

Child and parent recall of gambling sponsorship in Australian sport

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Executive summary

Overview

Over the last five years there has been increasing community and political concern about the impact of sports betting marketing during sport and the potential normalisation of gambling for children. A number of studies have examined the extent and nature of sports betting marketing during sport, both in traditional and new media (Thomas et al., 2012, Lindsay et al., 2013, Thomas et al., 2015). This research highlights the multiple tactics that are used by the sports betting industry to shape brand preference, attitudes, and, ultimately, gambling consumption behaviours. While the sports betting industry insists that this marketing does not target children, children are still exposed to marketing for gambling. This raises questions about the way in which this marketing may be shaping children's attitudes towards, recall of, and consumption intentions in relation to, gambling products, as well as the extent to which they view gambling as being aligned with sport. Limited research has explored children's engagement with sports betting marketing (Thomas, 2014), and the more subtle marketing techniques that may shape children's attitudes towards unhealthy commodity products (Pettigrew et al., 2013, Bestman et al., 2015).

Sports sponsorship is an influential form of marketing. Previous research in tobacco, alcohol and junk food has shown the influential role that sponsorship of sporting teams plays in children's ability to recall brands (Difranza et al., 1991), their product preferences (Ledwith, 1984), and their intention to consume products (McClure et al. 2006). While sports betting sponsorship of sporting teams is common in Australia – particularly for the major sporting codes such as the Australian Football League (AFL) and National Rugby League (NRL) – there has been limited research that explores the impact of this on children's implicit recall of sports betting brands promoted during sport.

Aims and research questions

This study aimed to explore child and parent/caregiver recall of sports betting and gambling brand sponsorship of teams in the AFL and the NRL. The study collected data from children and one parent or caregiver from AFL, NRL and soccer community sporting venues in New South Wales and Victoria. We used mixed methods to investigate four research questions:

1. What is the extent to which children and parents recall and prefer sports betting brand names?
2. Are children and parents able to implicitly recall sponsorship relationships between gambling brands and sporting teams?
3. Are there differences in recall between children of different ages, genders and sporting codes?
4. Is there a perception that gambling marketing aligned to sport may influence children's gambling attitudes and intentions?

Methods

We aimed to collect data from family groups comprised of at least one child and one parent or caregiver. Data were collected from nine different AFL, NRL and soccer community sporting settings over 10 time periods between April and August 2015. While AFL and NRL were the focus

of this study, we also sampled children from an alternative sport, soccer. This was to start to explore how children who played or were fans of a sport other than AFL or NRL recalled or interpreted gambling advertising.

The study involved an implicit recall activity originally developed by Pettigrew and colleagues (2013) and extended by Bestman and colleagues (2015) that assessed children's implicit recall of sports sponsorships. Our study extended the method of these two studies by including a sample of parents in the study and assessing differences between children who played or were fans of three specific sporting codes – AFL, NRL and soccer.

Children and parents were first asked if they could recall the names of any sports betting companies. These names were recorded by the research team. They were also asked some basic socio-demographic questions relating to their age, gender, socio-economic status and sports participation and viewing.

Children and parents then completed the implicit recall activity. They were asked to move magnets featuring the images of a range of junk food, alcohol, gambling and control brands to another part of the whiteboard which contained the logos of four AFL and four NRL teams. The AFL teams were Collingwood Magpies, Geelong Cats, St Kilda Saints, and Sydney Swans. The NRL teams were Parramatta Eels, Newcastle Knights, South Sydney Rabbitohs, and Sydney Roosters. Four of these teams currently or previously had a gambling brand as their shirt sponsor – Parramatta Eels (Unibet), Newcastle Knights (Sportsbet), South Sydney Rabbitohs (Crown Resorts) and St Kilda Saints (Centrebet). The study used projective techniques, where participants were not asked to match sponsors with teams, but were left to place as many or as few brand magnets as they wished anywhere they wanted on the sporting team part of the whiteboard. Participants were also given four gold stars – two to identify their preferred teams and two to identify their most preferred brands. The following image provides an example of the whiteboard activity.



Whiteboard presented to parents and children

Finally, the researchers asked children and parents a series of questions regarding the impact of marketing on gambling attitudes and behaviours. These included:

1. Can you tell me what you think about the advertising of sports betting?
2. Do you think this advertising may have an impact on young people's attitudes towards gambling?
3. Do you think sports teams and codes have a role to play in making sure that gambling is not normalised for children? If yes, what sort of role should they play?

We also collected information about where children and parents most recall seeing gambling advertising, their recall of the content of gambling advertising, and the extent to which they perceive that gambling is a 'normal' part of sport. These findings are presented elsewhere [Pitt et al, in press].

Key findings

Findings from this study suggest that the marketing of sports betting brands in sport is increasing the recall and preference of sports betting brands for children. Six key findings emerged from the 304 participant responses (152 parents and 152 children aged 8–16 years).

1. The majority of children aged 8–16 years were able to recall the names of sports betting brands. Children aged 12–16 years, boys and children who play or attend AFL matches were more likely to recall brand names than younger children, girls and children who play other sports codes.

- Over three-quarters of children (n = 115, 75.7%) correctly recalled the name of at least one sports betting brand. Approximately one in four children (n = 40, 26.3%) were able to identify four or more sports betting brands.
- Older children (aged 12–16 years) were more able to identify sports betting brands than were younger children (aged 8–11 years).
- The top three brands recognised by children were Sportsbet (n = 85, 55.9%), Bet365 (n = 37, 24.3%) and TAB (n = 35, 23.0%).

2. The majority of children implicitly recalled shirt sponsors associated with AFL and NRL teams. Boys recalled more correct sponsorship relationships than girls. Children from AFL and NRL sporting codes implicitly recalled more sponsorship relationships than children from soccer.

- Almost two-thirds of children (n = 97, 63.8%) correctly identified at least one team sponsorship relationship – similar to the results for parents. Sixteen (15.8%) children aged between 8–11 years correctly identified three or more sponsorship relationships, compared to about one in five 12 to 16-year-olds (n = 11, 21.6%).
- A third of boys (n = 42, 35.6%) recalled two or more correct sponsorship relationships, compared to about one-quarter of girls (n = 9, 26.5%).
- More children recruited from AFL and NRL settings correctly recalled sponsorship relationships compared to children recruited from soccer settings.

3. Some children were able to implicitly recall gambling sponsorships associated with player uniforms. Most children (and in particular younger children) implicitly associated gambling brands with AFL and NRL teams, even if they did not correctly 'match' the exact sponsoring brand with the correct team.

- About one-quarter of children correctly identified Crown Resorts as the shirt sponsor for the South Sydney Rabbitohs (n = 35, 23.0%).
- Boys were more likely to correctly recall the Crown Resorts / South Sydney Rabbitohs sponsorship (n = 32, 27.1%) compared to girls (n = 3, 8.8%).
- Fewer children recalled sports betting sponsorship relationships for Newcastle Knights (Sportsbet) (n = 12, 7.9%), St Kilda (Centrebet) (n = 10, 6.6%) and Parramatta Eels (Unibet) (n = 7, 4.6%).
- Over three-quarters of children placed at least one sports betting brand magnet on the whiteboard (n = 115, 75.7%) next to an AFL or NRL team.
- Younger children (aged 8–11 years) were more likely to place one or more sports betting brands on the whiteboard compared to older children (aged 12–16 years).

4. Junk food brands were chosen by the majority of children as their most preferred brands (n = 125, 82.2%). However, more children selected a gambling brand as one of two most preferred brands (n = 21, 13.8) compared to an alcohol brand (n = 5, 3.3%).

- Sportsbet (n = 9) and Crown Resorts (n = 8) were children's most preferred gambling brands. Both of these brands have had shirt sponsorship relationships with NRL teams.

Two key findings emerged from the qualitative data collected in the study.

5. Most children believed that advertising for gambling during or aligned with sport has an influence on children's gambling attitudes and consumption intentions.

- Children perceived that some forms of marketing were more influential than others. In particular, they believed that advertising featuring celebrities was likely to positively influence children. Some children also recalled that cartoons were used by companies during sporting events.
- High frequency marketing during sporting matches was perceived by children as being particularly influential in normalising gambling as a part of sport.
- 'Cash back' offers contributed to children's perceptions that you could not lose from gambling.

6. Most parents and children perceived that sporting codes should take a more active role in ensuring that children are not exposed to gambling advertising during sport.

- Many children and parents commented that sporting organisations should not associate themselves with gambling brands. However, they also noted that television broadcasters should prevent gambling from being promoted in time slots when children are watching.

- A minority of parents, in particular from NRL settings, believed that gambling could contribute to the enjoyment of sport and that it should be the parent's responsibility to discuss the risks and benefits of gambling with children.

Conclusions and recommendations

This study shows that children are developing an awareness of gambling, and specifically of casino and sports betting marketing, within sport. This awareness includes recall of sports betting brands, aligning sports betting brands with both AFL and NRL codes, and preference for gambling brands. Some children who play and watch these codes have a high association of gambling brands with teams and codes.

We recommend the following short- and long-term strategies to prevent children's exposure to gambling brands aligned with sport.

- 1. A commitment from major sporting codes to phase out gambling logos on sporting uniforms and other related merchandise.**
- 2. Sporting organisations, researchers and other relevant organisations should engage in discussions about the impact of sports betting promotions on children's gambling attitudes and consumption intentions, with the aim of identifying means of minimising children's exposure to gambling marketing.**
- 3. Increase public knowledge and awareness of the strategies used by the gambling industry to market products in sport, and the impact of these strategies on shaping children's gambling attitudes and consumption intentions.**
- 4. Provide children and parents with forums to enable them to provide feedback to governments, sporting organisations and broadcasters about community standards relating to gambling advertising in sport.**
- 5. Researchers should continue to map and monitor the role of gambling marketing in sport in shaping children's gambling attitudes and consumption intentions.**
- 6. Develop clear regulatory frameworks to minimise children's exposure to gambling advertising, including an Independent Standards Board to develop and implement regulated Codes of Practice in relation to the marketing of sports betting.**

Background

1.1 Gambling prevalence

Gambling has been described as a significant public health problem (Messerlian and Derevensky, 2005), with some researchers suggesting this may be because gambling has become embedded in Australian culture (Thomas and Lewis, 2012). Australia has been labelled as the “gambling capital of the world” (The Economist, 2014). The Australian Productivity Commission (2010) reported that between 70-80% of Australians gamble at least once a year and spent \$19 billion dollars on gambling products in 2010. Australians gamble on a variety of different gambling products including lotteries (60%), scratch tickets (‘scratchies’) (33.3%), Electronic Gambling Machines (30%), racing (20%), and other forms including casino table games and sports betting (10% or less) (Delfabbro and LeCouteur, 2009). In Australia, 80,000-160,000 adults experience moderate to severe problems due to gambling (Productivity Commission, 2010), with an additional 230,000-350,000 being considered at ‘moderate risk’ of becoming a problem gambler at some point in their life (Jackson et al., 2010). Higher concentrations of problem gambling have been reported for males, individuals aged between 18–35 years, Indigenous Australians, those in unstable relationships, and individuals from lower socio-economic groups (Delfabbro and Le Couteur, 2003, Jackson et al., 2010, Productivity Commission, 2010).

Researchers have argued that the expansion of legalised gambling and its associated harms have led to an increase in both negative health and social consequences in vulnerable populations (Huang and Boyer, 2007, Korn, 2001, Southwell et al., 2008, Hing et al., 2014). Harmful gambling has been associated with a number of negative health consequences including mental illness such as depression, personality disorders, and anxiety (Lorains et al., 2011, Holdsworth et al., 2012). It has also been associated with increased co-morbidities (Cowlshaw et al., 2014, Delfabbro et al., 2014) and poorer physical health than among non-gamblers (Erickson et al., 2005). Social consequences associated with harmful gambling include crime (Crofts, 2003, Turner et al., 2009, Williams et al., 2005), family unit instability and relationship breakdown (Kalischuk et al., 2006), domestic violence (Muelleman et al., 2002, Korman et al., 2008), and a range of work and financial consequences, such as a loss of financial independence or savings (Walker et al., 2012, Svensson, 2011), and lower work productivity and reduced job retention (Gattis and Cunningham-Williams, 2011, Productivity Commission, 2010). It has been suggested that for every individual with a gambling problem, an additional five to ten family, friends, or colleagues will also be negatively impacted (Productivity Commission, 2010).

1.2 Gambling and young people

Although gambling is illegal for individuals under 18 years of age, evidence suggests that young people engage in forms of gambling before this age (Derevensky et al., 2003, Brezing et al., 2010, Potenza et al., 2011, Rahman et al., 2012, Delfabbro et al., 2014). It has been estimated that between 50-70% of Australian adolescents engage in formal and informal gambling (Delfabbro et al., 2009). Individuals who report experiencing gambling harm as adults are more likely to have gambled when they were younger than 18 years old (Delfabbro and Le Couteur, 2003). The most popular forms of gambling that young people engage with include lotteries, raffles, and tipping competitions (Delfabbro and Thrupp, 2003, Delfabbro et al., 2005). It is important to note that previous studies predate the recent emergence of new forms of gambling, such as sports betting, and have not investigated the effect of the promotion of these gambling products on young people’s gambling behaviours.

There are a number of factors that put children at more risk of gambling harm as compared to adults. However, most gambling research has focused on individual factors that influence adolescent gambling behaviours. Limited research has investigated the commercial, environmental, and socio-cultural factors that may be influential in shaping children's attitudes towards a particularly new form of gambling – sports betting. There has been very little research exploring children's engagement with sports betting products (Thomas, 2014), and the more subtle techniques that may be used to shape children's attitudes towards sports betting products (Bestman et al, 2015).

Children's high exposure to gambling and gambling advertisements from a young age can lead to the absorption of gambling messages (Moore and Ohtsuka, 1999, Parliamentary Joint Select Committee, 2013). Gambling advertising introduces young people to the principles behind gambling in a social context where it is viewed as exciting and harmless (Griffiths and Wood, 2001). The most common media environments where young people view gambling advertisements include television, the internet, billboards, newspapers, and magazines (Derevensky et al. 2010, Felsher et al. 2004). In a study by Derevensky and colleagues (2010), 42% of young people said that advertisements for gambling made them feel they wanted to try the activities promoted. Children are especially vulnerable to gambling advertisements because they do not fully understand their odds of winning and view gambling as a fun and risk-free activity where they can win money easily (Felsher et al., 2004, Griffiths, 2005). Although the gambling industry argues that children and young adults are not specifically targeted in gambling advertising, research evidence suggests that gambling advertising appeals to this group and may encourage them to take up risky gambling behaviours from a young age (Felsher et al., 2004, Maher et al., 2006).

1.3 Sports betting in Australia

Sports betting has emerged as a relatively new form of gambling (Productivity Commission, 2010 Parliamentary Joint Select Committee, 2011). There has been a substantial increase in the number of people participating in sports betting online, with the number of sports betting accounts doubling from 2004 to 2008 (Productivity Commission 2010). During 2011, sports betting expenditure in Australia increased from \$400 million to \$800 million (Parliamentary Joint Select Committee 2011), also highlighting the rapid growth of this form of gambling. It has been suggested that sports betting is becoming a more popular form of gambling due to recent increases in accessibility and technology through smart devices such as mobile phones and tablets (Derevensky, 2012, McMullan, 2011). Also contributing to the rise in sports betting is the competitive pursuit of market share by sports betting companies resulting in increased product advertising (Parliamentary Joint Select Committee, 2013).

In Australia, concerns have been raised about the increase in sports betting advertising during sport (Parliamentary Joint Select Committee 2013). Advertising of sports betting products during sport may be more harmful to vulnerable individuals because it is not confined to traditional advertising segments and is separated from entertainment content. Sports betting advertisements have been found to be 'embedded' within the game (Milner et al., 2013). These advertisements include live odds updates, broadcast sponsorship, product endorsements, signage, and uniform sponsorship (Lindsay et al., 2013, Thomas et al., 2012, Parliamentary Joint Select Committee, 2013). This promotion of gambling, termed the 'gamblification' of sport, means that viewers are unable to avoid sports betting advertising whilst watching sport (Thomas et al., 2012, McMullan, 2011).

Sports viewing by Australian children is relatively high (Australian Communications and Media Authority, 2007). The sports betting industry states it does not target children in its advertising

(Parliamentary Joint Select Committee 2013). However, it has been suggested that the proliferation of sports betting advertising normalises sports betting products to children because of their alignment with sporting teams (Parliamentary Joint Select Committee 2013, Thomas 2014). Another concern associated with children and sports betting is the ease of placing bets online using betting accounts (Derevensky and Gupta, 2007, Messerlian and Derevensky, 2005), and mobile device accessibility may make it easier to overcome online age-based security measures. This means that if children are encouraged to engage in sports betting, this may result in increased engagement in gambling and the potential for gambling harm (Derevensky and Gupta, 2007, Messerlian and Derevensky, 2005).

1.4 The role of marketing in encouraging product consumption

Marketers use advertising to induce individual behaviour change, and specifically to encourage individuals to purchase products (Hastings and Saren, 2003). Marketing can influence the way children develop relationships with specific products and brands (Gorn and Florsheim, 1985). Research has shown that the way children interact with advertising and marketing is influenced by their age (Kunkel and Gantz, 1993, Moore, 2004, Valkenburg and Cantor, 2001). The model of consumer socialisation describes how children develop consumer-related skills and knowledge (Ward, 1974, Moschis and Churchill Jr, 1978). This model is based on the notion that as children become older their understanding of marketing techniques and intentions to sell becomes more advanced (John, 1999). Television, the internet, and non-traditional media platforms used as advertising and communication tools, act as socialising agents for children (Singh et al., 2003, Dotson and Hyatt, 2005, Barber, 2013; Thomas et al, 2015).

Children respond to advertising in different ways based on their previous experiences and stage of development (Moschis and Churchill Jr, 1978). Children are more vulnerable than adults to the effects of advertising because they have not yet developed the cognitive skills required to understand the advertisements they are exposed to (Valkenburg, 2000, Valkenburg and Buijzen, 2005). It has been documented that advertising has been used to 'prime' children as consumers (Flurry and Burns, 2005, Valkenburg, 2000). This strategy was used by the tobacco industry that saw children as potential future consumers (Hammond and Rowell, 2001, Ling and Glantz, 2002).

Children aged between eight and twelve years can typically understand that marketing is a tool used to sell products, yet they lack the ability to recognise specific advertising techniques (Jolly, 2011, Oates et al., 2002). At this age peers are highly influential in a child's decision-making processes (Story and French, 2004, Valkenburg, 2000, Buijzen and Valkenburg, 2000) and children develop attachments with sporting heroes and movie stars (Valkenburg and Cantor, 2001). As they get older (12 to 16 years), children attach social meaning to products (John, 1999) and place value on brands (John, 1999, Pechmann et al., 2005), thus making them susceptible to marketing influences (Pechmann et al., 2005).

1.5 Sports sponsorship

Sponsorship is one specific form of marketing that uses reinforcement and repetition to promote products. Sponsorship is important for companies as it assists them to meet their advertising objectives (Walraven et al., 2014, Meenaghan and Shipley, 1999), and is part of a multi-faceted approach by brands to promote a product (Walraven et al., 2014). Sponsorships and associated promotional activity can have commercial benefits for brands because they assist consumers to

identify sponsored brands, especially where the event and the sponsor are viewed as a match (Crimmins and Horn, 1996, Johar et al., 2006, Wakefield et al., 2007). Exposure increases consumers' ability to link the sponsor with the sport/team and thus the likelihood of sponsorship recall (Madrigal, 2000). This linking can create a positive brand association for the consumer, thereby increasing perceived quality of the product and brand loyalty (Cornwell et al., 2001, Gwinner, 1997).

The combined worth of sports sponsorship in Australia and New Zealand is estimated to be AUS\$774 million (Wright, 2013). Sports sponsorships are classified as non-traditional advertising because of the way the advertising content is often embedded within the sports game (Milner et al., 2013). This can result in audiences, particularly young people, being unaware that they are viewing product marketing (Wright, 2013, Moore, 2004). In Australian sport, the promotion of unhealthy commodities is highly integrated into the game itself (Lindsay et al., 2013, Milner et al., 2013, Sherriff et al., 2010). In particular, the promotion of gambling products is highly saturated in Australian sporting events and broadcasts (Thomas et al., 2012, Lindsay et al., 2013). One study found that during 360 minutes of three Australian National Rugby League (NRL) games in the 2012 State of Origin competition, there were 332 instances of marketing for gambling products (Lindsay et al., 2013). There has been a small number of studies that have investigated the effects of gambling product sponsorship on children or adolescents (Hing et al., 2013, Bestman et al., 2015).

Sports sponsorship by harmful commodity industries (tobacco and alcohol) has been shown to play an influential role in children's ability to recall brands (Difranza et al., 1991), product preference (Ledwith, 1984), and intention to consume (McClure et al., 2006). Several studies have investigated the influence of unhealthy commodity product jersey sponsorships on children's implicit product recall (Pettigrew et al., 2013, Bestman et al., 2015) and on adolescent consumption behaviours (McClure et al., 2006). It is important not only to investigate the explicit associations between young people and sports betting products, but also to explore the implicit associations adolescents have with these products. Two previous Australian-based studies that examined implicit sponsorship recall found that children develop implicit associations between sports teams and specific product types (alcohol, junk food, and gambling) (Pettigrew et al., 2013, Bestman et al., 2015). Bestman and colleagues (2015) specifically investigated children's implicit recall of jersey sponsors and found that spill-over effects occurred where children associated specific product types (alcohol and gambling) with a specific sporting code in Australia (NRL) (Bestman et al., 2015). However, both studies lacked investigation of implicit associations with sports betting companies and used a sample group consisting of children aged five to twelve, lacking generalisability to adolescent or adult population groups.

1.6 Gaps in the literature

Concerns have been expressed about the negative impacts of sports betting companies aligning themselves with culturally valued sporting teams and codes within Australia (Thomas et al. 2015, Thomas, 2014, Thomas and Lewis, 2012). Researchers have begun to explore the extent of and ways in which sports betting is marketed in Australia. Sports betting companies saturate audiences with advertising across a range of platforms that include television advertisements, during sporting events and, more recently, through social media and sport sponsorship (Thomas et al. 2015, Lindsay et al. 2013, Thomas et al. 2012). Research suggests that the community perceives sports betting as a socially acceptable form of gambling (Thomas, 2014). However, to date there has been scant research examining how the community, particularly children, interacts with sports betting products and advertising and the effects of exposure.

Methods

2.1 Study aims

This study aimed to explore child and parent implicit and explicit associations between sports betting and gambling brands and specific sporting codes: the Australian Football League (AFL) and the National Rugby League (NRL). We chose to use the study design employed by Pettigrew and colleagues (2013) and Bestman and colleagues (2015) because their studies: 1) used projective techniques (Haire, 1950), which have found to be an effective method of collecting experimental data with children; 2) examined the effect of multiple sponsorship categories; and 3) looked at community samples of children across a range of ages.

The present study extended upon the work of Pettigrew and colleagues (2013) and Bestman and colleagues (2015) by:

1. Exploring implicit recall of sponsorship from children who engage with three different types of sport – AFL, NRL, and soccer – either by playing the sport or as a spectator;
2. Comparing the responses of an older group of children (aged 8–16 years) with the responses of the child's parent or caregiver;
3. Specifically exploring attitudes and implicit associations of sports betting and gambling brands with sporting codes and teams.

2.2 Sample and recruitment strategy

For this study, we collected data from family groups comprised of at least one child and one parent or caregiver.

Data were collected from nine different data collection settings over 10 time periods between April and August 2015. We recruited families from a range of AFL, NRL, and soccer community sporting environments and stadiums in New South Wales (NSW) and Victoria (VIC). While AFL and NRL were the focus, we also sampled children from soccer because we hypothesised that this group may have had less exposure to AFL and/or NRL. This ensured that we collected information from children who participated in and watched various types of sport. Sporting clubs were contacted by email with information relating to the study and a request for permission to attend the setting to collect data. Site visits were often held prior to data collection to discuss the study with Club representatives.

Children and parents were recruited on the day of the data collection. Two magnet boards were set up, with at least two researchers per magnet board. Initially, parents were either approached directly by a member of the research team or spontaneously asked about the activity upon seeing others taking part. If participants enquired about the study, we invited them to go to the data collection site with their parents to learn more about the study. Participants were provided with a Participant Information Sheet if they requested further information. Parents and children gave verbal consent for their participation and were reimbursed with an AU\$20 iTunes or grocery gift voucher for their participation in the study. Ethics approval was obtained from a University Human Research Ethics Committee.

2.3 Data collection

2.3.1 Pre-activity questionnaire

Data were collected on participant demographics (age and gender) and a unique identifier was given to each family. Parents were asked to provide their postcode and ethnic background to researchers. Both parents and children were asked separately if they could recall any sports betting brands. These were recorded on the participant's questionnaire sheet.

2.3.2 Implicit recall activity: matching sponsorship relationships

Children and parents completed the sponsorship matching activity simultaneously and out of view of each other. Participants were presented with a whiteboard containing eight team logos down the middle from two sporting codes, the AFL and NRL (Image 1). The AFL teams were Collingwood Magpies, Geelong Cats, St Kilda Saints, and Sydney Swans. The NRL teams were Parramatta Eels, Newcastle Knights, South Sydney Rabbitohs, and Sydney Roosters. Four of these teams currently had or previously had a gambling brand as their shirt sponsor – Parramatta Unibet, Newcastle Sportsbet, South Sydney Crown Resorts, and St Kilda Centrebet. Consistent with the methods used by Pettigrew and colleagues (2013) and Bestman and colleagues (2015), the whiteboard also contained 26 brand magnets that were distributed randomly on the base of the board. The difference between our study and the previous two studies (Pettigrew et al., 2013, Bestman et al., 2015) was that we used both current and previous sponsors (Table 1 and Table 2). This is because we were interested in assessing whether or not parents and children recalled sponsorship relationships, even when the sponsorship relationship had officially ended.

The selected projective technique allowed participants to express implicit and explicit sponsorship associations. Participants were not provided with information directly relating to the study's investigation of sponsorship relationships. Participants were told to *"place the magnets from the bottom of the whiteboard anywhere you want in the section at the top of the board"*. Participants were also told that there were no right or wrong answers and that they could move as many or as few magnets as they wanted. It was ensured that all children could reach all parts of the whiteboard. Participants were asked to explain to researchers their rationale behind their magnet placement, following their completion of the activity.







The whiteboard also contained four gold star magnets. Following the completion of the implicit recall activity, participants were asked to place gold star magnets next to the two teams and two brands in the study that they preferred. Participants were told they could put a star magnet next to any brand. Researchers were instructed to use the phrase; *"Place the gold star magnets with the two teams/brands you like the most"*. This method was used as it has previously been shown by Pettigrew and colleagues (2013) and Bestman and colleges (2015) as an appropriate way of determining children's most preferred of the brands and teams presented to participants.

A digital photograph of the whiteboard was then taken. Each whiteboard contained a unique identifier assigned to the family, which corresponded to the number recorded on the participant questionnaire sheet.











Image 1: Whiteboard presented to parents and children



Table 1: Teams and sponsors included in study

State	Team names	Sponsor	Category	Team logo	Brand logo
AFL					
VIC	Collingwood (Magpies)	Emirates (current shirt sponsor)	Control		
VIC	Geelong (Cats)	Ford (current shirt sponsor)	Control		
VIC	St Kilda (Saints)	Centrebet (previous shirt sponsor)	Sports betting		

State	Team names	Sponsor	Category	Team logo	Brand logo
AFL					
NSW	Sydney (Swans)	QBE Insurance (current shirt sponsor)	Control		
NRL					
NSW	Newcastle (Knights)	Sportsbet (previous shirt sponsor)	Sports betting		
NSW	Parramatta (Eels)	Unibet (current shirt sponsor)	Sports betting		
NSW	South Sydney (Rabbitohs)	Crown Resorts (current shirt sponsor)	Gambling		
NSW	Sydney Roosters	Steggles (current shirt sponsor)	Control		

Table 2: Additional brands included in study

Category	Brand	Brand logo
Alcohol	Corona	
	Jacobs Creek	JACOB'S CREEK®
	Jim Beam	
	Heineken	
Sports betting	Bet365	
	Crownbet	
	Ladbrokes	
	TAB	
Junk food	Hungry Jacks	

Category	Brand	Brand logo
	Domino's Pizza	
	Doritos	
	Pepsi	
Control	Aldi	
	Commonwealth Bank of Australia	
	Lexus	
	Linfox	
	Realestate.com.au	
	Singapore Airlines	

2.3.3 Post-activity questionnaire

Following the magnet activity, participants were presented with a list of sports and asked to rate how often they watch the sport (both on TV and live) using a Likert-type scale that ranged from 'never' through to 'all the time'. Participants were also asked to select the sport they watch the most and the following three questions:

1. Can you tell me what you think about the advertising of sports betting?
2. Do you think this advertising may have an impact on young people's attitudes towards gambling?
3. Do you think sports teams and codes have a role to play in making sure that gambling is not normalised for children? If yes, what sort of role should they play?

2.4 Data analysis

Quantitative data were entered into SPSS. Sample characteristics including age, gender, and preferred brands and teams were explored using frequency tests. Correct sponsors recalled and sports betting associations with each team were examined and compared using crosstabs and chi-square (χ^2) tests for significant differences between age groups, gender, and sports settings. Differences between the number of correct sponsors and the number of sports betting associations identified by children and parents were also examined.

Gridlines were drawn onto the whiteboard so that the distance magnets were placed from each other could be determined from the photograph. For brand magnets located within close proximity of the team logo, the following method was employed to determine whether participants had made an association with a team. A line was drawn through the middle of the team magnet and if the brand magnet was clearly within half a gridline above or below the drawn line, the brand was recorded as being associated with the team.

Qualitative data were categorised and coded. Thematic analysis was employed with responses compared between children and parents.

Results

3.1 General characteristics of the sample

The general characteristics of the sample are reported in Table 3. There was a total of 304 participants in the study. This comprised 152 family groups containing one parent and one child. Children ($n = 152$) were aged between eight and 16 years, with a mean age of 10.8 years (s.d 2.3). Almost two-thirds ($n = 101$, 66.4%) of children in the study were aged 8–11 years, while one-third ($n = 51$, 33.6%) were aged 12–16 years. The child sample was predominantly comprised of boys ($n = 118$, 77.6%). Parents or caregivers in the study were aged 29–71 years, with a mean age of 43.2 years (s.d 7.3). Just over half of parents/caregivers were females ($n = 82$, 53.9%).

Participants were recruited from NSW ($n = 244$, 80.3%) and Victoria ($n = 60$, 19.7%). Just over half of the children were recruited from an NRL location ($n = 78$, 51.3%), one-third from an AFL location ($n = 50$, 32.9%), and the remainder from a soccer location ($n = 24$, 15.8%). The gender distribution of participants was similar in both child age groups (Table 4).

Table 3: Sample characteristics

	AFL n (%)	NRL n (%)	Soccer n (%)	Total n (%)
Age				
8–11 years	33 (66.0)	50 (64.1)	18 (75.0)	101 (66.4)
12–16 years	17 (34.0)	28 (35.9)	6 (25.0)	51 (33.6)
Total	50 (32.9)	78 (51.3)	24 (15.8)	152
Parents	50 (32.9)	78 (51.3)	24 (15.8)	152
Child gender				
Male	38 (76.0)	59 (75.6)	21 (87.5)	118 (77.6)
Female	12 (24.0)	19 (24.4)	3 (12.5)	34 (22.4)
Total	50 (32.9)	78 (51.3)	24 (15.8)	152
Parent gender				
Male	28 (56.0)	31 (39.7)	11 (45.8)	70 (46.1)
Female	22 (44.0)	47 (60.3)	13 (54.2)	82 (53.9)
Total	50 (32.9)	78 (51.3)	24 (15.8)	152
State				
NSW	40 (40.0)	156 (100.0)	48 (100.0)	244 (80.3)

	AFL n (%)	NRL n (%)	Soccer n (%)	Total n (%)
Victoria	60 (60.0)	0	0	60 (19.7)
Total	100 (32.9)	156 (51.3)	48 (15.8)	304

Table 4: Age and gender distribution of participants

Age group	Male n (%)	Female n (%)	Total n (%)
8–11 years	79 (78.2)	22 (21.8)	101 (66.4)
12–16 years	39 (76.5)	12 (23.5)	51 (33.6)
Parents	70 (46.1)	82 (53.9)	152 (100)
Total	188 (61.8)	116 (38.2)	304

3.2 Sports betting brand name recall

Child recall of sports betting brands

Table 5 details child recall of sports betting brand names.

Over three-quarters of children ($n = 115$, 75.7%) correctly recalled the name of at least one sports betting brand. Just over one-quarter of children ($n = 40$, 26.3%) were able to identify four or more sports betting brands. The top three named brands by children were Sportsbet ($n = 85$, 55.9%), Bet365 ($n = 37$, 24.3%), and TAB ($n = 35$, 23.0%).

Significant differences were found in children's ability to identify sporting brands according to child age, $\chi^2(4) = 13.18$, $p = .010$. Older children (aged 12–16 years) were more able to identify sports betting brands than younger children (aged 8–11 years). About one-third of children aged 12–16 years recalled four or more brands ($n = 15$, 29.4%), compared to about one-quarter of 8–11 year olds ($n = 25$, 24.8%). Children's ability to identify sports betting brands did not differ significantly according to gender, $\chi^2(4) = 7.13$, $p = .129$, or according to the sporting context in which data was collected, $\chi^2(8) = 8.73$, $p = .366$.

Table 5: Number of sports betting brands identified by children

Number of sports betting companies identified	Age		Gender		Data collection setting			Total (152) n (%)
	8–11 years (101) n (%)	12–16 years (51) n (%)	Male (118) n (%)	Female (34) n (%)	AFL (50) n (%)	NRL (78) n (%)	Soccer (24) n (%)	
0	18 (17.8)	19 (37.3)	33 (28.0)	4 (11.8)	13 (26.0)	16 (20.5)	8 (33.3)	37 (24.3)
1	22 (21.8)	9 (17.6)	20 (16.9)	11 (32.4)	11 (22.0)	17 (21.8)	3 (12.5)	31 (20.4)
2	23 (22.8)	2 (3.9)	21 (17.8)	4 (11.8)	7 (14.0)	12 (15.4)	6 (25.0)	25 (16.4)
3	13 (22.8)	6 (3.9)	15 (12.7)	4 (11.8)	5 (10.0)	9 (11.5)	5 (20.8)	19 (12.5)
4 or more	25 (24.8)	15 (29.4)	29 (24.6)	11 (32.4)	14 (28.0)	24 (30.8)	2 (8.3)	40 (26.3)
Total	101 (66.4)	51 (33.6)	118 (77.6)	34 (22.4)	50 (32.9)	78 (51.3)	24 (15.8)	152
P	.010		.129		.366			

Parent recall of sports betting brand names

Most parents were able to name at least one sports betting brand name ($n = 88$, 57.9%) (Table 6). The top three brands named by parents were Sportsbet ($n = 107$, 70.4%), TAB ($n = 87$, 57.2%), and Tom Waterhouse ($n = 40$, 26.3%). Cross tabulations revealed no significant differences in parents' ability to identify sports betting brands according to gender, $\chi^2(4) = 1.86$, $p = .761$, or data collection setting, $\chi^2(8) = 7.21$, $p = .514$.

Table 6: Number of sports betting brands identified by parents

Number of sports betting companies identified	Gender		Data collection setting			Total (152) n (%)
	Male (70) n (%)	Female (82) n (%)	AFL (50) n (%)	NRL (78) n (%)	Soccer (24) n (%)	
0	27 (38.6)	37 (45.1)	24 (48.0)	32 (41.0)	8 (33.3)	64 (42.1)
1	12 (17.1)	14 (17.1)	9 (18.0)	14 (17.9)	3 (12.5)	26 (17.1)
2	11 (15.7)	15 (18.3)	9 (18.0)	14 (17.9)	3 (12.5)	26 (17.1)
3	7 (10.0)	6 (7.3)	4 (8.0)	5 (6.4)	4 (16.7)	13 (8.6)
4 or more	13 (18.6)	10 (12.2)	4 (8.0)	13 (16.7)	6 (25.0)	23 (15.1)
Total	70 (46.1)	82 (53.9)	50 (32.9)	78 (51.3)	24 (15.8)	152
p	.761		.514			

3.3 Correct sponsorship recall

Table 7 presents data relating to the sponsorship recall activity for children and parents.

Almost two-thirds of children ($n = 97$, 63.8%) correctly identified at least one team sponsorship relationship and three (2.0%) children correctly matched six sponsorship relationships. Sixteen (15.8%) children aged between 8–11 years correctly identified three or more sponsorship relationships, compared to about one in five 12–16 year olds ($n = 11$, 21.6%). However Chi-Square test revealed the differences between groups to be not significant, $\chi^2(6) = 5.10$, $p = .531$.

A third of boys ($n = 42$, 35.6%) recalled two or more correct sponsorship relationships compared to about one-quarter of girls ($n = 9$, 26.5%), however Chi-square tests again indicated the differences between groups were not significant, $\chi^2(6) = 8.74$, $p = .189$.

Significant differences were found when comparing children recruited from different sporting settings, $\chi^2(12) = 23.92$, $p = .021$. More children recruited from AFL and NRL settings could recall correct sponsorship relationships compared to children recruited from soccer settings, with 54 (69.2%) of children recruited from NRL settings being able to recall one or more correct sponsorship associations, compared to only 30 (60.0%) children from AFL settings and 13 (54.2%) children from a soccer setting. Results showed that 61.8% of parents ($n = 94$) identified at least one correct sponsorship relationship, which was slightly less than children ($n = 97$, 63.8%).

Table 7: Total correct sponsors recalled by age, gender and data collection setting

Total correct	Children							Parent/carer	Total sample n (%)	
	Age		Gender		Data collection setting			Total children (152) n (%)		Total parents (152) n (%)
	8–11 years (101) n (%)	12–16 years (51) n (%)	Male (118) n (%)	Female (34) n (%)	AFL (50) n (%)	NRL (78) n (%)	Soccer (24) n (%)			
0	40 (39.6)	15 (29.4)	44 (37.3)	11 (32.4)	20 (40.0)	24 (30.8)	11 (45.8)	55 (36.2)	58 (38.2)	113 (37.2)
1	31 (30.7)	15 (29.4)	32 (27.1)	14 (41.2)	13 (26.0)	27 (34.6)	6 (25.0)	46 (30.3)	33 (21.7)	79 (26.0)
2	14 (13.9)	10 (19.6)	22 (18.6)	2 (5.9)	8 (16.0)	12 (15.4)	4 (16.7)	24 (15.8)	26 (17.1)	50 (16.4)
3	9 (8.9)	4 (7.8)	8 (6.8)	5 (14.7)	4 (8.0)	9 (11.5)	0 (0)	13 (8.6)	16 (10.5)	29 (9.5)
4	3 (3.0)	4 (7.8)	5 (4.2)	2 (5.9)	2 (4.0)	5 (6.4)	0 (0)	7 (4.6)	13 (8.6)	20 (6.6)
5	3 (3.0)	1 (2.0)	4 (3.4)	0 (0)	0 (0)	1 (1.3)	3 (12.5)	4 (2.6)	3 (2.0)	7 (2.3)
6	1 (1.0)	2 (3.9)	3 (2.5)	0 (0)	3 (6.0)	0 (0)	0 (0)	3 (2.0)	2 (1.3)	5 (1.6)
7	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
8	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0.7)	1 (0.3)
Total	101 (66.4)	51 (33.6)	118 (77.6)	34 (22.4)	50 (32.9)	78 (51.3)	24 (15.8)	152	152	304 (100.0)
<i>p</i>	.531		.189		.021			.569		

Table 8 provides more information about which shirt sponsors were matched with specific sporting teams.

The participants most frequently placed the correct sponsor for the NRL Sydney Roosters team ($n = 122$, 40.1%). Children aged 12–16 years were statistically more likely to correctly recall this relationship compared to children aged 8–11 years, $\chi^2(1) = 7.99$, $p = .005$. With specific reference to gambling sponsorship relationships, about a quarter of children correctly identified Crown Resorts as the shirt sponsor for the South Sydney Rabbitohs ($n = 35$, 23.0%), with boys more likely to correctly recall this sponsorship ($n = 32$, 27.1%) than girls ($n = 3$, 8.8%). Fewer children recalled the sports betting sponsorship relationships of the Newcastle Knights ($n = 12$, 7.9%) and the Parramatta Eels ($n = 7$, 4.6%). Finally, ten children (6.6%) identified the shirt sponsorship relationship between St Kilda Saints and Centrebet.

The sports setting from which children were recruited had the most impact on children's recall of sponsors for specific teams. Children from the NRL setting were more likely to correctly recall NRL team sponsors for three teams (South Sydney Rabbitohs, Sydney Roosters, and Newcastle Knights) compared to children from AFL or soccer settings. Similarly, children from the AFL setting were more likely to correctly recall AFL team sponsors for three teams (Geelong Cats, Collingwood Magpies, and St Kilda Saints) compared to children from NRL or soccer settings.

Table 8: Implicit recall of shirt sponsors: number of participants who correctly recalled shirt sponsors

	Children								Parents	Total n (%)
	Age		Gender		Data collection setting			Total (152) n (%)	Parents (152) n (%)	
	8–11 years (101) n (%)	12–16 years (51) n (%)	Male (118) n (%)	Female (34) n (%)	AFL (50) n (%)	NRL (78) n (%)	Soccer (24) n (%)			
Sydney Roosters (NRL)	37 (36.6)	31 (60.8)	55 (46.6)	13 (38.2)	14 (28.0)	42 (53.8)	12 (50.0)	68 (44.7)	54 (35.3)	122 (40.1)
<i>p</i>	0.005		0.387		0.014			0.101		
Sydney Swans (AFL)	18 (17.8)	12 (23.5)	24 (20.3)	6 (17.6)	14 (28.0)	13 (16.7)	3 (12.5)	30 (19.7)	51 (33.6)	81 (26.6)
<i>p</i>	0.404		0.728		0.182			0.006		
Geelong Cats (AFL)	15 (14.9)	9 (17.6)	19 (16.1)	5 (14.7)	15 (30.0)	4 (5.1)	5 (20.8)	24 (15.8)	43 (28.3)	67 (22.0)
<i>p</i>	0.655		0.844		0.001			0.009		
South Sydney Rabbitohs (NRL)	22 (21.8)	13 (25.5)	32 (27.1)	3 (8.8)	4 (8.0)	25 (32.1)	6 (25.0)	35 (23.0)	28 (18.4)	63 (20.7)
<i>p</i>	0.608		0.026		0.007			0.322		
Collingwood Magpies (AFL)	9 (8.9)	4 (7.8)	9 (7.6)	4 (11.8)	10 (20.0)	3 (3.8)	0 (0)	13 (8.6)	24 (15.8)	37 (12.2)
<i>p</i>	0.824		0.447		0.002			0.054		
Newcastle Knights (NRL)	9 (8.9)	3 (5.9)	8 (6.8)	4 (11.8)	1 (2.0)	11 (14.1)	0 (0)	12 (7.9)	8 (5.3)	20 (6.6)
<i>p</i>	0.513		0.342		0.014			0.355		
St Kilda Saints (AFL)	5 (5.0)	5 (9.8)	7 (5.9)	3 (8.8)	7 (14.0)	1 (1.3)	2 (8.3)	10 (6.6)	7 (4.6)	17 (5.6)
<i>p</i>	0.254		0.549		0.017			0.454		
Parramatta Eels (NRL)	4 (4.0)	3 (5.9)	4 (3.4)	3 (8.8)	2 (4.0)	4 (5.1)	1 (4.2)	7 (4.6)	5 (3.3)	12 (3.9)
<i>p</i>	0.593		0.183		0.951			0.556		

* Significant *p*-values are italicised in the table.

3.4 Implicit recall of sports betting brands

The following section compares in more detail the specific recall and placement of sports betting brands by parents and children during the magnet activity. Table 9 displays the number of participants who placed zero sports betting brand magnets on the whiteboard compared to the number of participants who placed at least one sports betting brand magnet on the whiteboard with a team.

Over three-quarters of the children in the study placed at least one sports betting brand magnet on the whiteboard next to an AFL or NRL team ($n = 115$, 75.7%). This was significantly more than parental placement of sports betting brands with teams in the study ($n = 88$, 57.9%), $\chi^2(1) = 10.81$, $p = .001$. Younger children (aged 8–11 years) ($n = 83$, 82.2%) were significantly more likely to place one or more sports betting brands on the whiteboard compared to older children (aged 12–16 years) ($n = 32$, 62.7%), $\chi^2(1) = 6.95$, $p = .008$. Differences were also found between children according to gender, with females ($n = 30$, 88.2%) being more likely to place one or more sports betting brand on the whiteboard compared to males ($n = 85$, 72.0%). However this difference was not significant, $\chi^2(1) = 3.76$, $p = .052$. No significant differences were found between children according to the data collection setting, $\chi^2(2) = 1.75$, $p = .417$.

Table 9: Placement of sports betting brands

	Children								Parent	Total n (%)
	Age		Gender		Data collection setting			Total (152) n (%)	Parents (152) n (%)	
	8–11 years (101) n (%)	12–16 years (51) n (%)	Male (118) n (%)	Female (34) n (%)	AFL (50) n (%)	NRL (78) n (%)	Soccer (24) n (%)			
Placed <i>zero</i> sports betting brands on board	18 (17.8)	19 (37.3)	33 (28.0)	4 (11.8)	13 (26.0)	16 (20.5)	8 (33.3)	37 (24.3)	64 (42.1)	101 (33.2)
Placed <i>one or more</i> sports betting brands on board	83 (82.2)	32 (62.7)	85 (72.0)	30 (88.2)	37 (74.0)	62 (79.5)	16 (66.7)	115 (75.7)	88 (57.9)	203 (66.8)
Total	101 (66.4)	51 (33.6)	118 (77.6)	34 (22.4)	50 (32.9)	78 (51.3)	24 (15.8)	152	152	304 (100.0)
<i>p</i>	.008		.052		.417			.001		

Similar results are shown in Table 10, which displays the number of sports betting magnets placed next to teams. Children were significantly more likely to place more sports betting magnets than parents next to a specific team, $\chi^2(4) = 13.39$, $p = .010$. Chi-square test also revealed differences according to the children's age, with younger children (aged 8–11 years) more likely to place more sports betting magnets next to teams than older children (aged 12–16 years), $\chi^2(4) = 13.18$, $p = .010$. No significant differences were found between children recruited at different sporting codes, $\chi^2(8) = 8.73$, $p = .366$, or between males and females, $\chi^2(4) = 7.12$, $p = .129$.

Table 10: Total number of sports betting brands placed on whiteboard

Number of sports betting brands placed on board	Children								Parent	Total n (%)
	Age		Gender		Data collection setting			Total (152) n (%)	Parents (152) n (%)	
	8–11 years (101) n (%)	12–16 years (51) n (%)	Male (118) n (%)	Female (34) n (%)	AFL (50) n (%)	NRL (78) n (%)	Soccer (24) n (%)			
0	18 (17.8)	19 (37.3)	33 (28.0)	4 (11.8)	13 (26.0)	16 (20.5)	8 (33.3)	37 (24.3)	64 (42.1)	101 (33.2)
1	22 (21.8)	9 (17.6)	20 (16.9)	11 (32.4)	11 (22.0)	17 (21.8)	3 (12.5)	31 (20.4)	26 (17.1)	57 (18.8)
2	23 (22.8)	2 (3.9)	21 (17.8)	4 (11.8)	7 (14.0)	12 (15.4)	6 (25.0)	25 (16.4)	26 (17.1)	51 (16.8)
3	13 (12.7)	6 (11.8)	15 (12.4)	4 (11.8)	5 (10.0)	9 (11.5)	5 (20.8)	19 (12.5)	13 (8.6)	32 (10.5)
4 or more	25 (24.8)	15 (29.4)	29 (24.6)	11 (32.4)	14 (28.0)	24 (30.8)	2 (8.3)	40 (26.3)	23 (15.1)	63 (20.7)
Total	101 (66.4)	51 (33.6)	118 (77.6)	34 (22.4)	50 (32.9)	78 (51.3)	24 (15.8)	152	152	304 (100.0)
p	.010		.129		.366			.010		

3.5 Rationale for magnet placement

When conducting implicit recall studies it is important to understand the reasons why participants respond as they do. In this study, participants were not specifically instructed to ‘match’ relationships. Rather, we were interested in whether children in particular implicitly perceived relationships between brands and teams and what they understood these relationships to be. The qualitative phase of the study provided insight into why the magnets were placed in particular patterns.

The most common reasons given by children and parents for placing magnets could be grouped into six key themes (frequency counts are provided in Table 11). The top two responses were:

- that brand magnets were placed next to teams that had a perceived affiliation or association with the brand, or
- where there was a stated sponsorship relationship between the team and the brand.

Just under half of the children (n = 62, 40.8%) identified an association between teams and specific brands. For example, one sixteen-year-old girl told researchers that she “*tried to remember what’s on their jerseys and at home grounds*” when she placed the brand magnets next to teams. An eight-year-old boy stated, “*I put them where they go together*”.

One in five children (n = 29, 19.1%) specifically stated that they were looking for a sponsorship link between teams and brands. One boy aged 15 explained his methods for completing the activity as, “[I was] *trying to match the sponsor. I’ve seen sponsors on teams so tried to remember*”.

Table 11: Participants' rationale for magnet placement

Rationale	Children n (%)	Parents n (%)	Total n (%)
Affiliation/Association between teams	62 (40.8)	43 (28.3)	105 (34.5)
Sponsorship relationship	29 (19.1)	51 (33.6)	80 (26.3)
Random/ Couldn't identify rationale	36 (23.7)	26 (17.1)	62 (20.4)
Placed brands/teams that were familiar or liked together	12 (7.9)	22 (14.5)	34 (11.2)
Grouped based on colour or brand category	8 (5.3)	7 (4.6)	15 (4.9)
Other	5 (3.3)	3 (2.0)	8 (2.6)
Total	152 (50.0)	152 (50.0)	304 (100.0)

Table 12 shows frequency counts that indicate that participants who correctly identified more team shirt sponsors were also more likely to have arranged magnets based on sponsorship relationships or to believe there was an association or affiliation between brands and teams, $\chi^2(2) = 83.16$, $p = .000$. Over 80% ($n = 152$, 82.2%) of these participants were able to correctly match one or more teams with their sponsors. This is compared to a third ($n = 39$, 32.8%) of participants who correctly matched at least one sponsorship relationship but had a different rationale for their magnet arrangements.

Just under one-fifth of participants who stated their rationale for completing the activity was an association or sponsorship relationship between brands and teams did not identify a correct sponsor with the corresponding team ($n = 33$, 17.8%), 14 of these participants being children. Of these children, most ($n = 11$, 78.6%) stated that they completed the activity by placing brands they saw advertised during television commercials during sporting games with the teams. One boy aged 15 said he "*thought about what ads are played during the team's games*". A girl aged 13 said she moved the magnets because "[there are] *lots of alcohol ads for NRL, and betting for AFL*".

Table 12: Total correct matches compared with stating sponsorship relationship/ association between teams and brands as rationale (all participants)

Total correct matches	Sponsorship relationship/association between teams and brands as rationale n (%)	Did NOT state Sponsorship relationship/ association between teams and brands as rationale n (%)	Total n (%)
0	33 (17.8)	80 (67.8)	113 (37.2)
1-2	94 (50.8)	35 (29.4)	129 (42.4)
3 or more	58 (31.4)	4 (3.4)	62 (20.4)
Total	185 (60.9)	119 (39.1)	304 (100.0)

3.6 Preferred brands and teams

3.6.1 Most preferred brands

Table 13 shows frequency counts of the preferred brands selected by participants. The four junk food brands included in the study were selected as most preferred by children. Over 80% of children in the study (n [children] = 125, 82.2%) selected at least one junk food brand as their most preferred (n [products] = 194), with some children selecting two junk food brands as most preferred.

Parents selected Aldi (control), Domino's Pizza (junk food), and Corona (alcohol) as their most preferred brands. Control brands were the brand category most selected as preferred by parents (n[parents] = 115, 75.7%), (n[products] = 159).

Overall, gambling brands were chosen by 21 children (13.8%), with two children selecting two gambling products as their most preferred brands. This was higher than the 12 parents (3.9%) who selected a gambling brand as one of their preferred brand. Sportsbet was the sports betting brand that children selected most often as one of their preferred brands (n = 9, 5.9%). This was compared to three parents (2.0%) who selected this brand as one of their preferred brands.

A small number of children (n = 5, 3.3%) selected an alcohol brand as most preferred (n[products] = 6), compared to a third of parents (n = 53, 34.9%), (n[products] = 63).

Table 13: Most preferred brands

Brand	Child selections* (304) n (%)	Parent selections* (304) n (%)	Total (608) n (%)
Hungry Jacks (Junk food)	51 (33.6)	15 (9.9)	66 (21.7)
Doritos (Junk food)	56 (36.8)	9 (5.9)	65 (21.4)
Pepsi (Junk food)	50 (32.9)	14 (9.2)	64 (21.1)
Domino's Pizza (Junk food)	37 (24.3)	23 (15.1)	60 (19.7)
Aldi (Control)	14 (9.2)	42 (27.6)	56 (18.4)
Ford (Control)	17 (11.2)	19 (12.5)	36 (11.8)
Steggles (Control)	14 (9.2)	20 (13.2)	34 (11.2)
Emirates (Control)	11 (7.2)	20 (13.2)	31 (10.2)
Corona (Alcohol)	1 (0.7)	22 (14.4)	23 (7.6)
Lexus (Control)	9 (5.9)	14 (9.2)	23 (7.6)
Jim Beam (Alcohol)	5 (3.3)	15 (9.9)	20 (6.6)
Commonwealth Bank of Australia (Control)	3 (2.0)	16 (10.5)	19 (6.3)
Singapore Air (Control)	1 (0.7)	17 (11.2)	18 (5.9)

Brand	Child selections* (304) n (%)	Parent selections* (304) n (%)	Total (608) n (%)
Jacobs Creek (Alcohol)	0 (0.0)	17 (11.2)	17 (5.6)
Crown Resorts (Gambling)	8 (5.3)	5 (3.3)	13 (4.3)
Sportsbet+ (Gambling)	9 (5.9)	3 (2.0)	12 (3.9)
QBE (Control)	7 (4.6)	4 (2.6)	11 (3.6)
Heineken (Alcohol)	0 (0.0)	9 (5.9)	9 (3.0)
Realestate.com (Control)	2 (1.3)	6 (3.9)	8 (2.6)
Bet365+ (Gambling)	3 (1.7)	1 (0.7)	4 (1.3)
TAB+ (Gambling)	2 (1.3)	2 (1.3)	4 (1.3)
Linfox (Control)	1 (0.7)	1 (0.7)	2 (0.7)
Unibet+ (Gambling)	1 (0.7)	1 (0.7)	2 (0.7)
Crownbet+ (Gambling)	0 (0.0)	0 (0.0)	0 (0.0)
Centrebet+ (Gambling)	0 (0.0)	0 (0.0)	0 (0.0)
Ladbrokes+ (Gambling)	0 (0.0)	0 (0.0)	0 (0.0)
No response given	2 (1.3)	9 (5.9)	11 (3.6)
Total*	304 (100.0)	304 (100.0)	608 (100.0)

* Participants selected the two brands they most prefer.

+ Sports betting companies

3.6.2 Most preferred teams

Half of the children in the study selected the team the South Sydney Rabbitohs ($n = 80$, 52.6%) as one of their two most preferred teams. Other popular teams for children were the Sydney Swans ($n = 60$, 39.5%), and the Sydney Roosters ($n = 60$, 39.5%). Parents' preferred team was the Sydney Swans ($n = 78$, 51.3%) followed by the South Sydney Rabbitohs ($n = 64$, 42.1%) (Table 14).

Table 14: Most preferred teams

Team	Child (304) n (%)	Parent (304) n (%)	Total (608) n (%)
South Sydney Rabbitohs (NRL)	80 (52.6)	64 (42.1)	144 (47.4)
Sydney Swans (AFL)	60 (39.5)	78 (51.3)	138 (45.4)
Sydney Roosters (NRL)	60 (39.5)	38 (25.0)	98 (32.2)

Team	Child (304) n (%)	Parent (304) n (%)	Total (608) n (%)
Parramatta Eels (NRL)	39 (25.7)	31 (20.4)	70 (23.0)
Geelong Cats (AFL)	23 (15.1)	22 (14.5)	45 (14.8)
St Kilda Saints (AFL)	15 (9.9)	26 (17.1)	41 (13.5)
Newcastle Knights (NRL)	13 (8.6)	22 (14.5)	35 (11.5)
Collingwood Magpies (AFL)	8 (5.3)	10 (6.6)	18 (5.9)
No response given	6 (3.9)	13 (8.6)	19 (6.3)
Total*	304 (100.0)	304 (100.0)	608 (100.0)

* Participants selected the two teams they most prefer.

3.7 Qualitative responses about sports betting

3.7.1 Attitudes towards advertising of betting during sports matches

Child attitudes

Some children held negative attitudes towards sports betting marketing, describing it as a “*bad thing*” or “*annoying*”, with a few children talking about sports betting being a “*waste of money*”. Children spoke about the impact of sports betting advertising on other children, and most perceived that advertising could positively influence children’s attitudes towards and uptake of gambling. For example, some stated that advertising may make children “*want to start gambling when they are older*” or think “*I can’t wait until I am 18 and can bet*”. Children often described how gambling company marketing strategies may shape attitudes. Most of these children describe how the amount of advertising particularly on television could influence gambling attitudes. For example, one child stated gambling marketing “*influences them because it is always on*”, while another stated that gambling was “*advertised so much it’s considered normal and common*”. One child described how the regular airing of advertisements influenced children’s recall of these advertisements: “*they show them so much you remember them off by heart, then you get used to them*”. One child who was recruited at soccer spoke about the influence sports betting ads may have on children’s perceptions of sports betting being ‘cool’:

“I don’t think they are good for kids, they’re trying to make it cool. They put them during sport when kids are watching.” Male, 15 years.

Children from all codes described specific aspects of sports betting advertisements that they thought would encourage children to gamble. They perceived that celebrity endorsement was particularly influential. For example, a child who was recruited from soccer spoke about Bet365 marketing and stated that “*Samuel L Jackson is the most influential in making it seem cool*”. Another child specifically recalled the use of cartoons in gambling advertisements:

“In State of Origin they had cartoons to attract [people]”. Male, 10 years.

Perceptions of 'cash back' offers were also influential in children's specific recall of advertisements. Children often recalled specific factors associated with advertisements that offered 'cash back' incentives. One child from a NRL recruitment setting recalled specific promotions he had heard on sports betting advertisements, stating that this could convince people to bet:

"[The advertisement] *convinces you to bet, you can get your money back if you lose by 8 points.*" Male, 10 years.

Parent attitudes

Parents from all codes had similar concerns relating to sports betting advertising to children. Some said that they "*didn't agree*" with advertising or that it was "*annoying*". Parents spoke about people they knew who may have a problem with gambling and discussed how advertising material may encourage gambling. Parents were particularly worried about the amount of sports betting advertising children were exposed to and how this may impact children in the future. For example, parents were concerned about the volume of gambling advertising, stating "*it's in their face all the time*", but that children "*don't realise the consequences*" of gambling behaviours.

Others provided specific examples of how they perceived advertising for gambling was influencing their children. Some parents retold stories about their children asking about gambling after seeing advertisements on television and talking about sport using gambling language. One mother described how her son repeatedly tried to engage informally with gambling within the house, commenting: "*I bet you [sporting team] will win*" and wagering with "*objects around the house*".

However, a small minority of parents did not perceive that gambling advertising would have an adverse impact on their children. These parents were more likely to be from NRL recruitment settings and perceived that gambling was not inherently risky compared to other products: "*It's not a bad thing, it's not alcohol or cigarettes*". A few parents stated that gambling advertising "*serves a purpose*", and did not perceive that it overly encroached on sport: "*It doesn't flood what you are watching*". Others perceived that odds-based marketing added another dimension to sport by helping individuals to determine whether or not they should bet on the outcomes of particular matches: "*It's ok, a way of knowing if there is a chance of betting on a match*".

A few parents stated they that did not feel that sports betting advertising was a problem or would impact on children. Most of these parents thought that despite extensive marketing for sports betting, the product would not appeal to children as they would not "*realise what it is*", because it was an "*adult thing, it won't interest children*". Some parents believed that sports betting advertisements were unlikely to be noticed by children: "*It's at the bottom of the screen, kids don't notice it*" and that they were "*on late at night*". Other parents stated: "*They do say gamble responsibly, it's not targeted at kids*".

3.7.2 The role of sporting codes

Child attitudes

Children believed that the sporting codes should have a role in protecting children from being exposed to sports betting advertising during sport. Some children attending NRL sites believed sporting codes are the ones who "*show the ads*" and "*they choose to put it on before the footy*". One child said it was the "*Rugby League president's responsibility*" to protect children from seeing sports betting advertising. A similar response came from AFL children, with some stating that the AFL should more carefully consider their sponsorship relationships. For example, the following child stated:

“They choose sponsors, they could pick other ones”. Female, 13 years.

Some children suggested practical ways in which sporting codes could reduce children’s exposure to sports betting advertising. They spoke about reducing the number of sports betting advertisements or limiting them. Some suggested specific times when gambling advertising could be shown, such as *“They should have pop ups at the start of the game, not during, they should stop pop ups during the game”* or *“Leave it for before and after the game”*. One child recruited at a soccer site said they should *“put the PG [television rating] on it”*. Some children were specifically concerned about the amount of sports betting advertisements at times when children were watching sport. For example, one 13-year-old male said:

“They shouldn’t be allowed during sport because lots of kids watch it. Ads pull you in, it’s bad.”
Male, 13 years.

There were some children who thought that sporting codes couldn’t *“run the whole operation”*, so there were other stakeholders who have a responsibility to protect children from seeing sports betting advertising. These included television broadcasters, and sports betting companies who children perceived had a responsibility as the advertisers of products. For example one child recruited from a soccer site thought that the sporting codes were relatively powerless in controlling the amount of advertising:

“They can’t really do much about it; it’s the TV stations that show them”. Male, 13 years.

A few children thought it was the responsibility of parents to educate and protect their children from the harms associated with sports betting. For example, one child said parents need to *“teach them [children] it’s not a way to make money”*. Finally, there were a few children who did not think children needed protecting from sports betting advertising and that *“If people want to bet it should be allowed”*. These children perceived that children were protected because of the age restrictions related to gambling – *“younger people can’t bet”*, or that they had very limited awareness of gambling – *“I don’t think kids know what it means”*.

Parent attitudes

Parents thought that sporting codes had an important role in preventing children from being exposed to sports betting advertising. For example, the following parent perceived that because the codes provided television networks with matches that they should *“be in charge of what’s happening”*. Many parents described that sporting codes had a role to play because of the vulnerability of children to marketing messages about gambling. Some directly related this to looking after young ‘fans’ of sporting codes:

“They need to look after supporters of their code, and the children are the most vulnerable of that population. They don’t have the knowledge to resist advertising.” Mother, 39 years.

Other parents believed that other sectors also had a responsibility to prevent children from seeing advertisements. These included parents, government, and broadcasters. Parents, like children, also suggested practical strategies to try to minimise children’s exposure to sports betting advertising. Consistent with the children’s views, some parents thought marketing should be designated to certain times so children were unlikely to be watching television: *“not allowed during the match, OK before and after”*. Others thought that advertising should be banned altogether –

“They shouldn’t advertise – they shouldn’t run odds at games or apps, and not have ads on websites”. Female, 45 years.

A few parents mentioned that sporting codes should change their sponsors so that sports betting companies were not promoted during the game. One parent was concerned about children associating athletes with sports betting if they appeared in the same broadcast:

“They need to advertise outside the game. Children idolise their players and they see it flash up all the time, it’s going to impact them.” Mother, 46 years.

There were only a few parents who did not believe sporting codes had a role in influencing children’s attitudes toward gambling. These parents, primarily from the NRL, thought that it was predominantly parents’ responsibility to educate their children about the risks and benefits of gambling. For example, one mother said *“Gambling should be educated at home – ads shouldn’t influence”*.

Conclusions and recommendations

This study has shown that children are developing an awareness of gambling, and specifically gambling and sports betting marketing within sport. The research questions were:

1. What is the extent to which children and parents recall and prefer sports betting brand names?
2. Are children and parents able to implicitly recall sponsorship relationships between gambling brands and sporting teams?
3. Are there differences in recall between children of different ages, genders, and sporting codes?
4. Is there a perception that gambling marketing aligned to sport may influence children's gambling attitudes and intentions?

Our study found that some children are able to recall sports betting brands, align sports betting brands with both NRL and AFL codes, and identify gambling brands as their preferred brands. This suggests that gambling sponsorship of sport may be an influential form of marketing in shaping children's awareness of gambling brands. This finding is perhaps not surprising – similar findings have been shown in other areas of public health, such as tobacco, alcohol, and junk food. It was, however, surprising that gambling brands were chosen more often by children as their favourite brands compared to alcohol brands (which have sponsored sports for a much longer period of time).

It is also important to note that there were differences in recall between different groups of children. Older children associated gambling brands with sport more frequently than other children. For the most part, both children and parents perceived that marketing for gambling during sport was influential in shaping children's attitudes towards gambling. There were, however, some marketing practices that were considered to be more influential. Celebrity endorsement of gambling brands was seen as a particularly effective strategy.

We recommend the following short- and long-term practical strategies to reduce children's exposure to gambling brand marketing aligned to sport.

1. A commitment from major sporting codes to phase out gambling logos on sporting uniforms and other related merchandise.

At the time of writing, no AFL teams had shirt sponsorship deals with sports betting or gambling brands. This should be commended. The most recent active shirt sponsorship deal was between St Kilda Saints and Centrebet. Despite this sponsorship deal ending in 2014, some children still associated St Kilda Saints with the Centrebet brand. This should serve as a reminder that even once sponsorships have ended, recall of associations may occur for some time. While some Victorian teams have signed voluntary codes which prevent them from accepting sport betting sponsorship, we would recommend that all AFL teams and the AFL make a collective commitment to ensuring that sports betting logos do not appear on any AFL merchandise (including ball sponsorship).

Unfortunately there appears to be no such commitment evident from teams in the NRL. In 2015, some NRL teams had shirt sponsorship deals with either sports betting brands or casinos. The findings of this study show the extent to which sponsorship can play a role in the implicit recall and

preference for gambling brands. We therefore encourage all NRL teams to make a commitment to phasing out sports betting based shirt sponsorship deals. This may be more difficult in states outside Victoria where there are not organisations such as the Victorian Responsible Gambling Foundation to facilitate these discussions. Sporting codes and teams will need to take the initiative to develop and endorse charters similar to those in Victoria.

2. Sporting organisations, researchers, and other relevant organisations should engage in discussions about the impact of sports betting promotions on children's gambling attitudes and consumption intentions with the aim of identifying means of minimising children's exposure to gambling marketing.

We recommend effective communication mechanisms between experts and sporting organisations to enable discussion and dialogue about the way in which gambling marketing may be shaping children's attitudes towards the relationship between gambling and sport. At present, research evidence may not be reaching sporting organisations in a timely and accessible way. There is a role for organisations such as the Victorian Responsible Gambling Foundation to facilitate discussions between researchers and relevant sporting stakeholders. Children and parents in this study were of the belief that sporting teams and codes need to be more actively involved in ensuring that children's exposure to gambling marketing during sport is limited. Dialogue with researchers may help sporting organisations to use the best available evidence to make decisions about their relationships with gambling companies, and to play a role more broadly in limiting children's exposure to this type of marketing. The discussions proposed should seek to identify means of minimising children's exposure to gambling marketing.

3. Increase public knowledge and awareness of the strategies used by the gambling industry to market products in sport, and the impact of these strategies on shaping children's gambling attitudes and consumption intentions.

This study has shown that there is a need to educate parents about the ways in which marketing can shape children's attitudes towards gambling. Population-level media campaigns directed primarily to parents and children that highlight industry tactics may provide an influential counterbalance to the messages sent out by gambling marketing. This approach has been shown to be effective in other areas of public health such as tobacco control as part of a comprehensive approach to harm prevention and minimisation. Such campaigns could be funded through a levy on gambling companies, but it is vital that these and other educational activities are developed independently of the gambling industry.

4. Provide children and parents with forums to enable them to provide feedback to governments, sporting organisations, and broadcasters about community standards relating to gambling advertising in sport.

Children and parents had a range of suggestions and opinions about how to prevent children's exposure to gambling marketing. Children are able to provide a range of insights into the marketing mechanisms they believe are most influential in shaping children's attitudes and opinions [see also Thomas, 2014, Pitt et al., in press]. At present, there are few forums (outside research studies) to enable children to engage in dialogue with sporting organisations and codes about the impact that gambling marketing is having on them and their peers. Such forums may provide stakeholders with important insights into children's experiences with gambling. Parents can also be highly influential in shaping public policy. Experience from junk food and other areas of public health has shown the power of parent advocacy groups (e.g. the Parents Jury). These groups are also able to facilitate

rapid responses to policy makers. As with education, it is vital that any such approaches are developed independently of the advertising and gambling industries.

5. Researchers should continue to map and monitor the role of gambling marketing in sport in shaping children's gambling attitudes and consumption intentions.

There are now a number of studies that investigate children's recall of, and attitudes towards, gambling marketing. There is still a need to investigate how these strategies shape children's gambling consumption intentions in the short- and long- term. It is important that research is conducted in a timely way to monitor the range of marketing tactics that are used to align gambling with sport, how these tactics change over time, and how tactics shape children's gambling intentions.

6. Develop clear regulatory frameworks to minimise children's exposure to gambling advertising, including an Independent Standards Board to develop and implement regulated Codes of Practice in relation to the marketing of sports betting.

Finally, there is an urgent need to develop clear regulatory frameworks that comprehensively address children's exposure to gambling advertising during sport. This study shows that children can recall gambling brands and align gambling brands to sporting codes and teams. If the intention of gambling companies is to shape children's awareness of gambling brands via sport, then it appears that this strategy is working. Serious consideration should now be given to regulatory frameworks that prevent or minimise children's exposure to gambling marketing in sport. This may include establishing an independent standards board (i.e. independent of any gambling industry influences) to develop and implement regulated Codes of Practice, with appropriate powers and sanctions, in relation to the marketing of sports betting and more broadly, gambling.

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