Millennial football fan participation: the influence of football video games on play and engagement

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Abstract

Purpose – Traditional sports have seen declining participation at many levels, with football being no different. This is occurring at a time when emergent technologies present new challenges, particularly to the crucial yet ignored cohort of millennials. Without meeting the needs of millennials, football cannot be successful in the future. This research seeks to understand how millennial football fandom (sport, not team) in Australia impacts football participation, whilst empirically examining the impact of football video games (FVGs).

Design/methodology/approach – Survey data are collected from online groups, forums and social media pages of Australian football (soccer) fans. Quantitative analysis of millennial fandom and its influence on football participation (for the first time demarcated into play and engagement) is undertaken, including the moderating influence of time spent playing FVGs, amidst covariate influences of age and number of children.

Findings – Results highlight the multi-dimensionality of millennial football fandom in Australia, reveal the typical hours spent playing football across a range of participation types (including play and engagement), support fan involvement’s influence on engagement with football, establish that a desire to interact with other football fans manifests in playing more football, specify how playing FVGs moderates these relationships, supports the covariate influences of age and evidences that playing FVGs does not hamper football play.

Originality/value – This is the first study to examine millennial fans of football (the sport, not tied to a club) and the influence of fandom on football participation. By separating football participation into two forms, play and engagement, we highlight discrete influences, whilst evaluating for the first time the moderating influence of the time millennials spend playing FVGs. For sport managers and administrators, these are important findings to facilitate better segmentation, recruitment, retention and participation, each with broader societal health benefits. This is undertaken in Australia where football is not a dominant code, relegating fandom to a niche, thus revealing important findings for sports and business management.

Keywords Fandom, Football, Millennials, Participation, Video games

Paper type Research paper

Introduction

Physical sports are part of the fabric of Australian society. They are essential in building community, creating unity, and improving public health and wellbeing. Thus, it is imperative that sustainable participation remains a key societal outcome (Macri, 2019). Football is a prominent but not dominant sport in Australia with strong grassroots support. Its participation rate (which includes coaching, volunteering and community programs) in Australian adults in 2020 was 5.5%. This rate was 14.2% among children (Football Australia, 2022). However, whilst football enjoys large participation figures, it has struggled to secure domestic popularity relative to other sporting codes (Yun et al., 2021). Football in Australia remains largely participated in by males from European, Asian and African backgrounds. However, female participation is increasing and now represents 12.27% in 2022 (Football Australia, 2022). For indigenous Australians, football participation remains low despite sport's significant role in fostering a sense of belonging and culture. It is used as a lever to
“close the gap,” aiming to achieve health equity (May et al., 2020). Herein, to deliver on its potential societal benefits amidst its niche status in Australia, a much deeper understanding of football participation is required.

Whilst boasting record high viewership numbers and fostering the growth of professional clubs and leagues to phenomenal levels, traditional sports have seen declining participation at many levels (Roy Morgan, 2017). As the digital revolution continues, emerging technologies and digital communication methods present new challenges and opportunities for the successful management of the football industry. From hyper-digitalization transforming sporting cultures (Lawrence and Crawford, 2018), through to increased awareness around injury and concussions (Kim and Connaughton, 2021), football participation is declining. Declines in grass-root sports participation are particularly noteworthy to managers as they have a direct impact on the growth and strength of traditional sporting leagues and codes (Parnell and Widdop, 2016), with broader societal implications. Moreover, this may impact the sizable economic importance of sports in Australia estimated at a contribution of $14.4b (Clearinghouse for Sport, nd); the twentieth biggest contributor to GDP. As the sixth most participated sport in Australia, and arguably the most of all the “organized sports” (Office for Sport - Department of Health, 2020), football’s economic benefit is sizable. For example, football in New South Wales, which comprises approximately one-third of national participation (Football Australia, 2022), provides over half a billion dollars in community economic benefit (SBP, 2018).

For many sports, fans are the bedrock of participation and exist across a broad continuum. For sporting clubs, the constant pressure to be profitable and compete for entertainment dollars mandates the need for a loyal and devoted fan base. Such primary revenue sources include attendance, merchandise and media viewership, and are dependent upon growing relationships with fans (Gutierrez et al., 2023). Fan engagement with sports teams generates constant income from purchases such as attendance and merchandise (Hettermann et al., 2022). Evidently, discerning the motives and behaviors of sports fans is important to sports managers and marketers (Hunt et al., 1999). Recent research into football and sports fandom reveals important insights for those managing the industry. For example, fan consumption is found to be enhanced through community building special events and fan-player bonding held at children-friendly locations (Gutierrez et al., 2023). Online communities are also harnessed to stay connected and share unique experiences with fans’ objects of culture (Moura et al., 2023). Whilst sports fandom has received some attention, no research to date examines how dimensions of millennial football fanaticism manifest in football participation, specifically playing football.

The millennial generation represent an important cohort for football participation. Born somewhere between the early 1980s and early 2000s (Yim et al., 2021), millennials will soon reach their peak age of consumption as a dominant consumer cohort (Yim et al., 2021; Fromm and Garton, 2013). “Millennials are the first generation to come of age in the new millennium” (p. 3), shaped by significant events such as Internet technologies and the rise of social media, fundamentally shifting how information is shared and people connect (Freeman, 2022). Perhaps more than any current generation, millennials experience significant lifestyle changes that have a material impact on sports participation and fandom. This includes studying at and leaving university, starting full-time work and having children. Understanding fandom in millennials is so important, as Tamir (2022) reveal that fans’ intense consumption of sports declines due to changes in priorities but does become re-kindled during parenthood. Evidently, understanding this cohort is critical to the long-term success of sports organizations. Despite growing interest from other disciplines, including psychology and sociology, millennial sport consumption behavior is still an area of limited scholarship (Yim et al., 2021). This is the case in football, where no research explicitly examines millennials nor how their fandom manifests in different forms of participation.
Sports participation offers many social and psychological health-related benefits. Evidently, Elliott et al. (2020) are concerned by its decline, particularly at a time when attracting and retaining youth participation in sport remains elusive. Physical fitness is a strong mortality predictor, with physical training the cornerstone in prevention and treatment of lifestyle diseases, including diabetes (type 2), osteoporosis and hypertension (Milanović et al., 2019). Herein, understanding how to get more millennials playing sports such as football is crucially important to reversing calamitous trends in obesity. Temple (2023) concludes that “the fundamental cause of obesity is that the environment in which we live is obesogenic” (p. 2). Herein, they emphasize that a lack of physical activity is an important factor in obesity. This is particularly relevant for millennials for two reasons. First, because despite being quite young still, the prevalence of being overweight is found to increase with age (Temple, 2023) and thus on the horizon for millennials. Second, millennials are the next generation of parents that will create the family environments that shape obesity outcomes. Stavnsbo et al. (2023) acknowledge that sports participation is known to negatively associate with obesity measures in children, but find this is only among those in moderate-high obesogenic family environments. Contributing factors to such as family environments is the physical activity of the parents as well as their screen time. Thus, now is the time to investigate the participation of millennials in sport and understand the influences of digital technologies.

A common suggestion for the potential decline in sports participation has been the increased participation in sedentary activities, such as video games. Heavy video game engagement is recognized as potentially harmful (Holden et al., 2018), with motion-based video games found to be less beneficial to health-related fitness than physical play (Jenny et al., 2017). It is plausible that extensive video game play limits physically playing sports, with Kim et al. (2008, p. 44) determining that 5.4% of gamers sacrificed physical activities to play video games. However, whilst video games may be part of the problem, they may also be part of the solution. For example, sports video games (SVGs) have been explored as a strategy to recapture key segments to football clubs, particularly millennials (Lefebvre et al., 2020). Motivated by the need to recover appeals to young people, referred to as “disappeared fans generation,” the relationship between football and e-football is becoming solidified (Mazza and Russo, 2023). FVGs remain central to football as a sport and may offer directions for how to increase participation, particularly among millennial football fans. With several highly successful FVGs receiving much play (e.g. FIFA/EA Sports FC and Pro Evolution Soccer) now is the time to understand their influence on millennial football fan participation.

The purpose of this research is to understand how millennial football fandom influences participation in football and the role of football video games (FVGs) within this. To deepen the scholarly understanding of sports and business, we disaggregate the two types of participation into “play” and “engagement,” as it relates to football fans. Whilst they likely exhibit a symbiotic relationship and are both desirable outcomes for sports managers, the health benefits and many business are almost exclusively restricted to physical “play” (not “engagement”). This is significant as extant research (i.e. Yim et al., 2021; Hettermann et al., 2022; Yun et al., 2021; Annamalai et al., 2021; Mastromartino and Zhang, 2020; Pradhan et al., 2020; Chan-Olmsted and Xiao, 2019; Yoshida et al., 2014) only examines fan engagement, failing to understand what drives fans playing the sport they love. In doing so, the drivers of many social and economic benefits are overlooked. Moreover, such fan behaviors are not understood in highly competitive sporting markets such as Australia, where football is not a dominant code (Yun et al., 2021), whilst little empirical SVG research has been conducted (Anagnostou and Tzetzis, 2021). By addressing these gaps, significant value is provided to business and management stakeholders charged with drawing millennials away from digital technologies such as video games and out onto sporting fields and engaging with their sport.
Literature review

Fandom fandom

Fandom is the degree of intensity to which one is involved with a particular interest, with a “fan” being a person with strong enduring involvement. Fandom is typified by feeling close to others of the same shared interest, such as pop culture, a celebrity or a sport (Thorne and Bruner, 2006). For football fans, the subject of their fandom can be an escape from the everyday routines and problems of life (Anagnostou and Tzetzis, 2021). Football fan engagement is shown to enhance fan satisfaction and one’s association with the brand of the team (Yun et al., 2021). Thus, as a key goal of professional football clubs, beyond success on the field, is to operate as a successful commercial business, viewing fans as a primary stakeholder is essential (Lefebvre et al., 2020). This is no different for most community and semi-professional football clubs, as Anagnostou and Tzetzis (2021) highlight that loyalty to team sports is of great significance. Evidently, football fans are central to the success of the club or code despite knowledge of sports fandom and how it affects consumer behavior still being nascent (Mansfield, 2020).

Millennials are a key cohort of fans and players that warrant the attention of sports managers. Millennials are not just “younger” people, they possess their own generation-specific characteristics that distinguish them from older generations (Bolton et al., 2013). Several enduring traits uniquely ascribed to millennials in the sports context include that they are community-driven, show high levels of positive emotions in consumption and experience “fear of missing out” (FOMO) when missing opportunities to have fun with peers (Yim et al., 2021). Socializing, staying connected and being part of a community are important in millennial lives (Sago, 2010). This may explain why millennials interact heavily in online fan communities whilst watching sporting games, as well as the influence of FOMO on attending sports games and other behaviors like spectating on TV, online engagement and social networking (Yim et al., 2021). Millennials also tend to play video games more vigorously than the generations before them. For example, Garcia and Murillo (2020) find 78.21% of males aged 20–29 and 53.17% of males aged 30–44 are interested in playing SVGs, which drops off greatly with older generations. Whilst an understanding of the millennial cohort has begun, to harness its value in driving football participation, greater depth is needed.

Fandom dimensions

Fan behavior has long been linked with participatory culture that shapes, integrates and re-negotiates consumer markets (Fuschillo, 2020). Fandom manifests in different types of behaviors and contexts as a common characteristic that is neither extreme nor aberrant and occurs across many genres (Thorne and Bruner, 2006). It has received considerable research in the sporting context (Dwyer et al., 2018), revealing that all fans don’t participate with the same level of intensity, as different characteristics (dimensions) influence fan behavior (Thorne and Bruner, 2006). In the modern media and technological age dominated by social media and video games, fandom and its impact of participation are particularly curious. In supporting its “multi-dimensional” nature, Mansfield (2020) highlight important fandom constructs that stretch beyond identity, highlighting divergent fan motives and levels of psychological involvement.

In this context of millennial football fandom, we examine the dimensions explored by Thorne and Bruner (2006) and their influence on football participation. The “internal involvement” dimension of fandom represents how fans focus their time, energy and resources to their area of interest. This community identification occurs when a fan finds themselves psychologically intertwined with the characteristics of the fan group (Kim and Kim, 2017). Fans also possess a strong desire to be involved in fan-related activities, with the
desire for “external involvement” manifesting in different behaviors. This includes reading about one’s interest, attending events and communicating in online communities (Thorne and Bruner, 2006). Wakefield and Bennett (2018) associate the passion of a fan with attendance, media consumption and social media behaviors; all of which depend upon external involvement with fandom. “Interaction with others” is a hallmark of fandom used to satisfy one’s desires (Thorne and Bruner, 2006). In recent times, online communities have made interactions among fans easier and mutual through sharing, posting and commenting (Sanz-Blas et al., 2017), allowing fans to establish stronger personal relationships. Finally, fans want to possess material objects related to their interest, as represented through their “wish to acquire” (Thorne and Bruner, 2006). Such fan consumption practices enable fans to establish ties and legitimize their fandom (Moura et al., 2023), used as a means to express oneself (Arnould and Thompson, 2005) and community membership (Thorne and Bruner, 2006). Each of the aforementioned dimensions are unique characteristics of fandom that are experienced in different intensities, with potentially different outcomes for football participation examined.

**Football fandom and participation**

Football clubs, sporting and public health bodies are striving to increase sports participation amidst the threats of digital and sedentary behaviors. Millennial sports participation is typically very high, with Sports Aus Ausplay (2022) finding 66.9% of Australians aged 18–24 year olds and 67.4% aged 25–34 participated in at least one sporting activity per day. Encouragingly, Freeman (2022) compares the average hours participating in “sports, exercise and recreation” between Gen X in 2003 and millennials in 2019 (equivalent ages), finding comparable times (Gen X: 0.28 average hours per day, millennials: 0.33 average hours per day). Figures were about 21 and 27% higher, respectively, for males. However, whilst research such as Yim et al. (2021) examine aspects of millennial sports fans’ participation more akin to engagement (such as attending games, watching on TV and following of teams), no research to date empirically examines factors that drive playing sports. Outside of the millennial cohort, factors impacting sports participation have been studied. For example, a study of Australian 9–12 years olds found family, siblings and community to be key reasons for joining football (Curry and Light, 2009), with other studies highlighting competition, physical fitness and liking a challenge as top reasons for participating (Howie et al., 2020). Moreover, children and youth with parents who participate in sport or maintain an affinity for them are more likely to participate themselves (Strandbu et al., 2020; Howie et al., 2020). Evidently, as the current or next generation of parents, sports participation from millennials is crucial to broader sports participation.

As the football fandom of millennials increases, we expect them to participate in the thing they love more. Whilst a logical proposition, it is one that is yet to be examined, particularly with respect to how the different dimensions of fandom result in football participation. The influence of fandom on play is established in the case of the augmented reality mobile game Pokemon Go, which is dependent on physical activity to progress in the game (Butcher et al., 2019). Eime et al. (2015) find that among people who are active in sport, there are different “segments” of participation. We expect this to be the case for millennial football fans. Involvement with fan activities is an expected driver of playing football, as Potwarka et al. (2020) demonstrate that exposure to a sport leveraging initiative (track cycling competition) can stimulate participation. Casper and Menefee (2010) find those who played soccer viewed significantly more games than non-participants, whilst elements of the “sportscape” that may appeal to fans, and more sizable crowds at events are found to be reliable predictors of participation frequency at sports facilities (Hill and Green, 2012). Evidently, the following is hypothesized:
H1. Increases in millennial football fandom will cause football play to increase.

Being a fan means being involved. However, each football fan can’t go out to Old Trafford and play for Manchester United, and not all choose or are able to play the game in person. They can participate in football in other ways though. Herein, “engagement” involves a variety of activities that a fan undertakes to be involved in football without playing the sport itself. As fandom dimensions of millennial football fans intensify, we expect them to engage more with the sport. Fan engagement in sporting contexts is a form of customer engagement that is represented by non-transactional behavior (Yoshida et al., 2014) that varies at differing levels of fan contributions (Annamalai et al., 2021). It is characterized by interactivity, reflecting a positive individual dispositions toward the community expressed through varying levels of affective, cognitive and behavioral manifestations (Yun et al., 2021; Dessart, 2017).

Just as customer brand engagement is recognized as a multi-dimensional construct representing an individual’s passion for a brand (Yun et al., 2021), sports fandom is similarly multi-dimensional (Hettermann et al., 2022; Pradhan et al., 2020). In such research, a breadth of fan behaviors are captured. These can include social media (i.e. as understood by Annamalai et al., 2021; Mastromartino and Zhang, 2020) but extend beyond it both online and offline (Hettermann et al., 2022). The types of fan engagement examined are well supported in the literature and include spectating football matches (Pradhan et al., 2020; Wang and Tang, 2018), watching games on TV/online (Chan-Olmsted and Xiao, 2019; Mastromartino et al., 2018), sharing and exchanging ideas in football groups or forums (Yun et al., 2021), engaging with blogs or magazines (Yoshida et al., 2014) and watching or listening to football-related shows (Hettermann et al., 2022). In light of ubiquitous digitalization, Yun et al. (2021) discover that millennials are the first generation born within the information age who align their consumption behaviors with these technologies. Thus, they highlight that millennial sport fan engagement is higher than other generations. Evidently, we hypothesize the following:

H2. Increases in millennial football fandom will cause football engagement to increase.

Football video games

FIFA, the best-selling sport video game ever, has sold over 325 million copies across the franchise’s history. It is a highly successful FVG that builds fandom toward the sport. Perhaps unsurprisingly then, video games are being explored as a strategy to recapture key segments to football clubs, particularly millennials who are the biggest consumer of video games (Lefebvre et al., 2020). Garcia and Murillo (2020) conclude that the connection between playing sports and SVGs supports professional sporting clubs becoming involved in e-sports to broaden their fan bases among young people. Despite these benefits, it is plausible that playing FVGs, such as FIFA, may increase interest and fandom in football but actually reduce participation through play. Working against playing sports, video gameplay is widely acknowledged as a sedentary activity associated with adverse health effects, including excess weight, wrist injury and mental health concerns (Holden et al., 2018; Jenny et al., 2017). Jenny et al. (2017) even highlight the positive feedback loop where the immediate reward felt during gameplay motivates more gameplay. This is likely to inhibit fandom from translating into actual play. Lim (2018) support that increasing frequencies of playing FVGs did increase participation in actual football play in Korea. However, they did not support increases in the amount of time playing FVGs to increase participation. This highlights the proposition that playing FVGs satiates participation in the form of playing football. We hypothesize the following:

H3. The influence of millennial football fandom on football play will be weakened by the time spent playing FVGs.
Contrary to their effects on actual play, we believe that increased time playing FVGs will attenuate millennial football fans participation through engagement in football. The link between playing FVGs and participation is established. For example, Lim (2018) found that increases in FVG frequency and amount of play enhanced viewership in the Korean and foreign football leagues, with FVG frequency increasing attendance at Korean games and gaming time increasing football merchandise consumption. We believe the effect to be more nuanced to millennial fandom, as playing FVGs will lead to fans having positive experiences that will “spill-over” into other aspects of football participation. For example, the strategic use of e-sports gaming is established to strengthen the brand of football clubs with younger digital audiences (Lefebvre et al., 2020). Kim et al. (2008) note an identity link where sports fans play in the game as the team they support in real life. Such gameplay will likely embolden aspects of fandom related to identity and external involvement. Crawford (2008) compares the success of SVGs and sports movies, finding that SVGs (more so than movies) allow fans to construct their own identity and narrative, involving themselves with their favorite teams and clubs. This is likely exacerbated by players encountering sporting rules, terminology, tactics and interacting socially with peers (Jenny et al., 2017). The proposed conceptual framework is presented in Figure 1. Thus, we hypothesize the following:

H4. The influence of millennial football fandom on football engagement will be enhanced by the time spent playing FVGs.

Methodology
Population and sampling
The population of interest for this research project is Australian football fans. Such fans have a high prominence of young men and strong desires for expression of self through living and breathing football in all its forms (Alexandris and Tsiotsou, 2012). The high prominence of FVGs such as FIFA and Pro Evolution Soccer ensures investigating FVGs is of relevance to the millennial cohort, who are captured in this study as those born from 1980 to 1999. To access population members, a sample frame of Australian football-focused online communities, forums and social media platforms were used to recruit participants.

![Proposed conceptual framework](image)
Online communities have been supported in football fandom research due to their unique cultural context, level of interactions and rich discussions (Moura et al., 2023). To understand sport fan engagement, Winell et al. (2022) advocate for more research to be conducted using social media platforms. Within the employed sample frames, a link to a Qualtrics survey instrument was shared, with several strategies employed to establish trust within these networks. This included a topical meme associated with recruitment, a clear explanation of the purpose of the research, ethical approval, highlighting potential positive outcomes of the research to football participation and the raffle of gift cards to sports retailers. Culturally specific posting and interaction was undertaken throughout the data collection phase to establish a rapport and enhance survey participation. From an initial commencement of 331 participants, 213 completed surveys were collected within the space of approximately 1 week. After omitting 13 participants who failed attention or time tests, a sample of 200 was obtained, with 23 participants removed for being outside the millennial cohort, culminating in a final sample of 177 millennial participants. Consequently, a highly homogenous sample is obtained. Homogeneous samples are more conducive to precise theory building (Yun et al., 2021).

Importantly, though, this research does so with a dedicated sample of millennial football fans, not reliant upon a student sample or other potentially invalid cohorts.

Data collection and analysis
Addressing Winell et al. (2022) call for more quantitative studies assessing different types of sporting fans, data collection commenced with fandom measures from Thorne and Bruner (2006) adapted to the context of football, employing 7-point Likert scales (1 = strongly disagree, 7 = strongly agree). We examined fandom dimensions of “internal involvement,” “external involvement,” “interaction with others” and a “wish to acquire,” with each employing three items adapted from Thorne and Bruner’s (2006) exploration of fandom dimensions. Football participation through play was captured by asking participants “in a typical week, including training, how many hours do you engage with the following football activities?” Activities included “playing casual or social indoor football,” “playing casual or social outdoor football,” “competitive indoor football” and “playing competitive outdoor football.” Engagement was captured by asking participants “in a typical week, how many hours do you engage with the following football activities?” Activities included “spectating live football in person,” “watching football matches on TV/online,” “reading football news, blogs, groups, forums, magazines, etc.” and “watching/listening to football shows (e.g. talk shows, podcasts, etc.).” Hours playing FVGs was captured by asking “In a typical week, how many hours would you typically spend playing football video games?” The survey concluded with demographics (age, gender and number of children).

Hypotheses testing was undertaken through a variety of descriptive and mean analyses using SPSS (Version 25). Our analysis is conducted on data that is collected in late 2018, pre-COVID pandemic and thus has not been confounded by “lockdowns” limiting physical play and exacerbating online engagement in sports participation. Therefore, it represents the natural baseline football organizations should strive to first return to post-COVID and then grow from. Hours of football participation are summed within types – play and engagement and used as observed variables. Confirmatory factor analysis (CFA) of the fandom scale was conducted as a reflective measure using AMOS (Version 26), prior to validity assessments and structural equation modeling with subsequent moderation analysis. Validity was assessed using convergent and divergent validity, with model fit criterions (chi-square: df ratio 2–3, TLI and CFI >0.90, RMSEA <0.10). As we are investigating the millennial cohort specifically, aspects of being in a generational cohort may be confounding. Thus, we included age and the number of children participants have as covariates in the regression analysis. Existing research supports the necessity of controlling for demographic variables in sports or
fandom analysis. For example, Yun et al. (2021) control for age and gender in their analysis of Australian soccer fans' loyalty; Garcia and Murillo (2020) advocate for differentiation between male and female sporting behavior and analyze the number of children as a relevant variable; Mansfield (2020) establish that fandom often decreases as life changes such as parenthood take over, with fans' availability and perspectives changing leading to de-escalating their identification.

Results
CFA results initially indicated statistical validity issues with the third item of the original “external involvement” factor, with a squared multiple correlation (SMC) of 0.283 and an inadequate factor average variance extracted (AVE) of 0.451. Conceptually, this item represented attending games in person as opposed to more passive forms of involvement in football represented through other items, thus was omitted from the factor. This may be explained by the status of the fans studied as millennials and the changing forms of football participation in the digital age as acknowledged by Lawrence and Crawford (2018), specifically the migration of fan days and public viewings to digital media that do not require attending. The subsequent two-item factor exhibited high multi-collinearity with the “internal involvement” construct ($r = 0.940$). Thus, these two factors were collapsed into one semantically consistent five-item “involvement” factor. Subsequent analysis for the three-factor football fandom measurement model exhibits adequate model fit and validity, supporting its use in SEM (See Table 1).

Mean analysis reveals that the aspect of “football play” longest participated in by millennial football fans is “competitive outdoor” (2.47 h in a typical week) (See Table 2),

<table>
<thead>
<tr>
<th>INV1: I am a passionate football fan</th>
<th>β</th>
<th>S.E.</th>
<th>Sig</th>
<th>Std. β</th>
<th>SMC</th>
<th>AVE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>INV2: I consider myself quite knowledgeable about football</td>
<td>1.000</td>
<td>–</td>
<td>–</td>
<td>0.757</td>
<td>0.575</td>
<td>0.554</td>
<td>0.889</td>
</tr>
<tr>
<td>INV3: I spend a lot of time studying football</td>
<td>1.037</td>
<td>0.099</td>
<td>***</td>
<td>0.796</td>
<td>0.629</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INV4: I often read magazines, websites and watch shows about football</td>
<td>1.530</td>
<td>0.153</td>
<td>***</td>
<td>0.762</td>
<td>0.570</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INV5: Others often ask my opinion on football</td>
<td>1.163</td>
<td>0.127</td>
<td>***</td>
<td>0.701</td>
<td>0.497</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IWO1: A lot of my friends are involved with football</td>
<td>1.310</td>
<td>0.143</td>
<td>***</td>
<td>0.700</td>
<td>0.499</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IWO2: I spend a lot of time talking about football with others</td>
<td>1.166</td>
<td>0.129</td>
<td>***</td>
<td>0.874</td>
<td>0.783</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IWO3: I like to spend time with people passionate about football</td>
<td>0.836</td>
<td>0.101</td>
<td>***</td>
<td>0.730</td>
<td>0.506</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTA1: I have a lot of football-related belongings</td>
<td>1.000</td>
<td>–</td>
<td>–</td>
<td>0.836</td>
<td>0.706</td>
<td>0.701</td>
<td>0.876</td>
</tr>
<tr>
<td>WTA2: I spend a lot of money on football-related items</td>
<td>1.153</td>
<td>0.086</td>
<td>***</td>
<td>0.892</td>
<td>0.797</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WTA3: I collect football-related items</td>
<td>1.066</td>
<td>0.091</td>
<td>***</td>
<td>0.784</td>
<td>0.601</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** $p < .001$. Note(s): Model fit for four factor Fanaticism Measurement Model: $x^2$: 115.87(df = 48), ratio: 2.414; TLI: 0.914, CFI: 0.938, RMSEA: 0.090, (LO90: 0.069, HI90: 0.111, sig), Item omitted: “E3. I like going to football related events ie fan days, public viewings etc.,” SMC = 0.283. Model Fit for final three-factor Fanaticism Measurement Model: $x^2$:103.08(df = 41), ratio: 2.514; TLI 0.919, CFI: 0.940, RMSEA: 0.093, (LO90: 0.071, HI90: 0.115, sig), Square root of AVE: INV: 0.744, IWO: 0.763, WTA: 0.837; CFA factor correlations: INV-IWO: 0.892, INV-WTA: 0.670, IWO-WTA: 0.566

Mean scores (standard deviation) for three factors: Involvement: 5.50(1.08), Interaction With Others: 5.16(1.27), Wish To Acquire: 4.35(1.62)

Source(s): Author’s own work

Table 1. Measurement model analysis

Football video games fan participation
followed by “casual/social outdoor” (1.13 h). This shows a strong favoring of outdoor play relative to indoor. Regarding “Football Engagement,” “spectating of games on TV/Online” is longest participated in (4.41 h in a typical week), followed by blogs, forums/groups, magazines, etc. (3.71 h). Overall, engagement averages 12.26 h in a typical week, almost three times more than play at 4.47 h. This reveals that millennial football fans are heavily involved in football media and engagement in the sport beyond actually playing. Correlation analysis is undertaken of the independent and dependent variables, exhibiting consistently strong moderate correlations (see Table 3).

Structural equation modeling was undertaken on four models (See Table 4). The first representing purely football fandom’s influence on football play and engagement. The second model introduces time playing FVGs in a typical week. The third model introduces the moderating influence of FVGs on the football fandom dimensions. The fourth model seeks to find the most parsimonious model to assess hypotheses based upon conceptual explanatory power and model fit. Each of these models incorporates the covariate influence of the age of the millennial football fan and the number of children they have. Due to the differences in scale metrics of fandom (1–7) relative to hours of football participation and playing FVGs (0–168) in a typical week, standardized regression weights (SRWs) are favored over unstandardized, with SRWs >0.100 considered representative of an adequate effect size to be retained in the model. SRWs <0.2 are considered “weak” effect size, 0.2–0.5 “moderate” and >0.5 a “strong” effect (Acock, 2014).

Table 2.
Mean analysis of millennial football fan participation (play and engagement)*

<table>
<thead>
<tr>
<th>Millennial football fan play</th>
<th>Casual/Social Indoor</th>
<th>Casual/Social Outdoor</th>
<th>Competitive Indoor</th>
<th>Competitive Outdoor</th>
<th>Overall Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (Standard deviation)</td>
<td>0.64 (1.28)***</td>
<td>1.13 (1.90)</td>
<td>0.23 (0.71)***</td>
<td>2.47 (3.90)***</td>
<td>4.47 (5.23)</td>
</tr>
</tbody>
</table>

Table 3.
Correlation analysis results

| Source(s): Author's own work |

<table>
<thead>
<tr>
<th>Millennial football fan engagement</th>
<th>Spectating in person</th>
<th>Spectating TV/Online</th>
<th>Blogs, forums/Groups, mags, etc.</th>
<th>Watching/Listening shows</th>
<th>Overall mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (Standard deviation)</td>
<td>1.62 (2.37)***</td>
<td>4.41 (3.46)***</td>
<td>3.71 (3.54)***</td>
<td>2.53 (3.46)**</td>
<td>12.26 (8.90)</td>
</tr>
</tbody>
</table>

Note(s): * Mean (Standard deviation)
***p < 0.01; ****p < 0.001 for paired-sample t-test relative to mean of other three participation types

Play for: 0 h per week typically, n = 54; 1 h per week typically, n = 18

Engagement for: 0 h per week typically, n = 4; 1 h per week typically, n = 3

Hours spent playing video (FVGs) in a typical week: Mean = 3.96, Standard deviation = 4.87

Source(s): Authors own work

| 1 - Involvement# | 1.000 |
| 2 - Interaction With Others# | 0.614**** | 1.000 |
| 3 - Wish to Acquire# | 0.459**** | 0.573*** | 1.000 |
| 4 - Age | -0.241**** | -0.174* | -0.251*** | 1.000 |
| 5 - Hours Playing FVGs | 0.325**** | 0.167* | 0.193** | -0.241*** | 1.000 |
| 6 - Play | 0.345**** | 0.388*** | 0.327*** | -0.261*** | 0.227** | 1.000 |
| 7 - Engagement | 0.472**** | 0.222** | 0.278*** | -0.181* | 0.268*** | 0.081 | 1.000 |

Note(s): *p < 0.05; **p < 0.01; ***p < 0.001. #Mean scores

Source(s): Author’s own work
Structural model analysis of Model 4 establishes that particular aspects of millennial football fandom do influence football play. No substantial influence is found for the involvement dimension of fandom, with a moderate positive influence from interaction with others ($\beta = 1.741^{***}$, SRW = 0.322) and weak influence from the wish to acquire football fandom.
dimension ($\beta = 0.463$, n.s., SRW = 0.135) found. Herein, there is tentative support for H1. Perhaps unsurprisingly, as the age of millennial football fans increases, the amount of time playing football decreases ($\beta = -0.136^*$, SRW = $-0.155$), with no influence observed as the number of children increases.

We establish contrasting influences of particular aspects of millennial football fandom on football engagement. A strong positive influence is found for the involvement dimension ($\beta = 4.107^{***}$, SRW = 0.596). However, a weak negative influence is found from interaction with others ($\beta = -1.729$, n.s., SRW = $-0.190$) and no influence from the wish to acquire football fandom dimensions. Herein, H2 is tentatively supported. The contrasting nature of results for participation types deserve further scrutiny. Inverse to the previous findings, no influence is observed on engaging in football as the age of millennial football fans increases. However, as millennial football fans’ number of children increases, football engagement decreases ($\beta = -1.764$, n.s., SRW = $-0.104$).

Initial analysis of FVGs reveals that as millennial football fans play FVGs more, there is a statistically small increase in the amount they play the sport in real life ($\beta = 0.081$, n.s., SRW = 0.076). The moderating influence of the time playing FVGs is only limited to the wish to acquire dimension of football fandom, positively moderating this influence ($\beta = 0.091^*$, SRW = 0.114). Herein, there is tentative support for H3. Analysis reveals that as millennial football fans play FVGs more, they do engage more with the sport ($\beta = 0.234^{**}$, SRW = 0.131). However, no moderating influence of the time playing FVGs is found for any of the fandom dimensions on football engagement, rejecting H4. The final conceptual framework is presented in Figure 2.

**Discussion**

Millennial football fans represent the future growth of the sport and engage with football in new, often technologically mediated ways, all whilst battling many new demands for their attention and participation, including from video games. Evidently, this research set out to understand how millennial football fandom influences participation in football and the role of FVGs within this. Fandom is a well-established cultural dimension that has substantial influence over participation and has been the subject of much recent research at the

**Figure 2.** Conceptual framework analysis

Source(s): Authors own work
intersection between sports and business (e.g. Moura et al., 2023; Winell et al., 2022; Gutierrez et al., 2023). This research extends analysis of fandom to millennial football fans in Australia, highlighting not only its multi-dimensionality, as done by Dwyer (2018) and Thorne and Bruner (2006), but also its diverse and adaptive manifestations. Our descriptive analysis of the dimensions supports that expressions of involvement can be mild, passive acts through to intensive immersion within an interest (Thorne and Bruner, 2006). Thus, our insights into fandom are particularly original when considering that football in Australia exists as a sport somewhat on the outer societally, with an “underdog” or contrarian status.

Sports managers are concerned about deceasing sports fan attendance among millennials where sports fan engagement is highly technology driven (Yim et al., 2021). To address this concern, we deepen scholarship of this important cohort of digitally connected sports fans and consumers. Herein, this research establishes that fandom is still highly relevant to sports management. This remains encouraging, as young people find football participation to be intrinsically motivated as an activity of fun that enables social relationships and the opportunity to develop as players (Ekholm and Dahlstedt, 2022). Our results support this, revealing that millennial football fans engage in football for an average of over twelve hours per week, utilizing a number of methods and media to do so. This highlights that football is still at the nucleus of many millennial fans’ passions and interest, likely forming a crucial focus of their social lives, online and in person.

For football clubs and organizations, participation is the crucial outcome they desire. However, there is no relevant football participation research to draw from, with most sports participation research examining it from the health perspective, not as a crucial outcome variable for managers to maximize. We demonstrate that participation comes in many forms, deepening the sports literature’s understanding of what it encompasses by separating our analysis of millennial football participation into two forms: play and engagement. Regarding play, we discover that millennial football fans play, competitively or casually, indoor or outdoor, for an average of about four and a half hours per week, with competitive outdoor play the most common. We also highlight that outdoor football is more participated in than indoor. However, playing the sport is not where it ends for millennial football fans, and may not even be where it starts. In fact, ~30% of the millennial football fans did not play football at all in a typical week, whilst ~10% only played for one hour. Furthermore, we discover fan engagement in football encompasses many other ways in which football fans explore their passion. Only examining one of these would neglect to capture important findings, as would aggregating them together. This would be particularly problematic for fandom research, as the phenomenon is characterized by broad degrees of participation that occur in many different ways, thus necessitating discrete empirical analysis.

The revenue generation of sporting clubs is dependent upon growing relationships with fans and increasing levels of identification with the sporting club (Gutierrez et al., 2023). This necessitates a deeper understandings of football fandom, among specific cohorts, with millennial football fandom supported as multi-dimensional in this research. Hao (2020) notes that consumer fandom research is burgeoning, with the understanding of its consequences still rather unclear. Thus, we address this shortcoming, revealing distinct influences of football fandom dimensions. First, we discover that involvement only exerts an influence, albeit a very strong one, on fan engagement. This form of participation is leveraged through digital technologies, which complement millennial sport experiences (Yim et al., 2021) and thus represent an important aspect of the modern football fan. Moreover, this extends the assertion that enduring involvement, the extent to which something is viewed as a central or significant part of one’s life, can impact consumer brand engagement (Yun et al., 2021), to the context of Australian millennial football fans. However, those on the business side of football need to be considerate of involvement as fan value co-creation is autonomous and...
uncontrollable by brands (Moura et al., 2023), as the commercialization of sporting teams poses threats to the authenticity of the team and the role of fans (Winell et al., 2022).

We demonstrate that a desire to interact with other football fans manifests in participation through playing football more. In exploring social capital, Mastromartino et al. (2022) discover that membership in a sporting fan community is more likely to lead to a large number of weak ties than to form more personal relationships. These ties expose fans to new people from different backgrounds. This may suggest a social capital drive to expand one's friendship network in the real world through play in a manner that fan engagement activities do not satisfy.

This supports Zwolinsky et al. (2018) which identifies a cluster of male football participants whose social networks focused extensively on playing football (inside and outside of school), with their behaviors and social norms reinforced by football-oriented ties. Such nuances vindicate our distinction in participation types, validating Cohen and Avrahami (2005), and Green's (2003) assertion that key motives for participation (play) and spectatorship (engagement) are driven by different needs. Results support that millennial social interaction centered on football, through training and games, at both a casual and competitive level, is still sought after and may be preferred over merely engaging in the sport in the absence of play. Our results contradict the assertion that millennials just want to spend their time online, in the virtual world. This may be the case for relaxation, time killing or other interests, but for millennial football fans, playing the sport they love is still largely driven by a desire to interact with others. This echoes Cohen and Avrahami's (2005) discovery that in fact young fans do not fulfill their social needs by watching and supporting their team live. We argue participation through play may be their missing piece.

SVG players are sports fans, with playing SVGs one of their many ways of engaging with the sport (Kim et al., 2008). The findings of this study support such a proposition, evidencing that playing FVGs increases millennial football fans engagement with the sport. Anagnostou and Tzetzis (2021) reveal that through football spectating, fans experience a “different world,” the “magic world of football” full of emotions, clashes, stars, goals and spectacle. These experiences may explain what players of FVGs obtain in the digital world, highlighting the joy that can come from immersing oneself deeper in a sport they love through playing related video games. Crawford et al. (2019) recognize that FVGs are specifically experienced and narrated to bring the geography and mechanisms of sporting locations, and interactive and explicit bodily experiences into the game. Thus, we conclude that playing FVGs offer fans valuable experiences they may not obtain from playing football in real life achieved through engagement.

This study examines for the first time the moderating influence of FVGs as it relates to millennial football fandom and participation. Specifically, a positive moderating influence is discovered for FVG's influence of millennial football fans' wish to acquire on their participation through play. However, a direct influence is not supported. This is an important new discovery that deepens how gaming can influence sports participation and its intersection with other fan behaviors. Evidently, playing FVGs appears to be a missing link in mobilizing the collecting and ownership aspects of millennial football fandom into playing the sport. The concept of an ongoing journey and relationship between individuals and a brand is advanced by Dwyer et al. (2018) and Fournier (1998), with the former stating that these individual relationships can progress to a loyal partnership. In which case, millennial fan consumption (and loyalty) may be more performance related, directed more toward the brands providing boots, shirts, balls, etc., not the things of traditional fan idolatry or obsession such as pop culture, paraphernalia, media, or to the clubs themselves. Extant research suggests that interest in physical activity can be generated by practicing virtual sports (Garcia and Murillo, 2020), whilst playing SVGs increases player knowledge of the sport and intentions to play the sport in real life (Jenny et al., 2017). In light of such, we extend
the beneficial influence of FVGs to their amplification of the positive effects of “football things of interest” as a facilitator of millennial football participation.

Encouragingly, our results do not support that playing FVGs reduced the amount of time millennial fans spent playing football. This deepens the research of Lefebvre et al. (2020), Lim (2018) and Jenny et al. (2017) that warn of changing demographics on sports participation and the concerns of sedentary gaming, whilst extending SVG research of Garcia and Murillo (2020) and Kim et al. (2008) to the football context.

Regarding the covariate relationships examined, we discover that millennial football fans’ age and/or their number of children serves as inhibitors to football participation. As millennial football fans got older, there was a small decrease in the amount of hours they spent playing football. As the number of children they had increased, decreases in football engagement are observed. These are important considerations that deepen research into demographics in sport and football participation from Garcia and Murillo (2020), Mansfield (2020) and Kim et al. (2008). Furthermore, they support that statistical analysis should consider these variables when trying to explain phenomena associated with millennial fandom and sports participation.

**Conclusion**

The purpose of this research is to understand how millennial football fandom (the sport, not a team) influences participation in football, and the role of FVGs (such as *FIFA*) within this. In doing so, several important contributions are made, including addressing the call for the progression of sports management scholarship by authors such as Kim and Byon (2021). Our results provide valuable insights for sports managers to address the trend of declining sports participation, providing greater insight into this largely unknown millennial cohort.

We empirically examine dimensions of fandom within the context of football and millennials, addressing Thorne and Bruner’s (2006) request for rigorous quantitative analysis. In doing so, we establish that football as a sport is the subject of millennial fandom, highlighting its key dimensions, including collapsing involvement into a single dimension incorporating internal and external aspects, and disaggregating it from attending fan events. By evaluating fandom dimensions discretely, we reveal their unique influences on football participation, deepening the sports management literature beyond basic measures or purely consumption driven attitudinal or behavioral measures. Here, we show that “interaction with others” drives football play among millennial football fans, whilst “involvement” drives engagement. We extend the influence of playing FVGs into the sports management literature, establishing that as millennial football fans play more, small increase in engagement are observed alongside the moderating influence of a “wish to acquire” on football play. Importantly, we do not support that playing FVGs decreases how much people play football, suggesting that at worst, FVGs present a benign impact on football participation and quite possibly a positive one. The specific moderating influence of FVGs we observe highlights a new finding, likely specific to football and millennials, enhancing the influence of acquisition of football things on playing football.

We offer the sports management literature important methodological contributions. Through the focus of our sampling, we obtain data specific to Australian millennial football fans. This focus allows for deeper analysis of a specific generation that is at the crossroads of participation themselves, and their children. By focusing on Australian football fans, football engagement is better understood from markets outside Europe with a distinct sporting background and set of traditions (Winell et al. 2022). By capturing data pertaining to how much time is typically spent playing FVGs, we extend studies in the sporting domain, in this case through moderation. By separating football participation into two forms, play and engagement, we allow for the capture of more ecologically valid data that can serve as a...
crucial dependent variable for those in the sports management literature. In deepening our analysis, we establish the influence of age and number of children (which are rarely examined) as important covariate variables that should be considered. These are particularly important for millennial studies where age is a defining factor and generalizations are made within a generational cohort.

For sport managers and administrators, we reveal important findings to facilitate better business practice, such as customer segmentation, recruitment, retention and participation. These go beyond broader health benefits to society that sports participation research is often limited to. We provide insights into the specific play (including indoor, outdoor, casual and competitive) and engagement aspects of millennial football participation at a granular level. We provide directions for sporting organizations and clubs to harness FVGs in their sport, emphasizing its role as a conduit between acquiring football things and playing the sport. This should be focused toward grassroots engagement, and getting those fans involved in the sport who may not be playing or may have accessibility challenges. Doing so may compound Ng et al.’s (2022) proposed opportunities for the promotion of healthy behaviors by using SVGs to encourage physical activity, with the results suggesting football participation is not harmed along the way. Football fans in Australia are in uniquely positioned somewhat on the outer with respect to sport involvement and its niche within popular culture. Herein, our results provide greater nuance regarding millennial fandom for sports that are more prominent than niche, but still relegated to a smaller portion of society or maligned.

Limitations and future research directions
This research examines millennial football fandom and its influence on football participation. However, the dimensions of fandom captured are limited to those identified by Thorne and Bruner (2006). Further research could seek to expand these, particularly to explicit aspects of fan identity and to further validate fanaticism specific to a sport, not a team, and its influence on different forms of participation. Our results support the collapsing of the internal and external involvement dimensions into a single dimension, whilst disaggregating it from attending fan events. Thus, attending fan events may warrant analysis as its own discrete dimension and further research should determine if the unique items load differently in this, or other sporting contexts. We model the influence of playing FVGs through a single measure of how many hours millennial football fans typically play in a week. Further research may benefit from a more nuanced and encompassing measure of playing FVGs incorporating aspects of gameplay, i.e. types, teams, with whom, etc. Due to the outcomes of the sample, our results are limited to predominantly males. This appears common for research in this context as the sports fandom studies of Yun et al. (2021) and Pradhan et al. (2020) who also report a heavy asymmetry toward males. Future research should examine female football fandom. Here, Elliott et al. (2020) argue “increasing girls” participation in organized sport in Australia represents an elusive challenge for most sporting codes” (p. 392). The interactions between fandom and other personality characteristics, such as fan superstition (Dwyer et al., 2018) also warrant further attention. Whilst modeling for the number of children a millennial football fan has, few sample members were parents. Thus, analysis of football fans among parents couple be particularly interesting, including how this associates with their children. Data were collected pre-pandemic. Whilst this serves as a useful baseline to compare, additional analysis “post-pandemic” will be beneficial. Clarkson et al. (2022) highlight the neglect of female football league during the COVID pandemic, lamenting its status as a “cause” fighting for legitimacy, not a “business” unlike the men’s game. Sports management may benefit from exploring fandom among female football fans as a means to build this legitimacy alongside men, and in their own right.
References


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