



Fantasy sport participation as a complement to traditional sport consumption

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ABSTRACT

Most sporting codes encourage participation in fantasy sport, even though few earn revenue directly from it. There is a lack of empirical evidence to determine whether this is good practice for although fantasy sport can increase consumer involvement and education, it may also compete with other forms of sport consumption for a consumer's limited resources. This paper begins to address the question of whether fantasy sport competes with, or complements other forms of sport consumption by comparing fantasy sport players with non-players. Three survey-based studies are used to identify the degree of fan participation in fantasy sport and measure the attitudes and behaviours of fantasy sport players compared to non-players. The findings indicate fantasy sport players are very different from non-players, more so than previous studies suggest. Fantasy sport players scored higher on all tested consumption measures relating to both attitudes (e.g., points of attachment, team identification, loyalty), and behaviour (e.g., game attendance, television viewing, secondary spend). These studies provide evidence that fantasy sport involvement complements traditional sport consumption amongst current fantasy sport players, both for general fans of the sport, as well as highly involved consumers. Whether fantasy sport participation is a consequence of, or antecedent to, heavy sport consumption cannot be determined from this data, but evidence and guidance for future research that examines causality is provided.

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1. Introduction

Participation in fantasy sport has evolved to become a prominent component of consumer engagement with many sports. Fantasy sport leagues, originally known as rotisserie leagues, are not new having begun in the 1970s (Shipman, 2001). Recent growth, however, particularly outside of North America, has been remarkable – fuelled by the advent of more televised sport, the increased accessibility of sport and statistics on the internet, and the number of websites offering fantasy sport services (Levy, 2005). Fantasy sport is now formally aligned with many major sporting leagues and competitions globally, however, the long- and short-term impacts of fantasy sport on aspects of sport consumption remain unknown.

From a consumer behaviour perspective, fantasy sport provides a mixed experience of participatory and spectator sport uniquely different from traditional sport consumption experiences (Lee, Seo, & Green, 2008; Lomax, 2006). Fantasy sport

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allows the highly engaged sports fan an opportunity to compete and apply knowledge, while also building the interest and knowledge of participants with lower prior involvement in a sport. Further, fantasy sport provides additional social interaction between players. It can serve as an education tool about the sport, teams and players and can also serve to increase the commitment and interaction of consumers with a sport.

Fantasy sport represents a large industry, with its popularity evolving from that of an isolated, cult activity towards mass public appeal (Holleman, 2006). In the US, annual growth as high as 7–10% (Klaassen, 2006) has resulted in an estimated 27 million fantasy sport players, with competitions in this market generating economic activity of between US\$4bn and US\$5bn annually (FSTA, 2010). The “stability and visibility of fantasy sport as a marketing platform is no longer questionable” (Roy & Goss, 2007, p. 105), with the emergence of large numbers of fantasy sport players further evidence of the media-dominant consumer (Pritchard & Funk, 2006) influencing how sport is consumed and managed.

Given its popularity, a key question for sport administrators is the degree to which they should encourage consumers to participate in fantasy sport. On the one hand, it may be a valuable tool to increase education and involvement levels, thereby complementing the traditional consumption behaviour related to the sport (e.g., game attendance and TV viewership). On the other hand, the activity may compete for consumers’ time and playing fantasy sport may reduce other forms of sport consumption. If we consider the context of this research, the Australian Football League (AFL) promotes one of the two major national fantasy sport competitions. However, it does not derive direct income from fantasy sport participants as there are no competition entry fees. Instead, it relies on income generated through secondary revenue streams such as advertising and sponsorship of the online competition platform. The question of whether fantasy sport complements or competes with AFL consumption, therefore, is critical, as the traditional forms of consumption (television viewing or attending games) represent major league revenue streams.

Despite little empirical investigation, fantasy sport has widely been posited as a complementary activity (Nesbit & King, 2010b), which can increase consumer interest in a sport and broaden points of engagement. For example, fantasy sport could lead to more immersed and engaged consumers (Shipman, 2001) and is presented as an attractive marketing opportunity for sport leagues to attract fans from other sports, or to develop and retain current fan bases (Drayer, Morse, Shapiro, Dywer, & White, 2010; Lee et al., 2008).

However, the rise of fantasy sport as a leisure product in its own right poses a potential problem. Consumers’ time and resources are limited, so the possibility that fantasy sport participation could actually compete with other forms of sport consumption such as live game attendance or TV viewership, which is as yet unexamined, has the potential to impact negatively on important broadcast and match day revenue streams for sport organisations. Therefore, while fantasy sport may be a valuable tool to increase education and involvement levels, it may also drain consumers’ time and resources to such an extent that it reduces other forms of sport consumption.

Overall, little research has sought to quantify the effects of fantasy sport participation. The widespread and rapid uptake of fantasy sport by both professional leagues and consumers has outpaced research in many regards, such that even basic information on who is playing fantasy sport, how often, and why, remains unclear. These questions are fundamental for sport managers, who rely upon traditional attendance and mass media rights’ revenue to support their leagues, but need to adapt practice to incorporate the popular new digital forms of consumption. Fantasy sport is a prominent example of the new digital products. Its popularity dictates that sport managers engage with it, but how fantasy sport is best managed, commercially leveraged, and integrated with traditional sport consumption is poorly understood. With that in mind, this paper reports on three quantitative studies that seek to increase understanding of fantasy sport players, as compared to those who are interested in the sport but do not play fantasy sport.

2. Literature review

2.1. Fantasy sport

Fantasy sport involves the selection and maintenance of fictional, or fantasy, teams made up of a selection of players from a particular sport league. Competitions are generally administered through an online or Internet medium and offer an additional level of interaction between sport and fans. Fantasy sport leagues allow participants to select teams of players drawn from all professional rosters and to have their fictional teams compete against other fictional teams. Team performance is assessed by scoring the performance of players comprising each team based on actual match statistics. Fantasy sport, therefore, works best in sport domains where statistics are rigorously collected, easily understood and widely available.

Given its recent growth, there is little knowledge about the nature or attraction of fantasy sport participation. While anecdotal evidence suggests fantasy sport is gaining interest amongst more diverse demographic groups (Lee, Kwak, Ryan, & Lim, 2007), including rapid growth in female participation (Weekly, 2004), the analysis of fantasy sport playing profiles has not been investigated in detail. Little can be derived from existing research as to who is playing and how playing rates differ across key characteristics such as gender and age, particularly outside of North America. Therefore, while fantasy sport is assisting to develop and usher in the new age of the media-dominant sport consumer (Pritchard & Funk, 2006), research tells little of whether the attraction and growth of such aspects of consumption are consistent in dimensions such as age and gender.

Understanding the demographics and motivations of players is critical in determining if, and how, fantasy sport can be used to develop new markets or increase the involvement of existing fans. In addition to minimal insight into the playing demographic, limited insight has been garnered into the impact of this new form of sport consumption. Nesbit and King (2010b) conclude that “anecdotal evidence and conclusions of numerous non-academic studies present a fairly convincing argument that fantasy sport has positively influenced the sport industry” (p. 11). However, little empirical or scholarly work has been conducted in the area of fantasy sport, despite its exponential growth over the last decade (Davis & Duncan, 2006; Lomax, 2006; Roy & Goss, 2007).

The bulk of previous research has focussed outside the consumer behaviour or marketing consumption domain which is the subject of this research. Instead, the focus has been on the legal, sociological and economic issues surrounding fantasy sport. For example, studies have focussed on fantasy sport as a form of gambling (Bernhard & Eade, 2005), including debate on the legal aspect of whether pay-to-play fantasy sport represents a form of illegal gambling (Holleman, 2006). Studies of fantasy sport players have been undertaken into the role of fantasy sport in bonding and social construction within groups of sport fans (Levy, 2005). Additionally, the examination of gender roles has been explored, showing fantasy sport confirmed and reinforced hegemonic ideologies in sport spectatorship, knowledge, competition and male bonding (Davis & Duncan, 2006). The use of fantasy sport simulation as a context for collegiate educational courses (Einolf, 2001; Gillentine & Schulz, 2001) has also been considered.

Studies within the marketing domain have focussed primarily on influences and motivations for choosing to participate in fantasy sport. Roy and Goss (2007), for example, presented a conceptual framework which outlined the psychological, social and marketer-controlled influences which were proposed to impact on the consumption decision of whether to play fantasy sport or not. Similarly, other research has looked at the conceptualisation of various motivations for fantasy sport play (Dwyer, Kim, & Grey, 2008; Lee et al., 2008). Expanding on this work, Farquhar and Meeds (2007) used Q-methodology, and uses and gratifications within sport fan motivation scales, to develop a typology of five groups of fantasy sport players based on their motivations. Overall, this area of work has increased knowledge of the motivations for playing fantasy sport, or the inputs of fantasy sport participation. However, little consideration has been given to the outcomes or impact of consuming fantasy sport on traditional sport consumption.

So, while these studies provide a foundation for the concept of fantasy sport and motivations for why people choose to play, there has been little research into how the virtual consumption of fantasy sport impacts upon real consumption of sport. An exception is Nesbit and King's (2010a, 2010b) research which used survey data and regression modelling to show fantasy sport participation was positively related to television viewership and attendance of the subject sports. Further, qualitative research by Drayer, Morse, Shapiro, Dwyer, and White (2007) and Drayer et al. (2010) used an attitude-behaviour framework (Fazio, Powell, & Herr, 1983) to investigate how fantasy sport participation changed attitudes towards the sport, the league and its players which, in turn, was shown to impact on how and to what degree the traditional sport was consumed. Their findings suggest that playing fantasy sport led to a higher allegiance to players, increases in the use and forms of media consumption, consumers checking statistics online without watching games, and increases in consumers' overall league knowledge.

Reflecting the dearth of academic research (Roy & Goss, 2007), these studies comprise the total of empirical fantasy sport research related to sport consumption. Drayer et al. (2010), albeit using a small qualitative sample, demonstrated fantasy sport consumption had the ability to change attitudes towards the sport which, in turn, impacted on consumption behaviours. These findings, though, require further quantitative validation before managerial implications can be developed. Nesbit and King (2010a, 2010b) provide survey-derived indications that fantasy sport participation is a variable related to aspects of higher behavioural consumption of the sport, but focus only on single areas of consumption and provide little discussion of the implications of their work.

In summary, we know little about who is playing fantasy sport and the demographic make-up of playing and non-playing groups. If, as demonstrated in prior studies, fantasy sport can impact on attitudes and behaviours of individuals (Drayer et al., 2010), it is reasonable to expect differences to exist between fantasy sport players and non-players. However, research has not investigated such consumption differences nor sought to quantify differences between those groups.

The current research, therefore, extends prior research by first investigating demographic trends in fantasy sport participation. This is undertaken using large samples to define the playing and non playing markets for later stages of this research and further studies in the Australian market. We also test participation trends suggested in research and media. For example, non-empirical research suggests popularity of fantasy sport amongst females, highlighting this may be a vehicle to promote greater female involvement in various sports. However there has been no testing or evidence of the extent of gender patterns, or depth of female participation in research to date.

Second, we empirically test some of the impacts of fantasy sport participation suggested in non-academic studies and past qualitative work. We do this by specifically testing differences between fantasy sport and non-fantasy sport players in order to determine whether they are different, and if so, what attitudinal and behavioural differences exist between them. An obvious but important initial step is to determine the impact (if any) of fantasy sport on other aspects of sport consumption, which will allow greater understanding to direct future research and devise managerial implications for the design and marketing of fantasy sport competitions. As a final extension, we undertake this research outside of the North American context which is where the majority of fantasy sport research has been conducted to date.

2.2. Fantasy sport and AFL consumption

2.2.1. Research focus

The research focuses on fans of the Australian Football League (AFL), considers both players and non-players of fantasy sport, and seeks broadly to determine whether, and in what way, they are different. The AFL is the premier national competition of Australian Rules football, a game indigenous to Australia. The league consists of 16 teams with over 500,000 members or season ticket-holders, and has over 5 million fans of the sport nationally. The sport itself is well-suited to fantasy sport competition as it is a high possession game with free scoring and a large number of players per team (22-a-side). Team and player statistics have been collected for many years and, mirroring global trends, are integrated into “live” broadcasts of the games and subsequent online and print media coverage.

Our research incorporated three studies. Initially, using large-scale surveys (Studies 1 and 2), we sought to investigate how widespread playing AFL fantasy sport was, and the demographic and behavioural consumption of those participating. We sought to answer two questions in Studies 1 and 2:

1. How widespread is participation in fantasy sport in Australia?
2. What broad consumption differences exist in demographic profiles and behavioural outcomes between fantasy sport consumers and non-fantasy sport consumers?

We approached these questions from an exploratory position given the lack of prior research, particularly in the Australian context. Study 1 focussed on fans of the sport generally, and used a large, national sample of AFL fans within the general public to explore who was engaged with fantasy sport. Importantly, we also sought to explore broad consumption differences to inform later stages of the research. In particular, determining the demographic and behavioural profile of players as compared to non-players is critical in understanding the role fantasy sport is playing in opening up new markets, increasing overall sport consumption and connecting with specific target markets. Study 2 also used a large sample, but this time targeted a unique group of known and committed AFL consumers (who were season ticket-holders within the sport) as opposed to the general fans in the preceding study. We sought here to see whether broad behavioural differences were still apparent, even within more engaged supporters of the sport. Highly engaged sport consumers were examined specifically to identify how fantasy sport was incorporated into the lives of those who are already strongly committed to sport consumption, and to get specific data on whether the commitment to fantasy sport was complementary to, or competed with other forms of sport consumption.

Study 3 was then developed to test, in greater detail, specific differences in the consumption patterns of fantasy sport players and non-players. Sport consumption is complex given that the “sport consumption experience meets a number of important psychological, social and cultural needs” (Smith & Stewart, 2007, p. 156). As with all consumption, it is multi-dimensional (Stewart, Smith, & Nicholson, 2003) comprising behavioural, affective and cognitive elements (Wann, Melnick, Russell, & Pease, 2001).

Previous studies have provided some initial (predominantly qualitative) insights into affective and behavioural consumption. In extending this work, we develop these insights into hypotheses, and empirically test implied differences between fantasy sport players and non-players using multiple quantitative studies. Here, we extend the characteristics of consumption to test a wider range of attitudinal and behavioural measures than has been previously considered or discussed. These characteristics, along with related hypotheses, are developed in the following sections.

2.3. Fantasy sport and affective consumption

Affective consumption considers an individual's connective focus or loyalty to teams, players or the sport itself, all of which are subject to change (Wann et al., 2001). Drayer et al. (2010) developed fantasy sport as a behavioural experience or activity that stimulated attitudes towards various aspects of the traditional sport. These attitudes then drove consumption-related behaviours (Madrigal, 1995; Matsuoka, Chelladurai, & Harada, 2003), indicating that changing levels of motivations, loyalty, and connective foci are related to more tangible aspects of consumption. Given the suggested impact of playing fantasy sport, we investigate differences between attitudes of fantasy sport players and non-players by developing hypotheses for three affective areas of consumption – points of attachment, loyalty and identification, and the strength of motivations to consume sport.

Drayer et al. (2010) suggest that fantasy sport participation has a “major impact on an individual's perception of the league as a whole” (p. 7). Qualitative findings suggest fantasy sport increases league attachment and broadens interest in a wider range of players and teams. We test differences between fantasy sport players and non-players by assessing the strength of points of attachment to the sport, hypothesising that:

H1. Fantasy sport players will have higher points of attachment with AFL than non-fantasy sport players.

While fantasy sport intuitively leads to participants taking an interest in more games, teams and players, Drayer et al. (2010) suggest that “merely participating in fantasy sport did not impact the existing perceptions of a participant's favourite NFL team or, specifically, the strength of their loyalty and identification with that team” (p. 6). Others, though, propose that

fan loyalty to their supported team can be reduced through participation in fantasy sport (Nesbit & King, 2010b). Here, we test differences between fantasy sport players and non-players in two areas, loyalty and team identification, with the following hypotheses:

H2. Fantasy sport players will have higher attitudinal and behavioural loyalty to their supported AFL team than non-fantasy sport players.

H3. Fantasy sport players will have higher team identification with their supported AFL team than non-fantasy sport players.

Unique to this research, we also considered differences between fantasy sport players and non-players in relation to their motivation to consume sport. There are many reasons why spectators consume sporting events, such as excitement, enthusiasm and entertainment value (Gantz & Wenner, 1991), and research has identified a number of psycho-social motivations behind sport fan motivation and consumption behaviour (Milne & McDonald, 1999; Smith & Stewart, 2007; Trail & James, 2001; Wann et al., 2001). Fantasy sport is hypothesised to increase points of attachment and engagement with the sport; therefore, we argue motivation to consume the subject sport is also potentially increased. Thus, our final affective hypothesis is:

H4. Fantasy sport players will have stronger motivations to consume AFL than non-fantasy sport players.

2.4. Fantasy sport and behavioural consumption

Behavioural consumption directly impacts on league and club revenues, and can be assessed by considering the number of games attended live, watched through various media, and through tracking physical forms of purchase (such as merchandise). Drayer et al. (2010) suggest fantasy sport participation alters consumption patterns. We, therefore, investigate differences between fantasy sport players and non-players in behavioural consumption domains. This research considers differences in live match attendance, media consumption, merchandise spend and gambling activity as four forms of behavioural consumption undertaken by AFL consumers. Such variances (see Hypotheses 5–9) were originally explored in earlier studies, where broad consumption differences were considered in general fans of the sport (Study 1) and a group of more highly engaged consumers (Study 2). While the results of these initial studies guided the general investigation of themes, they also suggested a more specific investigation was warranted, which was carried out in Study 3.

2.4.1. Attendance

Nesbit and King (2010b) provide evidence that fantasy sport positively influences game attendance in the case of the National Football League (NFL). Drayer et al. (2010), however, suggest that fantasy sport participation could have a negative impact on attendance for some participants, given the likelihood that consumers would watch more games on television. Here, we test the attendance of fantasy sport players and non-players for games involving their supported team, as well as for other games not involving their supported team. We hypothesise that:

H5. Fantasy sport players will have higher levels of game attendance than non-fantasy sport players.

2.4.2. Media consumption

Fantasy sport was shown to have its most significant positive impact on media consumption (Drayer et al., 2010). Participants in this study increased time spent watching games as a result of their fantasy sport participation, showing a “tendency to watch games strictly for the purposes of following relevant fantasy players regardless of the involvement of their favourite team” (p. 7). This was supported by Nesbit and King (2010a), where fantasy sport was shown to be positively related to TV viewership of Major League Baseball (MLB). We tested differences in fantasy sport players and non-players for TV viewership of their supported team's games, as well as games not involving their supported team, and hypothesised:

H6. Fantasy sport players will have higher levels of TV game viewership than non-fantasy sport players.

In addition to TV viewership, Drayer et al. (2010) consider that gathering media information (such as player information or statistics) is a form of media-based behavioural consumption. They found that Internet and mobile devices play an increasing role in consumption of such information pertaining to fantasy sport players, news and statistics. We tested for differences, and hypothesised that:

H7. Fantasy sport players will have higher levels of media consumption outside of TV viewership than non-fantasy sport players.

2.4.3. Merchandise consumption

Drayer et al. (2010) found that fantasy sport participation impacted on the consumption of team merchandise in only one of 13 cases, where the individual had purchased merchandise of a player who was not a member of their supported team.

While not high, we tested for differences on a larger scale here, comparing groups of players and non-players. As other forms of behavioural consumption are said to be higher for fantasy sport players, we suggested that:

H8. Fantasy sport players will have higher levels of merchandise spend than non-fantasy sport players.

2.4.4. Gambling consumption

Finally, although not tested in other studies, we tested gambling related to AFL. We see this as a relevant form of consumption for two reasons. First, research into fantasy sport indicated fantasy sport and gambling were comparable activities (Bernhard & Eade, 2005), with debate as to whether fantasy sport is a legitimised form of gambling or a game of skill (Holleman, 2006). In most cases in Australia, fantasy sport participation requires no monetary outlay (or financial risk) and comparatively lower prize rewards compared to other markets, which dilutes its comparison to gambling activities. However, the inherent nature of competitive and gambling motivations for fantasy sport engagement (Lee et al., 2008) suggests that fantasy sport activities might appeal more to those who engage in gambling, leading to higher gambling frequency for players. We compared gambling use between groups of players and non-players, and suggested:

H9. Fantasy sport players will have higher levels of gambling activity than non-fantasy sport players.

2.5. Summary

For each hypothesis tested in Study 3, attitudinal and behavioural measures were developed from existing scales to consider motivations, attitudes and consumption levels and how they differed between fantasy sport players and non-players. Sport fans' attitudes are well-defined topics in sport literature, with multiple studies providing insight into levels of identification, loyalty and involvement with sport properties. In regard to the less subjective forms of behavioural consumption, we used a combination of self-reported measures, as well as scanned attendance data, where relevant and available, to assess consumption levels related to the sport. While an overview of each section and a hypothesis has been provided here, scales used are described further in the method section for Study 3. Methods and results for each study are presented in the following three separate sections.

3. Study 1

3.1. Method for Study 1

To address the lack of data on fantasy sport participants, we collected survey data from AFL fans to assess the overall depth of fantasy sport participation across Australia. Study 1 was conducted using questions included in an online survey administered through a national representative online panel managed by the multi-national market research firm, TNS. This panel was chosen due to its large size (over 250,000 active participants), its representation of the broad Australian population, and controls employed to ensure respondents are not over-surveyed. Past research has confirmed the validity of the use of electronic survey delivery as a way of gaining large, representative samples where telephone and mail surveys are increasingly less effective (McDonald & Adam, 2003). 40,000 people were randomly selected and invited to participate. The survey was open for two weeks, with 26,004 responses received.

Initially, a screening question was used to determine whether respondents were fans of AFL (with fans being defined as those who indicated AFL is one of their three favourite sports). As it was considered non-fans were much less likely to participate in fantasy sport, this bounded definition of fans allowed more equitable comparisons to be made between fantasy sport-playing fans and non-playing fans. As such, only those who listed AFL as one of their three favourite sports ($n = 15,059$) were then asked about their consumption. Further questions covered whether or not respondents played fantasy sport, and their AFL-related consumption. These responses included exploratory questions into the number of games attended, games watched on television and their levels of merchandise spend, all of which were variables posited to have been impacted by fantasy sport consumption in prior studies (Drayer et al., 2010; Nesbit & King, 2010a, 2010b). Responses were collected on a scale of 1–5 for each question (see Appendix A for question lists and response scales). Additionally, respondents were asked questions related to their demographic background and whether they were season ticket-holders of their favourite clubs. Given the exploratory nature of Study 1, analysis techniques for the original study were limited to chi-square and *t*-tests between the two groups.

3.2. Results of Study 1

Study 1 highlighted the degree of fantasy sport popularity and the broad nature of its appeal, with 19% of AFL fans currently playing some form of AFL fantasy sport. Table 1 shows participation by demographic group (gender, age and location according to State of residence), with data arranged to show the demographic make-up of fantasy sport and non-playing markets. Of all current players, 74% are male and 22% are current members of AFL clubs. Over half of the current fantasy sport playing population comes from the State of Victoria, which is home to 11 of the 16 AFL teams.

An analysis of playing rates per demographic group confirmed gender and age trends, as seen in Table 1, in line with the suggested fantasy sport demographic (Roy & Goss, 2007). In assessing playing rates, we found 28.6% of all males played

Table 1
Comparison of fantasy sport playing and non-fantasy sport playing groups.

	Fantasy sport players (<i>n</i> = 2658)		Non-fantasy sport players (<i>n</i> = 11,309)		Z-statistic ^a	<i>p</i>
	<i>n</i>	%	<i>n</i>	%		
% of sample		19.0		81.0		
Gender						
Female	688	25.9	6129	54.2	28.642	<.001
Male	1970	74.1	5180	45.8		
Location (by state)						
Victoria	1372	51.6	4852	42.9	7.444	<.001
New South Wales	348	13.1	1753	15.5		
Queensland	245	9.2	1572	13.9		
South Australia	367	13.8	1504	13.3		
Western Australia	327	12.3	1640	14.5		
Age group						
Less than 16 years	335	12.6	622	5.5	23.459	<.001
16–19 years	484	18.2	1312	11.6		
20–24 years	513	19.3	1640	14.5		
25–29 years	391	14.7	1515	13.4		
30–34 years	361	13.6	1448	12.8		
35–39 years	215	8.1	1267	11.2		
40–44 years	159	6.0	1086	9.6		
45–49 years	88	3.3	803	7.1		
50–54 years	112	4.2	1606	14.2		
Club membership						
Member of an AFL club	595	22.4	837	7.4	24.706	<.001
Not a member of an AFL club	2063	77.6	10472	92.6		

A significance level of 0.05 was used.

^a Z-statistic for independent proportions calculated as the square root of the Pearson chi-square value.

fantasy sport compared to 9.6% of all females. Younger age groups showed a clear trend of higher participation, which ranged from 36% of all people under 16 years old and fell consistently as age increased. We see less than 22% of fantasy sport players are over the age of 35, whereas over 40% fit this criteria in the non-playing group. The results confirm that fantasy sport is played by a diverse range of people and attractive market segments and across a wide range of geographic locations (including non-traditional markets where AFL is not the primary sport consumed). High levels of participation are occurring in the middle to young age groups, but less than 10% of all AFL female fans took part in the activity.

The identified fantasy sport playing market was male-dominated and predominantly situated within younger age groups, which is in line with the demographics observed in other fantasy sport competitions. If fantasy sport competitions are able to retain such playing bases as they mature while continuing to attract younger age groups – who are likely to be more pre-disposed to virtual or online activities – the on-going opportunities for fantasy sport appear positive. The appeal of the sport outside of Victoria also presents a positive aspect for the sport given its increased efforts to build a more nationally equitable competition. An issue for managers is the lack of female participation amongst general fans, particularly given that AFL has a strong following of female fans, season ticket-holders and club membership purchases. Additionally, recent research into computer gaming (and other online activities) has shown college age women are playing computer games almost as much as men (Thomas & Martin, 2010) which suggests opportunities to develop this market further.

Table 2 shows the AFL consumption levels of fantasy sport players and non-players. These were measured on a scale ranging from 1, which indicated the activity was ‘never’ undertaken, through to 5, which indicated the activity was undertaken ‘more than 12 times per year’ (see Appendix A for full items and response scales). The data showed that those

Table 2
Comparison of sport consumption behaviours of fantasy sport players and non-players.

AFL consumption	Total (<i>n</i> = 13,967)		Non-players (<i>n</i> = 11,309)		Fantasy sport players (<i>n</i> = 2658)		<i>T</i>	<i>p</i>
	Mean	SD	Mean	SD	Mean	SD		
Attended (own team)	2.03	1.22	1.82	1.10	2.90	1.33	–43.73	<.001
Attended (other team)	1.47	0.87	1.32	0.69	2.08	1.21	–43.22	<.001
Watched TV (own team)	3.89	1.07	3.79	1.07	4.30	0.98	–22.60	<.001
Watched TV (other team)	3.55	1.22	3.39	1.21	4.20	0.99	–32.13	<.001
Purchased merchandise	1.73	0.96	1.57	0.83	2.33	1.18	–38.45	<.001

Note: Level of consumption for all items was measured on a scale of 1–5 (Scale response: 1 = Never, 2 = Once a year, 3 = Two to Five times a year, 4 = Six to Twelve times a year, 5 = More than 12 times a year.).

A significance level of 0.05 was used.

who play fantasy sport indicated they attended more games live, watched more televised games and bought more club merchandise than non-players. This was in line with findings from Drayer et al. (2010), Nesbit and King (2010b), and the Fantasy Sports Trade Association (FSTA) (2006) that reported fantasy sport participants had higher levels of consumption with the subject sport. While the differences shown here are clear and highly significant, it is the attendance and televised games outside of primary supported teams which present the greatest and most practically relevant differences. This finding suggests the points of attachment for fantasy sport consumers are reaching beyond their own team and players to other teams, players and the league more broadly. Given this base evidence, later studies (Study 3) sought to use more developed and specific metrics for consumption to better understand the nature and depth of the differences between players and non-players.

Study 1 showed the mass appeal of fantasy sport in the Australian market, and provided introductory evidence that specific demographic trends in playing fantasy sport exist and that players have higher levels of consumption within a population of general AFL fans. To further explore this, Study 2 considered fantasy sport players and non-fantasy sport players within a known group of heavy AFL consumers.

4. Study 2

4.1. Method for Study 2

Study 2 sought to confirm the behavioural differences inherent in Study 1, with data collected from a unique group of strongly committed AFL fans – those who hold an “AFL Membership” (see [AFL Membership, 2010](#)). This membership allows admission to up to 40 games a year including finals involving any team. It can be thought of as a season ticket to the league rather than to a particular team, although many holders do specify a favourite team and are included in the season ticket-holder count of that team. As such, membership tends to be held by those who are highly involved in AFL, providing variance from Study 1 where a more general group of AFL supporters (only 10.3% of the Study 1 sample held a season ticket) were targeted. While initially we sought to test measures across a predominantly representative sample of general AFL fans (Study 1), we looked here at a sample of committed season ticket purchasing consumers (Study 2). Similar differences in the consumption patterns between groups in these samples would provide confirmation of intragroup differences for vastly different populations.

The group for Study 2 was chosen as an ideal population of highly committed fans of the sport for which demographic and behavioural data (e.g., attendance at games) were accessible. Given their higher involvement, we expected to observe higher consumption levels than for general fans, but were unsure whether the differences between players and non-players would be so distinct. The total number of AFL members currently stands at just over 48,000, of whom approximately one-third had provided an email contact address and agreed to be contacted.

A separate online survey (collected within three weeks of Study 1) was used to collect data via an embedded email link, which was sent to all AFL members with a valid email address. There was a random chance that a very small number of individuals in Study 2 may also have been participants in the larger population from Study 1. A total of 6067 responses were collected, equating to a response rate of approximately 39.5%. Respondents were 76% male and had a mean age of 46.8 years, consistent with the demographics of the population of AFL members. These respondents were asked in a short survey whether or not they played fantasy sport and, if so, how many years had they played and how long each week they were engaged with the online platform. Self-reported data on the number of games attended and watched on television were collected for each individual (see [Appendix B](#) for a full list of items). The data were matched with data collected from barcode scanned entries into games to gain further insight into behavioural consumption.

4.2. Results for Study 2

Overall, 35.1% ($n = 2128$) of respondents indicated they played fantasy sport, which was almost double the playing rate of general fans in Study 1 (19%). While participation was higher in this more involved group of consumers, the playing base remained male dominated (86%) with again a low overall female participation rate of 21.2%. Despite this figure being more than double the rate of casual female followers of AFL in Study 1, it is much lower compared to a male participation rate of 40.0% (up from 28.6% in Study 1). The average age of fantasy sport players was significantly younger than the non-players and overall sample groups and, again, the players were more prolific in the younger age groups.

The sample provided a range of experience levels of fantasy sport play, with a quarter of players being first-year players, and 30% having played for four or more years. As shown in [Table 3](#), analysis of behavioural data using *T*-tests indicated that fantasy sport players rated significantly higher on self-reported and scanned attendance. They also reported higher TV viewership. Here, we used pay or subscription TV as the variable, on which a maximum of four live games a week can be watched.

In line with the general fans examined in Study 1, results indicate that behavioural measures of attendance and TV viewership were higher for fantasy sport competitors. Study 2, however, shows that even amongst a group of highly committed fans, fantasy sport participation tends to occur amongst those highest in other sport consumption. This observation fits with a large body of research into consumer adoption of innovations, that shows that the earliest adopters tend to be those who consume the product category most heavily, and are most heavily involved with the product (see

Table 3

Comparison of behavioural consumption measures of fantasy sport and non-fantasy sport playing AFL members.

	Fantasy sport players (<i>n</i> = 2128)	Non-players (<i>n</i> = 3850)	<i>T</i>	<i>p</i>
Self-reported total attendance ^a	14.12	12.44	8.621	<.001
(Actual) total scanned attendance ^a	12.99	11.35	8.426	<.001
Self-reported pay TV games watched ^b	1.96	1.55	8.566	<.001

A significance level of 0.05 was used.

^a Measured in games per season.^b Measured in games per week (maximum of 4 per week).

McDonald & Alpert, 2007, for a summary). Given the collective indications that consumption was higher for fantasy sport players, hypotheses were developed (as per Sections 2.3 and 2.4) to expand this basic investigation of consumption to detailed analysis of affective and behavioural measures of consumption in Study 3.

5. Study 3

5.1. Method for Study 3

5.1.1. Sample

Studies 1 and 2 confirmed the basic behavioural differences hypothesised to exist between fantasy sport players and non-players using large scale surveys of general fans and committed consumers who had varying levels of involvement. The results suggest fantasy sport participation is in the early stages of the innovation–adoption process, and is yet to spread beyond the ranks of the fan best described as a “heavy user”.

Study 3, driven by nine research hypotheses, sought to explore consumption in more specific areas. We gathered data from groups of fantasy sport players and non-players using a range of established, sport-focussed attitudinal and behavioural scales. The inclusion of constructs to test points of attachment and team identification extends the preliminary qualitative studies of Drayer et al. (2010) around proposed different attitudes of fantasy sport players. Additionally, while we continued to collect behavioural data around games attended and watched, we extended previous work in Studies 1 and 2, by diversifying and specifying the behavioural variables collected. We also included empirical testing in the survey of alternate forms of consumption, in line with Drayer et al.’s (2010) qualitative findings.

The survey instrument was developed and distributed as a self-administered, paper-based survey to a convenience sample drawn from students at both undergraduate (63%) and graduate (12.5%) levels. This was supplemented with a sub-sample (24.5% of the total sample) derived from snowballing – using one respondent to identify others through emailing – in order to broaden the results beyond the student population. As a result, the characteristics of the sample largely matched the known demographic characteristics of fantasy sport competitors shown in Table 1 (Study 1) where players were predominantly male (74%), with only 22% of players being over the age of 35. Here, 69% of the Study 3 sample was male, with 23% over the age of 30. The responses used in the analysis were limited to the region of Melbourne and only those nominating themselves as AFL fans (again, as one of their three favourite sports) completed the full survey. In total, 182 completed responses meeting these criteria were collected.

5.2. Survey instrument

The survey instrument was constructed in three areas to capture differences in affective and behavioural consumption, suggested in past conceptual and qualitative work, as well as the nature and demographic background of fantasy sport participation. Full items and response scales for affective and behavioural items are provided in Appendix B.

5.2.1. Affective measures of consumption

The first four parts of the survey collected information on affective levels of consumption which were all adapted from existing empirically derived scales. The focus covered points of attachment to different aspects of AFL, identification and loyalty to a supported AFL team, and motivations to consume AFL.

The connective focus of sport consumers, or points of attachment (Robinson & Trail, 2005), suggest that individuals may be primarily oriented to various parts of the sport experience such as the sport itself, a player or coach, or by a community or geographic area. The Points of Attachment (POA) Index (see Robinson, Trail, & Kwon, 2004; Trail, Robinson, Dick, & Gillentine, 2003) were used to evaluate an attachment with various aspects of the sport, in this case, AFL football. The scale consists of three items for each of the potential connective focuses that an individual can have to sport. Five points of attachment were assessed in this study – sport, team, player, league and coach – with each measured on a 7-point scale.

Team Identification was also examined. Wann et al. (2001) define team identification as “the extent to which a fan feels psychologically connected to a team” (p. 3), noting this is often an enduring measure reported at a relatively stable level across time periods. To measure identification, we used the Sport Spectator Identification Scale (SSIS), which has since been used in multiple studies concerning fan identity (Wann, 1995; Wann & Branscombe, 1993). Team Identification was assessed using the SSIS, which is an 8-item scale developed to measure level of identification with a team or club. Each item on the SSIS

is summed to generate a score for level of identification with a team. While other scales used in this study more commonly utilised a 7-point scale, use of the SSIS since its inception has consistently been measured using an 8-point scale, which we maintained here to preserve the psychometric properties of the scale.

Attitudinal loyalty to a team was measured by using the Psychological Commitment to Team (PCT) scale (Mahony, Madrigal, & Howard, 2000), consisting of 14 items. In addition, a combined set of attitudinal and loyalty measures (Bauer, Stokburger-Sauer, & Exler, 2008) was also collected. Again, these items were measured on a 7-point scale.

Finally, Motivation for Sport Consumption (MSSC) was collected from a 7-construct scale of 21 items (Robinson et al., 2004). Items were measured on a 7-point scale to assess the strength of various motivations to consume sport, including achievement, escape, knowledge, social, drama, physical skills, and aesthetics (Robinson et al., 2004).

5.2.2. Behavioural measures of consumption

In addition to affective measures, behavioural measures were also collected, replicating and expanding those collected in Studies 1 and 2. Behavioural measures of sport consumption have primarily been assessed using dimensions relevant to the generation of revenue streams for clubs and leagues. The actual number of live games attended, games watched on television, and other forms of secondary sport consumption (e.g., merchandise purchased and level of betting on the sport) all formed part of the survey, with self-reported measures gathered for each.

In regard to game attendance, accessibility was a characteristic that needed to be considered when used as a consumption variable in this context, given the unique situation of Melbourne as an AFL market and the increased accessibility of tickets compared to North American football markets. For example, many NFL games attract close to capacity attendance (ESPN, 2009), making tickets difficult to access. Additionally, there is rarely a situation in North America where more than one league team is located in a single city, making attending weekly games, or more than one game a week, difficult without undertaking a lot of travel. As noted earlier, our entire sample was drawn from the Melbourne region, which is home to 10 of the 16 elite teams in the league. As a result, up to five games are played each weekend in the city of Melbourne, with high supply meaning tickets to games are relatively accessible. Attending multiple games in a week, and games not involving an individual's supported team, is possible. We, therefore, asked how many games of an individual's supported team and non-supported teams they attended, making it possible to assess whether a respondent's interest and engagement involved attending games of other teams in the same league. It was equally important to restrict the sample to the Melbourne region, given that in other national markets there are substantially fewer opportunities per week to attend games.

For further validation of variance in behavioural consumption, Fink, Trail, and Anderson's (2002) measures of consumption were examined as part of Study 3. These measures allow assessment of media and secondary consumption outside TV viewership to test other differences described by Drayer et al. (2010). Finally, a set of measures to determine anticipated changes to consumption was developed and included to provide further comparison between fantasy sport players and non-players.

5.2.3. Demographics and fantasy sport variables

Finally, demographic and participant information data on fantasy sport were included to capture whether respondents were actively involved in AFL forms of fantasy sport. This question was used to define sample groups who did or did not play fantasy sport.

5.3. Results for Study 3

Results are presented in three areas, outlining the nature of fantasy sport participation, before highlighting the differences in affective and behavioural consumption aligned with the research hypotheses.

Analysis first utilised a one-way multivariate analysis of variance (MANOVA) for sets of both attitudinal and behavioural variables. Given there were significant variable inter-correlations, large numbers of outcome variables were present, and the study design avoided small cell frequencies, and a MANOVA technique was seen as suitable for the data (Huberty & Morris, 1989). Huberty and Morris (1989) note that interpretations or explanations of multiple dependence variable tests are commonly complemented with a series of individual ANOVAs or *T*-tests to better explain the results. In this case, protected follow-up tests after the MANOVA were used to quantify the actual differences between groups where significant variance was determined to exist. Using a MANOVA as a preliminary tool to a series of ANOVA or *T*-tests for each dependent variable seeks to reduce the chances of a Type 1 error (Leary & Altmaier, 1980). Given only two groups were formed from the independent variable (fantasy sport players and non-players), multiple *T*-tests were used in place of multiple ANOVAs, and a Hotelling's *T*-square, calculated using Hotelling's Trace, was considered as an interpretation of the MANOVA output. A significance level of 0.05 was used for interpretation throughout the analysis.

5.4. Nature of fantasy sport participation

Study 3 provided comparable samples of fantasy sport consumers and non-players, with nearly half (47%) of the convenience sample playing fantasy sport. Playing rates were 56% and 27% for males and females, respectively, which is higher than the rates of the other studies given the need to produce groups of players and non-players that are as equitable as possible. In line with preceding studies, 91% of players were male. Forty per cent had more than one active team in the

fantasy sport AFL competitions, while more than a third were also involved in fantasy sport competitions in another sport. Half were established players in at least their fourth year in fantasy sport leagues, while 20% indicated that the year of the survey was either their first or second year of fantasy sport play. Players spent a considerable amount of time playing fantasy sport, with 79% spending more than half an hour, and 22% spending more than 2 h per week.

5.4.1. Differences in affective consumption

Differences in affective consumption levels were assessed using a range of established scales, as part of Study 3, with findings presented here based on descriptive and cross-group analysis of fantasy sport and non-fantasy sport players. Prior to analysis, data were checked for normality and scales were checked for validity and reliability using Confirmatory Factor Analysis (CFA). As expected (given the use of established measures), analysis of CFA structures developed in AMOS 16.0 showed scale validity (AVE above .50), and reliability (above .70) was generally satisfactory, with only one construct an exception (see Table 4 where the 'League' construct of the POA Index/Connective Focus had AVE and reliability values slightly below the recommended levels). Correlations were significant between the majority of 16 attitudinal constructs used, as seen in Appendix D.

Given adequate validity and reliability, and in line with previous comparative studies using these scales (Robinson et al., 2004), mean scores were calculated for the Points of Attachment Index (POA) and Motivations for Sport Consumption (MSSC). For the remaining measures (Team ID and Loyalty), composite scale scores were used as measures for comparison across the two groups (Wann, Schrader, & Wilson, 1999).

A one-way MANOVA was then conducted to determine the effect of Fantasy Sport play on the 16 attitudinal dependent variables. Significant differences (at .05) were found for 14 of the dependent measures (Hotelling's T -square = 80.62, $F(1, 181) = 4.59$, $p < .001$). Given a MANOVA had shown differences were shown to exist between groups, T -tests were then used to describe differences in the affective measures tested. Results for affective measures are shown in Table 5, with H1, H2 and H3 confirmed, and H4 confirmed for the majority (5 out of 7) of the motivations to consume sport. Table 5 presents the means for each of the dependent variables.

Fantasy sport players were shown to have higher points of attachment (H1), indicating fantasy sport players have multiple and stronger connective foci to AFL, including teams, the league and players. Attitudinal and behavioural loyalty to a supported team (H2) and team identification (H3) measures were also significantly higher for fantasy sport players, showing higher identification with their team. Motivations for consuming sport were shown to be higher in areas most relevant to fantasy sport play (H4). Results showed fantasy sport players were more motivated to consume the sport in regard to the achievement, aesthetic, knowledge and skill-based motivations. Fantasy sport players and non-players did not differ on social aspects, emphasising that the importance of interaction, talking and socialising at games does not change for fantasy sport participants.

Fantasy sport activity is dependent on the participant's knowledge and information of player skills, performance and team strategy. The motivations aligned to these measures indicate the most prominent areas of difference between fantasy sport players and non-players. Additionally, the social interaction between fantasy sport communities and the competitive nature of fantasy sport may present additional motivations to consume AFL outside the coverage of the current MSSC that

Table 4
Ranges, means, validity and reliability measures for affective consumption scales.

	Items	Min	Max	Mean	AVE	Reliability
Connective focus ^a						
Sport	3	3	21	14.0	0.62	0.83
League	3	3	21	11.6	0.48	0.68
Team	3	3	21	16.1	0.80	0.92
Players	3	3	21	14.7	0.66	0.84
Coach	3	3	21	7.9	0.68	0.86
Team identification ^a						
SSIS	7	7	56	40.5	0.72	0.95
Loyalty measures ^a						
PCT	14	16	81	64.9	0.56	0.91
Attitudinal loyalty	8	8	56	46.2	0.71	0.95
Behavioural loyalty	6	6	42	30.8	0.61	0.90
Motivation for sport						
Achievement	3	3	21	16.0	0.63	0.83
Consumption ^a						
Knowledge	3	4	21	16.6	0.63	0.84
Aesthetics	3	3	21	14.8	0.78	0.91
Social	3	3	21	13.8	0.73	0.89
Drama	3	3	21	18.3	0.68	0.86
Escape	3	3	21	15.0	0.80	0.93
Physical skills	3	4	21	18.3	0.80	0.92

A significance level of 0.05 was used.

^a Full construct items listed in Appendix C.

Table 5

Comparison of affective consumption measures of fantasy sport players and non-fantasy sport groups.

	Fantasy sport players (n = 86)	Non-players (n = 96)	T	p
POA sport	5.53	3.79	3.887	<.001
POA league	4.27	3.45	7.357	<.001
POA team	6.14	4.64	2.912	.004
POA players	5.44	4.35	6.404	<.001
POA coach	2.94	2.34	6.925	<.001
Team identification (SSIS)	46.40	34.44	4.279	<.001
Psychological commitment to team (PCT)	68.56	61.42	6.105	<.001
Attitudinal loyalty (Bauer et al., 2004)	51.19	41.30	6.355	<.001
Behavioural loyalty (Bauer et al., 2004)	34.85	26.82	3.499	.001
MSSC achievement	5.62	4.99	3.499	.001
MSSC knowledge	5.73	5.30	2.690	.008
MSSC aesthetics	5.54	4.31	5.896	<.001
MSSC social	4.67	4.52	.656	.513
MSSC drama	6.15	6.02	.723	.471
MSSC escape	5.25	4.75	2.284	.024
MSSC physical skills	6.30	5.85	5.659	<.001

A significance level of 0.05 was used.

might be considered. As suggested in Study 1, the enhanced consumption of non-supported teams and games by fantasy sport players is aligned with enhanced scores for the points of attachment, and, most prominently, the sport and league dimensions which are significantly higher for fantasy sport players. As with all the attitudinal findings, the comparison of motivations and behavioural data to test the significance of relationships within attitude–behaviour frameworks (Drayer et al., 2010; Fazio et al., 1983) presents relevant extensions of these research findings.

5.5. Differences in behavioural consumption

In the analysis, a range of the self-reported behavioural items (e.g., games watched) related to discrete forms of consumption and were retained as single item measures. However, Fink et al.'s (2002) 15 measures of consumption were reduced to three factors using factor analysis (in line with Fabrigar, Wegener, MacCallum, & Strahan, 1999) relating to media, statistical and merchandise consumption. Each summed construct showed required validity and reliability to be used as independent measures in further analysis, as shown in Table 6.

Again, a MANOVA was conducted to determine the effect of fantasy sport play on behavioural dependent variables. Significant differences between players and non-players (at .05) were found for all nine of the dependent measures (Hotelling's T -square = 80.89, $F(1, 181) = 15.50$, $p < .001$). Given tests were shown to be protected and significant cross-group differences were found, T -tests were then used to chart differences in the affective measures tested. Results are shown in Table 7. Correlations between behavioural constructs can be seen in Appendix E.

Study 3 proved nine hypotheses related to fantasy sport players being greater affective and behavioural consumers, indicating they were more involved and undertook more activities than non-playing fans. Results in Table 7 show fantasy sport players had significantly higher levels of consumption across all measured levels of behaviour.

While positing and testing direct links between attitudes and behaviours of fantasy sport players was not a focus of this study, potential support is evident here, where the wider support at behavioural level (games attended of non-supported teams, H5) is aligned with higher points of attachment (H1) for the sport and league shown in the affective measures. Secondary spend on team merchandise and the level of gambling conducted were also significantly higher for fantasy sport players. In summarising survey data that quantifies the differences between fantasy sport players and non-players, we find that H5 (attendance), H6 (game viewership), H8 (merchandise) and H9 (gambling) are supported here, suggesting that the two groups of consumers are significantly different in terms of their levels of consumption.

Fink et al.'s (2002) condensed measures of consumption presented fantasy sport players as higher on each collected measure, including media consumption (outside of game viewership) and tracking of statistics related to the sport, which showed the two groups were above and below the scale midpoint, indicating a major area of variance. Drayer et al. (2010) suggest higher non-viewership forms of media would increase fantasy sport consumption, which is supported here (H7). These measures also provide further support to H8 around merchandise consumption, with each measure shown to be significantly higher for fantasy sport players.

Table 6

Ranges, means, validity and reliability measures for behavioural consumption.

Composite scales	Items	Min	Max	Mean	AVE	Reliability
Media consumption (7)	7	7	49	37.56	0.57	0.90
Statistical consumption (2)	2	2	14	9.61	0.62	0.76
Merchandise consumption (6)	6	6	42	22.25	0.52	0.86

Table 7

Comparison of behavioural consumption measures of fantasy sport and non-fantasy sport groups.

	Fantasy sport players (n = 86)	Non-players (n = 96)	T	p
Live games (supported team – season)	7.7	5.4	3.103	.002
Live games (other team – season)	4.4	1.7	4.192	<.001
TV games (supported team – season)	13.3	9.3	3.936	<.001
TV games (total per week)	4.0	2.3	5.208	<.001
Merchandise spend ^a	2.4	1.6	4.197	<.001
Gambling activities ^b	3.2	1.6	6.380	<.001
Media consumption (7)	6.21	4.59	8.522	<.001
Statistical consumption (2)	6.02	3.70	9.442	<.001
Merchandise consumption (6)	4.22	3.26	3.989	<.001

Number of items (from Fink et al., 2002) in parenthesis (see Appendix C for full list of items).

A significance level of 0.05 was used.

^a Level of consumption was measured on a scale of 1–5.^b Level of consumption was measured on a scale of 1–8.

Confirming the results of Studies 1 and 2, behavioural measures were also shown to be higher for fantasy sport players in the areas of attendance (H5), TV viewership (H6), alternate media consumption (H7), merchandise (H8) and gambling (H9). In addition to increased secondary spend, fantasy sport players are attending and watching more games of both their supported team and, importantly for managers, are also much higher attendees and viewers of non-supported teams. Although already being much heavier consumers of sport than non-fantasy sport players, it is also possible they may expect to and, indeed, will further increase their consumption in future seasons. Tracking such trends would provide evidence of a widening gap between the consumption levels of the two groups, providing evidence that fantasy sport may be a complementary tool to build engagement.

6. Conclusion

One of the more exciting characteristics of professional sports is its constant evolution and new forms of consumption that appear frequently to shake-up existing paradigms. New or modified versions of sports, the widespread scope of television, pay-per-view subscriptions, gambling, Internet media and computer gaming have all had to be considered by sport organisations and integrated into the suite of offerings provided to fans. History suggests that integration is often done clumsily or haphazardly, meaning sports organisations may not be optimising revenue and fan engagement. Examples include the rejection of early television broadcasting by European professional football organisations given the prevailing view of the day that it would only threaten gate revenue (Andreff & Staudohar, 2000), and governing body led player bans as the sport of cricket underwent major changes in the 1970s and 1980s with the evolution of World Series Cricket (Shilbury, Quick, Westerbeek, & Funk, 2009). Decades later, the professionalisation and revenue streams of the sports in these examples are inherently tied to the management and integration of those previously rejected or problematic initiatives, increasing the importance of a strategic understanding of consumption changing initiatives for sport organisations.

The growth in popularity of fantasy sport is evident, but the relationship between fantasy sport and other forms of sport consumption is not. Similarly, the strategies sport organisations should employ to encourage fantasy sport participation (if at all) and manage its integration with other consumer experiences are, at present, poorly developed. Clearly, this is a case of theory and planning needing to catch up with practice and behaviour.

As an initial step towards guiding management practice, we sought to profile fantasy sport players in terms of their attitudes, behaviours and demographics. The dearth of comprehensive information about current players, in comparison to non-players, was identified as a major impediment to practice and further research. The findings of our first study, that current fantasy sport players are predominantly male, young and heavy users of the product category, fit well with the typical profile of early adopters developed through decades of work into innovation diffusion (Rogers, 1995).

The fact that many fans of similar profile are not playing, tells us the diffusion of fantasy sport as an innovation still has a long way to go. Despite strong growth, it would seem market saturation is far from being reached. This view is supported by the results of our second study, where a group of heavily involved AFL fans were examined. Although we see a higher penetration of fantasy sport playing amongst this group in general, fantasy sport players were still more likely to be males, younger and more heavily involved. The finding that fantasy sport players attend more games than non-players (as measured by both self-report and scanned entry data) is a strong pointer that, at this early stage, fantasy sport participation does not detract from traditional consumption.

The finding that fantasy sport players are heavy consumers of the sport suggests that fantasy sport may complement other forms of consumption rather than compete against them. While no causal link can be shown either way, the evidence that those playing fantasy sport also went to more live games, watched more on television and purchased more merchandise, goes some way to alleviating fears that fantasy sport participation may come at the expense of the sport in other ways. Higher consumption is in line with the findings of Nesbit and King (2010a, 2010b), but the current study indicated consistent higher consumption across a much wider range of activities than had previously been examined. The finding that fantasy

sport players are much heavier consumers of both televised and live games that do not involve the team they support is novel to our study and worthy of further examination.

Given people's limited leisure time, the added commitment to fantasy sport must come from somewhere. Our preliminary results point to work and family as being the major sacrifices, but consumption of other sports is also implicated. In that sense, encouraging fans to take up fantasy sport may be a good defence against competing sport codes.

Significant differences in fantasy sport players' allegiance to their sport and consumption outcomes suggest, in the short term at least, that fantasy sport is a complementary virtual activity that correlates with higher levels of consumption of the traditional sport. We conclude that fantasy sport players examined here are more engaged with the sport of AFL, are spending more money, and have wider and deeper points of attachment while maintaining high team loyalty and involvement with their supported team. As such, fantasy sport players present as a highly desirable form of consumer, delivering a range of tangible (revenue) and intangible (loyalty, attachment, word-of-mouth, reputation) benefits for the sport and the league.

As important as it is to know who is playing, it is why that is important to those seeking to integrate fantasy sport into their sport offering. The results of our exploratory study suggest that a combination of achievement, knowledge, physical skills, aesthetics and escapism drives fantasy sport players' motivation to consume sport in both its real and virtual forms. Achievement and knowledge were expected to be strong motivators given past research (Lee et al., 2008) and the manner in which fantasy sport is marketed – with a strong emphasis on prize winning and competition between players. Escapism and skills are also strongly encouraged in the promotion of the fantasy sport competitions examined here, with lines such as, "...take the role of AFL coach and selector, and guide your hand-picked team to glory" (www.supercoach.heraldsun.com.au: Herald Sun, 2010) being prominently used. To find an aesthetic motivation is surprising. It, and further qualitative findings, suggest that fantasy sport players have a deep appreciation of the game itself which either translates to greater interest in consuming all forms of the sport, or a better eye for the talent required to play fantasy sport successfully. Further research is required to distil the origin and impact of an aesthetic motivation on playing.

The three studies presented here all point to the effectiveness of fantasy sport as a means of encouraging highly engaged consumers to participate in even more sport-related activities. Although it is obvious that the time spent playing fantasy sport must come at the expense of other activities, amongst these early adopters, it appears it is not cannibalising consumption of the sport. Whereas Drayer et al. (2010) theorise that a person's loyalty may oscillate from fantasy team to real team depending on the success of each, we find no such dichotomy. Fantasy sport players in our studies were uniformly high in loyalty to both fantasy sport and actual teams.

Given the results of the studies presented here, sport management practitioners could benefit in two ways from integrating their sport with fantasy sport platforms and competitions. The first is by harnessing the complementary effects demonstrated by this paper regarding affective and behavioural levels of consumption. For example, given the expansion strategy of the AFL to establish teams in non-traditional AFL regions in the near future, the use of fantasy sport as a tool to enhance day-to-day activity and involvement with the sport and educate new consumers, as part of establishing new sport teams, could be considered. Understanding that the motives of players are multi-faceted and complex does guide marketers on how to position fantasy sport, particularly in attracting new segments. Promoting fantasy sport as a competitive activity and as a display of knowledge and skills, as is presently done, ignores the fact that players are also motivated by what might be thought of as "purist" aspects, such as a deep appreciation of the aesthetics of the sport and a need to escape. These elements might in some way run counter to aggressive promotion of the competitive and achievement focus of fantasy sport tournaments with large prizes and a heavy emphasis on winning.

The second benefit to practitioners of fantasy sport integration is the opportunity for direct revenue generation. One of the key differences between Australian and US markets surrounds the economic impact and revenue generating ability of fantasy sport competitions. Currently, Australian competitions are run free of charge to the consumer, primarily by media organisations or sporting leagues themselves. Title sponsorship, online advertising and product extensions such as fantasy sport guides featuring player profiles, are the only forms of revenue generation. Given the growth and social acceptance of free fantasy sport play in the region, thought could be given to whether Australian providers make fantasy sport a greater revenue-generating activity, or whether the complementary outcomes exhibited in this study are enough to warrant the costs of developing and administering fantasy sport competitions. Again, following our findings about the complex motives of players, it may be counter-productive to make fantasy sport tournaments highly competitive and commercialised rather than remain a simple opportunity for people to express their love of the sport.

Two limitations should be noted about our studies, and addressed in future work. First, while significant differences are found between fantasy sport players and non-players, without a longitudinal aspect to the data collection, the study does not incorporate investigation of causality in the relationship between fantasy sport play and increased levels of sport consumption. Whether these differences are as a direct result of playing fantasy sport remains to be confirmed and requires further research to support these preliminary findings. Additionally, although representative of the fantasy sport-playing demographic, we note that the convenience sample limits the generalisability of the results. However, the comprehensive and consistent differences seen here across three studies are an important first step, and present logical findings in this research stream that encourage further study.

In addition, the assessment of differences between multiple groups of new and established players of fantasy sport is recommended. While outside the scope of this paper, trends in our data show there are differences between new fantasy sport and established fantasy sport players. Confirmation of this is important to support managerial beliefs that fantasy sport

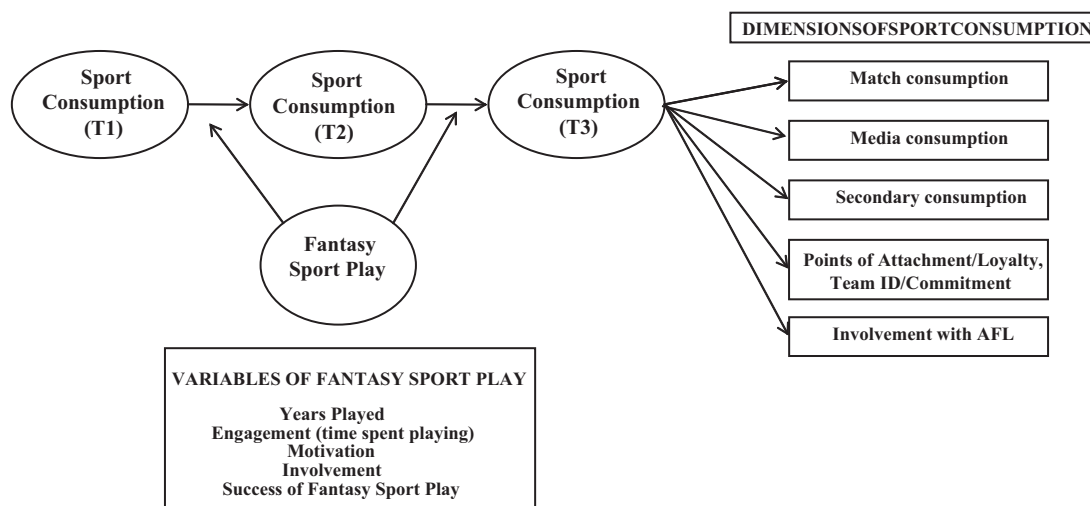


Fig. 1. Framework for longitudinal study of the impact of fantasy sport consumption on sport consumption.

plays a role in educating consumers and increasing engagement with the sport over time. Further investigation of such differences may suggest a multiple stage progression or evolution exists, as consumers first play fantasy sport and then become experienced players. This may evolve into differentiated fantasy sport products for consumers with basic fantasy sport experience compared to products for the more experienced, knowledgeable players. As discussed earlier, potential barriers to playing and the impact of successful supported teams and fantasy teams should also be considered. Further validation of relationships between attitude–behaviour frameworks (both for fantasy sport and in other fields) is also a valid domain for further investigation, given our findings. A holistic model of how that research might look is presented in Fig. 1. This framework includes variables of fantasy sport play (such as success and involvement) which may provide additional impacts on dimensions of sport consumption (as tested in this paper) at various periods of longitudinal research (T1, T2, T3, etc.).

Appendix A. Study 1 consumption items (each asked on scaled 1–5 responses)

(Scale response: 1 = Never, 2 = Once, 3 = Two–Five times, 4 = Six–Twelve times, 5 = More than 12 times)

How many times did you attend AFL games involving your supported team in the past year?
 How many times did you attend AFL games not involving your supported team in the past year?
 How many times did you watch AFL games involving your supported team on television in the past year?
 How many times did you watch AFL games not involving your supported team on television in the past year?
 How many times did you purchase AFL merchandise in the past year?

Appendix B. Study 2 consumption items (each asked on scaled 1–5 responses)

How many AFL games involving your supported team did you attend in the past year?
 How many AFL games not involving your supported team did you attend in the past year?
 On average, many AFL games a week (max 8) do you watch on television each week?
 Do you play a form of Fantasy Sport?
 If so, how much time per week do you spend playing Fantasy Football? (Open response)

Appendix C. Study 3 consumption items

Points of attachment items (Scale response: 1 = Strongly Disagree, 7 = Strongly Agree)

I identify with individual players in the AFL
 I am a big fan of specific AFL players
 I consider myself to be a fan of certain players in the AFL
 I consider myself to be a 'real' fan of a particular AFL team
 I would experience a loss if I had to stop being a fan of my team

Being a fan of my team is very important to me
 I am a big fan of a specific AFL coach
 I follow my AFL team because I like their coach
 I am a big fan of a particular AFL team because of their coach
 First and foremost, I consider myself an AFL football fan
 AFL Football is my favourite sport
 I am a football fan at all levels (e.g., amateur, state level, professional)
 I am a fan of the AFL competition regardless of who is playing
 I don't identify with one AFL team or player, but with the AFL competition in general
 I consider myself a fan of the AFL competition and not just one specific team or player

Team identification items (Scale response: 1 = Strongly Disagree, 8 = Strongly Agree)

How important is it that your favourite team wins?
 How strongly do you see yourself as a fan of your favourite team?
 How strongly do your friends see you as a fan of your favourite team?
 During the season, how closely do you follow your favourite team at live games or through all forms of media?
 How important is being a fan of your favourite team to you?
 How much do you dislike your favourite team's greatest rivals?
 How often do you display your favourite team's name or insignia at your place of work, where you live or on your clothing?

Psychological connection to team items (Scale response: 1 = Strongly Disagree, 7 = Strongly Agree)

I might rethink my allegiance to my favourite team if this team consistently performs poorly
 I would watch a game featuring my team regardless of what team they were playing
 I would rethink my allegiance to my favourite team if management traded away its best players
 Being a fan of my team is important to me
 Nothing could change my allegiance to my favourite team
 I am a committed fan of my favourite team
 It would not affect my loyalty to my favourite team if management hired a head coach that I disliked very much
 I could easily be persuaded to change my team preference
 I have been a fan of my favourite team since I began watching this sport
 I could never switch my loyalty from my favourite team even if my close friends were fans of another team
 It would be unlikely for me to change my allegiance from my current favourite team to another
 It would be difficult to change my beliefs about my favourite team
 You can tell a lot about a person by their willingness to stick with a team that is not performing well
 My commitment to my favourite team would decrease if they performed poorly and there appeared little chance their performance would change

Attitudinal loyalty measures (Scale response: 1 = Strongly Disagree, 7 = Strongly Agree)

I am a real fan of my favourite club
 I am very committed to my favourite club
 There is nothing that could change my commitment to my favourite club
 I will not change my affiliation from my favourite club to another club just because it is not successful anymore
 I would defend my favourite club in public even if this caused problems
 I will not change my affiliation from my favourite club to another club just because my friends try to convince me
 It is really important to me that my club continues playing in the major league
 The long term success of my favourite team is important to me

Behavioural loyalty measures (Scale response: 1 = Strongly Disagree, 7 = Strongly Agree)

I will attend games of my favourite team live
 I will watch games of my favourite team on television
 I will follow reports about my favourite team's players, coaches, managers etc. in the media
 I will purchase a lot of club-related merchandise
 I will wear the colours and logo of my favourite team
 I will participate in discussions about my favourite team

Motivations for sport consumption items (Scale response: 1 = Strongly Disagree, 7 = Strongly Agree)

I feel a personal sense of achievement when my favourite player does well
 I feel like I have won when my favourite team wins
 I feel proud when my favourite team or player plays well
 I can increase my knowledge about AFL by watching a match
 I increase my understanding of AFL strategy by watching a match
 I can learn about the technical aspects of the sport by watching a match
 I appreciate the beauty inherent in the game of AFL
 I enjoy the natural beauty of AFL
 I enjoy the gracefulness associated with AFL
 I enjoy interacting with other spectators at AFL matches
 I enjoy talking with other spectators
 I enjoy socialising with the other people near me at matches
 I enjoy the drama of a close game
 I prefer watching a close match than one that is one-sided
 I enjoy it when the outcome of the match is not decided until the final minutes
 Attending a match provides an escape for me from my day-to-day routine
 Attending a match provides a diversion from 'life's little problems'
 A match provides a distraction from my everyday activities
 The athletic skills of professional players are something I appreciate
 I enjoy watching a well-executed athletic performance
 I enjoy a skilful performance by a professional player

Behavioural consumption items

For the season (not including finals), how many games involving your supported team did you attend live (maximum 22)?
 For the season (not including finals), how many additional games not involving your supported team did you attend live?
 For the season, how many games involving your supported team did you watch on TV (maximum 22)? (Please only nominate games where you would have watched more than half of the match)
 During the season, what is the approximate number of games you would watch per week (from a maximum of 8)? (Please only nominate games where you would have watched more than half of the match)
 Approximately how much did you spend on AFL-related merchandise in 2008?^a
 How often would you gamble on AFL games using a betting agency?^b

^a Asked on a scaled 1–5 response (Scale response: 1 = None, 2 = Up to \$50, 3 = \$51–100, 4 = \$101–150, 5 = \$151–200, 6 = \$201 or more).

^b Asked on a scaled 1–8 response (Scale response: 1 = Never, 2 = Once a season, 3 = A few times a season, 4 = Once every few months, 5 = A few times a month, 6 = Once a week, 7 = Twice a week, 8 = Three or more times a week).

Comparison of behavioural consumption items (Scale response: 1 = Strongly Disagree, 7 = Strongly Agree)*Media*

I read about my team in the daily sport pages
 I read magazines that have articles on the team
 I read about the AFL on the internet
 I visit the AFL website for information about the AFL and teams
 When I cannot attend games, I watch them on television if possible
 I watch sport broadcasts on the TV news for AFL information
 I watch TV for news about the AFL

Statistics

I regularly track the statistics of players
 I follow the statistics on a regular basis

Merchandise

I buy (team) clothing
 I buy (team) apparel for other people
 I can easily find 'licensed' (team) merchandise
 I wear (team) clothing when I attend a game
 I wear (team) apparel on a regular basis
 I wear (team) paraphernalia even when I am not at a game

Appendix D. Correlation matrix for Study 3 items (attitudinal)

	MSSC achievement	MSSC knowledge	MSSC aesthetics	MSSC social	MSSC drama	MSSC escape	MSSC PhysSkills	POA players	POA team	POA coach	POA sport	POA league	SSIS/ TeamID	PCT	Att loyalty	Behav loyalty
MSSCAchievement	1															
MSSCKnowledge	.325**	1														
MSSCAesthetics	.558**	.471**	1													
MSSCSocial	.329**	.193*	.286**	1												
MSSCDrama	.182*	.248**	.245**	.188*	1											
MSSCEscape	.529**	.360**	.457**	.349**	.224**	1										
MSSCPhysSkills	.362**	.459**	.430**	.150	.354**	.392**	1									
POAPlayers	.538**	.330**	.504**	.267**	.183*	.382**	.353**	1								
POATeam	.578**	.337**	.594**	.268**	.186*	.551**	.442**	.652**	1							
POACoach	.338**	.140	.406**	.278**	.061	.260**	.117	.431**	.361**	1						
POASport	.459**	.333**	.615**	.207**	.193*	.409**	.480**	.588**	.696**	.400**	1					
POALeague	.272	.273**	.371*	.199*	.176	.288**	.292*	.358**	.268**	.348**	.516**	1				
SSIS/TeamID	.614**	.361**	.600**	.296**	.166*	.533**	.466**	.641**	.884**	.402**	.704**	.303**	1			
PCT	.594**	.346**	.494**	.339**	.348**	.446**	.518**	.513**	.692**	.304**	.546**	.270**	.747**	1		
Attitudinal loyalty	.524*	.329**	.518**	.302**	.223*	.484**	.496**	.560**	.814**	.299**	.667**	.218**	.856**	.789**	1	
Behavioural loyalty	.567**	.396**	.595**	.345**	.254**	.550**	.490**	.590**	.796**	.360**	.697**	.370**	.853**	.705**	.832**	1

* Correlation is significant at the 0.05 level.

** Correlation is significant at the 0.01 level.

Appendix E. Correlation matrix for Study 3 items (behavioural)

	Live games (supported)	Live games (other team)	TV games (supported)	TV games (total per week)	Merchandise	Gambling	Media consumption	Statistical consumption	Merchandise consumption
Live games (supported team – season)	1								
Live games (other team – season)	.400**	1							
TV games (supported team – season)	.261**	.035	1						
TV games (total per week)	.339**	.297**	.346**	1					
Merchandise spend ^a	.324**	.268**	.186*	.197**	1				
Gambling activities ^b	.272**	.356**	.205**	.201**	.210**	1			
Media consumption (7)	.541**	.278**	.433**	.428**	.407**	.306**	1		
Statistical consumption (2)	.435**	.300**	.415**	.427**	.459**	.339**	.755**	1	
Merchandise consumption (6)	.405**	.242**	.220**	.280**	.489**	.269**	.591**	.572**	1

* Correlation is significant at the 0.05 level.

** Correlation is significant at the 0.01 level.

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