducements, betting with more operators, and greater short-term betting harm.

- *Privacy when betting* was significantly associated with greater uptake of promotional inducements, and higher short-term betting harm, but less likelihood of placing more bets than planned.

- *Greater access to promotions and betting options* was significantly associated with greater uptake of promotional inducements, betting with more operators, and greater short-term betting harm, but less likelihood of impulse betting.

- *Use of electronic financial transactions* was significantly associated with spending more time and money on betting than planned, and less uptake of some types of promotional inducements.

When controlling for these situational features, the different betting platforms still had some residual effects on the outcome variables, although most effects were small:

- *Betting with a smartphone* was significantly associated with greater likelihood of betting impulsively, compared to when betting using a computer/laptop/tablet.

- *Betting using a computer/laptop/tablet* was significantly associated with higher betting expenditure than planned, and betting with more betting operators, compared to when betting with a smartphone.

- *Betting using a gaming console* was significantly associated with betting with more betting operators, compared to when betting with a smartphone.

- *Betting in a land-based venue* was not associated with any of the outcome variables. However, the small number of betting sessions conducted in land-based venues may have been insufficient to detect any effects.

Table 5.8 – Regression coefficients of factors of situational features and betting platform on betting behaviours and outcomes

Betting behaviours (DV)	Factors of situational features					Betting platform (ref. = smartphone)					RE
	Quick and easy access from home	Ability to bet anywhere anytime	Privacy when betting	Greater access to promotions and betting options	Electronic financial transactions	Computer /laptop/ tablet	Gaming console	At land-based venues	Constant	Obs	
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	N	
Number of bets vs planned	0.145*** (0.033)	-0.016 (0.031)	-0.077** (0.030)	0.005 (0.033)	0.053 (0.028)	0.080 (0.080)	0.337 (0.189)	0.338 (0.288)	-0.008 (0.039)	1,378	.42
Expenditure vs planned	0.120*** (0.033)	0.017 (0.031)	-0.030 (0.030)	0.018 (0.033)	0.073** (0.028)	0.202* (0.080)	0.023 (0.190)	0.159 (0.290)	-0.034 (0.038)	1,378	.39
Time spent vs planned	0.076* (0.033)	0.017 (0.031)	-0.030 (0.030)	0.043 (0.033)	0.059* (0.028)	0.151 (0.081)	0.021 (0.190)	0.236 (0.290)	-0.024 (0.040)	1,378	.43
Bet impulsively	-0.052 (0.031)	0.071* (0.030)	-0.032 (0.028)	-0.069* (0.031)	0.024 (0.026)	-0.165* (0.076)	-0.200 (0.172)	0.069 (0.267)	0.051 (0.047)	1,378	.62
Bet on events or micro events	-0.009 (0.039)	-0.034 (0.037)	-0.055 (0.033)	0.019 (0.036)	-0.027 (0.032)	-0.095 (0.100)	0.362 (0.340)	0.318 (0.382)	0.022 (0.056)	868+	.67
Use special offers - odds boost	-0.146*** (0.029)	0.194*** (0.028)	0.021 (0.027)	0.146*** (0.029)	-0.052* (0.025)	-0.028 (0.072)	0.128 (0.164)	-0.373 (0.254)	-0.030 (0.044)	1,378	.57
Use special offers - bonus bets	-0.228*** (0.043)	0.283*** (0.042)	0.088* (0.040)	0.219*** (0.044)	-0.069 (0.036)	0.067 (0.106)	-0.007 (0.242)	-0.230 (0.375)	1.739*** (0.064)	1,378	.82
Use special offers - money-back offers	-0.212*** (0.045)	0.300*** (0.044)	0.124** (0.042)	0.158*** (0.045)	-0.140*** (0.038)	0.110 (0.111)	0.438 (0.253)	-0.111 (0.392)	1.599*** (0.067)	1,378	.87
Number of operators used	-0.181*** (0.028)	0.110*** (0.027)	0.032 (0.026)	0.116*** (0.028)	-0.030 (0.024)	0.218** (0.070)	0.318* (0.157)	-0.252 (0.245)	-0.063 (0.045)	1,378	.60
SGHS Score	-0.152*** (0.027)	0.186*** (0.026)	0.255*** (0.025)	0.057* (0.027)	-0.044 (0.023)	0.102 (0.066)	0.266 (0.150)	0.314 (0.234)	0.152*** (0.045)	1,378	.61

Notes: *p<0.05; **p<0.01; ***p<0.001; +Betting on events or micro events was not applicable to DFS bettors which accounts for the lower N. Effects significant at the .05 level highlighted: green (positive), red (negative). Each row summarises standardised beta coefficients for a separate multiple regression for a given dependent variable. RE = Standard deviation of random effect (intercept) per participant.

5.3.7. Associations with gambler characteristics

Tables 5.9, 5.10 and 5.11 summarise the results of models that explored associations between gambler characteristics, and betting forms, situational features, and betting behaviours and outcomes, respectively.

Table 5.9 indicates that respondents with lower PGSI scores and lower education attainment were more likely to have bet on sports. Those in full-time employment were more likely to have bet on esports. Those with higher PGSI scores were more likely to have bet on esports or DFS. However, it is important to note that respondents betting on multiple forms in the previous 7 days were assigned to only one form they had bet on, so these characteristics should not be considered to be representative of bettors on each of these forms.

Table 5.9 – Regression coefficients of betting form on gambler characteristics

Gambler Characteristics	Betting Form (DV)		
	Sports	Esports	Daily Fantasy Sports
	Estimate (*SE*)	Estimate (*SE*)	Estimate (*SE*)
Age	0.181 (0.173)	-0.217 (0.143)	-0.270 (0.168)
Gender	0.087 (0.302)	-0.030 (0.256)	0.201 (0.299)
In a relationship	-0.427 (0.311)	0.076 (0.260)	0.438 (0.306)
Education	-0.419* (0.173)	0.062 (0.140)	0.162 (0.164)
Full-time employed	0.084 (0.320)	0.582* (0.273)	0.417 (0.318)
Country of Birth	0.021 (0.462)	0.760 (0.397)	0.338 (0.461)
Income	0.041 (0.163)	-0.208 (0.139)	-0.219 (0.165)
PGSI	-0.341* (0.154)	0.407** (0.132)	0.570*** (0.155)
Constant	2.802*** (0.350)	-0.804** (0.267)	-1.677*** (0.330)
Observations	1,378	1,378	1,378

Notes: *p<0.05; **p<0.01; ***p<0.001; Note: Gender (Male 1, Female 2), Country of Birth (Aust 1, Other 2), Income (annual personal income before tax). Each column summarises standardised beta coefficients for a separate multiple regression for a given dependent variable. Effects significant at the .05 level highlighted: green (positive) and red (negative) effects.

Table 5.10 indicates that females were more likely to prioritise the situational features of *quick and easy access from home*. Gamblers with higher PGSI scores were more likely to prioritise *ability to bet anywhere anytime*, and *privacy when betting*, but less likely to prioritise *use of electronic financial transactions*.

Table 5.10 – Regression coefficients of situational features on gambler characteristics

Gambler Characteristics	Situational gambling motivations (DV)				
	Quick and easy access from home	Ability to bet anywhere anytime	Privacy when betting	Greater access to promotions and betting options	Use of electronic financial transactions
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
Age	0.053 (0.053)	-0.086 (0.055)	-0.058 (0.053)	-0.070 (0.054)	-0.003 (0.048)
Gender	0.194* (0.096)	0.019 (0.099)	0.040 (0.096)	0.158 (0.098)	0.043 (0.087)
In a relationship	0.088 (0.098)	-0.093 (0.101)	0.004 (0.097)	0.130 (0.100)	0.171 (0.088)
Education	-0.029 (0.052)	0.043 (0.054)	-0.033 (0.052)	0.004 (0.054)	0.018 (0.047)
Full-time employed	0.027 (0.102)	0.087 (0.106)	0.079 (0.102)	-0.035 (0.104)	-0.009 (0.092)
Country of Birth	-0.006 (0.149)	0.003 (0.154)	0.237 (0.149)	0.112 (0.152)	-0.119 (0.136)
Income	0.017 (0.052)	0.025 (0.053)	0.027 (0.052)	0.060 (0.053)	-0.013 (0.047)
PGSI	-0.037 (0.049)	0.171*** (0.050)	0.148** (0.049)	0.072 (0.050)	-0.104* (0.044)
Constant	-0.129 (0.099)	-0.061 (0.102)	-0.113 (0.099)	-0.183 (0.101)	-0.087 (0.089)
Observations	1,378	1,378	1,378	1,378	1,378

Notes: *$p<0.05$; **$p<0.01$; ***$p<0.001$; Note: Gender (Male 0, Female 1), Country of Birth (Aust 0, Other 1), Income (annual personal income before tax). Each column summarises standardised beta coefficients for a separate multiple regression for a given dependent variable. Effects significant at the .05 level highlighted: green (positive) and red (negative) effects.

As shown in Table 5.11, females were more likely to bet impulsively, and bet on events or micro-events. Gamblers in a relationship were more likely to bet on key events or micro-events. Gamblers with a lower educational level were more likely to bet impulsively. Those who were born in Australia were less likely to place more bets than planned, and less likely to spend more time and money on betting than planned. Gamblers with higher PGSI scores had a greater tendency to bet on events or micro-events, take up all three types of promotional offers, bet with a greater number of operators, and have higher SGHS scores. No significant differences for betting behaviours and outcomes were found by the gambler characteristics of age, employment and income.

Table 5.11 – Summary of regressions of betting behaviours and outcomes on gambler characteristics

Betting behaviours (DV)	Individual differences									Obs
	Age	Gender	In a relationship	Education	Full-time employed	Country of Birth	Income	PGSI	Constant	
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	N
Number of bets vs planned	-0.027 (0.044)	-0.054 (0.080)	0.051 (0.082)	0.026 (0.044)	0.025 (0.085)	-0.395** (0.127)	0.033 (0.043)	0.021 (0.041)	0.052 (0.083)	1,378
Expenditure vs planned	-0.016 (0.043)	0.039 (0.078)	0.103 (0.080)	0.038 (0.043)	0.045 (0.083)	-0.314* (0.124)	-0.024 (0.042)	0.057 (0.040)	-0.065 (0.081)	1,378
Time spent vs planned	-0.084 (0.044)	0.048 (0.080)	0.115 (0.082)	0.060 (0.044)	0.081 (0.085)	-0.304* (0.126)	-0.030 (0.043)	0.013 (0.041)	-0.093 (0.082)	1,378
Bet impulsively	-0.043 (0.052)	0.298** (0.095)	0.112 (0.096)	-0.112* (0.052)	0.080 (0.100)	-0.008 (0.147)	-0.023 (0.051)	-0.029 (0.048)	-0.225* (0.097)	1,378
Bet on events or micro events	-0.058 (0.058)	0.306** (0.107)	0.298** (0.110)	-0.074 (0.058)	-0.139 (0.116)	-0.041 (0.171)	0.006 (0.056)	0.118* (0.054)	-0.197 (0.109)	868
Use special offers - odds boost	-0.053 (0.053)	-0.059 (0.095)	0.188 (0.097)	0.044 (0.052)	0.031 (0.101)	-0.165 (0.148)	-0.007 (0.051)	0.173*** (0.048)	-0.127 (0.098)	1,378
Use special offers - bonus bets	-0.035 (0.078)	0.166 (0.142)	0.082 (0.144)	0.088 (0.077)	0.062 (0.151)	-0.195 (0.220)	-0.132 (0.076)	0.307*** (0.072)	1.569*** (0.146)	1,378
Use special offers - money-back offers	-0.008 (0.084)	0.028 (0.152)	0.136 (0.155)	0.020 (0.083)	0.182 (0.162)	0.111 (0.236)	-0.092 (0.082)	0.349*** (0.077)	1.380*** (0.157)	1,378
Number of operators used	-0.041 (0.053)	0.113 (0.096)	0.144 (0.098)	0.072 (0.053)	-0.034 (0.102)	-0.053 (0.149)	0.016 (0.052)	0.179*** (0.049)	-0.157 (0.099)	1,378
SGHS Score	-0.077 (0.054)	0.117 (0.098)	-0.021 (0.100)	-0.008 (0.054)	0.048 (0.104)	-0.134 (0.152)	-0.002 (0.053)	0.365*** (0.050)	0.091 (0.101)	1,378

Notes: *p<0.05; **p<0.01; ***p<0.001; Note: Gender (Male 1, Female 2), Country of Birth (Aust 1, Other 2), Income (annual personal income before tax). Each row summarises standardised beta coefficients for a separate multiple regression for a given dependent variable. Effects significant at the .05 level highlighted: green (positive) and red (negative) effects.

Finally, we considered whether participants with more gambling problems tended to gamble using a particular betting platform. Because of the low degree of participation at land-based venues (11 observations) and gaming consoles (27 consoles), these cases had to be excluded from this analysis. Accordingly, platform was treated as a percentage of weeks that a participant gambled using a smartphone, rather than a computer/laptop/tablet. Each case was weighted based on the number of observations available for that participant. However, the resultant weighted simple regression of percentage use of smartphones on PGSI was non-significant, t = -1.27, p = .203, B(ln(PGSI)) = -.0003, SE = 0.002, indicating no substantive evidence (in consideration of our power) that people with gambling problems, when compared to others, were more (or less) likely to bet using a smartphone compared to a computer/laptop/tablet.

5.4. Chapter summary

This chapter has presented the methods and results for the EMA, which focused on a total of 1,378 betting sessions on sports, esports and DFS, reported by 267 respondents over 10 weeks.

There were some significant differences in betting platforms used for these three types of betting. When betting on sports, respondents were more likely to use a smartphone, and were less likely to use a computer/laptop/tablet or gaming console. For esports betting sessions, respondents were more likely to use a computer/laptop/tablet or gaming console. When betting on DFS, respondents were more likely to use a computer/laptop/tablet.

Betting behaviours and outcomes also varied by type of betting. When betting on sports, respondents were more likely to place more bets than planned and to bet impulsively. When betting on esports and DFS, they had a greater tendency to take up promotional inducements, bet with a greater number of operators, and report higher short-term betting harm.

Across all betting forms combined, prioritisation of different situational features was associated with varying betting behaviours and outcomes. Importantly, prioritising the *ability to bet anywhere anytime*, *privacy when betting* and *greater access to promotions and betting options* were associated with greater short-term betting harm, while lower harm was predicted by prioritising *quick and easy access from home*.

When controlling for these situational features, the use of different betting platforms had some residual effects on the outcome variables, although most effects were small. Betting with a smartphone was significantly associated with greater likelihood of betting impulsively, compared to when betting using a computer/laptop/tablet. Compared to betting on a smartphone, betting using a computer/laptop/tablet was significantly associated with higher betting expenditure than planned, and betting with more operators. Betting using a gaming console was also significantly associated with betting with more operators.

Gamblers with a higher PGSI score were more likely to prioritise *ability to bet anywhere anytime*, and *privacy when betting*, but were less likely to prioritise *use of electronic financial transactions*. They also had a greater tendency to bet on key events or micro-events within the match, take up promotional inducements, bet with a greater number of operators, and have greater short-term betting harm. However, there were no significant differences by PGSI score in the use of a smartphone vs a computer/laptop/tablet to bet.

Chapter 6. Discussion, conclusions and implications

Mobile betting using smartphones has continued to increase in Australia, and most sports, esports and daily fantasy sport (DFS) bettors now report using a smartphone to bet on these activities (Hing et al., 2021a; Roy Morgan Research, 2018). However, little previous research has examined how the use of mobile betting platforms impacts on betting behaviour and consequent problems and harm, including amongst young adults who are the demographic most likely to bet using a smartphone. This chapter integrates the results from the study's literature review, interviews, discrete choice survey, and ecological momentary assessment (EMA) to discuss its key findings, strengths and limitations, and implications.

6.1. Discussion of the results

6.1.1. Platform characteristics and situational features of smartphone betting are different compared to betting using computers and land-based venues

Nearly all young adults in Australia own an internet-connected smartphone (ACMA, 2020), and their portability, ease of use, sophisticated software, and high-quality visual displays contribute to their ubiquitous popularity. Young people tend to always carry their smartphone, even to different rooms in their home, so they have instant and convenient access to the information, entertainment and communications enabled by these devices (Zhang et al., 2010). Smartphones have become integrated into daily living and are often used while engaged in other activities such as working, socialising, commuting, watching television, and lying in bed (Zhang & Rau, 2016). Their constant presence and proximity mean that many young people report constantly checking their phone and tend to use it for multiple short bursts of activity throughout the day and night (Brevers et al., 2019; James et al., 2019; Muller et al., 2015). Betting on a smartphone is one of the myriad activities that many young people engage in on their smartphone. However, the general characteristics of smartphones and the way people use them have fundamentally changed the nature of betting when using these devices, compared to the main alternatives of betting using a computer or in a land-based venue.

The literature review (Stage 1) and interviews (Stage 2) found that the structural characteristics of different betting platforms and the situations in which they are used vary substantially in ways that impact on the betting experience. Ease and speed of betting is greatly facilitated on online devices such as smartphones and computers, compared to travelling to and perhaps queuing to bet in a retail betting outlet (Hing, et al., 2015b; Jenkinson et al., 2018; Parke & Parke, 2019). Bettors can also more easily source betting information online, compare prices and offers, and place bets with multiple operators instead of being restricted to betting with the TAB using its monopoly land-based facilities (Hing et al., 2014a; Jenkinson et al., 2018). Ease and speed of electronic financial transactions are additional distinguishing features of online betting and allow immediate deposits and bets as well as the use of a credit card which cannot be used for betting in land-based facilities (Drakeford & Hudson

Smith, 2015; Hing et al., 2015b). Online betting also affords greater privacy, particularly smartphone betting, since bettors can avoid any scrutiny from others (Hing et al., 2015b; McCormack & Griffiths, 2013). In addition, online betting avoids the potential physical safety risks of being in venues where people may be intoxicated, angry after gambling losses, or might see them win a large cash prize. The social accessibility of online betting is also greater for people who may feel uncomfortable in betting venues, such as women, as well as individuals who dislike these environments (McCormack et al., 2014; Thomas et al., 2011). Clearly, physical access to online betting is much easier than going to a betting outlet and gambling online may be the only option for people minding young children or those with a disability that prevents physical access (Corney & Davis, 2010). Online betting also facilitates awareness and personalisation of betting promotions and inducements which are delivered directly to online account holders through social media, push notifications, texts and emails (Rawat et al., 2018; Russell et al., 2018b). If used to advantage, some of these offers may lower the cost of betting (Drakeford & Hudson Smith, 2015), while cost savings also occur since online bettors do not need to pay for travel to a venue or the retail cost of food and beverages while betting (Jenkinson et al., 2018). In contrast to retail betting outlets with restricted trading hours, online betting allows 24/7 access to betting, which is particularly important for those betting on international events occurring in different time zones (Drakeford & Hudson Smith, 2015; Hing et al., 2021a; Lopez-Gonzalez et al., 2019).

While the above characteristics differ markedly between online betting and land-based betting, smartphone betting has additional distinctive characteristics. The most important of these is the platform characteristic of portability which allows betting from any location and in any situation (Brevers et al., 2019; Hing et al., 2021a; James et al., 2019). This has profoundly changed the practice of gambling since it is no longer separate to everyday life and restricted to specific physical settings, but instead can potentially become embedded in an individual's lifestyle, consumption patterns and leisure activities (Raymen, 2019; Raymen & Smith, 2020). Being able to bet from anywhere provides instant accessibility, which increases the overall ease and speed of betting since bettors do not need to be near a computer or in a land-based venue to bet (Drakeford & Hudson Smith, 2015). The portability of smartphones also enhances the convenience of betting, as it can be integrated into everyday activities at home, work or elsewhere. The ease and speed of smartphone betting mean it can be engaged in rapidly and in short bursts while multi-tasking. Being able to bet on a smartphone from anywhere also provides the option of betting while socialising in venues, as well as in other social settings with family, friends and colleagues, including while watching betting events (Drakeford & Hudson Smith, 2015; Gordon et al., 2015; Lamont & Hing, 2019).

6.1.2. Bettors value the situational features of smartphone betting since they provide consumer benefits

The distinctive situational features of smartphone betting identified from the literature review and interviews were endorsed as important by the survey respondents in Stage 3. When asked to directly rate the importance of 24 situational features of betting platforms, respondents rated the most important features as being able to bet from any location, instantly place bets, bet with electronic money, quickly access and

transfer money for betting, instantly access betting promotions, and easily place bets. Clearly, the portability of smartphones and the convenient and fast access to betting that they provide were valued by most respondents. However, respondents on average rated all 24 features as at-least moderately important and the mean importance ratings had a limited range across the features. Of more importance were significant differences by demographic characteristics, gambling severity and gambling harm scores, and impulsivity. Compared to females, males rated several features as being significantly more important, most notably the features associated with privacy (e.g., being able to bet alone, without other people around). Older respondents rated most features as significantly more important, notably being able to instantly place bets, bet from any location, quickly access and transfer money, bet anonymously, and bet without having to travel. Respondents scoring 3+ on the PGSI and those reporting one or more gambling harms rated as significantly more important the ability to bet with multiple operators, bet on credit, place in-play bets, access betting promotions, and have privacy when betting. Higher impulsivity was associated with significantly greater importance placed on being able to easily research betting information, access a wide range of bets and link directly to betting promotions from a betting device.

Stronger evidence on feature importance was provided by a more sophisticated design, the discrete choice experiment in Stage 3, which required respondents to make 'trade-offs' in their choice of important features by presenting combinations of features to select from. This experiment confirmed that bettors prioritise fast and convenient access to betting from anywhere at any time in their choice of platform features. Consistent with the direct ratings, the conjoint analysis found that the most important features when betting were being able to bet instantly 24/7 from any location, and the ability to use electronic financial transactions methods. Additionally, being able to access betting information online, either moderately easily or very easily, was important compared to only being able to access information offline. Being able to bet with multiple operators was also important, compared to only being able to bet with one operator. Access to promotions, and privacy when betting, were relatively less important features.

Notably, a whole set of features that are *only* available in smartphone betting comprised the optimal combination of betting features in the discrete choice experiment. These were, in descending order of importance:

- Being able to bet instantly 24/7 from any location.
- Being moderately easy to find betting information online.
- Being able to bet with multiple operators.
- Being able to use electronic transactions.
- Receiving a moderate amount of betting promotions.
- Being able to bet either when alone or in a social setting.

6.1.3. Bettors report that the characteristics of smartphone betting nurture certain betting behaviours

While bettors value the convenient instant accessibility to betting that smartphones provide, the platform characteristics and situational features of smartphone betting were also reported to nurture potentially harmful betting behaviours. The interviews with 33 young adults who bet at-least fortnightly on sports, esports and/or DFS reported that several features of smartphones, in combination, affected many aspects of their betting. Betting behaviours affected included participation, frequency and expenditure, impulse betting, the variety of bets they placed, and chasing losses. These are discussed below.

Around-the-clock accessibility and the ease and speed of smartphone betting were said to facilitate more, and more frequent, betting. Many interviewees found retail venues to be unappealing and inconvenient and said they would not bet at all if they had to go to a venue. Instead, convenient 24/7 access to betting on their smartphone presented a multitude of betting opportunities, including on international sports and esports events that occur when retail venues are closed These findings support prior research indicating that increased access to betting and to unlimited betting opportunities can intensify betting, including betting at harmful levels (Drakeford & Hudson Smith, 2015; Hing et al., 2015b, 2021a; Parke & Parke, 2019).

Young adults tend to always carry and constantly check their smartphone (Mihailidis, 2014; Toh et al., 2021). Some interviewees reported making impulsive bets in response to push notifications from betting operators or in response to betting opportunities they became aware of while routinely scrolling on their phone. Previous research has also noted the role of wagering marketing in triggering impulse bets amongst sports bettors, particularly advertising and inducements that are delivered directly to personal devices (Drakeford & Hudson Smith, 2015; Hing et al., 2018b; Parke & Parke, 2019; Russell et al., 2018b). Most interviewees had betting accounts with multiple operators, accessible through websites and mobile apps, which increased the proliferation of promotional inducements they received. Consistent with previous research (Hing et al., 2015b, 2018a), these inducements could trigger and remind them to bet, be personalised to entice them back after a break, and result in them placing larger and more frequent bets to optimise bonuses, matching deposits, and other offers. Having accounts with multiple operators also enabled bettors to place a wider variety of bets, particularly exotic bets such as multi-bets. Having more betting apps on their phone has previously been observed to broaden the variety of activities people bet on (Drakeford & Hudson Smith, 2015).

Because researching betting information is more difficult on a smartphone compared to a computer, some interviewees reporting placing more spontaneous bets that were less well researched when only their smartphone was available. The discrete choice experiment also found that bettors prioritised instant accessibility to betting over the ease of researching betting information. As found in previous research (Deans et al., 2016; Hing et al., 2015b), using electronic financial transactions also facilitated spontaneous bets, higher betting expenditure and chasing losses because it was fast, did not require using an ATM, and did not feel as real as cash. Other research has noted that smartphone betting facilitates impulsive bets placed without much consideration, due to its proximity, speed, and ease of placing a bet with just one tap (Drakeford & Hudson Smith, 2015).

The interviewees recognised that the privacy afforded by smartphone betting could potentially increase harmful betting, but few reported this as influencing their own betting. Conversely, many interviewees bet using their smartphone in social settings, meeting up with friends at venues and in private homes to bet and watch a match. Betting was an activity that could be central to social occasions with friends, and this was made possible by having a personal and portable betting device. Research has observed that betting has become an integral feature of the wider masculine weekend leisure experience and an activity shared amongst friends in both physical and online settings (Raymen, 2019; Raymen & Smith, 2020). Nearly all interviewees in the current study reported they bet more in these social situations. As observed in previous research with young male sports bettors (Deans et al., 2016; Gordon et al., 2015; Lamont & Hing, 2019), friendly rivalry, bravado, shared betting tips and peer pressure were social influences that were likely to escalate their betting. The increased ability to socialise while betting on a smartphone may be problematic, as social influences, including gambling with more people, have been found to be important contributors to gambling problems (Russell et al., 2018c).

Overall, the interaction of several platform characteristics and situational features of smartphone betting were reported to influence betting behaviour in potentially harmful ways through increasing frequency, expenditure, loss-chasing and impulsive betting. Similarly, Parke and Parke (2019) have noted that contextual and structural features combine in online and mobile sports betting to facilitate continuous betting, long betting sessions, high expenditure, and loss-chasing. Drakeford and Hudson-Smith (2015) examined the characteristics of smartphone betting using a multidimensional framework of accessibility. Aligned with the current research, they also concluded that smartphone betting was more accessible than computer betting in terms of its proximity, ease of use, and ability to bet in social situations, and that this heightened accessibility can nurture harmful gambling behaviours.

6.1.4. Situational features are more important than the betting platform *per se* in determining within-session betting behaviour and short-term betting harm

The EMA conducted in Stage 4 of this study analysed data relating to 1,378 betting sessions. Using factor analysis, five factors were derived from 25 questions that asked about the important features of the respondent's most recent betting session during the past 7 days on sports, esports or DFS. These five factors summarise the *situational features* for these betting sessions and reflect the importance placed on 1) quick and easy access from home, 2) ability to bet anywhere anytime, 3) privacy while betting, 4) greater access to promotions and betting options, and 5) ability to use electronic financial transactions. These situational features, as well as the main *platform* used during the betting session (smartphone, computer/laptop/tablet, gaming console, or land-based venue) were assessed in relation to various *outcome variables*, including betting more than planned, impulse betting, betting on key events or micro-events within the match, uptake of promotional inducements to bet, betting with multiple operators, and short-term harm from betting experienced in the last 7 days.

The EMA found that the situational features were more important than the betting platform *per se* in explaining the outcome variables. However, it is important to note

that the preferred situational features are reflected in the choice of betting platform used, since the platforms vary in their capacity to provide or enhance particular situational features. Put another way, the use of a smartphone, computer/laptop/tablet, gaming console, or land-based venue to bet is important in driving betting behaviour and harm, but only insofar as the platform used reflects the preferred situational features for a particular betting session – whether it optimises quick easy access from home, enables betting anywhere anytime, provides privacy while betting, provides greater access to promotional inducements and betting options, and/or enables the use electronic financial transactions for betting. These findings indicate that the situational features of betting interact in important ways with the platform characteristics to influence betting behaviours and betting-related harm.

The five situational features of betting were differentially related to the outcome variables:

- *Quick easy access from home* included wanting to be able to bet without travelling, while doing other things, without waiting, easily without too much effort, and from home. Prioritising quick easy access from home was significantly associated with placing more bets and spending more time and money on betting than planned, but also with less uptake of betting promotions, betting with fewer operators, and lower short-term betting harm.

- *Ability to bet anywhere anytime* included wanting to bet in a social setting such as a venue or at friends' homes, in a gaming venue or betting agency, when away from home but not at a venue such as at work and while commuting, and when land-based venues were closed. Prioritising ability to bet anywhere anytime was significantly associated with more impulse betting, greater uptake of promotional inducements, betting with more operators, and greater short-term betting harm.

- *Privacy when betting* included wanting to bet alone without other people around, to keep your betting private without anyone else knowing, and avoiding other people when betting. Prioritising privacy when betting was significantly associated with greater uptake of promotional inducements, and higher short-term betting harm, but less likelihood of placing more bets than planned.

- *Greater access to promotions and betting options* included wanting to access a wide range of betting promotions, instantly access promotions, link directly to promotions from a betting device, access a wide range of bets, and bet with more than one operator. Prioritising greater access to promotions and betting options was significantly associated with greater uptake of promotional inducements, betting with more operators, and greater short-term betting harm, but less likelihood of impulse betting.

- *Use of electronic financial transactions* included wanting to bet with electronic money and not wanting to bet with cash. Prioritising electronic financial transactions was significantly associated with spending more time and money on betting than planned, and less uptake of some types of promotional inducements.

When controlling for these situational features, the use of different betting platforms had some effects on the outcome variables, although most effects were small:

- Betting with a smartphone was significantly associated with greater likelihood of betting impulsively, compared to when betting using a computer/laptop/tablet.

- Betting using a computer/laptop/tablet was significantly associated with higher betting expenditure than planned, and betting with more betting operators, compared to when betting with a smartphone.

- Betting using a gaming console was significantly associated with betting with more betting operators, compared to when betting with a smartphone.

- Betting in a land-based venue was not associated with any of the outcome variables. However, the small number of betting sessions conducted in land-based venues may have been insufficient to detect any effects.

6.1.5. Certain situational features are associated with greater short-term betting harm

In the EMA, greater short-term betting harm was significantly associated with three situational features. In order of strength, these were 1) privacy when betting, 2) ability to bet anywhere anytime, and 3) greater access to promotions and betting options. Each of these situational features are briefly discussed.

Privacy when betting is a situational feature that is enhanced when betting online, compared to betting in a land-based venue (McCormack & Griffiths, 2013). Privacy while betting can facilitate excessive and harmful levels of betting since the social pressure that acts to moderate gambling is lacking in the online environment, and this may lessen embarrassment or guilt about betting (Hing et al., 2015b, 2021a). Betting using a computer is often private, since most online gambling occurs while at home and alone (Browne et al., 2020; Hing et al., 2021a). Arguably however, smartphone betting can be even more private because frequent and extended smartphone use is highly normalised and there are numerous activities other than betting that people do using their smartphone (Ahn & Yung, 2016; Roberts et al., 2015; Saad, 2015). Therefore, it is not readily apparent to others that a person is betting on their phone, even to friends or family members in the same room (Drakeford & Hudson Smith, 2015; Roberts et al., 2014). Alternatively, a situational preference for privacy when betting may be linked to short-term betting harm because those betting at harmful levels prefer to keep their betting private. That is, instead of privacy increasing harm, harm may increase the desire for privacy and the concealment of gambling, as found in research with people with a gambling problem (Fulton, 2019; Hing & Russell, 2017).

Ability to bet anywhere anytime was another situational feature associated with greater short-term betting harm in the EMA analysis. Being able to bet at any time of the day or night from any location is only possible through a smartphone due to its portability. This portability increases geo-temporal accessibility and instant access to betting since consumers nearly always have a betting device with them wherever they are (Drakeford & Hudson Smith, 2015; Hing et al., 2021a; James et al., 2019). The EMA found that a preference for being able to bet anywhere anytime was associated with more impulse betting, which is facilitated by having immediate access to unlimited betting opportunities from any location. Placing bets on impulse

is strongly associated with harmful gambling in sports bettors (Hing et al., 2018b, 2018c; Parke & Parke, 2019). Prioritising the ability to bet anywhere anytime was also associated with greater uptake of promotional inducements and betting with more operators, which may reflect the ability to immediately act on a gambling urge or wagering inducement. The interviewees in this study also noted that this constant availability of betting from any location facilitated more frequent and impulsive betting, particularly in response to wagering inducements and betting opportunities they saw in push notifications and while scrolling on their phone. EMA respondents who prioritised the ability to bet anywhere anytime also valued being able to bet in a social setting. Social influences may be a further factor that acts to increase betting to harmful levels. The interviewees in this study reported regularly betting with friends while watching a sports match in venues or other locations. Consistent with previous research, most of them reported betting more in these social situations than when betting alone (Drakeford & Hudson Smith, 2015; Gordon et al., 2015; Raymen, 2019; Raymen & Smith, 2020). Overall, while the interviews and discrete choice experiment found that being able to bet instantly 24/7 from any location is highly valued by bettors because it provides flexibility and convenience, the EMA found that bettors who prioritised this instant geo-temporal accessibility were more likely to experience short-term betting harm.

Prioritising greater access to promotions and betting options was the third situational feature associated with greater short-term betting harm. Promotional inducements are frequently sent by wagering operators to their account holders and received onto the betting device (computer or smartphone) with a direct link to the promoted offer (Hing et al., 2018b; Rawat et al., 2019). Smartphones provide instant access to these promotions due to their proximity to the user in any location. In the EMA, a preference for greater access to promotions and betting options was associated with greater actual uptake of promotional inducements, as well as betting with more operators. Having accounts with multiple operators increases the volume of promotional inducements received, and many bettors report having multiple accounts so they can compare offers such as bonus bets, matching deposits, odds boosts and refunds (Hing et al., 2021a; Jenkinson et al., 2018). The link between prioritising access to inducements and betting-related harm found in the current study aligns with previous research findings. Specifically, experimental and longitudinal research has found that greater exposure to, and uptake of, wagering promotions increases sports betting expenditure and the placement of riskier bets with longer odds, with these effects experienced by bettors at all levels of gambling severity (Hing et al., 2019b; Rockloff et al., 2019b; Russell et al., 2018b). While prior research has found that greater uptake of sports betting inducements is associated with impulse betting (Hing et al., 2018b), the current study found that prioritising greater access to promotions and betting options was associated with less likelihood of impulse betting. It may that those who prioritise access to promotional inducements intend in advance to take them up, rather than responding to them impulsively. Nonetheless, these bettors were more likely to report short-term harm after a recent betting session.

6.1.6. Situational features associated with greater short-term betting harm, in combination, can only be accommodated by smartphone betting

Importantly, only smartphones combine all three features significantly associated with short-term betting harm – privacy when betting, ability to bet anywhere anytime, and greater access to promotions and betting options. As discussed earlier, smartphones provide more privacy because betting is done on a personal device and is easily concealed from others; they are the only betting platform that can be used 24/7 in any location; and they provide greater access to promotional inducements than other platforms due to the proximity of a smartphone to the user wherever they are.

6.1.7. Bettors with higher problem gambling severity are more likely to prefer some situational features associated with greater short-term betting harm, and to experience short-term betting harm

The EMA found no significant differences in the likelihood of greater short-term betting harm by demographic characteristics when controlling for problem gambling severity. However, bettors with higher problem gambling severity (PGSI scores) were significantly more likely to prioritise two of the situational features associated with short-term betting harm. These were the ability to bet anywhere anytime and privacy when betting. Bettors with higher problem gambling severity are more likely to experience urges to gamble, and instant accessibility to betting enables them to immediately act on this urge. As discussed earlier, privacy may also be valued by people with a gambling problem. Bettors with higher PGSI scores were significantly less likely to prioritise electronic financial transactions, indicating that they may also prefer having the option of being able to bet with cash.

Bettors with higher problem gambling severity were also more likely to report greater short-term betting harm from their recent betting during the past 7 days. This finding indicates that bettors with an existing gambling problem have a greater tendency to report continuing harm from their betting. Those with higher PGSI scores also reported greater likelihood of some potentially harmful betting behaviours, including taking up promotional inducements, betting with more wagering operators, and betting on key events or micro-events during their most recent betting session.

While some previous research has found that bettors with a gambling problem are more likely to primarily use a mobile device to bet (Gainsbury et al., 2016; Lopez-Gonzalez et al., 2019), the current study found no significant difference by PGSI score in use of a smartphone or computer/laptop/tablet to bet.

6.2. Conclusions

Mobile betting using smartphones accounts for much of the growth of online betting in Australia in recent years. The shift to smartphone betting has facilitated the physical, temporal and social accessibility to betting, increased the ease and speed of accessing betting, and extended betting opportunities, access to betting information, and exposure to wagering inducements. While some of these features

are provided by online betting using computers, laptops and gaming consoles, the portability of smartphones has significantly enhanced the constant availability of betting, and convenient and instant access to a greater number of betting opportunities available 24/7 from any location. Bettors particularly value the speed, ease and convenience of being able to bet from anywhere at any time. This instant accessibility is unique to smartphone betting and allows bettors to rapidly and immediately act on an urge to gamble. Nonetheless, the interaction of several platform characteristics and situational features of smartphone betting have been reported to influence betting behaviour in potentially harmful ways.

This study found that it is not the platform characteristics of smartphone betting *per se* that nurture risky betting behaviours that lead to harm. Instead, these platform characteristics elevate certain situational features that heighten this risk of harm. The situational features of smartphone betting include 1) quick easy access from home, 2) ability to bet anywhere anytime, 3) privacy while betting, 4) greater access to promotions and betting options, and 5) ability to use electronic financial transactions. These situational features had varying effects on potentially risky betting behaviours, such as betting more than planned, impulse betting, uptake of betting inducements, and betting with multiple operators. Three situational features were significantly associated with greater short-term harm from betting experienced in the last 7 days. These were 1) privacy while betting, 2) ability to bet anywhere anytime, and 3) greater access to promotions and betting options. In combination, these three situational features can *only* be accommodated when betting on a smartphone. In essence, smartphones enable betting sessions to be conducted in private, at any time of day or night and from any location and heighten exposure to promotional inducements. It is these situational features that were found to elevate the likelihood of betting-related harm.

6.3. Strengths and limitations of the study

This study has some limitations, but also several strengths. The samples of participants were not necessarily representative of the population of young people who bet regularly on sports, esports and DFS. Obtaining representative samples was cost-prohibitive, given the relatively low prevalence of these groups in the population. Instead, purposive sampling was used to obtain large numbers of respondents in these groups to enable rigorous analysis. The study did not seek to establish the prevalence of these betting activities or of associated behaviours and preferences, so representative samples were unnecessary. The sample of 33 interviewees was large for the qualitative component of this study, and the sample of 616 respondents for the discrete choice experiment was sufficient to rigorously test preferences of features and levels pertaining to betting platforms. The EMA analysed data pertaining to a large number of betting sessions (N = 1,378), since most respondents each provided data about several sessions. The EMA also asked about their recent betting activity in the last 7 days which should have reduced the recall bias that can occur in survey research. All empirical stages of the study relied on self-report data, which may be subject to social desirability and other biases. However, the use of innovative methodologies, including the discrete choice experiment and the EMA, has expanded our understanding of smartphone betting well beyond previous

findings which have mainly been based on small interview studies. The mixed-methods design of the study also increases confidence in the results, with generally consistent findings across the stages.

Unfortunately, COVID-19 lockdowns did affect the EMA, with Sydney and surrounds in lockdown for nearly the entire EMA period and other areas of NSW for much shorter periods. During these lockdowns, land-based betting venues were closed, which meant the EMA respondents reported far fewer betting sessions in land-based venues than otherwise expected. This may have reduced the analytical power needed to detect some differences relating to the betting platforms used during the EMA. However, the analysis was still able to detect important differences in the situational features associated with the different betting platforms and their relationship to risky betting behaviours and betting harm.

6.4. Implications of the findings

The results of this study have several implications for policy, practice and research. In discussing these below, we assume that changing the platform characteristics of smartphones and constraining the 24/7 availability of betting events held in Australia and overseas are highly unlikely to occur, even though they may help to limit the harm from smartphone betting. The implications below are instead based on a pragmatic assessment of measures that are more likely to be implemented.

The harmful situational features of smartphone betting were identified as privacy when betting, being able to bet anywhere anytime, and greater access to promotional inducements and betting options. Of these three features, there is greatest scope to constrain promotional inducements to bet. This study and previous research have consistently found that wagering inducements elevate risky betting behaviours and gambling harm and that there are high levels of community concern about the proliferation of wagering marketing. Reducing the frequency and volume of inducements that bettors receive from wagering operators, or banning them altogether, is one option that will help reduce the harm from betting. Exposure to wagering inducements is a modifiable risk factor for gambling problems and harm that could be reduced through regulation, in order to reduce gambling harm and align their provision with community expectations.

Bettors, as well as their concerned significant others (CSOs), would benefit from consumer education that raises awareness of the potential harm from betting, including risky situational features as identified in this research. Betting in private so as to conceal betting, wanting to access betting at any time during the day or night, integrating betting into other activities conducted in a range of locations, and prioritising access to promotional inducements to bet, are all red flags that could alert bettors and their CSOs to potentially harmful betting behaviours.

The study's results can also inform guidelines or tips for protective behavioural strategies and behaviour change strategies that take into account how consumers engage with betting on a smartphone. For example, advice on protective behavioural strategies could include not concealing your betting from others, restricting the times

and locations for betting, limiting the uptake of promotional inducements to bet, and reducing the number of betting accounts with different operators. Bettors can also be encouraged to use consumer protection tools to support their adherence to these strategies. For example, they can be encouraged to set time and money limits on their betting using operator limit-setting tools and opt out of receiving wagering inducements and other marketing. These same strategies could inform treatment of problematic betting by encouraging these specific behavioural changes in recognition that they are linked to harmful betting behaviours.

Healthy smartphone use could also be promoted, which in turn may help to protect smartphone bettors from harmful betting. This research focused on young adults aged 18-29 years, who are typically avid smartphone users. More general consumer education and interventions aimed at supporting young adults to limit excessive smartphone use may have benefits in protecting them from gambling harm.

Few studies have examined smartphone betting in ways that take into account its platform characteristics and situational features that distinguish it from the broader category of online gambling. The current study has added to knowledge in this area, and further research is needed to confirm our findings. Numerous aspects of smartphone betting are also yet to be researched. These include smartphone betting on other gambling products with elevated risk of gambling harm, such as race betting, casino games and EGM gambling. Research with other socio-demographic and cultural groups is also needed, as well as studies with vulnerable groups including treatment samples. Other methodologies, such as ethnographic, sociological and prospective longitudinal research could also be employed to advance knowledge in this area. Many research questions remain unanswered, including in relation to the prevalence of gambling problems relating to smartphone gambling, who is most at-risk of harm, risk and protective factors, and the aetiology of smartphone gambling behaviour and problems.

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Appendices

Appendix A. Stage 2: Interview information sheet and questions

BETTING ON SPORTS, ESPORTS AND DAILY FANTASY SPORTS AMONGST YOUNG PEOPLE

INFORMATION SHEET

This study is being conducted by CQUniversity for the NSW Responsible Gambling Trust.

By participating, you can help us to learn more about betting on sports, esports and daily fantasy sports by young people. We want to find out whether betting using a smartphone, computer or in land-based venues affects people's betting behaviour.

You can participate even if you only bet on sports OR esports OR daily fantasy sports (you don't need to bet on all three). You can also participate if you bet only by smartphone OR computer OR in land-based venues (you don't need to do all three).

Interviews will be done by phone at a mutually convenient time, and involve a conversation with a friendly and experienced interviewer. Each interview will last 45-60 minutes. We'll ask about your betting behaviour, and how using a smartphone, computer and/or land-based venues might influence your betting. All interviews will be audio-recorded.

If you have any questions, please contact the research team at n.hing@cqu.edu.au

Would you like to see more details about the study?

- Yes (goes to next page)
- No, please take me directly to the consent form and expression of interest form (skipped to consent form)

CQUniversity Ethics Approval number: 22328

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BETTING ON SPORTS, ESPORTS AND DAILY FANTASY SPORTS AMONGST YOUNG PEOPLE

ADDITIONAL INFORMATION

How your confidentiality will be protected

We will need to collect your name and contact details so we can conduct an interview. We will then de-identify your interview responses so that nobody can identify you. Your responses will be combined with those of other participants so no one will be able to tell what your individual answers were. The anonymous data will be stored securely for 15 years by CQUniversity, as per the University Retention Schedule (reference 601.2/C111).

Participation is voluntary

Participation in this study is completely voluntary. You are free to withdraw at any stage. If you withdraw before completing the interview, we will not use any of your responses. You can also decline to answer one or more interview questions if you feel uncomfortable doing so.

How you will receive feedback

Information about the results of the research will be made available through CQUniversity's gambling research Facebook page - https://www.facebook.com/cquegrl/

Where you can get further information

If you would like further information or have any questions about this research, please contact the Chief Investigator Professor Nerilee Hing: n.hing@cqu.edu.au. If you have any concerns or complaints about this research, you may also contact the Ethics Coordinator at CQUniversity's Office of Research: 07 4923 2603.

If you experience discomfort at any point during the study, you can contact **Gambling Help on 1800 858 858 or www.gamblinghelponline.org.au** or **Lifeline on 13 11 14**. These are free and confidential help services that operate 24 hours a day, 7 days a week.

Participation

If you would like to indicate your interest in participating, please complete the consent form on the next screen. Then we will ask you some screening questions and ask for your contact details.

Project team

Professor Nerilee Hing (Chief Investigator) , Dr Alex Russell, Professor Matthew Rockloff, Professor Matthew Browne, Nancy Greer, Dr Lisa Lole, Dr Philip Newall, Hannah Thorne.

Qualtrics is being paid for the recruitment of participants for this study.

Consent

I consent to participate in this research project and agree that:

- I have read and understood the Information Sheet that describes this study.

- Any questions I had about the study were answered by either the Information Sheet or the researchers.

- I understand I have the right to withdraw from the study at any time.

- The research findings, which will not identify me, may be included in the researchers' publications on the study which may include conference presentations and research articles.

- To protect my privacy, my name will not be linked to my data or used in publication(s).

- I am providing my consent to participate in this study

  - Yes

  - No

INTERVIEW SCHEDULE

The interviews will be semi-structured and encourage participants to discuss the following about their betting, especially on their most prominent type/s (sports, esports, daily fantasy sports).

Note for interviewers

The overall aim of this stage is to explore how the distinctive structural and situational characteristics of smartphone betting on sports, esports, and daily fantasy sports (DFS) impact on the betting behaviours of young people, and on consequent gambling problems and harms.

Introduction

- Hello, my name is _____ and I'm calling from CQUniversity to conduct the telephone interview with you about betting on sports, esports and daily fantasy sports. I'd like to let you know that this call will be recorded for research purposes. We'll only use your first name to ensure anonymity. The recording will not be included in any research report, but will be compiled with other interviews that will all be reported together. Your name will not be used in any reports. Do I have your permission to continue?

- Can I please confirm you've seen the Information Sheet and consent to participate?

- In this interview, we will be talking mostly about betting on sports, esports and daily fantasy sports – or whichever ones of these you might do. We're most interested in how you might use different platforms for your betting. These platforms include smartphone, computer, tablet, in land-based venues like a TAB outlet, or by making a telephone call. We're interested in what you see as the advantages and disadvantages of these different platforms for betting, why you use the one/s you do, and the sorts of situations/locations you might use them in.

- Do you have any questions before we start?

Their betting

Can you please tell me a little bit about your involvement in betting on sports, esports and/or daily fantasy sports?

Prompts for each type of betting they do: how long have you been doing this type of betting, do you do it often, what do you like most about it?

Betting platforms

Which platforms do you use for betting (smartphone, computer, tablet, land-based, telephone calls)? Which do you use the most?

For each platform you use to bet:

- What contexts do you use it in? Prompts: where, who with, day/night, weekend/weekday

- What features of this platform do you find particularly useful?

- Do you use different platforms for different types of betting (sports, esports, DFS)? Why?

- Do you use different platforms in different situations/locations? Why

Characteristics of the platforms they use

We'd like to ask you about advantages and disadvantages of the platforms you use for betting.

Availability/access to betting: Online betting through smartphones and computers enables 24/7 access to betting, whereas most land-based outlets have restricted opening hours. How important is 24/7 access to you when betting? Does this influence your choice of betting platform? Does this differ for different types of betting? How does this different access through different platforms influence your betting behaviour? Can you provide specific examples, perhaps by telling me about one or more of your recent betting sessions?

Portability: Online betting through smartphones allows you to bet from any location, but this is more restricted for computers and land-based betting. How important is it to be able to bet from any location? Does this influence your choice of betting platform? Does this differ for different types of betting? How does being able/not able to bet from any location influence your betting behaviour? Can you provide specific examples?

Number of betting opportunities. Using an online platform, whether a computer or smartphone, enables people to bet with multiple betting operators, whereas this is not possible with land-based outlets. How important is it to you to be able to bet with multiple operators? Does this influence your choice of betting platform? Does this differ for different types of betting? How does this influence your betting behaviour? Can you provide specific examples?

Ease of use. Which of the platforms that you use for betting are the simplest to use? How important is ease of use to you when betting? Does this influence your choice of betting platform? Does this differ for different types of betting? How does ease of use influence your betting behaviour? Can you provide specific example?

User-interface: This varies from limited screen size and features for smartphones, to more screen size and features on computers, to no user interface for land-based betting. How important is this to you when betting? Does this influence your choice of betting platform? Does this differ for different types of betting? How does the user interface of different platforms influence your betting behaviour? Can you provide specific examples?

Ease of sourcing betting information: Sourcing betting information is easiest on a computer and smartphone, but less readily available in land-based outlets. How important is this to you when betting? Does this influence your choice of betting platform? Does this differ for different types of betting? How does the ease of sourcing betting information through different platforms influence your betting behaviour? Can you provide specific examples?

Financial aspects of betting. Betting online, whether by computer or smartphone, uses electronic money rather than cash and also allows use of credit cards. How important is this to you when betting? Does this influence your choice of betting platform? Does this differ for different types of betting? How does ability to use electronic money and a credit card influence your betting behaviour? Can you provide specific examples?

Advertising from betting operators. Betting operators often promote betting and bonuses directly to bettors through smartphones and computers, whereas this does not occur in land-based betting outlets. How important is this to you when betting? Does this influence your choice of betting platform? Does this differ for different types of betting? How does betting advertising through different platforms influence your betting behaviour? Can you provide specific examples?

Personalised advertising from betting operators. Betting operators can access your online betting history and even use location tracking for your smartphone. So they can personalise their advertising to you, such as push notifications and nudges. Have you ever received any

personalised advertising for betting? How important is this to you when betting? Does this influence your choice of betting platform? Does this differ for different types of betting? How does personalised advertising through different platforms influence your betting behaviour? Can you provide specific examples?

Responsible gambling features. Online betting operators can send and display responsible gambling messages, information about help services, self-exclusion options, ability to set deposit/betting limits, and access to player activity statements. Have you ever used any of these responsible gambling features? How important are they to you when betting? Does this influence your choice of betting platform? Does this differ for different types of betting? How do responsible gambling features influence your betting behaviour? Can you provide specific examples?

Situations they use platforms in

We'd like to ask you more about which betting platform/s you use for betting when you are in different types of situations.

Location of use: Does the platform you use depend on where you are when you're betting (e.g. computer at home, smartphone when out)? Does this differ for different types of betting? How does the location you are betting in influence your betting behaviour? Can you provide specific examples, perhaps by telling me about one or more of your recent betting sessions?

Socialising: Do you bet in social situations, or bet with friends or family when having a bet? This includes both in person and online. Does this differ for different types of betting? Does the platform you use influence how social you are when betting? How does the social situation you are in when betting influence your betting behaviour? Can you provide specific examples?

Privacy: Some platforms allow more privacy than others when you are betting, e.g. smartphones are most private and land-based is least private? Is this important to you? Does this differ for different types of betting? Does this influence your betting behaviour? Can you provide specific examples?

Anonymity: Some platforms allow you to bet anonymously – such as by cash instead of an account. Is this important to you? Does this differ for different types of betting? Does this influence your betting behaviour? Can you provide specific examples?

Safety and security: Some platforms allow you to bet from anywhere without having to go to a land-based venue to place a bet. This allows more personal safety. Is this important to you? Does this differ for different types of betting? Does this influence your betting behaviour? Can you provide specific examples?

End

Are there any other features of the platforms you use for betting that might influence your betting behaviour? If so, please tell me about these.

Thank you for your participation. Explain that Qualtrics will incentivise them. Remind them of help service information on the Information sheet or offer to provide if requested.

Appendix B. Stage 2: Key characteristics of interviewees and details of data analysis

Key characteristics of interviewees

ID	Sex	Age	Type of sports betting	Platforms used
01	F	21	Sports	Smartphone only
02	M	29	Sports	Mainly laptop, sometimes smartphone
03	M	25	Sports	Mainly smartphone, sometimes in-venue
04	F	21	Sports, esports, FS	Mainly smartphone, sometimes computer
05	F	20	Sports, esports	Mainly tablet and desktop computer, sometimes smartphone
06	M	21	Sports	Mainly desktop, also laptop
07	M	23	Esports	Mainly desktop, also smartphone
08	M	29	Sports	Smartphone only
09	M	21	Sports	Mainly smartphone, also computer
10	M	25	Sports, DFS, FS	Mainly smartphone and computer, sometimes in-venue
11	M	29	Sports, esports	Mainly smartphone, sometimes in-venue
12	M	26	Sports	Mainly smartphone, sometimes in-venue
13	M	26	Sports, esports	Mainly smartphone, sometimes computer, occasionally in-venue
14	M	21	Sports	Mainly smartphone, sometimes computer
15	M	24	Sports, FS	Mainly smartphone
16	M	25	Sports, esports	Mainly smartphone, sometimes computer and in-venue
17	M	27	Sports, DFS	Mainly smartphone, sometimes computer, tablet and in-venue
18	M	19	Sports	Smartphone only
19	M	28	Sports	Laptop only
20	F	26	Sports	Smartphone only
21	M	20	Sports, esports	Smartphone only
22	M	29	Sports, esports	Mainly smartphone, sometimes computer and in-venue
23	M	27	Sports, esports	Mainly smartphone, sometimes computer
24	M	27	Sports	Mainly smartphone, sometimes in-venue
25	M	20	Sports, DFS	Smartphone only
26	M	28	Sports	Mainly laptop, sometimes smartphone
27	M	24	Sports	Mainly laptop, sometimes computer
28	M	23	Sports	Smartphone only
29	M	25	Sports, esports	Computer and smartphone
30	F	25	Sports, esports	Mainly laptop, sometimes smartphone and in-venue
31	M	25	Sports	Mainly smartphone, sometimes in-venue
32	M	26	Sports, esports	Computer and smartphone
33	M	24	Sports, esports	Mainly smartphone

Details of data analysis

Data were analysed using thematic analysis, adhering to the methods outlined by Braun and Clarke (2006) to identify, analyse and report patterns within qualitative data. This analysis involved both inductive and deductive procedures. After data familiarisation through reading all interview transcripts several times, the first author commenced with open coding of each transcript, to identify initial features that were potentially relevant to the research aims. This coding of words, phrases, sentences or paragraphs, as appropriate, was an iterative process involving the constant comparative method to add, modify and refine codes and to recode data as the analysis progressed.

A subsequent process generated themes by grouping or collapsing codes that shared some unifying feature. For example, initial codes of, 'ease and speed of betting', 'being able to respond immediately to betting offers' and 'responding impulsively', were collapsed into a category of 'quick and spontaneous betting' under the broader theme of 'accessibility, convenience and constant availability of betting'. The literature review, which identified certain structural and situational features as potentially influencing betting behaviour, also informed the themes. Four authors (including the three interviewers) helped to refine the coding and analysis. The first author then reviewed the transcripts to enhance the saturation of themes and sub-themes, adding richness to the analysis with additional participant quotes.

Trustworthiness of the research (Polit & Beck, 2014) was enhanced by collecting data directly from participants with lived experience to increase credibility. A semi-structured interview format with open-ended questions allowed participants to decide the detail, scope and order in which they shared their experiences, with the interviewers adapting their questions to suit each individual's account, using a two-way conversational style to explore the issues discussed. This approach helped to improve dependability by reducing interviewer bias. Including participants' quotes in the reporting increased authenticity. The interviewers also reviewed and commented on each draft of the analysis to help optimise confirmability (Connelly, 2016).

Appendix C. Stage 3: Survey instrument

Betting on sports, esports and daily fantasy sports amongst young people

INFORMATION SHEET

This survey is being conducted by CQUniversity for the NSW Office of Responsible Gambling.

By participating, you can help us to learn more about betting amongst young people. We want to understand how certain characteristics of betting using a smartphone, computer and in land-based venues might influence betting behaviour and the risk of harm from betting.

The survey will take only 15-20 minutes to complete. It asks about your preferences and behaviours when betting, as well as some questions about you. Your responses are completely anonymous.

If you have any questions, please contact the research team at n.hing@cqu.edu.au

CQUniversity Ethics Approval number: 0000022891.

Would you like to see more details about the study?

- Yes (goes to next page)
- No (skipped to consent form)

Betting on sports, esports and daily fantasy sports amongst young people

ADDITIONAL INFORMATION

How your confidentiality will be protected

The survey does not ask for your name, so your responses will be completely anonymous. They will be combined with hundreds of other responses so no one will know your individual answers. The anonymous data will be stored securely and indefinitely by CQUniversity.

Participation is voluntary

Participation in this study is completely voluntary. You are free to withdraw at any stage. If you withdraw before completing the survey, we will not use any of your responses. You should also clear your browsing history so that no one can access your responses.

How you will receive feedback

Information about the results of the research will be made available through CQUniversity's gambling research Facebook page - https://www.facebook.com/cquegrl/ .

Where you can get further information

If you want further information or have any questions, please contact Professor Nerilee Hing: n.hing@cqu.edu.au. You can also contact the Ethics Coordinator at CQUniversity's Office of Research: 07 4923 2603.

If you experience discomfort at any point during the survey, you can contact **Gambling Help on 1800 858 858 or www.gamblinghelponline.org.au or Lifeline on 13 11 14.** These are free and confidential telephone/online help services that operate 24 hours a day, 7 days a week.

Participation

If you would like to participate, please indicate your consent on the next screen. Next, we will ask some questions to determine whether you can do the survey. If you meet our criteria, you can then take part in our online survey.

Project team

Professor Nerilee Hing (Chief Investigator), Professor Matthew Rockloff, Professor Matthew Browne, Dr Alex Russell, Dr Lisa Lole, Dr Philip Newall, and Nancy Greer. Qualtrics is assisting with recruiting respondents to this survey.

Consent

I consent to participate in this research project and agree that:

- I have read and understood the Information Sheet that describes this study.

- Any questions I had about the study were answered by either the Information Sheet or the researchers.

- I understand I have the right to withdraw from the survey at any time.

- The research findings, which will not identify me, may be included in the researchers' publications on the study which may include conference presentations and research articles.

- To protect my privacy, my name will not be recorded or used in publication(s).

- I am providing my consent to participate in this study.

- I am 18 years of age or over.

- Yes (continue to next question)

- No (screened out)

SURVEY

SCREENING QUESTIONS (Ask all respondents)

IMPORTANT – this survey includes attention checks that you must answer correctly to continue with the survey. Please read each question carefully.

(S1) How old are you? (Please enter numbers only below)
>   (Text box, validation 0-100)
>   Screen out if under 18, or older than 29

(S2) What is your postcode? (where you mainly live) (Please enter numbers only below)
>   (Text box, AU Postcode verification)
>   Screen out if not in Australia
>   Note: Cannot enter a postcode other than Australia. Instead, have an IP address check to screen them out if they're not in Australia

(S3) During the last 12 months, about how often did you **bet money** on **sporting events**, such as NRL, AFL, soccer, etc? **Do <u>NOT </u>include race betting (e.g., horse, greyhound, etc.)** (select one response)
- A few days a week
- At least once a week
- At least once a fortnight
- At least once a month
- A few times a year
- Not at all in the last 12 months

(S4) During the last 12 months, about how often did you **bet money** on professional video game competitions known as **esports**? (select one response)
- A few days a week
- At least once a week
- At least once a fortnight
- At least once a month
- A few times a year
- Not at all in the last 12 months

(S5) During the last 12 months, about how often did you **pay money** to enter **daily fantasy sports** competitions where you **can win money**? (select one response)
- A few days a week
- At least once a week
- At least once a fortnight
- At least once a month
- A few times a year
- Not at all in the last 12 months

Screen out if responses to ALL of S3 AND S4 AND S5 are "A few times a year" or "Not at all in the last 12 months".

Betting on sporting events
(This section only shown if they select "A few days a week", "At least once a week", "At least once a fortnight" or "At least once a month" at S3)

This section asks about **betting on sporting events** for money. **Please do NOT include betting on horse or greyhound races.**

(SB1) During the last 12 months, about how much money did you spend on sports betting in a typical **month**, including online, by telephone and at land-based venues? (Text entry, validate 0+, $ symbol before the box, 'per month' after the box)

(SB2) During the last 12 months, about what percentage of your expenditure on sports betting was done **using each of the following channels**?
(Validate adds to 100%)

Smartphone	_____%
Computer/laptop/tablet	_____%
Gaming console	_____%
At land-based venues	_____%
Using telephone calls	_____%

(SB3) Which of these channels do you **prefer** to use for sports betting? (select one response)
Smartphone
Computer/laptop/tablet
Gaming console
At land-based venues
Using telephone calls

Betting on esports competitions
(This section only shown if they select "A few days a week", "At least once a week", "At least once a fortnight" or "At least once a month" at S4)

This section asks about **betting on professional video game competitions, known as esports,** for money.

(ES1) During the last 12 months, about how much money did you spend on esports betting in a typical **month**, including online, by telephone and at land-based venues? (Text entry, validate 0+, $ symbol before the box, 'per month' after the box)

(ES2) During the last 12 months, about what percentage of your expenditure on esports betting was done **using each of the following channels**?
(Validate adds to 100%)

Smartphone	_____%
Computer/laptop/tablet	_____%
Gaming console	_____%
At land-based venues	_____%
Using telephone calls	_____%

(ES3) Which of these channels do you **prefer** to use for esports betting? (select one response)
    Smartphone
    Computer/laptop/tablet
    Gaming console
    At land-based venues
    Using telephone calls

Betting on daily fantasy sports competitions

(This section only shown if they select "A few days a week", "At least once a week", "At least once a fortnight" or "At least once a month" at S5)

This section asks about **betting on daily fantasy sports competitions** for money. This means **paying money** to enter **daily fantasy sports** competitions where you **can win money.**

(DFS1) During the last 12 months, about how much money did you spend on daily fantasy sports betting in a typical **month**, including online, by telephone and at land-based venues?
(Text entry, validate 0+, $ symbol before the box, 'per month' after the box)

(DFS2) During the last 12 months, about what percentage of your expenditure on daily fantasy sports betting was done **using each of the following channels**?
(Validate adds to 100%)
    Smartphone   ____%
    Computer/laptop/tablet   ____%
    Gaming console   ____%
    At land-based venues   ____%
    Using telephone calls   ____%

(DFS3) Which of these channels do you **prefer** to use for betting on daily fantasy sports? (select one response)
    Smartphone
    Computer/laptop/tablet
    Gaming console
    At land-based venues
    Using telephone calls

Advertising and promotions

(Ask all respondents) (AP1) During the last 12 months, how often did you see or hear advertisements, promotions or commentary about **betting on sports, esports or daily fantasy sports** in the following media? If you didn't use each type of the media mentioned below, select "Not at all in the last 12 months" for those items.

	Not at all in the last 12 months	Less than once a month	Once a month	2-3 times a month	Once a week	2-3 times a week	4 or more times a week
At live sports or racing events							
On television							
On the radio							
In print advertising (e.g. newspapers, magazines)							
On outdoor advertising (e.g. billboards, signage, public transport)							
In online and social media (e.g. websites, Youtube, Facebook, Twitter)							
In direct messages (e.g. personal emails, SMSs, phone calls from operators)							

(Ask all respondents) (AP2) How often did you see or hear the following types of **promotions (special offers) for sports, esports or daily fantasy sports** advertised during the last 12 months?

	Not at all in the last 12 months	Less than once a month	Once a month	2-3 times a month	Once a week	2-3 times a week	4 or more times a week	Don't know
Sign-up bonuses (cash or bonus bets for opening an account)								
Refer-a-friend bonuses (cash or bonus bets for referring a friend to open an account)								
Bonus bets for placing certain bets								
Better odds or winnings for certain combined bets								
Money-back guarantees (refund, stake-back or cash-back offers for certain bets)								

(Ask all respondents) (SGHS) **In the last 12 months**, did you experience any of the following **as a result of your gambling**? (Please select one response on each line)

	No (0)	Yes (1)
Reduction of your available spending money (1)	○	○
Less spending on recreational expenses such as eating out, going to the movies or other entertainment (2)	○	○
Reduction of your savings (3)	○	○
Sold personal items (4)	○	○
Increased credit card debt (5)	○	○
Had regrets that made you feel sorry about your gambling (6)	○	○
Felt like a failure (7)	○	○
Felt ashamed of your gambling (8)	○	○
Felt distress about your gambling (9)	○	○
Spent less time with people you care about (10)	○	○

SGHS_info. If gambling is a problem for you or others, please call the Gambling Helpline on 1800 858 858 or go to www.gamblinghelponline.org.au for free, confidential advice, available 24/7. If this questionnaire has raised any other issues for you, please call Lifeline on 13 11 14.

(Ask all respondents) (PGSI) **In the last 12 months**, how often… (Please select one response on each line)

	Never (0)	Sometimes (1)	Most of the time (2)	Almost always (3)
Did you need to gamble with larger amounts of money to get the same feeling of excitement? (1)	○	○	○	○
Did people criticise your betting or tell you that you had a gambling problem, regardless of whether or not you thought it was true? (2)	○	○	○	○
Did you feel that you might have a problem with gambling? (3)	○	○	○	○
When you gambled, did you go back another day to try to win back the money you lost? (4)	○	○	○	○
Did gambling cause you any health problems, including stress or anxiety? (5)	○	○	○	○
Did you feel guilty about the way you gamble or what happened when you gambled? (6)	○	○	○	○
Did your gambling cause any financial problems for you or your household? (7)	○	○	○	○
Did you bet more than you could really afford to lose? (8)	○	○	○	○
Did you borrow money or sell anything to get money to gamble? (9)	○	○	○	○

PGSI_info. If gambling is a problem for you or others, please call the Gambling Helpline on 1800 858 858 or go to www.gamblinghelponline.org.au for free, confidential advice, available 24/7. If this questionnaire has raised any other issues for you, please call Lifeline on 13 11 14.

(Ask all respondents) (BIS)

Read each statement and mark the appropriate number on the right side of each item. Do not spend too much time on any statement. Answer quickly and honestly.

	Rarely/ Never (1)	Occasionally (2)	Often (3)	Almost Always/ Always (4)
I plan tasks carefully (1)				
I do things without thinking (2)				
I don't "pay attention" (3)				
I am self-controlled (4)				
I concentrate easily (5)				
I am a careful thinker (6)				
I say things without thinking (7)				
I act on the spur of the moment (8)				

Conjoint section

We'd now like to ask you some questions about your preferences when betting.

Qualtrics instructions here

Each card to show 2 sets of options

For each card shown, ask:

(Ask all respondents) (DCE1)

Please review the 2 options below.

If you had to choose just ONE of these options, which would you PREFER when you are betting on the type of betting you do most often?

Try to visualise yourself in each of these situations when you're betting on this activity.

CONJOINT DESIGN

	Characteristic			
1.	Speed, portability and convenience	Can **instantly** place bets **24/7** from **any location**	Can **instantly** place bets **24/7** from **home or work only**	Can **only** place bets at a **betting venue** during **opening hours**
2.	Ease of researching betting information	**Moderately easy** to research betting information **online**	**Very easy** to research betting information **online**	Can research betting information **only** from **non-internet sources**
3.	Number of operators/betting opportunities	Can access a **wide variety of bets** through **multiple operators**	Can bet with **only one operator**	
4.	Financial accessibility	Can bet with **electronic money** (e.g. debit card, credit card, EFTPOS, bank transfer, etc.)	Can bet with **cash**	
5.	Access to betting promotions	See **very frequent** betting promotions	See **moderately frequent** betting promotions	See **limited** betting promotions
6.	Privacy and social aspects	Can bet **alone and in social settings** while keeping your betting **private**	Can **only bet alone** which keeps your betting **private**	Can **only bet in social settings** where others can **see** you bet

Features of betting channels

(Ask all respondents) (FBC1) When you are betting on sports, esports or daily fantasy sports, how important are the following to you? (Please select one response on each line)

	Not at all important	Slightly important	Moderately important	Extremely important
Being able to easily place bets				
Being able to instantly place bets				
Being able to bet from any location				
Being able to bet at any time of the day or night (24/7)				
Being able to easily research betting information				
Being able to bet while doing other things, e.g., commuting, working, watching TV, lying in bed				
Being able to bet with more than one operator				
Being able to access a wide range of bets				
Being able to bet with electronic money				
Being able to bet with cash				
Being able to quickly access and transfer money for betting				
Being able to use a credit card for betting				
Being able to access a wide range of betting promotions, e.g. specials, bonus bets				
Seeing frequent betting promotions, e.g. specials, bonus bets				
Being able to access betting promotions instantly				
Being able to link directly to betting promotions from your betting device				

Being able to bet in social settings (e.g., in a venue, at friends' homes)				
Being able to bet alone, without other people around				
Being able to keep your betting private, without anyone else knowing				
Being able to bet anonymously so there is no record of your betting				
Being able to avoid other people when you are betting				
Being able to bet without having to travel somewhere				
Being able to place in-play bets (bets placed after a match has started)				
Being able to access responsible gambling tools, e.g., deposit limits, activity statements				

Demographics (Ask all respondents)

(D1) What is your gender? (Please select one response)
- Male
- Female
- Other

(D2) Which of the following best describes your current marital status? (Please select one response)
- Single/never married
- Living with partner/de facto
- Married
- Divorced or separated
- Widowed

(D3) Which of the following best describes your household? (Please select one response)
- Single person
- One parent family with children
- Couple with children
- Couple with no children
- Group household
- Other (please specify - text box)

(D4) What is your highest educational qualification? (Please select one response)
- No schooling
- Did not complete primary school
- Completed primary school
- Year 10 or equivalent
- Year 12 or equivalent
- A trade, technical certificate or diploma
- A university or college degree
- Postgraduate qualification

(D5) Which of the following best describes what you do? (Please select one response)
- Work full-time
- Work part-time or casual
- Self-employed
- Unemployed and looking for work
- Full-time student
- Full-time home duties
- Retired
- Sick or disability pension
- Other (please specify - text box)

(D6) In which country were you born? (Please select one response)
- Australia
- Other (please specify – text box)

(D7) What is the main language that you speak at home? (Please select one response)
- English
- A language other than English (please specify – text box)

(D8) For statistical purposes, are you of Aboriginal or Torres Strait Island origin? (Please select one response)
- No
- Yes, Aboriginal
- Yes, Torres Strait islander
- Yes, both Aboriginal and Torres Strait islander

(D9) To the nearest thousand dollars (in Australian dollars), how much is your total **annual personal** income **before taxes**? (Please select one response)
- $0 to $9,999
- $10,000 to $19,999
- $20,000 to $29,999
- $30,000 to $39,999
- $40,000 to $49,999
- $50,000 to $59,999
- $60,000 to $69,999
- $70,000 to $79,999
- $80,000 to $89,999
- $90,000 to $99,999
- $100,000 to $109,999
- $110,000 to $119,999
- $120,000 to $129,999
- $130,000 to $139,999
- $140,000 to $149,999
- $150,000 to $159,999
- $160,000 or more
- Don't know

If gambling is a problem for you or others, please call the Gambling Helpline on 1800 858 858 or go to www.gamblinghelponline.org.au for free, confidential advice, available 24/7. If this questionnaire has raised any other issues for you, please call Lifeline on 13 11 14.

Thank you for completing this survey
Please click SUBMIT to record your answers

Appendix D. Stage 3: DCE sample characteristics and inferential statistics

This section presents descriptive statistics pertaining to the survey sample for Stage 3, including demographic characteristics, betting behaviour, PGSI categories, platform spend and preferences, awareness of advertising and promotions and preferred features of betting platforms.

Demographics

Of the 616 respondents, 203 (33.0%) identified as male and 413 (67.0%) identified as female. Demographic statistics for the total sample, and by gender, are detailed in Table D.1. Reported age ranged from 18 to 29 years with a mean age of 23.76 years (SD=3.38, median=24). The mean age for males (m=24.62, SD 3.16), was significantly higher than females (m=23.34, SD=3.42; Welch t(431.49)=21.33, p<.001). The sample mostly consisted of respondents from New South Wales, Victoria and Queensland, in line with the population distribution. Most of the sample were born in Australia (93.5%), spoke English as their main language at home (97.0%), and 40.5% had completed a university, college degree or postgraduate qualifications. Most respondents (69.2%) were in full-time, part-time, or casual work, and reported a median income of $50,000-$59.999 (Table D.1). Male participants were more likely to be living in a single person household, live in New South Wales, have a university degree, and work full time or be self-employed than females. Females were more likely to be living with a partner, live in Victoria or Queensland, not have completed higher education, and be working part-time or in full-time home duties.

Table D.1 – Demographic statistics in the total sample (N=616)

Variable	Total		Male		Female	
	n	%	n	%	n	%
Marital Status			(χ^2(3)=18.53, p<.001)			
Single/never married	297	48.2	110	43.2	187	45.3
Living with partner/de facto	221	35.9	50	24.6	171	**41.4**
Married	92	14.9	41	20.2	51	12.3
Divorced or separated	6	1.0	2	1.0	4	1.0
Household composition			(χ^2(5)=23.93, p<.001)			
Single person	172	27.9	81	**39.9**	92	22.0
One parent family with children	51	8.3	13	6.4	38	9.2
Couple with children	144	23.4	23	16.7	110	26.6
Couple with no children	148	24	47	23.2	101	24.5
Group household	89	14.4	25	12.3	64	15.5
Other	12	1.9	3	1.5	9	2.2
State or territory of residence			(χ^2(7)=52.36, p<.001)			
New South Wales	222	36.0	113	**55.7**	109	26.4
Victoria	179	29.1	42	20.7	137	**33.2**
Queensland	107	17.4	21	10.3	86	**20.8**
South Australia	39	6.2	11	5.4	28	6.8
Western Australia	38	6.2	10	4.9	28.	6.8
Tasmania	21	3.4	4	2.0	17	4.1
Australian Capital Territory	7	1.1	1	0.5	6	1.5

Northern Territory	3	0.5	1	0.5	2	0.5
Are you Aboriginal or Torres Strait Island origin?			$(\chi^2(3)=2.33, p=.507)$			
No	546	88.6	179	88.2	367	88.9
Aboriginal	61	9.9	21	10.3	40	9.7
Torres Strait Islander	3	0.5	0	0	3	0.7
Both Aboriginal and Torres Strait Islander	6	1.0	3	1.5	3	0.7
Country of birth			$(\chi^2(1)=0.08, p=.776)$			
Australia	576	93.5	189	93.1	387	93.7
Other	40	6.5	14	6.9	26	6.3
Main language spoken at home			$(\chi^2(1)=0.74, p=.389)$			
English	598	97.0	195	96.1	402	97.3
A language other than English	18	3.0	8	3.9	11	2.7
Highest level of education			$(\chi^2(4)=34.80, p<.001)$			
Year 10 or below	59	9.6	15	7.4	44	10.7
Year 12 or equivalent	187	30.4	43	21.2	144	**34.9**
A trade, technical certificate, or diploma	117	19.0	28	13.8	89	21.5
A university or college degree	215	34.9	101	**49.8**	114	27.6
Postgraduate qualifications	38	6.2	16	7.9	22	5.3
Employment			$(\chi^2(7)=87.89, p<.001)$			
Full-time work	272	44.2	116	**57.1**	156	37.8
Part-time or casual work	154	25.0	29	14.3	125	**30.3**
Self-employed	48	7.8	36	**17.7**	12	2.9
Unemployed (looking for work)	50	8.1	10	4.9	40	9.7
Full-time student	48	7.8	9	4.4	39	9.4
Full-time home duties	33	5.4	1	0.5	32	**7.7**
Sick or disability pension	6	1.0	2	1.0	4	1.0
Other	5	0.8	0	0	5	1.2
Annual household pre-tax income			$(\chi^2(9)=87.31, p<.001)$			
$0 to $19,999	97	15.7	20	9.9	77	18.6
$20,000 to $39,999	109	17.7	16	7.9	93	**22.5**
$40,000 to $59,999	114	18.5	31	15.3	83	20.1
$60,000 to $79,999	93	15.1	29	14.3	64	15.5
$80,000 to $99,999	60	9.7	30	14.8	30	7.3
$100,000 to $119,999	62	10.1	41	**20.2**	21	5.1
$120,000 to $139,999	25	4.1	18	**8.9**	7	1.7
$140,000 to $159,999	15	2.4	7	3.4	8	1.9
$160,000 or more	9	1.5	5	2.5	4	1.0
Don't know	32	5.2	6	3.0	26	6.3

Note: Most common country of birth responses for the total sample – 'United Kingdom (10) and India (7).
Questions: S1, D1-D9.

Betting behaviour

Around one-third of the sample bet on sports at least weekly (31.1%; Table D.2), followed by 17.2% betting at least weekly of esports, and 15.6% on daily fantasy sports (DFS). This high betting frequency reflects the survey inclusion criteria of betting at least monthly on one of these betting types.

Table D.2 – Frequency of sports, esports and fantasy sports betting statistics (N=616)

Frequency	Sports betting		Esports betting		DFS betting	
	n	**%**	**n**	**%**	**n**	**%**
Not at all in the last 12 months*	20	3.2	234	38.0	225	36.5
A few times a year	72	11.7	71	11.5	89	14.4
At least once a month	201	32.6	123	20.0	119	19.3
At least once a fortnight	119	19.3	82	13.3	87	14.1
At least once a week	137	22.2	78	12.7	68	11.1
A few days a week	67	10.9	28	4.5	28	4.5

*All respondents bet on *at least one of* sports, esports or DFS at-least monthly.
Questions: S3-S5.

PGSI, gambling harms and impulsivity

Most of the sample were at some risk of gambling-related problems: 15.1% were non-problem gamblers, 18.2% low risk gamblers, 23.7% moderate risk gamblers and 43.0% in the problem gambling category (Table D.3). The mean PGSI score was 7.26 (SD=6.33), median = 6. As assessed by the SGHS, most participants (n=452, 73.38%) experienced 1 or more gambling-related harms, and 43% (n=265) experienced 4 or more harms. The mean number of harms reported was 3.30 (*SD* 2.95, median 3). BIS Brief Scores ranged from 8 to 30, with a mean of 19.37; higher scores reflect greater impulsiveness.

Table D.3 – PGSI group statistics (N=616)

PGSI group	n	%
Non-problem gambler	93	15.1
Low risk gambler	112	18.2
Moderate risk gambler	146	23.7
Problem gambler	265	43.0

Note: PGSI scores ranged from 0-27, mean = 7.26 (*SD*=6.33), median = 6.
Questions: PGSI.

Characteristics of sports, esports and DFS bettors

Sports bettors in this sample were more likely to be female (64.7%), with a mean age of 23.9 years. On average they experienced 3.2 harms on the SGHS, and 40.6% scored in the problem gambling category, 23.7% were moderate risk gamblers, 20.0% low risk gamblers, and 16.6% non-problem gamblers (Table D.4). In the esports bettors' sample, 44.7% were male, with a mean age of 24.0 years. On average they experienced 3.8 harms on the SGHS, and 57.2% scored in the problem gambling category, 21.2% as moderate risk gamblers, 14.5% low risk gamblers, and 7.1% non-problem gamblers. Participants who bet at least monthly on DFS were 45.0% male, with a mean age of 23.9 years. On average they experienced 4 harms on the SGHS, and 61.3% met criteria for problem gambling, 21.9% for moderate risk gambling, 9.9% for low risk gambling, and 7.0% for non-problem gambling.

Table D.4 – Key characteristics associated with different types of betting

	Sports bettors (n=524)		Esports bettors (n=311)		DFS bettors (n=302)	
Gender	n	%	N	%	n	%
Male	185	35.3	139	44.7	136	45.0
Female	339	64.7	172	55.3	166	55.0
	(χ^2(1)=8.78, p=.003)		(χ^2(1)=39.18, p<.001)		(χ^2(1)=39.12, p<.001)	
PGSI						
Non-problem gambler	82	16.6	22	7.1	21	7.0
Low risk gambler	105	20.0	45	14.5	30	9.9
Moderate risk gambler	124	23.7	66	21.2	66	21.9
Problem gambler	213	40.6	178	57.2	185	61.3
	(χ^2(3)=11.94, p=.008)		(χ^2(3)=62.68, p<.001)		(χ^2(3)=94.86, p<.001)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Age	23.9	3.4	24.0	3.2	23.9	3.3
SGHS	3.2	2.9	3.8	2.9	4.0	2.9

Note: groups include all respondents who reported participating in that type of betting at least monthly
Questions: Calculated from S1, D1, PGSI, SGHS.

Platform spend and preferences

Amongst respondents who bet on sports at least monthly (n=524), the mean amount spent in a typical month across all platforms was $302.50 (SD=$2,647.00; median $60.00). The most used platform was a smartphone (72.9%), followed by a computer (12.5%) and land-based venues (7.3%; Table D.5). Most participants (85.7%) preferred sports betting via a smartphone. For at-least monthly esports bettors (n=311), the mean amount spent in a typical month across all platforms was $176.20 (SD=$369.08; median $80.00). The most used platform was a smartphone (63.9%), followed by a computer (16.7%) and land-based venues (7.5%; Table D.6). Most participants (74.3%) preferred esports betting via a smartphone. Respondents who bet on DFS at least monthly (n=302), typically spent a mean monthly amount of $153.63 (SD=$275.18; median $60.00) across all platforms. The most used platform was a smartphone (63.1%), followed by a computer (17.3%) and gaming consoles (7.9%; Table D.7). The majority of DFS bettors (68.5%) preferred betting via a smartphone.

Table D.5 – Sports betting percentage of platform spend and preferred platform (N=524)

Platform	Percentage of expenditure per platform		Preferred platform	
	M	SD	N	%
Smartphone	72.94	20.77	449	85.7
Computer/laptop/tablet	12.48	20.77	47	9.0
Gaming console	3.72	9.48	11	2.1
At land-based venues	7.26	16.28	17	3.2
Using telephone calls	3.60	9.78	0	0

Questions: SB2, SB3.

Table D.6 – Esports betting percentage of platform spend and preferred platform (N=311)

Platform	Percentage of expenditure per platform		Preferred platform	
	M	SD	N	%
Smartphone	63.87	35.27	231	74.3
Computer/laptop/Table D.t	16.71	22.92	52	16.7
Gaming console	6.84	15.09	18	5.8
At land-based venues	7.52	16.78	9	2.9
Using telephone calls	5.06	12.01	1	0.3

Questions: ES2, ES3.

Table D.7 – DFS betting percentage of platform spend and preferred platform (N=302)

Platform	Percentage of expenditure per platform		Preferred platform	
	M	SD	N	%
Smartphone	63.12	37.25	207	68.5
Computer/laptop/tablet	17.26	23.73	55	18.2
Gaming console	7.86	18.32	25	8.3
At land-based venues	6.20	14.02	9	3.0
Using telephone calls	5.56	12.09	6	2.0

Questions: DFS2, DFS3.

From the preferred platforms for each type of betting, a combined variable was created. Most participants had a consistent preference for betting via a smartphone (75.6%; Table D.8). Just under 10% had a consistent preference for betting via their computer/laptop/tablet or gaming console. In contrast, 12.7% of the sample had a mixed preference for betting, depending on the type of betting they were doing at the time (e.g., an individual preferred a smartphone for sports betting and a computer for esports betting). Just under 2% of participants preferred other betting platforms (e.g., at a venue).

Table D.8 – Preferred platform across sports bettors, esports bettors, and DFS bettors (N=616)

Platform	Percentage of bettors	
	N	%
Smartphone	466	75.6
Computer/laptop/tablet/gaming console	60	9.7
Mixed smartphone and computer/laptop/table/gaming console	78	12.7
Other preference (i.e at venue)	12	1.9

Questions: Calculated from SB3, ES3, DFS3.

Advertising and promotions

Around half of the participants (49.1%) recalled advertisements, promotions, or commentary about betting on sports, esports or DFS at least once a week online or in social media. This was followed by on television (43.3% at least once a week), radio (34.9%) and direct messages (32.5%). The least recalled media was print advertising (24.4%), at live events (26.8%) and via outdoor advertising (30.1%). The most common types of promotions recalled were money-back guarantees (41.9% at least once a week), followed by bonus bets for placing certain bets (41.8%) and better odds for inning for certain combined bets (41.5%). The least recalled promotions were refer-a-friend bonus (31.3%), and sign-up bonuses (31.8%).
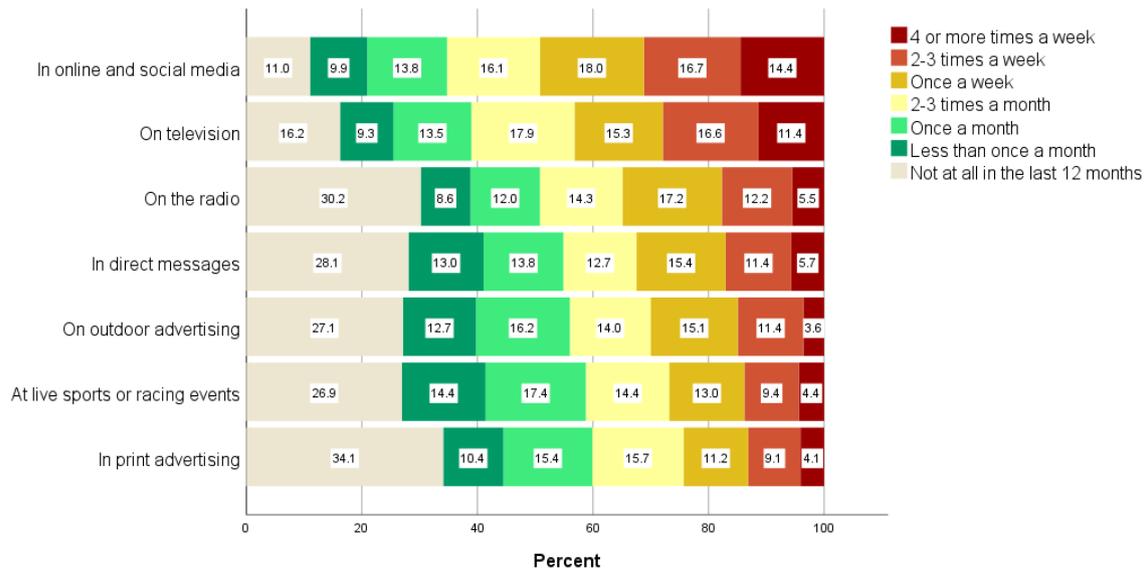
Figure D.1 – Awareness of advertisements, promotions, or commentary about betting on sports, esports or DFS across media type (N=616)
Questions: AP1
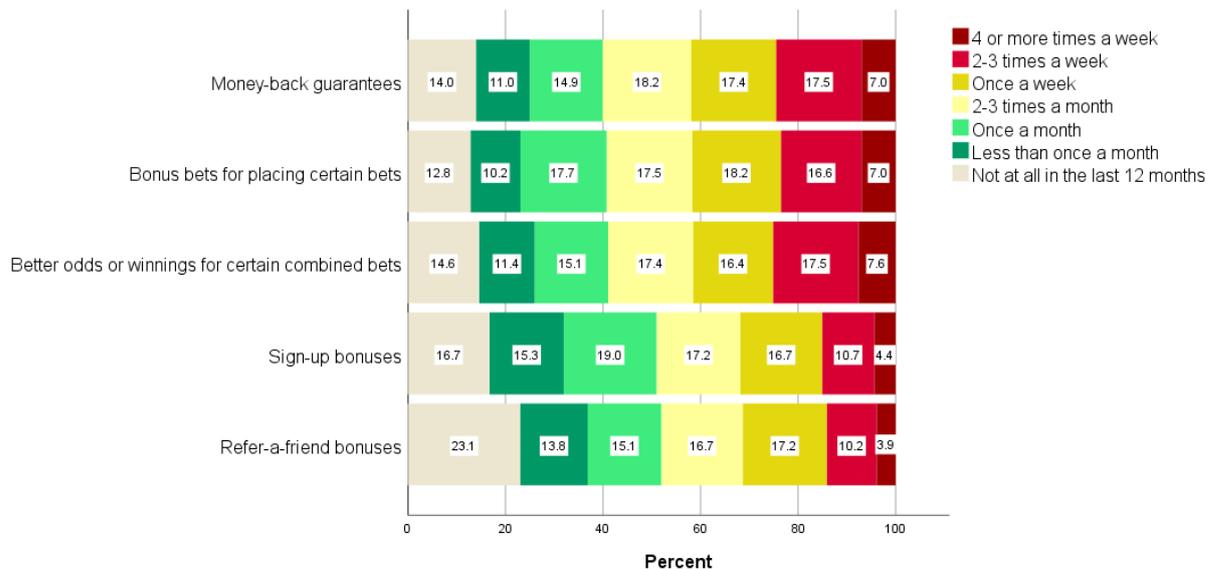
Figure D.2 – Awareness of promotions about betting on sports, esports or DFS across message type (N=616)
Questions: AP2

Features of betting platforms

Overall importance

Overall, the participants identified the most important features of betting platforms as being able to bet from any location (*m*=2.96), able to instantly place bets (*m*=2.94) and being able to bet with electronic money (*m*=2.94; Figure D.3). The least important features were being able to bet with cash (*m*=2.38), being able to avoid other people while betting (*m*=2.46) and being able to bet anonymously (*m*=2.51).

Preferences

Feature	Mean
Being able to bet from any location	2.96
Being able to instantly place bets	2.94
Being able to bet with electronic money	2.94
Being able to quickly access and transfer money for betting	2.92
Being able to access betting promotions instantly	2.90
Being able to easily place bets	2.90
Being able to bet without having to travel somewhere	2.86
Being able to access a wide range of bets	2.86
Being able to access a wide range of betting promotions	2.85
Being able to link directly to betting promotions from your betting device	2.82
Being able to easily research betting information	2.82
Being able to bet at any time of the day or night (24/7)	2.82
Being able to bet while doing other things	2.81
Seeing frequent betting promotions, e.g. specials, bonus bets	2.77
Being able to access responsible gambling tools	2.74
Being able to place in-play bets (bets placed after a match has started)	2.72
Being able to bet alone, without other people around	2.66
Being able to bet with more than one operator	2.61
Being able to keep your betting private, without anyone else knowing	2.60
Being able to bet in social settings (e.g., in a venue, at friends' homes)	2.59
Being able to use a credit card for betting	2.54
Being able to bet anonymously so there is no record of your betting	2.51
Being able to avoid other people when you are betting	2.46
Being able to bet with cash	2.38

Figure D.3 – Importance of features of betting platforms (N=616)
Questions: FBC1; Note: higher betting features scores reflects a higher rating of importance.

Pairwise comparisons of self-rated importance of features

Respondents to the Discrete Choice Experiment survey were asked to rate the importance of each of 24 betting features. Conducting pairwise analyses between every possible pairing of the 24 betting features would result in a large amount of output that is difficult to interpret. Instead, we have ordered the features by rated importance, and then compared each subsequent feature to the most important. First, the highest rated feature, "Being able to bet from any location", was compared to the next most important feature, "Being able to instantly place bets". This comparison was not statistically significant, so "Being able to bet with electronic money" was then compared to "Being able to bet from any location", and so on until the rated importance of a feature was statistically significantly lower than that for "Being able to bet from any location". This was the case for "Being able to access a wide range of bets". A horizontal line in the table is drawn above this item to indicate this. Importantly, this does not mean that all of the features listed above the line are significantly different to all of those below the band. Instead, this summary of the analyses is designed to give an indication of where significant differences in feature importance can be observed. That item, "Being able to access a wide range of bets" then becomes the item to which all subsequent features are compared until a statistically significant difference is observed. Due to the number of comparisons involved, an alpha of .01 was used. Table D.9 summarises these results.

Table D.9 – A summary of pairwise comparisons between self-rated feature importance from the Discrete Choice Experiment

Being able to bet from any location
Being able to instantly place bets
Being able to bet with electronic money
Being able to quickly access and transfer money for betting
Being able to access betting promotions instantly
Being able to easily place bets
Being able to bet without having to travel somewhere
Being able to access a wide range of bets
Being able to access a wide range of betting promotions
Being able to link directly to betting promotions from your betting device
Being able to easily research betting information
Being able to bet at any time of the day or night (24/7)
Being able to bet while doing other things
Seeing frequent betting promotions
Being able to access responsible gambling tools
Being able to place in-play bets
Being able to bet alone, without other people around
Being able to bet with more than one operator
Being able to keep your betting private, without anyone else knowing
Being able to bet in social settings
Being able to use a credit card for betting
Being able to bet anonymously so there is no record of your betting
Being able to avoid other people when you are betting
Being able to bet with cash

Importance of betting features by segments

We explored the importance of each of the features of betting platforms across gender, age, type of betting, preferred platform, PGSI, harms and impulsivity.

Demographics

Male respondents rated several features as being more significantly important compared to female respondents (Table D.10). The most significant differences across gender related to features associated with privacy (e.g., being able to bet alone, without other people around), which were all rated as more important for males than females. There were no gender differences associated with features relating to promotions (e.g., seeing frequent betting promotions). Most betting platform features were rated as more important by older respondents than younger respondents (Table D.11). The most significant differences included being able to instantly place bets, bet from any location, quickly access and transfer money, bet anonymously, and bet without having to travel anywhere.

Table D.10 – Importance of features of betting platforms by gender (N=616)

	Male N = 203		Female N=413		Significance
	M	SD	M	SD	
Being able to easily place bets	2.99	0.87	2.85	0.92	Welch $t(420.76)=3.28$, $p=.071$
Being able to instantly place bets	3.00	0.90	2.91	0.91	$F(1,614)=1.34$, $p=.247$
Being able to bet from any location	3.02	0.92	2.93	0.98	Welch $t(426.02)=1.38$, $p=.240$
Being able to bet at any time of the day or night	**2.97**	0.88	2.75	1.03	Welch $t(462.21)=7.68$, $p=.006$
Being able to easily research betting information	2.81	0.86	2.82	0.94	Welch $t(449.05)=.039$, $p=.843$
Being able to bet while doing other things	2.80	0.83	2.81	0.97	Welch $t(458.94)=0.02$, $p=.887$
Being able to bet with more than one operator	**2.74**	0.92	2.55	0.99	Welch $t(430.75)=5.90$, $p=.016$
Being able to access a wide range of bets	**2.97**	0.88	2.80	0.93	Welch $t(424.81)=4.83$, $p=.029$
Being able to bet with electronic money	2.95	0.87	2.93	0.98	Welch $t(444.48)=.030$, $p=.862$
Being able to bet with cash	**2.55**	0.97	2.30	0.95	$F(1,614)=9.30$, $p=.002$
Being able to quickly access and transfer money for betting	2.98	0.87	2.89	0.99	Welch $t(453.15)=1.38$, $p=.240$
Being able to use a credit card for betting	**2.69**	1.00	2.47	1.10	Welch $t(434.93)=6.28$, $p=.013$
Being able to access a wide range of betting promotions	2.88	0.81	2.84	0.93	Welch $t(453.07)=.22$, $p=.640$
Seeing frequent betting promotions	2.84	0.91	2.73	0.91	$F(1,614)=1.78$, $p=.183$
Being able to access betting promotions instantly	2.97	0.84	2.86	0.89	$F(1,614)=2.00$, $p=.158$
Being able to link directly to betting promotions from your betting device	2.90	0.86	2.79	0.93	Welch $t(428.37)=1.99$, $p=.159$
Being able to bet in social settings	2.61	0.89	2.58	0.93	$F(1,614)= 0.10$, $p=.753$
Being able to bet alone, without other people around	**2.71**	0.94	2.64	1.02	$F(1,614)=10.555$, $p=.001$
Being able to keep your betting private, without anyone else knowing	**2.79**	0.96	2.51	1.04	Welch $t(429.57)=11.10$, $p=.001$
Being able to bet anonymously so there is no record of your betting	**2.85**	1.02	2.34	1.11	Welch $t(436.72)=31.56$, $p<.001$
Being able to avoid other people when you are betting	**2.72**	0.91	2.33	1.04	Welch $t(452.67)=22.48$, $p<.001$
Being able to bet without having to travel somewhere	2.95	0.89	2.82	1.02	Welch $t(452.96)=2.81$, $p=.094$
Being able to place in-play bets (bets placed after a match has started)	2.80	0.86	2.68	1.00	Welch $t(460.35)=2.66$, $p=.103$
Being able to access responsible gambling tools	**2.88**	0.91	2.67	0.99	Welch $t(435.58)=6.46$, $p=.011$

Note: higher betting features scores reflect a higher rating of importance
Questions: Calculated from FBC1 and D1.

Table D.11 – Importance of features of betting platforms by age (N=616)

	18-24 years N = 324		25-29 years N=289		Significance
	M	SD	M	SD	
Being able to easily place bets	2.79	0.95	**3.02**	0.84	Welch t(613.95)=9.76, *p*=.002
Being able to instantly place bets	2.81	0.92	**3.09**	0.86	*F*(1,614)=15.40, *p*<.001
Being able to bet from any location	2.81	1.00	**3.13**	0.89	Welch *t*(613.96)=18.56, *p<.001*
Being able to bet at any time of the day or night	2.72	1.00	**2.93**	0.97	*F*(1,614)=6.69, *p*=.010
Being able to easily research betting information	2.74	0.97	**2.92**	0.89	Welch t(613.00)=5.59, *p*=.018
Being able to bet while doing other things	2.75	0.95	2.87	0.89	Welch *t*(612.09)=2.87, *p*=.091
Being able to bet with more than one operator	2.52	0.96	**2.71**	0.98	*F*(1,614)=5.89, *p*=.016
Being able to access a wide range of bets	2.76	0.95	**2.97**	0.87	Welch *t*(613.45)=8.23, *p*=.004
Being able to bet with electronic money	2.87	0.96	3.01	0.92	Welch *t*(610.57)=3.35, *p*=.068
Being able to bet with cash	2.38	0.93	2.38	0.99	*F*(1,614)=0.00, *p*=.985
Being able to quickly access and transfer money for betting	2.79	0.99	**3.07**	0.88	Welch *t*(613.97)=14.05, *p<.001*
Being able to use a credit card for betting	2.54	1.06	2.54	1.08	*F*(1,614)=0.00, *p*=.954
Being able to access a wide range of betting promotions	2.76	0.92	**2.96**	0.85	Welch *t*(612.99)=7.62, *p*=.006
Seeing frequent betting promotions	2.69	0.93	**2.85**	0.88	Welch *t*(611.13)=4.64, *p*=.032
Being able to access betting promotions instantly	2.80	0.91	**3.02**	0.82	Welch *t*(613.86)=10.15, *p*=.002
Being able to link directly to betting promotions from your betting device	2.72	0.96	**2.94**	0.83	Welch *t*(613.44)=8.70, *p*=.003
Being able to bet in social settings	2.60	0.93	2.58	0.91	*F*(1,614)=0.08, *p*=.772
Being able to bet alone, without other people around	2.56	0.99	**2.78**	0.98	*F*(1,614)=8.01, *p*=.005
Being able to keep your betting private, without anyone else knowing	2.48	1.00	**2.74**	1.03	*F*(1,614)=9.88, *p*=.002
Being able to bet anonymously so there is no record of your betting	2.35	1.06	**2.69**	1.13	*F*(1,614)=14.52, p<.001
Being able to avoid other people when you are betting	2.35	0.99	**2.58**	1.03	*F*(1,614)=7.52, *p*=.006
Being able to bet without having to travel somewhere	2.73	1.01	**3.01**	0.93	Welch *t*(613.31)=13.07, *p<.001*
Being able to place in-play bets (bets placed after a match has started)	2.64	0.98	**2.80**	0.93	Welch *t*(610.11)=4.34, *p*=.038
Being able to access responsible gambling tools	2.65	1.01	**2.84**	0.91	Welch *t*(613.60)=6.42, *p*=.012

Note: higher betting features scores reflect a higher rating of importance
Questions: Calculated from FBC1 and S1.

Types of betting

Across almost all betting platform features, sports bettors rated the features as more important than non-sport bettors (Table D.12). Features relating to promotions (e.g., seeing frequent betting promotions) were all rated as significantly more important for sports bettors, as were features related to convenience (i.e., being able to easily place bets) and opportunities (e.g. being able to access a wide range of bets). Being able to bet with electronic money and being able to quickly access and transfer money for betting were also rated as significantly more important for sports bettors, as was being able to bet alone, without other people, and being able to bet in social settings.

Esports bettors rated several features as more important than non-esports bettors (Table D.13). These include being able to bet with more than one operator, bet with cash, bet using a credit card, bet anonymously, and avoid other people when betting. Features that were rated significantly less important than non-esports bettors were being able to easily place bets, instantly place bets, and bet while doing other things.

Participants who were at least monthly DFS bettors rated as significantly more important being able to bet with more than one operator, bet with cash or credit card, and many of the options associated with privacy (Table D.14). DFS bettors rated the following features as significantly less important than non-DFS bettors: being able to easily place bets, instantly place bets, easily research betting information, bet while doing other things, and bet with electronic money.

Table D.12 – Importance of features of betting platforms by sports bettors (N=616)

	Not sports bettor N = 92		Sports bettor N=524		Significance
	M	SD	M	SD	
Being able to easily place bets	2.51	1.03	**2.97**	0.87	Welch *t*(114.52)=15.89, *p*<.001
Being able to instantly place bets	2.54	0.97	**3.01**	0.87	Welch *t*(118.60)=18.75, *p<.001*
Being able to bet from any location	2.47	1.04	**3.05**	0.92	Welch *t*(117.28)=25.07, *p<.001*
Being able to bet at any time of the day or night	2.45	1.01	**2.89**	0.97	*F*(1,614)=15.92, *p*<.001
Being able to easily research betting information	2.42	1.01	**2.89**	0.90	Welch *t*(118.14)=17.46, *p<.001*
Being able to bet while doing other things	2.49	1.03	**2.86**	0.89	Welch *t*(116.24)=10.53, *p=.002*
Being able to bet with more than one operator	2.20	1.03	**2.69**	0.94	*F*(1,614)=20.43, *p<.001*
Being able to access a wide range of bets	2.51	1.02	**2.92**	0.89	Welch *t*(116.32)=12.90, *p<.001*
Being able to bet with electronic money	2.48	1.04	**3.02**	0.90	Welch *t*(116.21)=27.71, *p<.001*
Being able to bet with cash	2.24	0.91	2.40	0.97	*F*(1,614)=2.34, *p=.127*
Being able to quickly access and transfer money for betting	2.51	1.01	**2.99**	0.92	Welch *t*(119.93)=18.06, *p<.001*
Being able to use a credit card for betting	2.43	1.12	2.56	1.06	*F*(1,614)=1.06, *p=.304*
Being able to access a wide range of betting promotions	2.47	0.95	**2.92**	0.87	Welch *t*(118.74)=18.21, *p<.001*
Seeing frequent betting promotions	2.50	0.99	**2.81**	0.89	Welch *t*(118.08)=8.17, *p=.005*
Being able to access betting promotions instantly	2.61	0.91	**2.95**	0.86	*F*(1,614)=12.13, *p=.001*
Being able to link directly to betting promotions from your betting device	2.49	0.97	**2.88**	0.89	Welch t(119.34)=13.36, p<.001
Being able to bet in social settings	2.33	0.95	**2.64**	0.91	*F*(1,614)=8.99, *p=.003*
Being able to bet alone, without other people around	2.41	1.09	**2.71**	0.97	Welch *t*(117.54)=5.83, *p=.017*
Being able to keep your betting private, without anyone else knowing	2.32	0.94	**2.65**	1.03	Welch *t*(132.50)=9.97, *p=.002*
Being able to bet anonymously so there is no record of your betting	2.38	1.04	2.53	1.12	*F*(1,614)=1.48, *p=.225*
Being able to avoid other people when you are betting	2.28	0.99	2.49	1.02	*F*(1,614)=3.31, *p=.069*
Being able to bet without having to travel somewhere	2.54	1.05	**2.92**	0.96	Welch *t*(119.10)=10.06, *p=.002*
Being able to place in-play bets (bets placed after a match has started)	2.50	1.03	**2.76**	0.94	Welch *t*(119.14)=4.92, *p=.028*
Being able to access responsible gambling tools	2.51	1.00	**2.78**	0.96	*F*(1,614)=6.12, *p=.014*

Note: higher betting features scores reflect a higher rating of importance
Questions: Calculated from FBC1 and S3.

Table D.13 – Importance of features of betting platforms by esports bettors (N=616)

	Not esports bettor N = 92		Esports bettor N=524		Significance
	M	SD	M	SD	
Being able to easily place bets	**3.03**	0.92	2.77	0.88	$F(1,614)=13.04, p<.001$
Being able to instantly place bets	**3.09**	0.88	2.80	0.90	$F(1,614)=16.05, p<.001$
Being able to bet from any location	3.04	1.02	2.89	0.90	Welch t(601.97)=3.68, p=.055
Being able to bet at any time of the day or night	2.86	1.02	2.78	0.96	$F(1,614)=0.69, p=.352$
Being able to easily research betting information	2.85	0.97	2.79	0.90	$F(1,614)=0.60, p=.440$
Being able to bet while doing other things	**2.89**	0.96	2.73	0.88	$F(1,614)=4.55, p=.033$
Being able to bet with more than one operator	2.50	0.99	**2.72**	0.94	$F(1,614)=7.86, p=.005$
Being able to access a wide range of bets	2.83	0.94	2.88	0.90	$F(1,614)=0.42, p=.515$
Being able to bet with electronic money	2.98	1.01	2.89	0.87	Welch t(597.68)=1.488, p=.223
Being able to bet with cash	2.21	1.00	**2.55**	0.89	Welch $t(603.166)=19.54, p<.001$
Being able to quickly access and transfer money for betting	2.95	0.98	2.89	0.92	$F(1,614)=0.68, p=.410$
Being able to use a credit card for betting	2.37	1.13	**2.70**	0.98	Welch t(598.60)=14.96, p<.001
Being able to access a wide range of betting promotions	2.91	0.90	2.80	0.88	$F(1,614)=2.52, p=.113$
Seeing frequent betting promotions	2.78	0.94	2.76	0.88	$F(1,614)=0.011, p=.736$
Being able to access betting promotions instantly	2.92	0.89	2.88	0.87	$F(1,614)=.0275, p=.600$
Being able to link directly to betting promotions from your betting device	2.85	0.91	2.80	0.91	$F(1,614)=0.565, p=.452$
Being able to bet in social settings	2.56	0.97	2.62	0.87	Welch t(603.89)=0.73, p=.394
Being able to bet alone, without other people around	2.67	1.04	2.66	0.94	Welch t(605.53)=0.006, p=.936
Being able to keep your betting private, without anyone else knowing	2.54	1.10	2.66	0.94	Welch t(596.17)=2.06, p=.152
Being able to bet anonymously so there is no record of your betting	2.34	1.15	**2.67**	1.04	Welch $t(604.24)=13.75, p<.001$
Being able to avoid other people when you are betting	2.27	1.10	**2.64**	0.88	Welch $t(581.43)=21.45, p<.001$
Being able to bet without having to travel somewhere	2.88	1.04	2.85	0.92	Welch t(602.54)=0.14, p=.708
Being able to place in-play bets (bets placed after a match has started)	2.67	1.02	2.76	0.90	Welch t(602.76)=1.35, p=.246
Being able to access responsible gambling tools	2.68	1.04	2.80	0.89	Welch t(594.35)=2.71, p=.100

Note: higher betting features scores reflect a higher rating of importance
Questions: Calculated from FBC1 and S4.

Table D.14 – Importance of features of betting platforms by DFS bettors (N=616)

	Not DFSs bettor N = 92		DFS bettor N=524		Significance
	M	SD	M	SD	
Being able to easily place bets	**3.05**	0.90	2.74	0.89	$F(1,614)=18.06, p=<.001$
Being able to instantly place bets	**3.06**	0.92	2.81	0.87	$F(1,614)=11.63, p=.001$
Being able to bet from any location	3.03	0.99	2.89	0.92	$F(1,614)=3.18, p=.075$
Being able to bet at any time of the day or night	2.86	1.02	2.78	0.96	$F(1,614)=0.96, p=.327$
Being able to easily research betting information	**2.90**	0.94	2.74	0.92	$F(1,614)=4.51, p=.034$
Being able to bet while doing other things	**2.89**	0.97	2.71	0.86	$F(1,614)=6.07, p=.014$
Being able to bet with more than one operator	2.49	0.99	**2.74**	0.94	Welch $t(613.77)=10.72, p=.001$
Being able to access a wide range of bets	2.84	0.93	2.87	0.91	$F(1,614)=0.20, p=.652$
Being able to bet with electronic money	**3.03**	0.98	2.84	0.89	$F(1,614)=6.13, p=.014$
Being able to bet with cash	2.17	1.00	**2.60**	0.87	$F(1,614)=31.63, p<.001$
Being able to quickly access and transfer money for betting	**3.01**	0.96	2.82	0.94	$F(1,614)=5.86, p=.016$
Being able to use a credit card for betting	2.31	1.13	**2.78**	0.95	Welch $t(604.39)=30.77, p< .001$
Being able to access a wide range of betting promotions	2.89	0.90	2.81	0.88	$F(1,614)=1.35, p=.246$
Seeing frequent betting promotions	2.75	0.94	2.78	0.88	$F(1,614)=0.21, p=.651$
Being able to access betting promotions instantly	2.90	0.87	2.89	0.88	$F(1,614)=0.02, p=.883$
Being able to link directly to betting promotions from your betting device	2.83	0.91	2.82	0.91	$F(1,614)=0.03, p=.856$
Being able to bet in social settings	2.58	0.96	2.60	0.88	Welch $t(612.25)=0.07, p=.790$
Being able to bet alone, without other people around	2.59	1.04	2.74	0.94	Welch $t(611.90)=3.82, p=.051$
Being able to keep your betting private, without anyone else knowing	2.49	1.09	**2.72**	0.93	Welch $t(606.41)=7.59, p=.006$
Being able to bet anonymously so there is no record of your betting	2.25	1.12	**2.78**	1.02	Welch $t(612.28)=37.95, p<.001$
Being able to avoid other people when you are betting	2.20	1.06	**2.73**	0.89	Welch $t(603.15)=45.08, p<.001$
Being able to bet without having to travel somewhere	2.86	1.02	2.86	0.94	$F(1,614)=0.01, p=.924$
Being able to place in-play bets (bets placed after a match has started)	2.65	0.99	2.79	0.93	$F(1,614)=3.52, p=.061$
Being able to access responsible gambling tools	2.69	1.03	2.79	0.90	Welch $t(609.23)=1.89, p=.170$

Note: higher betting features scores reflect a higher rating of importance
Questions: Calculated from FBC1 and S5.

Preferred platform

There were some significant differences for betting platform features across the participants' preferred platform (Table D.15). Mixed platform users were those who have a different preferred platform (smartphone or computer/laptop/tablet/gaming console) depending on what type of betting they are participating in (sports, esports or DFS). Those who preferred mixed platforms rated the following features as significantly more important than exclusive smartphone bettors: being able to bet with more than one operator, bet with cash, bet with a credit card, see frequent promotions, frequent and easy access to betting promotions, being able to bet anonymously, and being able to avoid other people while betting. There were no significant differences found in importance of any of the features of betting platforms between smartphone bettors and computer/laptop/tablet/gaming console, or between computer/laptop/tablet/gaming console and mixed platform bettors.

Table D.15 – Importance of features of betting platforms by preferred platform (N=604)

	Smartphone N = 466		Computer/ laptop/tablet / gaming console N=60		Mixed N=78		Significance
	M	SD	M	SD	M	SD	
Being able to easily place bets	2.90	0.92	2.95	0.89	2.87	0.78	Welch t(117.01)=0.15, *p*=.865
Being able to instantly place bets	2.94	0.91	3.08	0.93	2.86	0.80	*F*(2,601)=10.07, *p*=.344
Being able to bet from any location	2.96	0.97	2.87	0.96	3.09	0.82	*F*(2,601)=0.99, *p*=.371
Being able to bet at any time of the day or night	2.83	1.00	2.88	0.85	2.85	0.99	Welch t(117.14)=0.12, *p*=.887
Being able to easily research betting information	2.80	0.95	2.80	0.95	2.99	0.78	Welch t(116.82)=1.82, *p*=.167
Being able to bet while doing other things	2.84	0.94	2.80	0.82	2.65	0.91	*F*(2,601)=1.42, *p*=.243
Being able to bet with more than one operator	*2.56*	0.98	2.67	0.88	**2.95**	0.90	Welch t(117.21)=6.13, p=.003
Being able to access a wide range of bets	2.82	0.93	2.97	0.96	3.01	0.80	*F*(2,601)=1.91, *p*=.149
Being able to bet with electronic money	2.96	0.96	2.93	0.92	2.87	0.84	*F*(2,601)=0.31, *p*=.734
Being able to bet with cash	*2.30*	0.96	2.50	0.98	**2.63**	0.84	*F*(2,601)=4.60, *p*=.010
Being able to quickly access and transfer money for betting	2.90	0.97	3.08	0.85	2.92	0.92	*F*(2,601)=0.97, *p*=.378
Being able to use a credit card for betting	*2.48*	1.09	2.65	1.01	**2.86**	0.92	Welch t(118.06)=5.54, *p*=.005
Being able to access a wide range of betting promotions	2.85	0.91	2.77	0.85	2.94	0.83	*F*(2,601)=0.62, *p*=.538
Seeing frequent betting promotions	*2.71*	0.93	2.90	0.84	**2.96**	0.78	Welch t(118.84)=3.93, p=.022
Being able to access betting promotions instantly	*2.84*	0.88	3.07	0.84	**3.12**	0.85	*F*(2,601)=4.57, *p*=.011
Being able to link directly to betting promotions from your betting device	2.80	0.91	2.85	0.90	2.96	0.87	*F*(2,601)=1.16, *p*=.329
Being able to bet in social settings	2.59	0.91	2.45	0.96	2.63	0.87	*F*(2,601)=0.76, *p*=.470
Being able to bet alone, without other people around	2.62	1.00	2.70	1.01	2.86	0.86	Welch t(115.56)=2.40, *p*=.095
Being able to keep your betting private, without anyone else knowing	2.55	1.03	2.80	0.97	2.87	0.94	Welch t(115.57)=5.01, *p*=.008
Being able to bet anonymously so there is no record of your betting	*2.42*	1.11	2.72	1.03	**2.90**	1.01	Welch t(116.33)=8.23, *p*<.001
Being able to avoid other people when you are betting	*2.39*	1.03	2.63	0.96	**2.81**	0.87	Welch t(117.89)=7.93, *p*=.001
Being able to bet without having to travel somewhere	2.86	0.98	3.02	0.97	2.92	0.91	*F*(2,601)=0.81, *p*=.446
Being able to place in-play bets (bets placed after a match has started)	2.72	0.98	2.70	0.89	2.76	0.90	*F*(2,601)=0.07, *p*=.937
Being able to access responsible gambling tools	2.72	0.98	2.83	0.99	2.87	0.84	Welch t(115.52)=1.28, *p*=.282

Note: 12 people preferred another platform (i.e., at venue). Bold signifies significantly higher than the mean in italics. Note: higher betting features scores reflect a higher rating of importance.
Questions: Calculated from FBC1 and SB3, ES3 and DFS3.

PGSI, SGHS and impulsivity

Participants with a PGSI score of 3 or over, rated several features as more important than those with a PGSI score under 3 (Table D.16). These include being able to bet with more than one operator, bet with cash, bet with a credit card, see frequent promotions, place in-play bets, and all the features associated with privacy (e.g., being able to bet alone, without other people around). The features that people with a PGSI score of 3 and over rated as less important than those with a lower PGSI score were being able to easily place bets, bet while doing other things, and bet with electronic money.

Participants who scored 1 or more on the SGHS rated around half of the betting platform features as significantly more important than those who scored 0 (Table D.17). These features included being able to bet with more than one operator, bet with a credit card, bet without having to travel, place in-play bets, all the features associated with access to betting promotions (e.g., being able to access betting promotions instantly), and all the features associated with privacy (e.g., being able to bet alone, without other people around) and being able to access responsible gambling tools.

There were significant but weak correlations between impulsivity and the importance of many of the betting features (Table D.18). The strongest relationships were between higher levels of impulsivity and greater importance placed on being able to easily research betting information, access a wide range of bets, and link directly to betting promotions from their betting devices.

Table D.16 – Importance of features of betting platforms by PGSI (N=616)

	PGSI Under 3 N = 205		PGSI 3 and over N=411		Significance
	M	SD	M	SD	
Being able to easily place bets	**3.00**	0.98	2.84	0.86	$F(1,614)=4.32, p=.038$
Being able to instantly place bets	3.00	0.97	2.91	0.86	Welch t(368.04)=1.47, p=.226
Being able to bet from any location	3.07	1.00	2.91	0.94	$F(1,614)=3.84, p=.051$
Being able to bet at any time of the day or night	2.81	1.07	2.83	0.95	Welch t(367.96)=0.04, p=.843
Being able to easily research betting information	2.86	1.01	2.81	0.90	Welch t(368.92)=0.41, p=.523
Being able to bet while doing other things	**2.92**	1.00	2.75	0.88	Welch t(364.46)=4.52, p=.034
Being able to bet with more than one operator	2.45	1.03	**2.69**	0.93	Welch t(373.98)=8.20, p=.004
Being able to access a wide range of bets	2.86	0.97	2.86	0.89	$F(1,614)=001, p=.979$
Being able to bet with electronic money	**3.08**	1.02	2.86	0.90	Welch t(365.43)=6.84, p=.009
Being able to bet with cash	2.12	1.01	**2.51**	0.90	Welch t(369.21)=22.20, p<.001
Being able to quickly access and transfer money for betting	2.96	1.01	2.90	0.92	$F(1,614)=0.60, p=.438$
Being able to use a credit card for betting	2.20	1.14	**2.71**	0.99	Welch t(360.24)=29.72, p<.001
Being able to access a wide range of betting promotions	2.87	0.97	2.84	0.85	Welch t(363.98)=0.13, p=.718
Seeing frequent betting promotions	2.66	0.97	**2.82**	0.87	Welch t(371.58)=4.17, p=.042
Being able to access betting promotions instantly	2.86	0.92	2.92	0.85	$F(1,614)=0.52, p=.472$
Being able to link directly to betting promotions from your betting device	2.76	1.00	2.86	0.86	Welch t(357.48)=4.59, p=.209
Being able to bet in social settings	2.53	0.98	2.62	0.89	Welch t(374.67)=1.13, p=.288
Being able to bet alone, without other people around	2.52	1.06	**2.73**	0.95	Welch t(368.67)=5.74, p=.017
Being able to keep your betting private, without anyone else knowing	2.39	1.10	**2.71**	0.96	Welch t(363.53)=12.67, p<.001
Being able to bet anonymously so there is no record of your betting	2.11	1.15	**2.71**	1.03	Welch t(372.24)=40.46, p<.001
Being able to avoid other people when you are betting	2.07	1.07	**2.65**	0.93	Welch t(361.67)=43.86, p<.001
Being able to bet without having to travel somewhere	2.84	1.07	2.87	0.94	Welch t(365.60)=0.13, p=.715
Being able to place in-play bets (bets placed after a match has started)	2.54	1.04	**2.81**	0.91	Welch t(363.92)=9.62, p=.002
Being able to access responsible gambling tools	2.65	1.04	2.78	0.93	Welch t(367.40)=2.28, p=.132

Note: higher betting features scores reflect a higher rating of importance
Questions: Calculated from FBC1 and PGSI.

Table D.17 – Importance of features of betting platforms by SGHS (N=616)

	SGHS 0 N = 164		SGHS 1 or more N=452		Significance
	M	SD	M	SD	
Being able to easily place bets	2.91	0.97	2.89	0.88	Welch t(367.43)=0.07, *p*=.790
Being able to instantly place bets	2.97	0.96	2.93	0.88	*F*(1,614)=0.24, *p*=.625
Being able to bet from any location	2.98	0.98	2.96	0.95	*F*(1,614)=0.05, *p*=.821
Being able to bet at any time of the day or night	2.75	1.07	2.85	0.96	Welch t(264.11)=1.05, *p*=.307
Being able to easily research betting information	2.88	0.93	2.80	0.94	*F*(1,614)=.77, *p*=.380
Being able to bet while doing other things	2.79	0.98	2.81	0.90	*F*(1,614)=0.09, *p*=.764
Being able to bet with more than one operator	2.41	0.99	**2.69**	0.96	*F*(1,614)=9.92, *p*=.002
Being able to access a wide range of bets	2.80	0.90	2.88	0.93	*F*(1,614)=0.72, *p*=.396
Being able to bet with electronic money	2.99	0.99	2.92	0.93	*F*(1,614)=0.65, *p*=.419
Being able to bet with cash	2.26	1.00	2.42	0.94	*F*(1,614)=3.74, *p*=.053
Being able to quickly access and transfer money for betting	2.86	0.96	2.94	0.95	*F*(1,614)=0.86, *p*=.354
Being able to use a credit card for betting	2.32	1.06	**2.62**	1.06	*F*(1,614)=9.88, *p*=.002
Being able to access a wide range of betting promotions	2.78	0.93	2.88	0.88	*F*(1,614)=1.51, *p*=.220
Seeing frequent betting promotions	2.64	0.95	**2.81**	0.89	*F*(1,614)=4.43, *p*=.036
Being able to access betting promotions instantly	2.76	0.88	**2.95**	0.87	*F*(1,614)=5.52, *p*=.019
Being able to link directly to betting promotions from your betting device	2.70	0.94	**2.87**	0.89	*F*(1,614)=4.58, *p*=.0.33
Being able to bet in social settings	2.50	0.92	2.62	0.92	*F*(1,614)=2.12, *p*=.146
Being able to bet alone, without other people around	2.48	1.01	**2.73**	0.98	*F*(1,614)=8.00, *p*=.005
Being able to keep your betting private, without anyone else knowing	2.41	1.06	**2.67**	1.00	*F*(1,614)=8.28, *p*=.005
Being able to bet anonymously so there is no record of your betting	2.18	1.08	**2.63**	1.10	*F*(1,614)=20.08, *p<.001*
Being able to avoid other people when you are betting	2.18	1.06	**2.56**	0.98	*F*(1,614)=17.09, *p<.001*
Being able to bet without having to travel somewhere	2.73	1.05	**2.91**	0.96	*F*(1,614)=3.85, *p*=.050
Being able to place in-play bets (bets placed after a match has started)	2.49	0.98	**2.80**	0.94	*F*(1,614)=12.35, *p<.001*
Being able to access responsible gambling tools	2.58	1.02	**2.80**	0.94	*F*(1,614)=6.23, *p*=.013

Note: higher betting features scores reflect a higher rating of importance
Questions: Calculated from FBC1 and SGHS.

Table D.18 – Correlation between importance of features of betting platforms by impulsivity (N=616)

	BIS Brief			
	M	SD	r_s	p
Being able to easily place bets	2.90	0.91	**0.12**	0.004
Being able to instantly place bets	2.94	0.90	**0.13**	0.002
Being able to bet from any location	2.96	0.96	**0.14**	0.000
Being able to bet at any time of the day or night	2.82	0.99	**0.11**	0.006
Being able to easily research betting information	2.82	0.94	**0.17**	0.000
Being able to bet while doing other things	2.81	0.93	**0.12**	0.004
Being able to bet with more than one operator	2.61	0.97	**0.13**	0.001
Being able to access a wide range of bets	2.86	0.92	**0.16**	0.000
Being able to bet with electronic money	2.94	0.94	**0.11**	0.007
Being able to bet with cash	2.38	0.96	**0.08**	0.038
Being able to quickly access and transfer money for betting	2.92	0.95	**0.12**	0.002
Being able to use a credit card for betting	2.54	1.07	0.06	0.163
Being able to access a wide range of betting promotions	2.85	0.89	**0.12**	0.004
Seeing frequent betting promotions	2.77	0.91	**0.08**	0.042
Being able to access betting promotions instantly	2.90	0.88	**0.13**	0.001
Being able to link directly to betting promotions from your betting device	2.82	0.91	**0.16**	0.000
Being able to bet in social settings	2.59	0.92	**0.13**	0.001
Being able to bet alone, without other people around	2.66	0.99	**0.11**	0.008
Being able to keep your betting private, without anyone else knowing	2.60	1.02	**0.10**	0.014
Being able to bet anonymously so there is no record of your betting	2.51	1.11	**0.12**	0.004
Being able to avoid other people when you are betting	2.46	1.01	**0.09**	0.024
Being able to bet without having to travel somewhere	2.86	0.98	0.07	0.102
Being able to place in-play bets (bets placed after a match has started)	2.72	0.96	**0.10**	0.013
Being able to access responsible gambling tools	2.74	0.97	**0.15**	0.000

Note: higher betting features scores reflect a higher rating of importance. Higher BIS Brief scores reflect greater impulsivity.
Questions: Calculated from FBC1 and BIS.

Appendix E. Stage 3: Overall feature importance and relative utility for feature levels by segments from the discrete choice experiment

Comparisons between feature importance by segments

Figures E.1 to E.6 show overall feature importance by segment splits in the conjoint analysis: gender (male vs female), age (18-24 vs 25-29), PGSI score (0-2 vs 3-27), SGHS score (0 vs 1-10), esports bettors (vs non-esports bettors) and DFS bettors (vs non-DFS bettors). There were no significant differences between the segments.
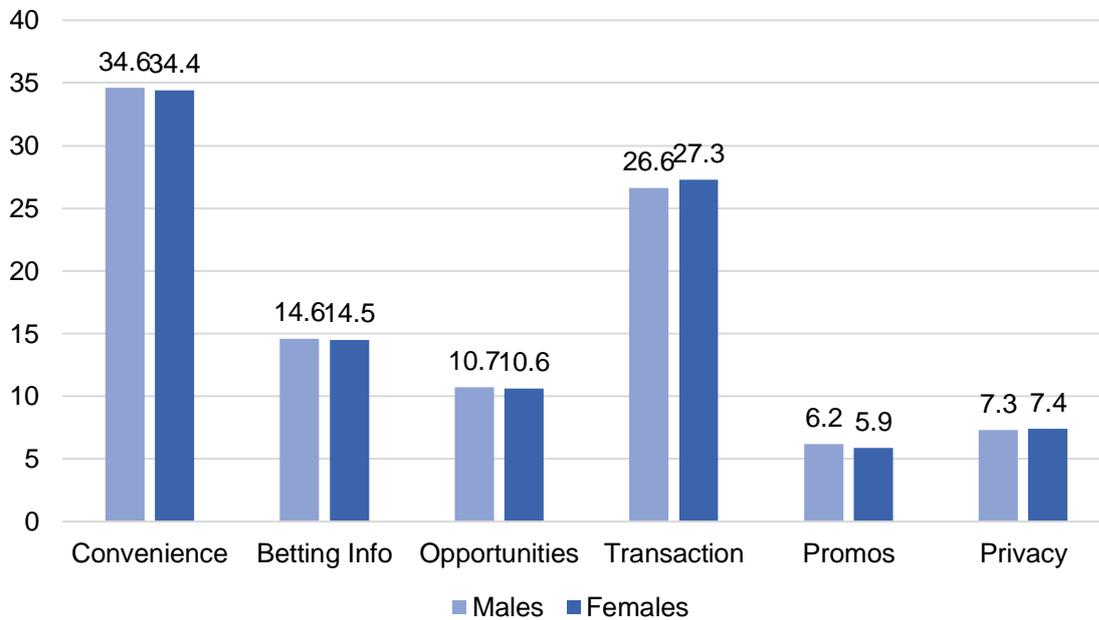
Figure E.1 – Overall feature importance by gender
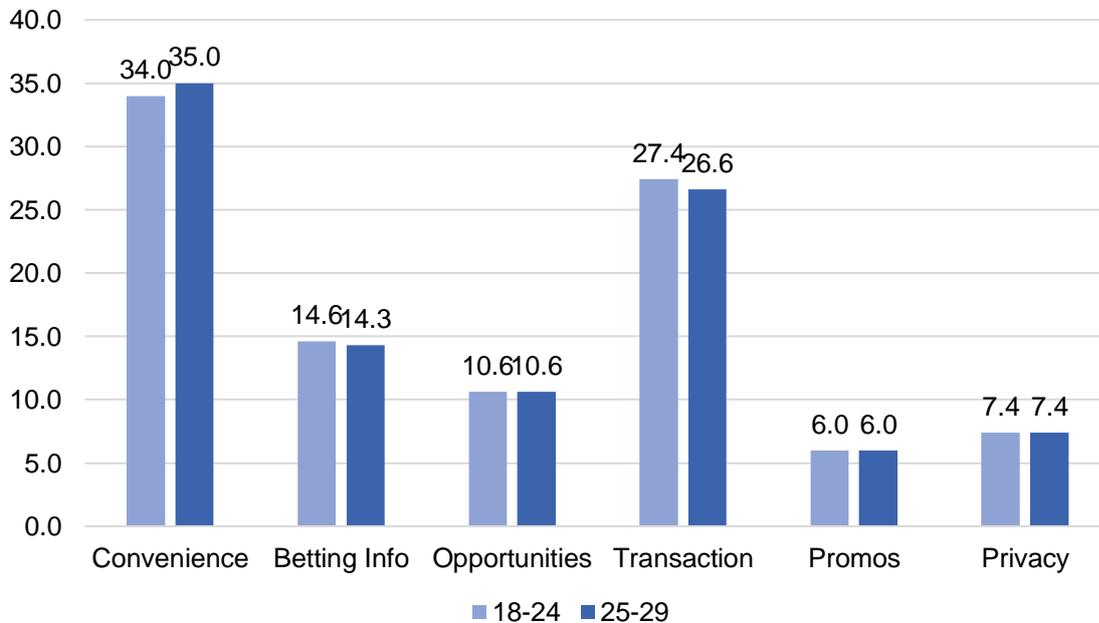
Figure E.2 – Overall feature importance by age group
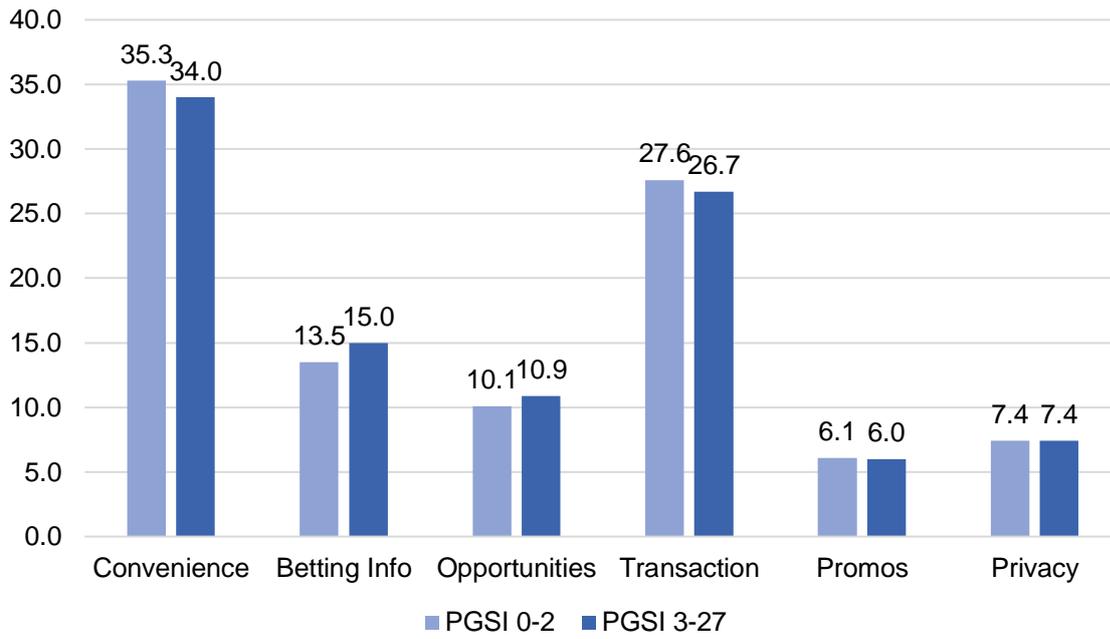
Figure E.3 – Overall feature importance by PGSI
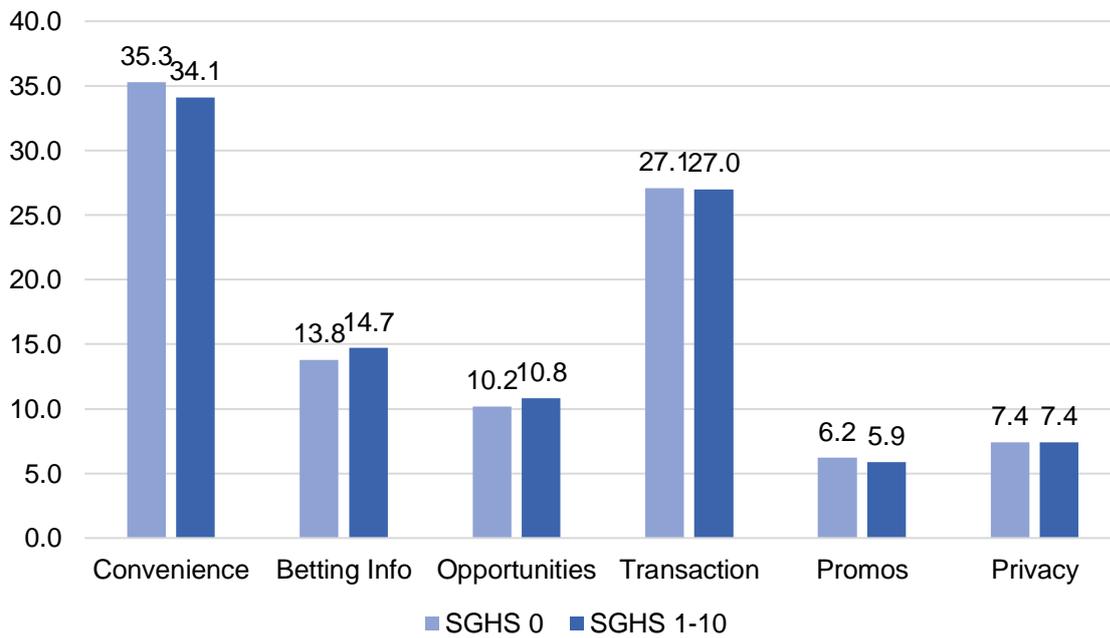
Figure E.4 – Overall feature importance by SGHS
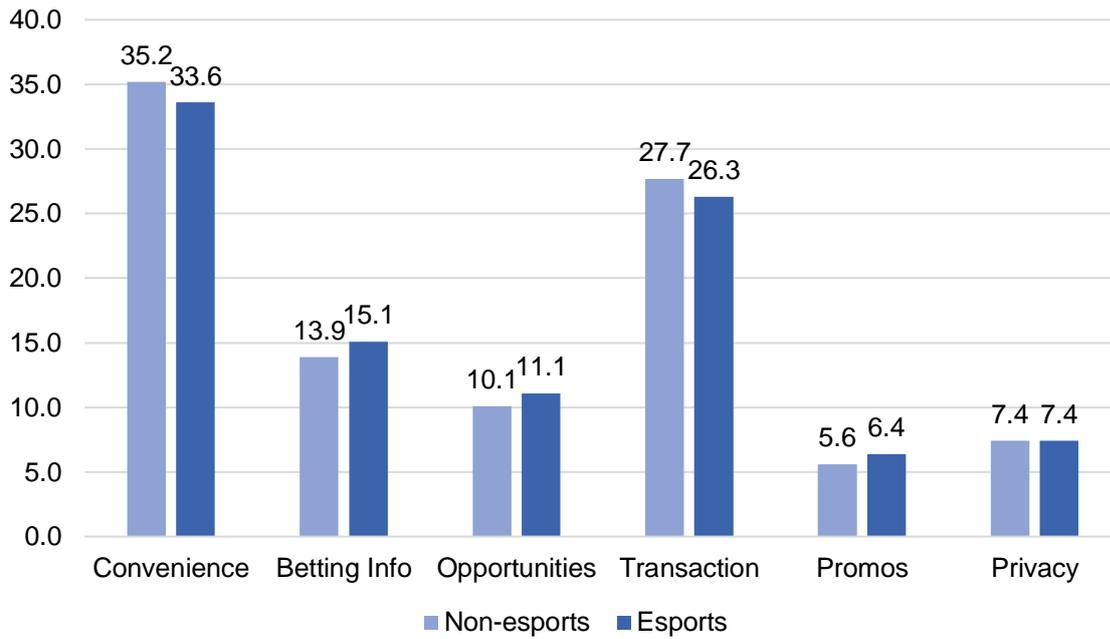
Figure E.5 – Overall feature importance by esports betting status
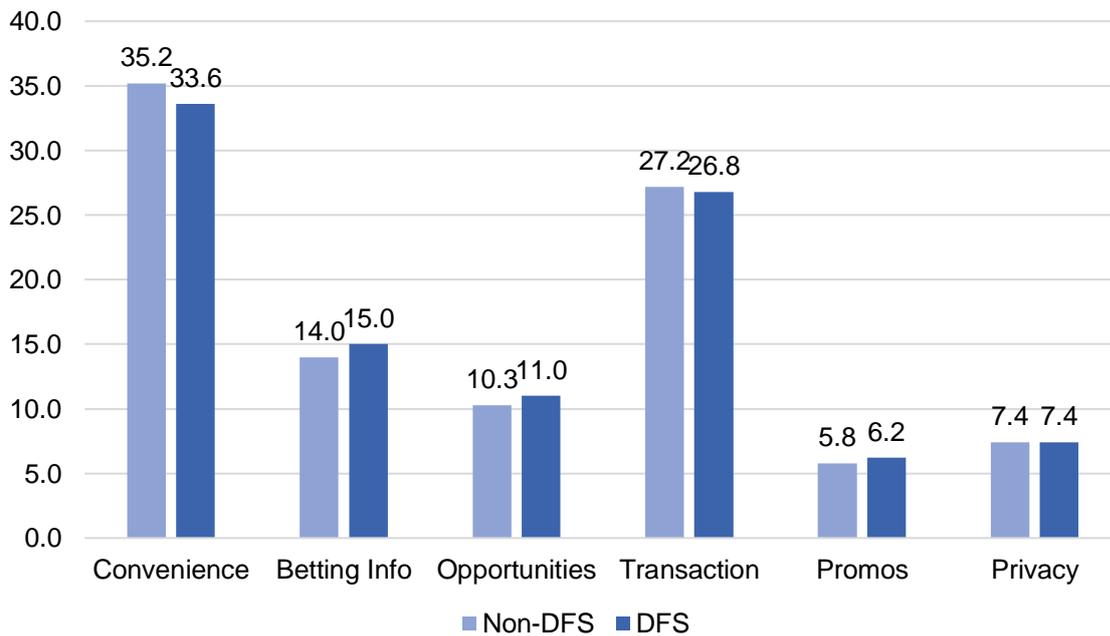
Figure E.6 – Overall feature importance by DFS betting status

Comparisons between relative utility by segments

We examined relative utility for feature levels by segment: gender (male vs female), age (18-24 vs 25-29), PGSI score (0-2 vs 3-27), SGHS score (0 vs 1-10), esports bettors (vs non-esports bettors) and DFS bettors (vs non-DFS bettors). The results were not significantly different by segment.

Relative utility comparisons by gender

Figure E.7 shows comparisons between males and females in terms of relative and average utility of levels within each feature. Differences are very minor, and none were statistically significant. In other words, there is little difference between males and females in terms of preferences.
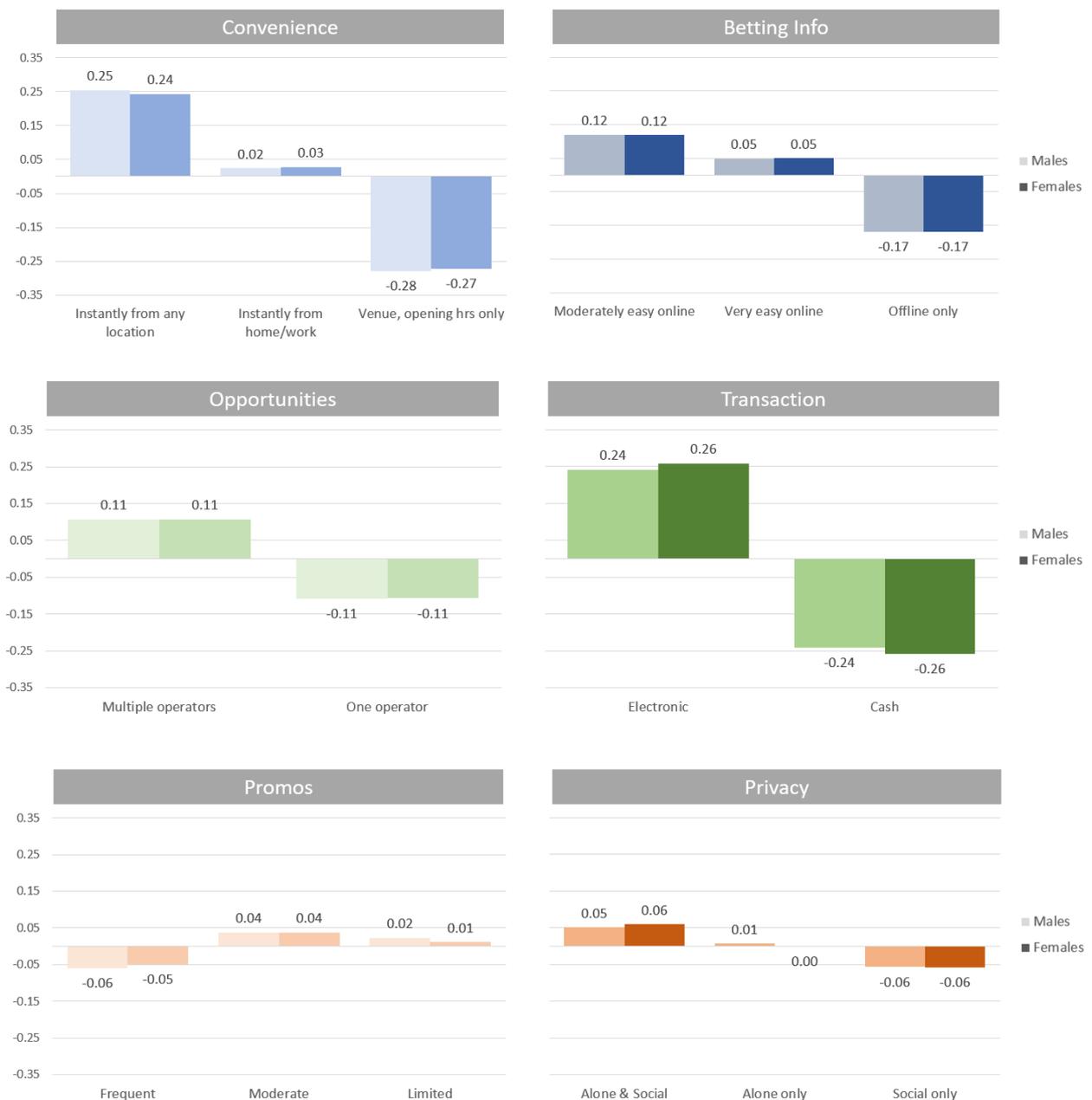
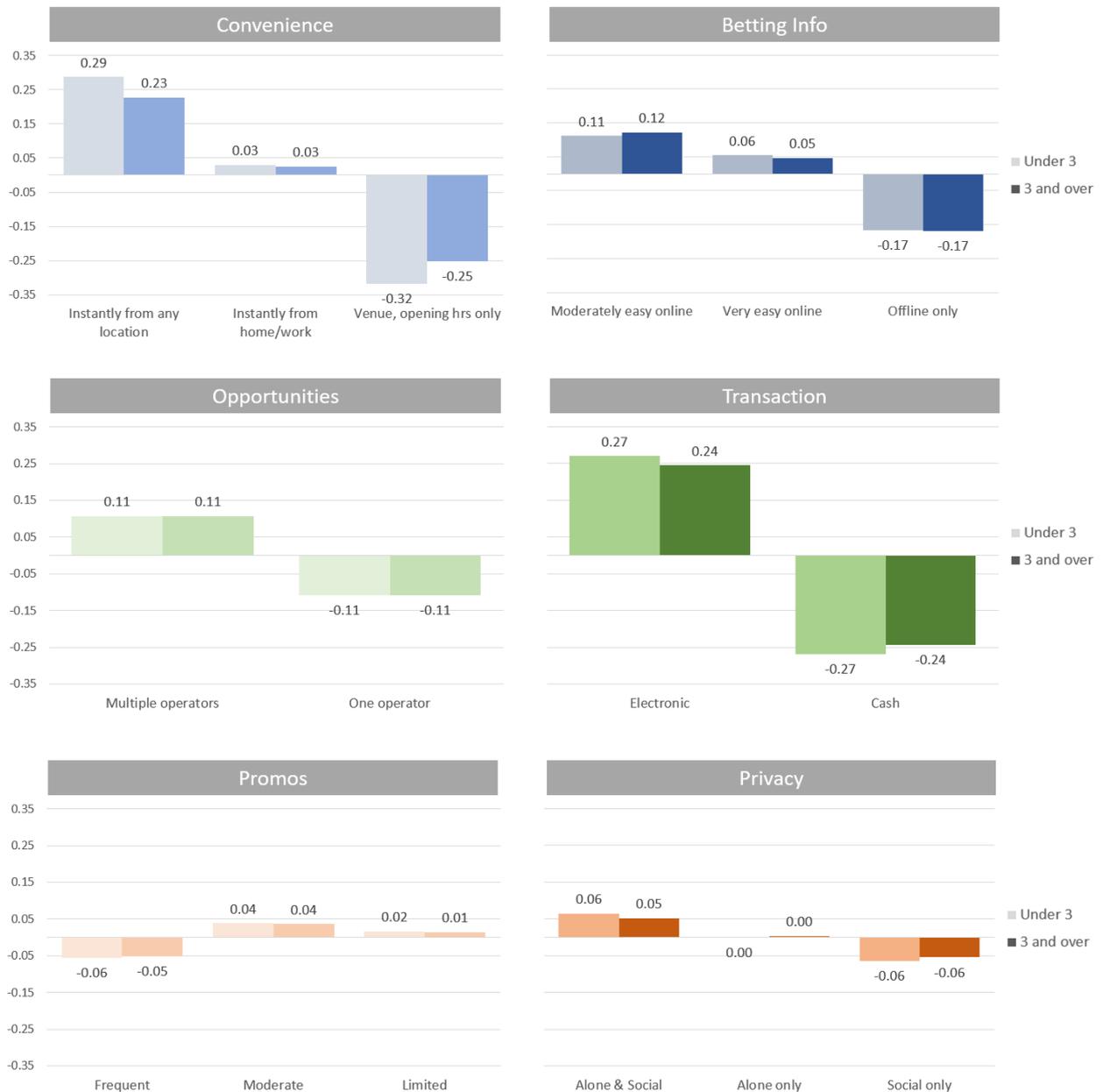**Figure E.7 – Relative utility for each level of each feature by gender**

Relative utility comparisons by age groups

Figure E.8 shows utility by age groups (18-24 vs 25-29). There are very minor differences between age groups in terms of utility for each feature level, and no differences were statistically significant.
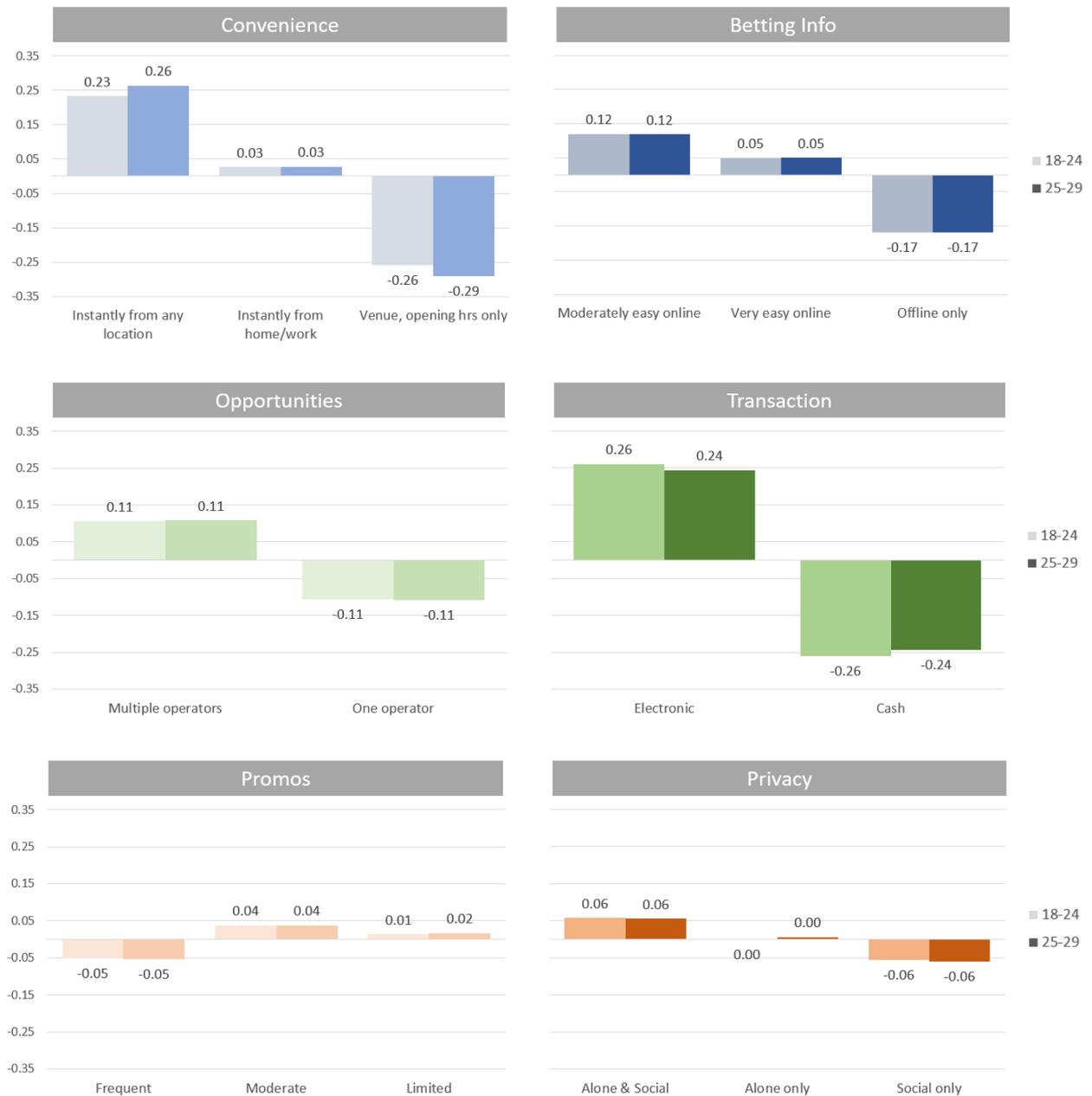
Figure E.8 – Relative utility for each level of each feature by age group

Relative utility comparisons by PGSI groups

Figure E.9 shows utility for each feature level by PGSI groups (PGSI score 0-2 vs 3-27). No statistically significant differences were observed between these two groups in any of the levels.

Figure E.9 – Relative utility for each level of each feature by PGSI

Relative utility comparisons by SGHS groups

Figure E.10 shows comparisons between feature levels by SGHS group (SGHS score 0 vs 1-10). No statistically significant differences were observed for these two groups.
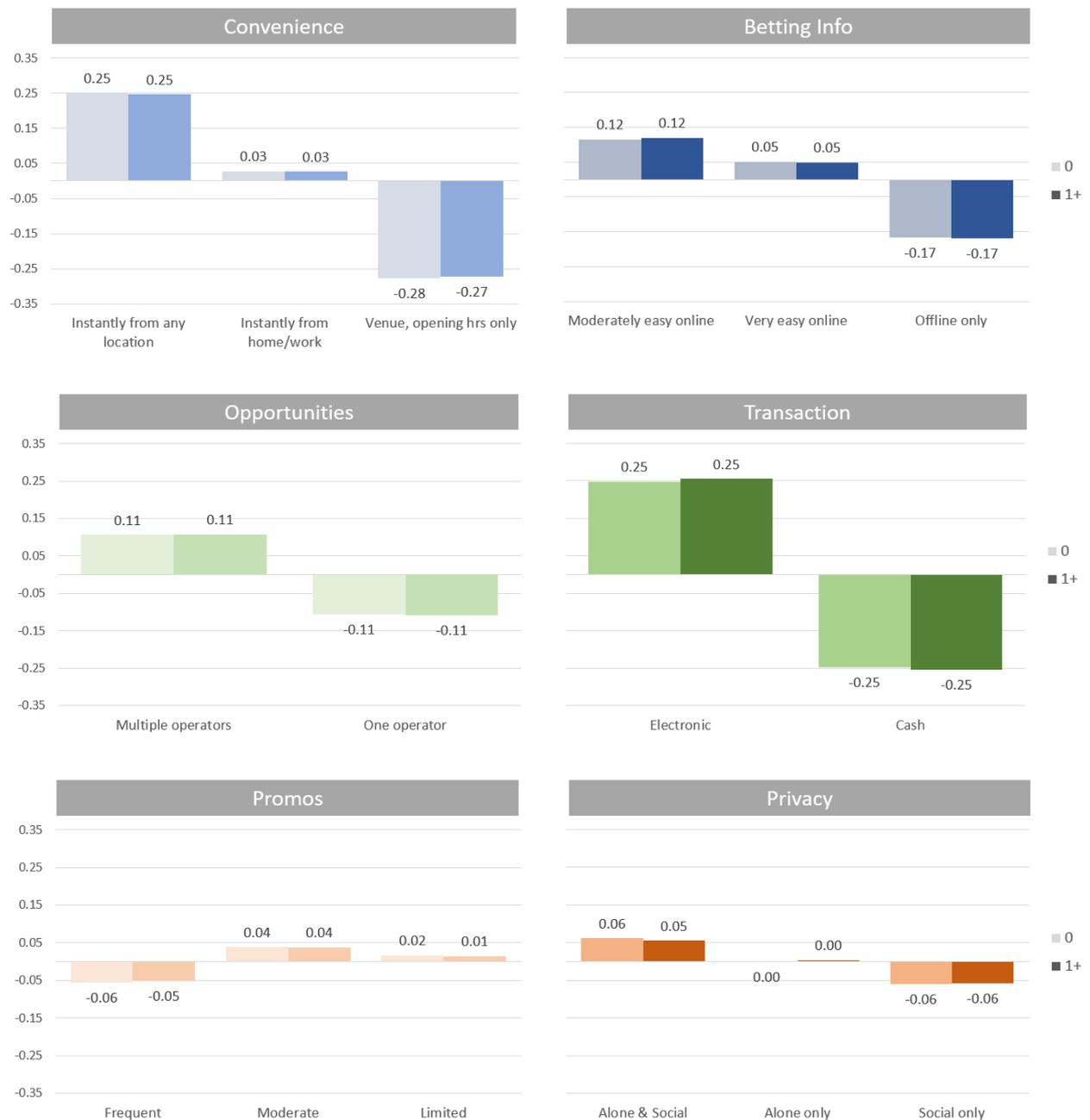
Figure E.10 – Relative utility for each level of each feature by SGHS

Relative utility comparisons by esports betting status

Figure E.11 shows utility by esports betting status (yes vs no). No statistically significant differences were observed in terms of utility for each feature level for esports bettors compared to non-esports bettors.
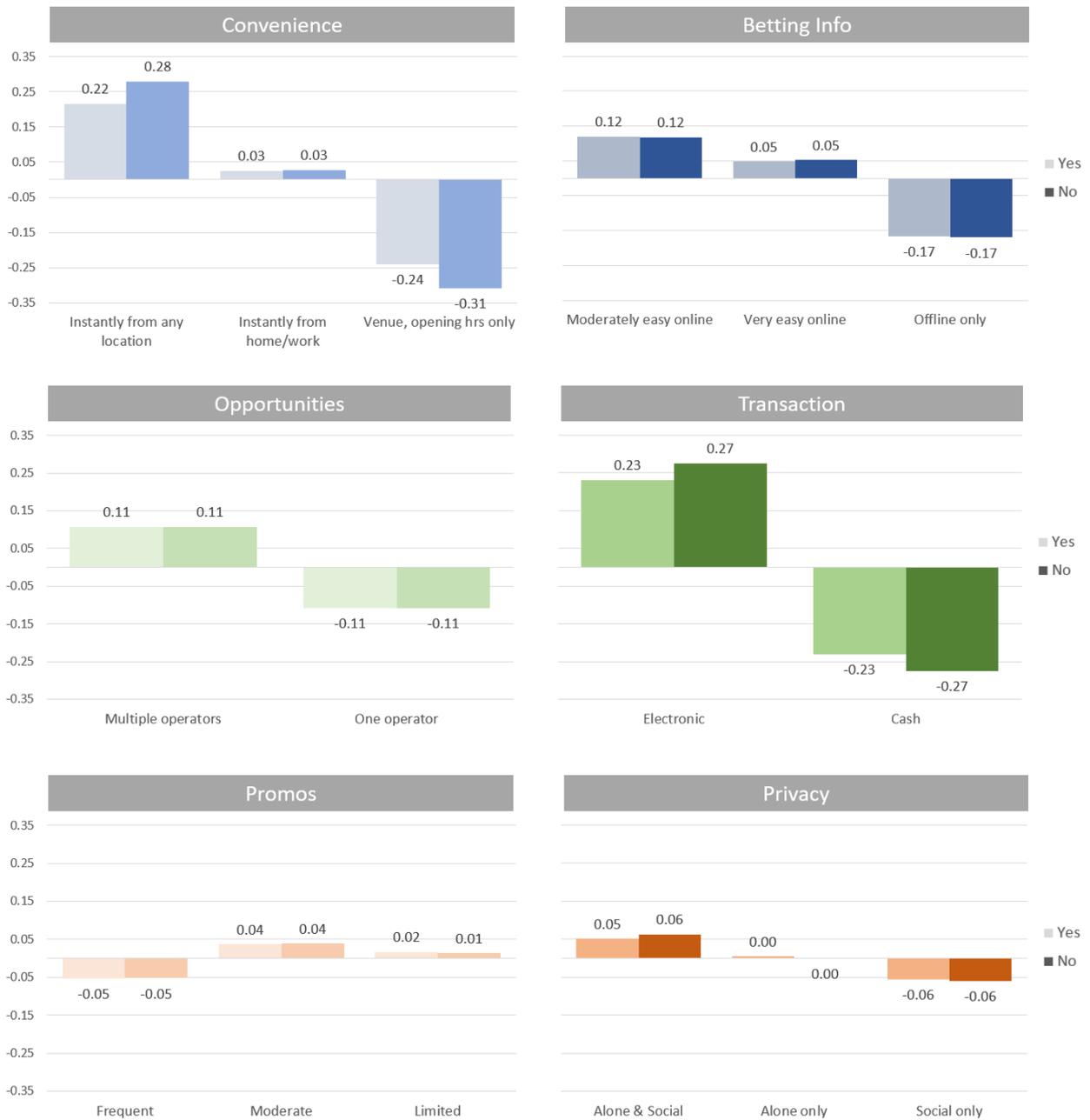
Figure E.11 – Relative utility for each level of each feature by esports betting status

Relative utility comparisons by DFS betting status

Figure E.12 shows comparisons between DFS bettors and non-DFS bettors in terms of utility for each feature level. No statistically significant differences were observed.
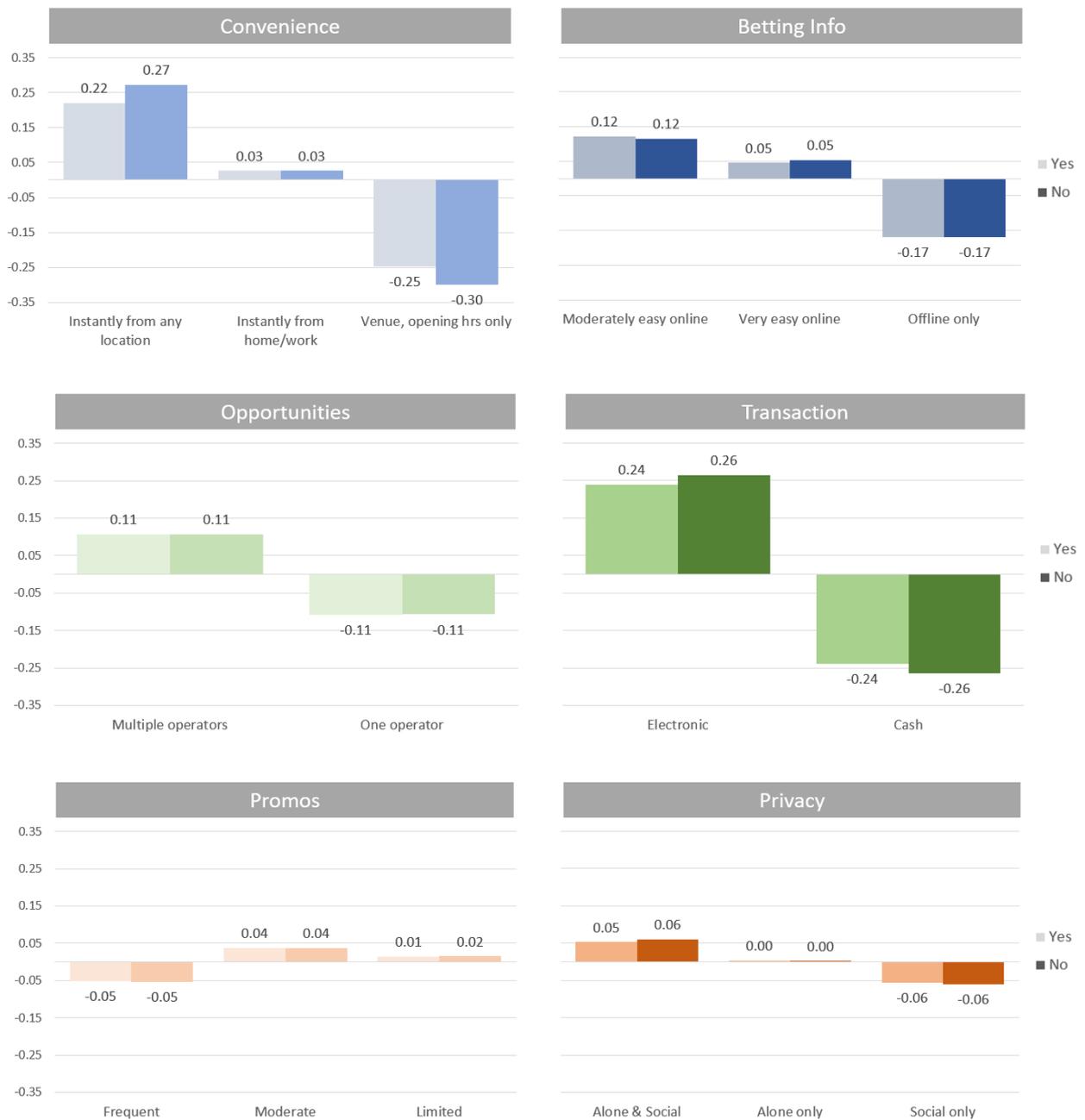
Figure E.12 – Relative utility for each level of each feature by DFS betting status

Appendix F. Stage 4: Survey instrument

Betting on sports, esports and daily fantasy sports amongst young people

INFORMATION SHEET

This study is being conducted by CQUniversity for the NSW Office of Responsible Gambling. By participating, you can help us to learn more about betting amongst young people. We want to understand how certain characteristics of betting using a smartphone, computer and in land-based venues might influence betting behaviour and the risk of harm from betting.

What you will be asked to do

Participation involves completing several short online surveys during the next couple of months.

We ask that you complete this initial online survey which should take 10-15 minutes. It asks you about your betting and your most recent betting session, as well as some details about you.

We will then ask you to fill in a very short survey once a week for the next 9 weeks. Each short survey will take about 5 minutes to complete. We will send you both an email and SMS message which include a link to the survey which you can complete either on your mobile phone or a computer. The short surveys will ask about your betting and your most recent betting session.

Compensation for your time and effort

You will be compensated with a $10 electronic gift voucher for each survey you complete. If you complete this initial survey and all 9 short surveys, you will receive $100 in gift vouchers. These will be sent to you by the research panel who invited you into this study. Each voucher will be sent to you as soon as possible, after you complete each survey.

Questions?

If you have any questions, please contact the research team at n.hing@cqu.edu.au CQUniversity Ethics Approval number: 23030.

Would you like to see more details about the study?
- Yes (goes to next page)
- No (skipped to consent form)

Betting on sports, esports and daily fantasy sports amongst young people

ADDITIONAL INFORMATION

How your confidentiality will be protected

Only the research panel which recruited you to the study will have access to your contact details. These will not be shared with the researchers. Only your anonymous survey responses will be provided to the researchers. They will be combined with hundreds of other responses so no one will know your individual answers. The anonymous data will be stored securely and indefinitely by CQUniversity.

Participation is voluntary

Participation in this study is completely voluntary. You are free to withdraw at any stage. If you withdraw before completing any of the surveys, we will not use any of your responses to the incomplete survey/s. You should also clear your browsing history so that no one can access your responses.

How you will receive feedback

Information about the results of the research will be made available through CQUniversity's gambling research Facebook page - https://www.facebook.com/cquegrl/ .

Where you can get further information

If you want further information or have any questions, please contact Professor Nerilee Hing: n.hing@cqu.edu.au. You can also contact the Ethics Coordinator at CQUniversity's Office of Research: 07 4923 2603.

If you experience discomfort at any point during the survey, you can contact **Gambling Help on 1800 858 858 or www.gamblinghelponline.org.au** or **Lifeline on 13 11 14.** These are free and confidential telephone/online help services that operate 24 hours a day, 7 days a week.

Participation

If you would like to participate, please indicate your consent on the next screen. We will then ask some questions to determine whether you can participate in the project. If you meet our criteria, you can take part in the first survey.

Project team

Professor Nerilee Hing (Chief Investigator), Professor Matthew Rockloff, Professor Matthew Browne, Dr Alex Russell, Dr Lisa Lole and Dr Philip Newall. Qualtrics is assisting with recruiting respondents to this survey.

Consent

I consent to participate in this research project and agree that:

- I have read and understood the Information Sheet that describes this study.

- Any questions I had about the study were answered by either the Information Sheet or the researchers.

- I understand I have the right to withdraw from the survey at any time.

- The research findings, which will not identify me, may be included in the researchers' publications on the study which may include conference presentations and research articles.

- To protect my privacy, my name will not be recorded or used in publication(s).

- I am providing my consent to participate in this study.

- I am 18 years of age or over.

- Yes (continue to next question)

- No (screened out)

(Baseline survey only)
SCREENING QUESTIONS (Ask all respondents)

IMPORTANT – this survey includes attention checks that you must answer correctly to continue with the survey. Please read each question carefully.

(S1) How old are you? (Please enter numbers only below)
(Text box, validation 0-100)
Screen out if under 18, or older than 29

(S2) What state or territory do you mainly live in?
- Victoria
- Queensland
- New South Wales
- South Australia
- Western Australia
- Tasmania
- Australian Capital Territory
- Northern Territory

Screen out if not New South Wales

(S3) During the last 12 months, about how often did you **bet money** on **sporting events**, such as NRL, AFL, soccer, etc? **Do NOT include race betting (e.g., horse, greyhound, etc.)** (select one response)
- A few days a week
- At least once a week
- At least once a fortnight
- At least once a month
- A few times a year
- Not at all in the last 12 months

(S4) During the last 12 months, about how often did you **bet money** on professional video game competitions known as **esports**? (select one response)
- A few days a week
- At least once a week
- At least once a fortnight
- At least once a month
- A few times a year
- Not at all in the last 12 months

(S5) During the last 12 months, about how often did you **pay money** to enter **daily fantasy sports** competitions where you **can win money**? (select one response)
- A few days a week
- At least once a week
- At least once a fortnight
- At least once a month
- A few times a year
- Not at all in the last 12 months

Screen out if responses to ALL of S3 AND S4 AND S5 are "At least once a month", "A few times a year" or "Not at all in the last 12 months".

(Baseline survey only)
Betting on sporting events

This section asks about **betting on sporting events** for money. **Please do <u>NOT</u> include betting on horse or greyhound races.**

(SB1) During the last 12 months, about how much money did you spend on sports betting in a typical **month**, including online, by telephone and at land-based venues?
(Text entry, validate 0+, $ symbol before the box, 'per month' after the box)

(SB2) During the last 12 months, about what percentage of your expenditure on sports betting was done **using each of the following channels**?
(Validate adds to 100%)

Smartphone	_____%
Computer/laptop/tablet	_____%
Gaming console	_____%
At land-based venues	_____%
Using telephone calls	_____%

(Baseline survey only)
Betting on esports competitions

This section asks about **betting on professional video game competitions, known as esports,** for money.

(ES1) During the last 12 months, about how much money did you spend on esports betting in a typical **month**, including online, by telephone and at land-based venues?
(Text entry, validate 0+, $ symbol before the box, 'per month' after the box)

(ES2) During the last 12 months, about what percentage of your expenditure on esports betting was done **using each of the following channels**?
(Validate adds to 100%)

Smartphone	_____%
Computer/laptop/tablet	_____%
Gaming console	_____%
At land-based venues	_____%
Using telephone calls	_____%

Betting on daily fantasy sports competitions
(This section only shown if they select "A few days a week", "At least once a week", or "At least once a fortnight" at S5)

This section asks about **betting on daily fantasy sports competitions** for money. This means **paying money** to enter **daily fantasy sports** competitions where you **can win money.**

(DFS1) During the last 12 months, about how much money did you spend on daily fantasy sports betting in a typical **month**, including online, by telephone and at land-based venues?
(Text entry, validate 0+, $ symbol before the box, 'per month' after the box)

(DFS2) During the last 12 months, about what percentage of your expenditure on daily fantasy sports betting was done **using each of the following channels**?
(Validate adds to 100%)

Smartphone	____%
Computer/laptop/tablet	____%
Gaming console	____%
At land-based venues	____%
Using telephone calls	____%

(Baseline survey only)
(Ask all respondents) (PGSI) **In the last 12 months**, how often… (Please select one response on each line)

	Never (0)	Sometimes (1)	Most of the time (2)	Almost always (3)
Did you need to gamble with larger amounts of money to get the same feeling of excitement? (1)	○	○	○	○
Did people criticise your betting or tell you that you had a gambling problem, regardless of whether or not you thought it was true? (2)	○	○	○	○
Did you feel that you might have a problem with gambling? (3)	○	○	○	○
When you gambled, did you go back another day to try to win back the money you lost? (4)	○	○	○	○
Did gambling cause you any health problems, including stress or anxiety? (5)	○	○	○	○
Did you feel guilty about the way you gamble or what happened when you gambled? (6)	○	○	○	○

Did your gambling cause any financial problems for you or your household? (7)	○	○	○	○
Did you bet more than you could really afford to lose? (8)	○	○	○	○
Did you borrow money or sell anything to get money to gamble? (9)	○	○	○	○

PGSI_info. If gambling is a problem for you or others, please call the Gambling Helpline on 1800 858 858 or go to www.gamblinghelponline.org.au for free, confidential advice, available 24/7. If this questionnaire has raised any other issues for you, please call Lifeline on 13 11 14.

(Baseline survey only)
Demographics (Ask all respondents)

(D1) What is your gender? (Please select one response)
- Male
- Female
- Other

(D2) Which of the following best describes your current marital status? (Please select one response)
- Single/never married
- Living with partner/de facto
- Married
- Divorced or separated
- Widowed

(D3) Which of the following best describes your household? (Please select one response)
- Single person
- One parent family with children
- Couple with children
- Couple with no children
- Group household
- Other (please specify - text box)

(D4) What is your highest educational qualification? (Please select one response)
- No schooling
- Did not complete primary school
- Completed primary school
- Year 10 or equivalent
- Year 12 or equivalent
- A trade, technical certificate or diploma
- A university or college degree
- Postgraduate qualification

(D5) Which of the following best describes what you do? (Please select one response)
- Work full-time
- Work part-time or casual
- Self-employed
- Unemployed and looking for work
- Full-time student
- Full-time home duties
- Retired
- Sick or disability pension
- Other (please specify - text box)

(D6) In which country were you born? (Please select one response)
- Australia
- Other (please specify – text box)

(D7) What is the main language that you speak at home? (Please select one response)
- English
- A language other than English (please specify – text box)

(D8) For statistical purposes, are you of Aboriginal or Torres Strait Island origin? (Please select one response)
- No
- Yes, Aboriginal
- Yes, Torres Strait islander
- Yes, both Aboriginal and Torres Strait islander

(D9) To the nearest thousand dollars (in Australian dollars), how much is your total **annual personal** income **before taxes**? (Please select one response)
- $0 to $9,999
- $10,000 to $19,999
- $20,000 to $29,999
- $30,000 to $39,999
- $40,000 to $49,999
- $50,000 to $59,999
- $60,000 to $69,999
- $70,000 to $79,999
- $80,000 to $89,999
- $90,000 to $99,999
- $100,000 to $109,999
- $110,000 to $119,999
- $120,000 to $129,999
- $130,000 to $139,999
- $140,000 to $149,999
- $150,000 to $159,999
- $160,000 or more
- Don't know

(In baseline and EMA surveys)
Your most recent betting session

(RB1) During the **last 7 days**, which of the following did you bet on? (select all that apply)
- Sports betting (NOT including horse or dog race betting)
- Esports betting
- Betting on daily fantasy sports competitions
- I did not do any of these in the last 7 days (direct to end of survey)

(For the following questions, program so that DFS is maximised, then esports betting, and then sports betting – amongst those who select more than one response at RB1)

The next questions are about your most **recent betting session** during the last 7 days when you bet money on (pipe through response selected from RB1). Please focus only on this betting session when answering the following questions.

(RB2) During this recent betting session, what channel did you mainly use for (pipe through response from RB1)?
Smartphone
Computer/laptop/tablet
Gaming console
At land-based venues
Using telephone calls

(RB3) During this recent betting session, was the number of bets you placed on (pipe through response from RB1):
Much less than planned
A bit less than planned
About the same as planned
A bit more than planned
Much more than planned

(RB4) During this recent betting session, was your expenditure on (pipe through response from RB1):
Much less than planned
A bit less than planned
About the same as planned
A bit more than planned
Much more than planned

(RB5) During this recent betting session, was the time you spent on (pipe through response from RB1):
Much less than planned
A bit less than planned
About the same as planned
A bit more than planned
Much more than planned

(RB6) During this recent betting session, what percentage of your bets on (pipe through response from RB1) would you describe as:

Researched and planned in advance of the match   ____%
On the spur of the moment before the start of the match   ____%
On the spur of the moment during the match   ____%
(must total 100%)

(RB7) During this recent betting session, what percentage of your bets on (pipe through response from RB1) did you place on:

The final outcome of the match   ____%
Key events within the match (e.g. who will score the first point)   ____%
Micro events within the match (e.g. whether the next try in NRL
will be converted)   ____%
(must total 100%)

(RB8) During this recent betting session, how many of these special offers did you use or take up from wagering operators for (pipe through response from RB1)?

Bonus bets   ____
Odds boost   ____
Money-back offers (refund, stake-back or cash-back offers for
certain bets)   ____
(must total 100%)

(RB10) During this recent betting session, how many different operators did you bet with on (pipe through response from RB1)?

____ different operators

(In baseline and EMA surveys)
Important features of your most recent betting session
(RB9) During your most recent betting session on (pipe through response from RB1), were the following statements mainly true or false? (Please select one response on each line)

	True	False
You wanted to place bets easily without too much effort		
You wanted to instantly place bets without waiting		
You wanted to bet from home		
You wanted to bet away from home, but not at a betting agency (e.g., while at work, at a friend's place, commuting, etc.)		
You wanted to bet in a gaming venue or betting agency		
You wanted to bet when land-based betting venues were closed		
You wanted to bet without having to travel somewhere		
You wanted to easily research betting information		
You wanted to bet while doing other things, e.g., commuting, working, watching TV, lying in bed		

You wanted to bet with more than one operator		
You wanted to access a wide range of bets		
You wanted to place in-play bets (bets placed after a match has started)		
You wanted to bet with electronic money		
You wanted to bet with cash		
You wanted to quickly access and transfer money for betting		
You wanted to use a credit card for betting		
You wanted to access a wide range of betting promotions, e.g. specials, bonus bets		
You wanted to access betting promotions instantly		
You wanted to link directly to betting promotions from your betting device		
You wanted to bet in a social setting (e.g., in a venue, at friends' homes)		
You wanted to bet alone, without other people around		
You wanted to avoid other people when you were betting		
You wanted to keep your betting private, without anyone else knowing		
You wanted to bet anonymously so there is no record of your betting		
You wanted to access responsible gambling tools, e.g., deposit limits, activity statements		

(In baseline and EMA surveys)

(Ask all respondents) (SGHS) **During the last 7 days**, did you experience any of the following **as a result of your** (pipe through response from RB1)? (Please select one response on each line)

	No (0)	Yes (1)
Reduction of your available spending money (1)	○	○
Less spending on recreational expenses such as eating out, going to the movies or other entertainment (2)	○	○
Reduction of your savings (3)	○	○
Sold personal items (4)	○	○
Increased credit card debt (5)	○	○
Had regrets that made you feel sorry about your betting (6)	○	○
Felt like a failure (7)	○	○
Felt ashamed of your betting (8)	○	○
Felt distress about your betting (9)	○	○
Spent less time with people you care about (10)	○	○

SGHS_info. If gambling is a problem for you or others, please call the Gambling Helpline on 1800 858 858 or go to www.gamblinghelponline.org.au for free, confidential advice, available 24/7. If this questionnaire has raised any other issues for you, please call Lifeline on 13 11 14.

(In baseline and EMA surveys)

END

If gambling is a problem for you or others, please call the Gambling Helpline on 1800 858 858 or go to www.gamblinghelponline.org.au for free, confidential advice, available 24/7. If this questionnaire has raised any other issues for you, please call Lifeline on 13 11 14.

Thank you for completing this survey
Please click SUBMIT to record your answers