



Sports betting research: literature review

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Summary

In Western countries such as Australia, Canada and New Zealand, betting on sporting events, fixtures and results, particularly through the Internet, is becoming increasingly prevalent. In Australia, sports betting appears to be the fastest growing form of gambling, where it has almost doubled in popularity over the last decade (Gainsbury, et al, 2013a). In 2011, it was estimated that the revenue generated by sports betting in Australia alone topped \$600 million, up from \$264 million in 2006. Sports betting has also been associated with a rise in problem gambling, with an Australian clinic estimating a 70% increase in the number of young males presenting with gambling problems (Horn, 2011; Thomas, Lewis et al. 2012, p.146). Anecdotally, evidence also suggests that sports fans are irritated at what they perceive to be an encroachment on their enjoyment of the game through the presence of betting-related promotions during live broadcasts of, most notably, Australian Rules football and cricket matches, as well as perceived associations between sports betting, match fixing and wider issues of corruption in sport. Despite such concerns, little is known about the potential impacts, costs and consequences of sports betting, particularly for vulnerable groups and individuals in the community.

In November, 2013, the Gambling Support Program, through the Tasmanian Department of Health and Human Services, commissioned Professor Catherine Palmer from the School of Social Sciences at the University of Tasmania to undertake research into the proliferation, trends, and risks, particularly to vulnerable groups, of sports betting and its promotion in Australia and internationally.

The first part of the research, described in this report, involves a systematic review of the literature so as to build an evidence base into the nature, prevalence, experience (positive and negative), costs and consequences of sports betting.

The objectives of the literature review were to:

- review national and international evidence into sports betting in order to inform the development of the qualitative interview guide utilised in Phase Two of the project;
- review national and international evidence into sports betting that can contribute, alongside the empirical research, to the development of community resources.

Key themes to emerge from the literature review include:

- sports bettors are a unique cohort, both demographically, and in terms of their gambling activity (i.e. male, younger, higher socio-economic status, employed full time, better educated, with access to the Internet);
- sports bettors' motivations for initially becoming involved are largely to do with the bettor's perceived level of their knowledge and experience of the sport involved;
- the global expansion of the Internet and associated media technologies has created an environment of "convenience gambling", which is difficult to monitor and regulate;
- while current knowledge of sports betting is in its infancy, and prevalence rates of problem gambling associated with it are relatively low, researchers, clinicians and counselling services are predicting greater involvement among youth markets and young males;
- sports betting is perceived (along with doping and match fixing) as a threat to the integrity of Australian sport;
- the saturation marketing of wagering brands during television broadcasts has embedded sports betting within the game, by:
 - aligning sports betting with fans' overall experiences of a game;
 - encouraging individuals to bet live during the game;
- there is some evidence that marketing messages about "risky" products at major sporting events (i.e. unhealthy foods and alcohol) need to include messages about gambling and sports betting more particularly.

This review is just a start. The speed with which sports betting and the technologies which support it change, the relative ease with which sports betting sites can be accessed by consumers, the links to youth markets and the ways in which the saturation marketing of wagering brands is perceived to have changed the experience of sport for audiences (both live and across multiple media platforms), as well as growing evidence of a new kind of problem gambler, all make further research into sports betting necessary. Moreover, research that can inform school and community-based education and related resources is needed so as to provide information to those groups who are perceived as being at greatest risk of the potential harms of sports betting.

Review methodology

This report reviews the literature pertaining to the nature, prevalence, experience, benefits, costs and consequences of sports betting.

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The review adopts a “broad sweep” approach, and its focus is, specifically, on on-line or interactive betting on sporting events, results and fixtures, rather than on gambling (or on-line gambling) more generally. It looks at the practices surrounding sports betting (such as marketing and advertising) rather than policy contexts, legislation or regulation. Most of the work referred to is written in English and is associated with or derived from the United Kingdom, North America and Australia as either a site for empirical investigation or as the place of origin of most investigators. There are, of course, researchers working, notably, in Northern Europe, but much of their work is inaccessible to the wider gambling (or sport) research community, as it appears in documents with limited circulation either by language or region. Where this is the case, readers are directed towards some of the conceptual linkages here.

In addition to reviewing the literature that examines the practices and behaviours associated with interactive, on-line betting on sport, the report also reviews the, albeit extremely limited, literature on some of the harm minimisation and education strategies that may help establish environments which can promote responsible gambling in sporting (and other) organisations.

The literature review was undertaken between November and December 2013. It was conducted by Dr Dianne Heckenberg, and the report was written by Professor Catherine Palmer, both from the School of Social Sciences, University of Tasmania. Professor Catherine Palmer oversaw the project. The literature search included peer-reviewed academic journal articles, electronic databases, “grey” literature such as policy documents, government and community reports, and other relevant materials.

Background and context

“Sports betting” is, at its simplest, placing a financial wager on the outcome of a sporting match, as well as on events that occur within the larger match or fixture. The growth of sports betting and gambling promotion during sporting events is a relatively recent phenomenon. Whereas, historically, sports betting was confined to an individual physically placing a wager on the outcome of a horse (or greyhound) race, two important changes occurred in the mid 1990s. First, some bookmakers moved beyond horse and greyhound racing and started taking bets on the outcome of team sports. Second, in Victoria, some bookmakers began taking bets over the telephone and then the Internet, and in 2008, telephone and Internet sports betting became possible in all Australian states and territories following a High Court ruling that found prohibitions imposed by some states were anticompetitive (State of Victoria, Department of Justice 2013).

Following on from this, two additional changes occurred that have further, and more fundamentally, shifted the nature and parameters of sports betting:

- the rise and expansion of the Internet and associated media platforms and technologies (i.e. phone and tablet “apps”) led to sports betting shifting more and more on-line;
- the nature of betting itself has shifted from betting simply on the end result of a race or an event to “micro-betting”, “in play betting” and betting “in-the-run”, where consumers can place a bet on a range of possible outcomes both after the game has commenced and, as they occur during a game.

In addition to betting on sporting results and outcomes, “sports betting” can also refer to betting on other events such as the outcome of a political election or a reality television program. For the purpose of this report, the review focuses on placing a wager on *sporting* events via the Internet. While sports betting is legal in Australia, “in-play” betting via the Internet is illegal under Commonwealth Law (it is legal if the bet is placed in person or over the telephone), yet there remains a range of illegal gambling activities that are accessible via the Internet (Interactive Gambling Act, 2001, p.61). The clandestine nature of these activities means that there is little research evidence into these forms of sports betting and are outside the scope of this report.

The rise of on-line betting on sport, and its promotion, has been greeted with considerable levels of public concern, in which the relationship between gambling exposure and participation is seen to pose several implications for sport, health and well being and social policy. In 2013, concern over the accessibility of the technology, and the increasing presence of the televised promotion of live-odds betting during broadcasts of football and cricket matches (particularly during weekend day time television slots) led to a Joint Parliamentary Select Committee review into the advertising and promotion of gambling in sport. The report suggested that a precautionary approach should be adopted, during which time more research could be undertaken into the effects of gambling advertising on children (Joint Committee 2013, p.17). Alongside this, financial and other counsellors have warned of an increase in problems associated with on-line sports betting, particularly among young men. In 2013, the Australia Crime Commission released their *Organised Crime and Drugs in Sport* report. Along with doping and match fixing, sports betting was

identified as a “soft target” through which organised crime groups could undermine the integrity of sport, in both Australia and abroad.

Review of the literature

The literature suggests that sports betting has grown exponentially, is experienced differently by age, gender, and socio-economic status, occupies a unique place in terms of advertising and promotion, and has fundamentally changed the nature of sport, in terms of advertising and revenue, as well as perceptions of the probity of sport itself. Each is discussed in turn.

The growth of sports betting

The focus of the literature review is on sports betting, rather than betting on the outcomes of other popular events, or on gambling more broadly, however, some prefacing comments about the costs and benefits of gambling more widely are necessary. Many of the debates about sports betting engage with similar themes about the economic contributions and social benefits of gambling. Research consistently identifies the ways in which economies and regions benefit from gambling (Allen Consulting Group, 2011; Productivity Commission, 2010). In Tasmania, the economic benefits of gambling are estimated to be in the order of \$383 million spent on gambling over a 12 month period, along with contributions to the Tasmanian economy through gambling-related employment, tourism, investment and community projects. At the same time, however, financial and other counsellors, social workers and human service agencies report the costs and consequences of problem gambling from the, approximately, 0.7 per cent of problem gamblers who account for 22.9 per cent of spend on electronic gaming machines (EGMS or “pokies”) (Allen Consulting Group, 2011, p. 1).

While research on the costs and benefits of sports betting is in its infancy, similar themes to those above are emerging. The purported economic benefits of sports betting and gambling-related sports promotions have been identified both internationally (Braun and Kvasnicka, 2013, Gainsbury, 2012), and in an Australian context (Hing, Vitartas, and Lamont, 2013; Gainsbury, 2011). Similar themes relating to at-risk groups, and the costs and consequences for those affected by their own or another’s problematic relationship to sports betting are also found in the limited literature on sports betting in relation to this (both are addressed later in the review).

Although the literature is limited, the consistent message across the nascent research is that on-line sports betting is rapidly surpassing all other forms of gambling in terms of participation. A UK report (Charlton, 2013), for example, states that betting on football (soccer) has seen the largest growth in the sports betting sector, growing 69% between 2009 and 2012, although this has largely been driven by the popularity of in-play betting (not permitted on regulated Australian wagering sites). Research by Gainsbury (2013) also suggests that sports betting appears to be the fastest growing form of gambling in Australia, with preliminary findings indicating that gambling via electronic gaming

machines fell from 39 to 19 per cent between 1999 and 2011, while participation in sports betting increased from six to 13 per cent over the same period (Hing et al. in Gainsbury 2013a). While we write of “Australian” research, it is important to remember that the global nature of the Internet, and sport itself, means that a considerable amount of money is spent in Australia on betting on sports events that occur internationally. Gainsbury and Russell (2013), for example, note that an estimated AUD\$4.9 billion was wagered globally on the FIFA World Cup in South Africa in 2010, including AUD\$110 million in Australia, a dramatic increase on the estimated AUD\$1.1 billion spend on the 2006 tournament in Germany (Gainsbury and Russell, 2013; Church-Sanders, 2012).

Changes to gambling

As well as the rapid growth in sports betting as a past time, research has also drawn attention to the fundamental changes in the nature of gambling that sports betting has brought about. Betting is no longer restricted simply to placing a wager on the outcome of a horse or greyhound race, but now includes “micro-betting”, “in play betting” and betting “in-the-run”, where consumers can place a bet on a range of possible outcomes after the game has commenced and, as they occur during a game (such as who will be the leading goal scorer in a football match at three quarter time). Indeed, the sports wagering market has expanded significantly, with betting on racing (including thoroughbred horse, harness and greyhound racing) increasing by 69 per cent in the period 2001 - 2011, while betting on other sports increased by 278 per cent in the same period (Australian Racing Board, 2011). Similarly, in their study of betting patterns on team sports and horse racing over a one year period, Gainsbury and Russell (2013) noted that, of the 2,522,299 bets placed with Australian corporate bookmaker, Betchoice (now trading as Unibet), the vast majority (96.1%) of bets were placed via the Internet and the remaining 3.79% were placed by telephone. After horse race wagering, which was the predominant activity of the on-line betting operator examined, bettors appear to be most likely to place bets on popular sporting events, such as football and cricket matches, suggesting that sports betting is an adjunct to watching sports and races, becoming increasingly a part of a fan’s experience of the game.

Alongside sports betting becoming increasingly embedded in or a part of the experience of watching sport, research is beginning to document the convergence of sports betting with social media sites and social casino games (Gainsbury and Derevensky, 2013). Drawing on research undertaken in Australia and Canada, these authors argue that while gambling games are not new, they are now more sophisticated and more widely accessible to young people. The key questions posed in this research have relevance for thinking about sports betting more broadly: i) what is social gambling? ii) how is it different from real gambling? and iii) can gambling on social media sites be a problem?

A report by Crowdpark (2012) – a provider of social casino games such as Pet Vegas and Golden Empire Casino - examines some of the factors that may account for the growth and convergence of social games and gambling. The report identifies several trends that have created an environment for the exponential growth in social games as well as sports betting, such as the ready accessibility of mobile devices and networking platforms and sites, as well as noting some of the features of social casino games that are cause for

concern in terms of attracting a youth market to on-line gambling, including sports betting. For example, the report draws attention to the distinction between on-line gambling (where real money is wagered for monetary prizes) and on-line *social* gambling (where free or “freemium” practice sites involve no monetary payouts). In the case of both, the problematic nature of “proof-of-age” checks in a virtual space, the role of social games in normalising gambling, the impact of micro transactions on normalising play and the ways in which social games can distort perceptions of winning (i.e. outcomes designed to prolong play), are highlighted, drawing attention to some of the implications for sports betting across issues of policy, research, prevention and regulation.

The rapid diversification of wagering products through mobile phone and Internet technologies means that sports betting is no longer confined to casinos, local pubs and racecourses. That is, the gambling market is, as Abbott, et al. (2013) suggest, ‘changing as new forms of gambling are introduced, promoted and delivered via the Internet, mobile phones are related devices’. Added to this, the truly global nature of the World Wide Web means that there is a sporting event or outcome available anywhere in the world, at any time of the day or night, for an individual to place a bet on. As Real (2013) notes, technology transcends national borders, creating an international market for gambling, and for sports betting more particularly. Similarly, a UK study by Griffiths (2003) provides an overview of changes to gambling environments due to on-line technologies, noting that as modes of wagering become more interactive, the activity becomes more asocial. A key observation is that gambling has moved out of more traditional “social” environments (such as the pub) and into the home and workplace where it can be undertaken in isolation. In the case of Internet gambling, the shift is from ‘a very specific site to being in cyberspace’ (Griffiths, 2003, p.557). While this is a point returned to later, the international nature of sports betting, the liquidity of the betting market and the global nature of sport have also been identified as providing some of the conditions that have given rise to transnational corruption in sport (Australian Crime Commission, 2011).

Who bets on sport?

Although literature on sports bettors as a specific population group is relatively scant, research into their demographic characteristics suggests they are unique cohort. Relative to the general population, and to the “gambling” population, sports bettors tend to be male, younger, of a higher socio-economic status, employed full time, better educated, and with regular access to the Internet and to mobile devices. In their study of sports bettors in Canada, Spain and the United Kingdom, for example, Humphreys and Perez (2012) found that sports bettors were young males with relatively high incomes. Such findings are consistent with Australian research. Gainsbury, Russell et al.’s (2013) national study of gambling patterns in Australia found that interactive sports gamblers appeared to be younger males, with higher levels of education and employment, and with access to the Internet. Similarly, at a state level, research conducted by the Victorian Responsible Gambling Fund (VRGF) found that those betting on sport tend to be young men in their 20s and early 30s (in Joint Committee 2013, p.12). A 2011 study conducted by Gambling Research Australia also found that males aged 10 to 24 were almost twice as likely as women of the same age to participate in sports betting (Purdie, et al. 2011).

It is important to note however that much of the data on sports bettors has been derived from more general studies of participation in types of gambling more broadly or from household or other general surveys into leisure pursuits and forms of recreation rather than from studies of sports betting specifically. The data that informs Gainsbury, Russell et al.'s (2013) research, for example, was gathered from 15,006 Australian adults (with 47.5% males aged 18-100 years of age) who took part in a nationally representative telephone survey that measured gambling participation over a past 12 month period, with a randomly selected sub-sample answering questions about their attitudes towards and practiced of interactive gambling. This was used to compare the attitudes and beliefs about gambling and gambling participation of interactive and non-interactive gamblers using their socio-demographic characteristics. Using a similar methodology, in which a convenience sample of German citizens was drawn using an on-line survey (n=464), Wicker and Soebbing (2013), note in their study of participation of sports betting that the "typical" on-line bettor is a male with high income, *low* education, and of "non-German nationality" who plays cards and poker during his leisure time, but does not regularly participate in sport, a finding which somewhat contradicts other research, in which comparatively high levels of educational attainment is a characteristic of the "typical" sports bettor.

While dedicated state and national-level research into the demographic characteristics of sports betting in Australia is needed, the research to date suggests that irrespective of the methodology or the country in which the research is undertaken, young men (i.e. between 20 and 30 years of age) tend to gamble more frequently and more problematically than young women (Moore et al. 2013; Purdie et al. 2011; Delfabbro 2012), and are more interested in sports betting than females (Purdie et al. 2011). Because of this, young people, and young men more particularly, have been identified as "at-risk" groups for problem gambling as it relates to sports betting, and this is addressed later in the report.

Following on from this, motivations for betting on sport have not been comprehensively explored in the literature. In a survey conducted with a sample of 161 on-line sports bettors in the United States, d'Astous and Gaspero (2013) note that the reasons for initially becoming involved in sports betting were largely to do with the bettor's perceived level of knowledge and their experience of the sport involved. That is, the more the bettor felt that they were an "expert" on the sport, the more likely they were to bet, and to bet a large amount. Continuing with sports betting as a recreational practice shared similarities with other forms of gambling, such as a receiving a big win early on in their gambling history. In a study of sports betting in the US National Football League, Chin (2013) estimates the extent to which bettors placed wagers that were based on sentiment. The results showed that more bets tended to be placed on teams to which bettors had a strong sentimental attachment, and fewer bets were placed on teams to which bettors were not emotionally attached. Lee, Chung and Bernhard (2013) similarly argue for a structural relationship between gambling motivation and a "passion" for the sport involved, suggesting that a gambling performance is perceived to be dependent on three key determinants: the gambler's experience and knowledge of the sport, their personality and their cognitive abilities.

In one of the few dedicated studies of men and sports betting, a 2003 Canadian focus group study reports that young men get an "adrenaline rush" from sports betting and see

it as a way of demonstrating support for their team (Korn, Hurson and Reynolds nd, p.3). Some Australian sources report that young men watch sport through a “gambling prism” (Victorian Responsible Gambling Foundation (VRGF) in Joint Parliamentary Select Committee (Joint Committee) 2013, p.12), and are more likely to talk about ‘the punt’ than the game (FamilyVoice, in Joint Committee, 2013, p.12).

It is worth noting, however, that while sports bettors shares many of the demographic characteristics of those who have historically been purported to follow sport more broadly, assumptions that sports betting, and, indeed, sport is a “male” past time should be approached with caution. A growing body of research, in Australia and abroad, suggests that women are, increasingly, large consumers of sport, and particularly, of those sports that are associated with sports betting, such as soccer and Australian Rules football (Pope, 2011; Tofolletti and Mewett, 2012). While there is no literature on female sports fans and sports betting specifically, it is reasonable to suggest that sports betting may well be a part of women’s experiences of consuming sport, as is for men. Further research is needed here.

An additional word of caution on the demographics of interactive gamblers (sport-related or otherwise) is provided by Gainsbury and Blaszczynski (2011) in their *Submission to the Joint Select Committee on Gambling Reform: Inquiry into the prevalence of interactive and online gambling in Australia and gambling advertising*, who note that:

the interactive gambling literature is characterised by few, small-scale studies that often have methodological issues such as the use of non-representative, self-selected samples, which limit the validity of results. Furthermore, the findings of these become rapidly outdated as a result of constant changes in technology and the market. In addition, very little research has directly examined interactive gambling in Australia and consequently there is little information about the demographics of users, extent of use and/or impact of online gambling in Australia, making it difficult to develop appropriate policy responses or predict market trends (p. 6).

Advertising and promotion

The growing presence of betting-related promotions during live broadcasts of sporting matches, most notably, Australian Rules football and cricket matches, is perhaps the most visible aspect of sports betting. It is also among the most contentious. Casting a casual eye over the visual merchandise at sporting events, particularly large scale contests that attract international media attention, shows sports betting advertising to be fully embedded within the match and its promotional materials. Advertising on players’ jumpers, “pop up” logos underneath match statistics on scoreboards, signage in pre-match locker room shots and the blurring of “expert” commentary on the game with updates on odds and dividends means that it is now very difficult for a sports fan to avoid betting related promotions and advertising both at the game and through television coverage. Arbarbanel, for example, notes that ‘sports and sports betting are intimately

intertwined ... and in many cultures it can be difficult to determine where one begins and the other ends' (2012, p. 82).

Although most gambling advertisements are prohibited in children's viewing times (as they are for alcohol), sporting programs are exempt from this code. In research published in 2007, however, AFL matches were found to be one of the three most popular television programs for children (ACMA, 2007), prompting calls for changes in legislation (Xenophon, 2011). Dodd's (2013) research further cites a move by South Australia to ban the advertising of live odds betting on television screens during sports, noting the South Australian Premier's comments that ...'It is of great concern to me that we will end up with a generation of children who believe gambling is a normal part of watching or even playing sport'.

Promotions for gambling appear in stadiums and during broadcasts of matches on fixed and revolving electronic banners; in commercials before and after matches, and during breaks in play; and as team sponsorship on uniforms, in locker rooms and on team banners (Thomas, Lewis et al. 2012, p.147). Gambling advertisements are also often integrated into mobile applications that many fans use to follow the games on tablets and phones. This means that in certain games it may be almost impossible for young viewers to avoid seeing gambling promotions (see Thomas, Lewis et al. 2012). In view of this, some researchers have expressed concerns that 'fan support and team loyalty are used to market sports betting products', sporting role models are used to endorse these products, and gambling advertisements are being viewed 'in environments which are promoted as being "safe, secure, and family friendly"' (Thomas, Lewis, et al. 2012, p.146).

Using Australian Football League (AFL) matches as a case study, Thomas, Lewis, et al. (2012) investigated the frequency, length and content of marketing strategies for sports betting at two specific settings: i) stadiums during four live matches; and i) during eight televised broadcasts of matches. AFL matches were selected because i) the AFL has the highest average sporting match attendance in Australia;¹ ii) the AFL promotes a family-friendly environment at matches; and iii) the AFL and many AFL clubs have sponsorship alignments with betting providers. The research found that nine wagering brands were marketed across the two stadiums - Centrebet; TABSportsbet; TAB.com.au; TAB; DeesBet; Sportsbet.com.au; Sportingbet.com.au; Bet24/7; and Betfair, and seven wagering brands were marketed during broadcasts Centrebet; Tabsportsbet; Bet24/7; Sportingbet; Sportsbet.com. au; Deesbet; and Crowsbet.

This case study provides a detailed example of the extent of saturation marketing of sports betting. For example, the results of the number of episodes and duration (Thomas, Lewis et al. 2012 p. 148) showed that *per match*, there was an average of 58.5 episodes and 341.1 minutes of sports betting marketing at stadiums, and 50.5 episodes and 4.8 minutes during televised broadcasts. By contrast, there were very few visible or audible messages in relation to responsible gambling (or Gambler's Help or similar messages) to counter the information that individuals received about sports betting during the match.

¹ In 2010, the AFL had the third highest average sporting match attendance in the world (behind America's National Football League and German Bundesliga Soccer), with an average attendance of 36,908 per premiership game, and an average weekly television viewing audience of 4.16 million.

The three themes that emerged from this content analysis of sports betting marketing showed the ways in which a diverse range of marketing strategies were used to a) embed sports betting within the game; b) align sports betting with fans' overall experiences of the game; and c) encourage individuals to bet live during the game (Thomas, Lewis et al. 2012 p. 148). These three themes were found to be present within a range of advertising platforms including: wagering venues, billboards and signage, scoreboard advertising, television and big screen commercials, shirt and team sponsorship, and integrated advertising; findings supported by the work of Hing, Vitartas, and Lamont (2013) in their exploratory study of gambling sponsorship of sport.

While the study raises important questions about the impacts of saturation, integrated and impulse gambling marketing strategies at sporting matches, it provides only a "snapshot" of sports betting marketing during a specific time period. It does not capture how marketing strategies may vary at different time points during the season; it is based on data collected only from stadiums in Victoria and leaves unanswered questions as to how different types of wagering marketing strategies may affect individuals in different ways.

More extensively, in 2013, the Australian Communications and Media Authority (ACMA) commissioned Newspoll to undertake research on *community* attitudes to the promotion of betting odds and advertising for betting agencies during live sport broadcasts and sport-related television programs. The research was conducted with a nationally representative sample of 1,225 Australians aged 18 years and over. Interviews were conducted by telephone as part of a regular Newspoll omnibus survey between 15 and 21 May. To provide context for the survey, audience data for live sport broadcasts on free-to-air and subscription television in 2012 was sourced from OzTAM Pty Ltd. Among the key findings, Australians' interest in sport, the frequency of placing bets on sports events, and perceptions of change in the levels of advertising of betting odds on viewer/listener experience had all changed over a 12 month period, as had their attitudes toward advertising for betting agencies and support for restrictions. Similarly, the *Herald Sun 7 News Footy Fans Survey Results 2011* reported responses to the questions (Q.46) 'Do you think gambling promotion is too intrusive into AFL broadcasts': as Yes 63.7%; No 36.3%) and to Q57 'How often do you gamble on AFL games): as Often (monthly) 13.7%; Regularly (weekly) 13.5%; Rarely (yearly) 24.8%; Never 48.0%.

A limited body of research has considered the impacts of gambling promotion and advertising on children and young people. Monaghan, Derevensky and Sklar, (2009) have examined some of the marketing techniques used to promote gambling and how these may affect young people. Based on research in gambling and other public health domains, including tobacco, alcohol, and junk food advertising, they suggest that

currently guidelines for responsible marketing of gambling products are largely voluntary; in many jurisdictions there exists no arms-length safety net between government regulatory and revenue boards. To ensure that gambling advertisements do not adversely affect youth, it is essential that regulations for gambling advertisements be made mandatory and enforced by an independent body that is not involved in the revenue generated by gambling (p. 264).

They also note that ‘a major barrier to the creation of effective and socially responsible policy regarding marketing of gambling products is the lack of empirical research in this field’ (p. 264).

Although outside the scope of the research, it is worth noting that parallels have been drawn between the extent and nature of alcohol advertising on Australian television and that relating to sports betting. Pettigrew, Roberts, Pescud et al.’s (2012) research, for example, examines how alcohol advertising reaches youth markets and reinforces norms, in contravention of the intention of advertising codes. They identify patterns of patterns of advertising during times popular with children, and the use of themes such as humour and sport, which may provide useful parallels for the analysis of sports gambling advertising in the future.

In light of public concerns in Australia about the volume and saturation of sports betting advertising, in July 2013, the *Commercial Television Industry Code of Practice* was amended to prevent live odds being broadcast during play, scheduled or unscheduled breaks in play, and for 30 minutes before or after games (Free TV 2010, amended July 2013, p.40); and for different rules apply to ‘long form’ live sporting events such as tennis and golf). Advertisements for gambling (rather than the broadcasting of live odds), however, are permitted at all these times except during play (Free TV 2010, amended July 2013, p.42). Moreover, because ‘incidental accompaniment’, such as logos on clothing and signage on field barriers or scoreboards, is not considered as advertising (Free TV 2010, amended July 2013, p.43), it can be broadcast even during play. In addition, this code does not apply to pay TV (ACMA, 2013b), or to free-to-air television advertisements/promotions for government lotteries, lotto, keno or contests (ACMA, 2013b; Free TV 2010, amended July 2013, p.43).

Nonetheless, Dodds (2013) notes that the sports betting industry is a global one, yet regulation (with the exception of New Zealand) has been targeted at provincial or state levels; arguing that there are few national gambling regulators and no international regulatory structures. Dodds (2013) contends that the global industry is way ahead of the regulators, and advocates the licensing of on-line sports (and other internet gambling) with strict regulations (especially governing checks on the age of on-line gamblers) with regular disclosure to the Australian regulator. The author suggests establishing an industry-funded Gambling and Wagering Ombudsman and advocates the establishment of regulatory and compliance protocols and standards with other governments, achieved through multi-lateral partnerships like G20, ASEAN, CHOGM and a National Sports Integrity Commission to work with sporting codes and their emerging integrity processes (Dodds, 2013).

Sports betting and the “integrity” of sport

Following on from this, many of the concerns raised that the saturation marketing of sports betting-related promotions has highlighted “unhealthy” behaviours within sport extend to wider concerns with issues of corruption and integrity in professional sport. At the time of writing, a number of controversies relating to cheating in sport were in the

public eye (e.g. the on-going saga relating to the Essendon football club and allegations of performance enhancing drugs, along with the fall out from the Lance Armstrong/Tour de France doping controversies), which have, arguably, fuelled debates about ethics and sport, in which the ethics of closely aligning sport and sports betting have been questioned.

Research by Hume (2013) on match-fixing and illegal sports betting discusses the relationship between professional sports and the gambling industries, noting that in recent years the relationship between the two sectors has become closer and more complex; that betting agencies are now major sponsors of a number of sporting teams and individual athletes and the gambling industry is a major financial contributor to grassroots sporting clubs throughout Australia. Hume's (2013) research also highlights the role that technology has played in eroding national boundaries and creating an international marketplace for gambling products.

Research, both in Australia and internationally (Hume 2013; Kelly; 2011, Rodenberg and Kaburakis, 2013), make several key points about the vulnerability of professional sports to the infiltration of organised criminal groups in relation to sports betting. Their work discusses the susceptibility of sports to match-fixing and/or organised crime infiltration. For example, the global nature of sport means that Australian sports and athletes are no longer protected by geographic isolation, thus exposing sports, athletes, officials and the public to potential ethical breaches that take place in an international arena. In terms of sports betting specifically, a principal threat to the integrity of professional sports is the use of inside information, where an individual might have knowledge of whether a team's star player is injured, and placing a large wager on the team losing the match before the injury is made public (Forest, 2012, Lord, 2013).

The conclusion from research in this area is that many of the conditions necessary for organised crime to infiltrate professional sports, such as associations between criminal organisations and individuals and athletes, have been developed or are being cultivated, and that if these vulnerabilities are not addressed, *it is likely* that criminal groups and individuals will increasingly exploit the professional sport sector through "soft-targets" such as the global, and, as such, difficult to monitor, sports betting industry (Australian Crime Commission, 2011).

Beyond concerns with corruption in sport, issues related to probity more broadly have been documented by Gleeson (2011) in his *Review of Sports Betting Regulation*. This review examined the regulation of sports betting as a way of assessing the need to strengthen public confidence in the integrity of sport. The review specifically looked at the need to protect the integrity of the betting that takes place on sports (i.e. no match fixing), protecting betting consumers (i.e. avoiding scams), and providing sporting bodies with a fair share of the revenues from betting that takes place in their sports. The review met with a number of stakeholders, including the currently approved sports controlling bodies, some sporting bodies who do not have controlling body status, and a number of sports betting providers. The review, however, was unable to form a view as to whether legislation had strengthened public confidence in the integrity of sport.

Sports betting and problem gambling

In terms of current literature, this is perhaps the great unknown, with the research often contradictory and speculative. On the one hand, the research suggests that certain sections of the population are more heavily represented, and present with greater risk factors, and these may also have a propensity towards or indications of problematic relationships to sports betting (young men in particular). On the other, a body of research suggests that, of those “at-risk” groups already represented in problematic gambling statistics (e.g. women and Indigenous peoples), there is little evidence to suggest that these are or will also be problematic on-line gamblers/sports betters as well.

What the early research does suggest however, is that as new forms of gambling are introduced, promoted and delivered via the Internet, mobile phones and related devices, these may expose some groups of people to greater risks (Abbott, Romild and Volberg, 2013).

While the research on sports betting and at-risk groups is in its infancy, there is a limited body of literature that has linked issues of mental health and substance abuse with *prospective* studies of on-line gambling that have relevance in terms of *building* a research profile of sports betting, problem gambling and at-risk population groups (McCormack, Shorter and Griffiths 2013). LaBire, Kaplan, LaPlante, et al, (2007) argue for a need for longitudinal data, gathered over time that can build a better understanding of some of the “trigger factors” for problematic Internet sports gambling behaviour. Later research (LaBrie and Shaffer, 2011), argues for the importance of gathering reliable data that can help identify behavioural markers of disordered Internet sports gambling.

Recent preliminary evidence also suggests that on-line gamblers may be at a greater risk of some substance use and mental health problems, relative to non-online gamblers. Scholes-Balog, and Hemphill (2012), for example, in their review of literature on the relationships between on-line gambling, mental health, and substance use note that on-line gambling, particularly problematic gambling, was found to be associated with poor mental health and issues of substance misuse. Similarly, findings from the 2007 British Gambling Prevalence Survey link smoking and alcohol use with Internet gambling (not sports betting per se) (Griffiths, Wardle, Orford et al, 2011), that may also be useful for building better understandings of potential cohorts of problem sports betting gamblers.

What this limited literature suggests is that the research into the relationship between sports betting and problematic gambling is underdone, relative to the literature discussed earlier on advertising and promotion, changes in the nature of gambling and motivations for betting on sport. In terms of the need for interventions and prevention, the relationships between issues of mental health and substance use and on-line sports betting need to be better explored. There is, however, early research among American college students that suggests that excessive alcohol consumption may contribute to higher rates of sports betting among young people. Bhullar, Simons, Joshi and Amoroso (2012) looked at the relationships among drinking games, binge drinking and gambling activities in college students. Their study reviewed the results of college students (n=293) who were surveyed about binge drinking and gambling activities. Students who played the lottery once a week had lower binge drinking scores compared to students who played

the lottery more than once a week and those students who never played the lottery. Similar patterns were also detected for students who engaged in sports betting, card-playing and games of skill. Students who met the criteria for binge drinking were likely to engage in sports-betting, video gaming and regular poker, office pools, and other games of skill compared to students who did not meet the criteria for binge drinking.

At-risk groups

In term of some of the at-risk population groups discussed in the problem gambling literature more broadly, it is perhaps surprising that no literature could be identified that examines a relationship between sports betting and problem gambling among women, Indigenous groups and people from non-English speaking /CALD backgrounds, in Australia or elsewhere.

Although there is a significant body of research on gambling among Indigenous peoples (in Australia and among First Nation Canadians) (Dyall, 2010; Breen and Gainsbury 2013; Hing, Breen, Gordon and Russell, 2013a, 2013b; 2013c), no research could be identified on sports betting specifically among Indigenous peoples. Nonetheless, this more general body of research can provide a useful starting point for considering the multi-dimensional influences (personal, environmental, economic, cultural and social) that affect gambling uptake among Aboriginal peoples in Australia, the United States, Canada, and New Zealand. Of the research, Hing, et al.'s (2013a) large-scale survey of gambling by Indigenous Australians in New South Wales and Queensland is useful for building a picture of who gambles, how often and on which activities that highlights the popularity of card gambling, high participation and involvement in commercial gambling, and much larger proportions of the Indigenous population who gamble regularly on EGMs than are found in the general population.

Similarly, while significantly higher prevalence figures for EGM gambling by female problem gamblers among Australia women have been identified in the literature (Hing and Breen, 2001), there is nothing in the literature to date to suggest a relationship between female problem gamblers and sports betting. That said, a discussion paper by the Responsible Gambling Advocacy Centre (RGAC 2011). *Women and gambling: Issues of Difference*, argues that while there has been an explosion in recent years in Australia of on-line sports betting, where its advertising has primarily been aimed at men, women tend to “catch-up” to male behaviours over time. The report argues, however, that other forms of on-line gaming, such as social games rather sports betting, may be of greater interest to women. McCormack, Shorter and Griffiths (2012) in their study of gender differences in on-line gambling predict a similar trend, going on to state that because the research on on-line gambling is in its infancy, there is a particular need to collect important demographic and other statistical information from which trends and differences in gender can be observed. As they continue, these research gaps in turn create gaps in policy development and information for practice and service delivery.

The “youth” market

Where there *is* some research on sports betting and at-risk populations is in terms of a “youth market” and young men in particular. It has been argued (AMA, 2013) that as gambling activities have expanded and diversified, young people are increasingly being exposed to messages from a broad range of media that endorse, promote and normalise gambling (AMA, 2013). It is worth noting, however, that the literature on the *actual* experiences of young people gambling on sport tends to be speculative with few empirical studies having been done into their gambling practices and its relationship to particular risks. As is the case before, looking to some of the issues for young people and gambling more broadly can help build a research profile, and can raise some research questions for future studies of sports betting among young people more specifically.

That said, while current knowledge of sports betting is in its infancy, and prevalence rates are relatively low, researchers, clinicians and counselling services are predicting greater involvement among young males, citing the broader research evidence that young men gamble more frequently and more problematically than young females (see Moore et al. 2013; Purdie et al. 2011; Delfabbro 2012). In light of this, young men have been identified as a potential at-risk group for sports betting related problem gambling, with two key reasons being cited: i) the advertising of sports betting sites and promotional activities is targeted to them, and ii) the intergenerational normalisation of gambling (Dowling, Clarke, Memery, and Corney, 2005; Dodds, 2013). Dodds, however, makes the point that while the issue of sports betting among young men has been widely debated in Australia, there is limited data on the current extent and impact of on-line gambling amongst this group. In terms of interventions and awareness raising, Dodds (2013) continues that the on-line sports betting industry aims much of its advertising at young men, a group often reluctant to seek support in relation to their health and well-being. Some harm minimisation and education strategies for change are identified later in the report.

In terms of youth gambling Delfabbro and Thrupp (2003) have identified several social and economic determinants that may have implications for understanding youth sports betting. Their paper investigates the hypothesis that gambling can be understood in terms of variations in economic socialization, namely, the way in which children learn about money, risk, and saving. A school survey of 505 adolescents (aged 15–17 years) showed that over 60% of adolescents were gambling annually and that 3.5% scored in the problematic range on the DSM-IV-J (Fisher, S.E. (1999). *Addiction Research*, 7, 509–538). More frequent gambling was associated with parental and peer gambling and pro-gambling attitudes, but was unrelated to adolescents’ attitudes towards economic concepts. Nevertheless, in partial support of the hypotheses, adolescents whose parents taught them about keeping to a budget, saving money, and maintaining their finances were less likely to express an interest in future gambling.

In one of the few studies that picks up on sports betting behaviours among young people, Delfabbro, Lahn and Grabosky’s (2005) report provides some insight into adolescent gambling in an Australian context. It presents key findings of a 2003-2004 study, based on a national survey of year 7 to 12 students from Government, Catholic and independent schools. The report identified the nature and extent of gambling amongst a population subgroup as being an oversight of the Federal Government’s Productivity Commission report (1999). Sports betting is discussed throughout the report, with gambling on sporting

events less popular than private card games (40%), bingo/scratchies (41%), racing (32%) at the time and only 6.1% of students having gambled on the Internet in the preceding 12 months, making it (at that time) one of the least popular forms of gambling. Although participation rates differed little by gender, males were more likely to be frequent gamblers and to gamble on racing and sports events.

As Delfabbro, King and Griffiths (2012) note, one of the key points to be made in terms of at-risk groups and problem gambling is that while there are a range of indicators that could be used for identifying at risk and problem gamblers, the process of identification is often difficult in practice. They suggest that the nature of “an indicator” may vary depending on the mode of gambling (i.e. terrestrial versus on-line), and, in relation to EGM gambling particularly, venue staff employees usually have insufficient opportunity to obtain enough information to make judgments. The authors conclude that based on the limited data currently available, it would appear that a best practice model is likely to be one that has several elements: i) the ability to integrate indicator information obtained from direct observation with objective system data (where available); (ii) flexibility in reporting protocols that allow more junior staff to take action when problematic behaviour is observed and (iii) the capacity to consolidate information about individual patrons over time across multiple observers and periods of observation.

While the points relate more to EGM gambling and gambling in venues, the points have greater salience in relation to on-line gambling (whether that's to do with sport or anything else), given that it can be done in isolation, at home, making early identification of a problem perhaps more difficult. Given the increasing public health interest in the prevention of gambling problems, there need to be better ways to identify people who are at risk of harm from sports-betting.

Harm minimisation and education: strategies for change

Following on from this, the literature suggests a number of strategies and interventions that may help educate about the potential harms of sports betting. These include strategies designed to protect the financial wherewithal of those already engaging in sports betting, as well as social marketing campaigns advising of the risk of gambling as well as more general awareness raising education programs, again about gambling, offered primarily through schools. There appear to be few strategies, campaigns or interventions that deal with sports betting specifically, and that are targeted at young men or the youth market (i.e. those populations deemed to be at-risk). A body of research, however, has examined the effectiveness of social marketing campaigns in relation to problem gambling more broadly, and these may offer some lessons for developing sports-betting specific educational resources. Some of the research already cited here makes some recommendations for the kind of messages to be promoted and communicated to those at-risk groups (and more broadly), and these are discussed below.

The research, however, suggests that, of those strategies and interventions that have been implemented, these have not always, been effective, and the relative success and limits of these strategies are discussed here as well. It is important to note that the literature in this area, both in Australia and internationally, is extremely limited.

Deposit limits

One of the suggestions to minimise the financial costs of problem gambling is that the amount of money that can be deposited into an account be limited by the sports betting provider. Preliminary research, however, suggest that this may really only be effective where it is necessary to prevent the loss of extremely large amounts of money or in cases of bankruptcy. Broda, LaPlante, Nelson et al., (2008), for example, review the example of the Internet sports betting service provider, Interactive Entertainment, AG (*bwin*) who imposed limits on the amount of money that users could deposit into their on-line gambling accounts. The research examined the effects of these limits on gambling behaviour by comparing i) the gambling behaviour of those who exceeded their deposit limits with those who did not, and ii) the gambling behaviour before and after exceeding deposit limits. The research analysed two years of the actual sports gambling behaviour records of the 47,000 subscribers to *bwin*. Of these, only 160 (0.3%) exceeded their deposit limits at least once. Those gamblers who exceeded their deposit limits evidenced higher average number of bets per active betting day and higher average sizes of bets than the gamblers who did not exceed their deposit limits. Comparing the gambling behaviour before and after exceeding deposit limits, revealed slightly more unfavourable gambling behaviour after exceeding deposit limits. Findings indicated that the Internet gamblers who exceed their deposit limits constituted a group of bettors who were willing to take higher risks (i.e. place a larger bet or on an outcome with unfavourable odds); yet, surprisingly, they appeared to do this rather successfully because their percentage of losses was lower than others in the sample. However, some of these gamblers exhibited some poor outcomes, with their large bet being unsuccessful.

The research suggests that deposit limits may be necessary to prevent very large financial losses (or in cases of bankruptcy), yet blocking or limiting the number of bets in an active betting session may be more effective in terms of regulating a bettor's use of their account. It is also unclear the extent to which the deposit limit is controlled by the bettor or dictated by the service provider.

Protecting against fraud and scams

Along with deposit limits, other forms of financial protection include educating sports bettors about their Internet security to avoid fraudulent transactions and on-line scams, and help manage their gambling activities. While there appears to be no dedicated educational resource on this, Brooks (2012) provides an overview of the potential for transnational crime such as money laundering, theft and fraud that may occur via on-line gambling sites, including sports betting ones. Harking back to some of the issues surrounding transnational crime, Brooks' research examines the relationship between the regulated online gambling sector in Great Britain and the potential for money laundering to take place. Using, direct 'negotiated' access and a snowball sample, five interviews were undertaken with key personnel in the gambling industry, and anti-money laundering, fraud and integrity units within the police. Three key issues arose; i) the importance of the experience of interviewees' knowledge of the gambling industry, ii) letting evidence determine the direction of the 'case' employing technology to mine information, and iii) the

limited sanctions and willingness of sporting institutions to use the full range of sanctions available to them to deal with illegal criminal acts. Findings suggest that money laundering is possible but that on-line gambling sites in highly regulated jurisdictions are working with the relevant law enforcement and sporting institutions to combat money laundering.

While these strategies and suggestions are aimed at protecting the financial resources of those already engaged in on-line gambling and sports betting, others include more general awareness raising education programs about gambling rather than on-line gambling or sports betting that are offered primarily through schools. To date, there appear to be few strategies, campaigns or interventions that are targeted at young men or the youth market (i.e. those populations deemed to be at-risk) in relation to sports betting.

School-based programs

Gambling education measures aimed at young people are widely supported by the gambling industry, as well as non-government organisations (Productivity Commission 2010, p.94). However, the Productivity Commission has expressed reservations about the value of such education, observing that only limited evaluations of school-based programs for gambling are available and, where they do exist, 'mostly find improved understanding of gambling, but not positive behavioural change' (Productivity Commission 2010, p.9.1; see also Gardner & Williamson (2011, p.14), who refer to their own earlier research suggesting that participation in gambling-like activities as part of responsible-gambling education might make gambling seem more attractive to school students).

Although the Productivity Commission (2010) has expressed the view that gambling education in schools has the potential to excite young people's interest in gambling, it seems that gambling promotion is now so prominent in sporting events that many young people will be aware of gambling from a young age whether or not they participate in gambling education programs at school.

Irrespective of the commission's concerns, its own research reveals that most states and territories have youth gambling education programs, information resources for teachers and school counsellors and/or curricula that incorporate relevant elements of training in financial literacy. For example, Department of Health and Human Services (DHHS 2007). *What's the real deal, a teaching kit for Tasmanian High Schools* was developed to assist teachers to educate young people about the risks and potential problems associated with gambling, supporting students to make informed choices and identify warning signs of problem gambling in themselves and others. The kit examines odds, beliefs and superstitions about gambling, the pathways to problem gambling and the help available, the role of advertising in influencing gambling choices, and the interests of the different stakeholders in the gambling sector. Similar education campaigns offered in other states and territories seek to inform students of the harms associated with gambling, attempt to deter them from gambling by debunking gambling myths, provide them with the resources to identify the warning signs of problematic gambling and/or alert them to services available for those who believe they may have a gambling problem.

These, however, are yet to focus, specifically on the risks and harms associated with sports betting.

How effective?

As stated earlier, the limited evaluations that have been done in relation to these education resources mostly find improved understanding of gambling, but not positive behavioural change' (Productivity Commission 2010, p.9.1). And, while there appear to be few strategies, campaigns or interventions that are targeted at young men or the youth market in relation to sports betting (rather than gambling more generally), a body of research has examined the effectiveness of advertising campaigns in relation to problem gambling more broadly that may offer some lessons for developing sports-betting specific educational resources.

In their study of the ways in which gamblers (with a range of gambling profiles, including problem gamblers), Thomas, Lewis and Westberg (2012) note three key messages that emerged from their qualitative research: (i) participants felt that campaigns were heavily skewed towards encouraging individuals to take personal responsibility for their gambling behaviours or were targeted towards those with severe gambling problems. (ii) participants described the difficulty for campaigns to achieve 'cut through' because of the overwhelming volume of positive messages about the benefits of gambling that were given by the gambling industry. (iii) some participants described that dominant discourses about personal responsibility prevented them from seeking help and reinforced perceptions of stigma. The social marketing campaigns that were shown to interviewees (or that interviewees were aware of) focused on the risks and harms of problem gambling and/or encourage help seeking, and the research highlights the importance of explore how to more effectively target campaigns to different audience segments, understand the role of environmental factors in undermining the uptake of social marketing strategies and anticipate the potential unforeseen consequences of social marketing strategies. These conclusions and implications clearly have relevance for the development of both above and below the line social marketing and community resources that are targeted at sports betting specifically, and the particular at risk groups of young men and young people.

Binde (2009) however offers a cautionary note. His research on gambling advertising, undertaken specifically with problem gamblers, reports that a quarter of the participants interviewed claimed that (pro) gambling advertising had no impact on their problems; slightly over half of them reported that the advertising had a marginal impact; and one fifth reported a tangible impact. However, none considered that advertising which promoted gambling to be a main cause of their gambling problems. The negative self-perceived impact was primarily that advertising triggered their impulses to gamble. Advertising thus increased already high involvement in gambling and/or made it harder to stick to a decision to gamble less or not at all.

Messages to consider

While such findings paint a fairly pessimistic picture as to the effectiveness of social marketing campaigns in particular, some of the research cited elsewhere in this report makes some recommendations for the kind of messages to be promoted and communicated in terms of sports betting in particular, and these are discussed below.

Challenging “gamblification”

The normalisation of gambling has been referred to in the literature as “gamblification”. An important consideration in any discussion of sports betting, sports-related gambling promotion and simulated gambling in respect of young people is that digital technology has contributed to a blurring of boundaries between gambling and other activities. In the case of sports betting, the main boundaries at issue are between gambling, advertising and the activity of following a sporting code, while in the case of simulated gambling it is the boundary between videogames and gambling. Some researchers and non-government organisations (NGOs) express concern that this blurring of boundaries is giving young people an even greater sense than they might otherwise have had that gambling is a normal part of adult life. This needs to be kept in check.

Challenging misconceptions about skill and expertise

As stated earlier, there is a relationship between a bettor’s perception of their level of knowledge and expertise in a particular sport and the amount and extent to which they bet on it. For such bettors, the idea of “random chance” is unlikely to be a part of their gambling activity, and research has suggested that educating about ideas of chance and probability may help in providing a more realistic understanding of one’s gambling, and chance of gambling success.

Young males are especially likely to believe that predicting the outcome of a sporting match is a matter of skill rather than chance (see Thomas in Joint Committee 2013, p.12). This belief is not entirely erroneous: although the VRGF warns that there is a lot of chance involved in sports betting, it acknowledges that in some cases ‘[a] punter’s knowledge and skill of a sport might increase their chances of winning’ (nd, p.22). Indeed, research conducted for the Victorian Department of Justice suggest that ‘[i]n the 18-24 year age group, skill-based gambling (e.g., sports betting) is more strongly associated with reporting of gambling problems than the other two kinds of activities [chance-based, such as poker machines, and betting on one’s own skills]’ (Bell & Boldero 2011, p.xxiii).

In relation to simulated gambling, Griffiths, King and Delfabbro argue that:

... if gambling comes to be increasingly immersed in video game contexts it may be harder for players to discriminate between situations where the application of skill is, or is not, possible. In effect, it might be hypothesized that an involvement in video gaming may lead people to be more primed to the expectation that the probability of success improves via sustained practice (2013, p.341).

In view of these concerns, there may be a need for research into how best to respond to young people whose knowledge of sport and/or expertise in playing videogames leads them to disregard or downplay the role of chance in some forms of gambling. However, in the case of young people who build up extensive knowledge of a particular sport or

expertise playing a particular videogame, this kind of reasoning may encounter some resistance.

What is apparent from the limited research in this area is the need for more work, particularly in relation to monitoring and evaluating what works (and what hasn't), and for the development of targeted resources aimed at specifically at the risks and harms of sports betting, and young males in particular.

Directions from here

It is clear from the literature review that there are a number of gaps in our knowledge about sports betting that could benefit from an improved research and evidence base.

From the literature reviewed suggestions for future research include:

- dedicated studies of the practices and experiences of sports bettors specifically, rather than of on-line or interactive gamblers;
- dedicated studies of the practices and experiences of young males and sports betting, rather than extrapolating conclusions from on-line gambling more broadly;
- exploring how sports betting industry marketing strategies may affect the attitudes and behaviours of at risk groups (e.g. young male sports fans);
- exploring the extent to which public health and policy strategies, including harm minimisation messaging, are effective in responding to wagering industry marketing strategies during sporting matches;
- exploring how to make both of the above more effective in reducing the harms and impacts of problematic sports betting among at risk groups;
- keeping a 'watching brief' for new markets for sports betting, such as women or people from non-English speaking backgrounds
- unpacking the notion of "gamblification". That is gathering data on the kinds of behaviours and practices are considered "normal" by sports betting communities;
- longitudinal studies with young people that can track their gambling activity and transitions into adult sports betting.

In all of this, the importance of on-going research, monitoring and evaluation cannot be under-estimated. As Brackenridge notes, "there is an obvious need for the collection and analysis of more widespread data before cross-national and cross-sport comparisons can be made" (1997, p.119). Moreover, research that can inform school and community-based education and related resources and campaigns is needed so as to provide

information to those groups who are perceived as being at greatest risk of the potential harms of sports betting. This is the focus of the second stage of the research.

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