Spectator Interest in Attending Future Danish Men's National Soccer Team Matches: A Study of Demand

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ABSTRACT

Existing research on spectator demand tends to focus primarily on elite club sport. This paper aims to expand on the literature by applying regression models to a large and unique set of survey data collected from Danish men's national soccer team matches held from 2013 to 2017. The output from our models suggests that the number of matches attended is positively related to future demand, as are the results of the matches. Our results have implications for managers of national sports federations because they provide information on how spectators' interest in and intention to attend matches involving national teams are related. This can assist them in improving spectator demand in the future.

Keywords: Soccer, National Team Games, Spectator Interest, Behavioural intention

INTRODUCTION

Quality of service and other attributes connected to customer satisfaction and behavioural intention has been shown to have a significant effect on attracting spectators to sports games and increasing revenue from sporting events (Cunningham & Kwon, 2003; Dale et al., 2005; Greenwell et al., 2002; Martin et al., 2008). Soccer[i] is extremely popular globally, and attending its matches is a common leisure pursuit enjoyed by many (Biscaia, 2016; Theodorakis et al., 2013). However, soccer competes with other leisure activities when it comes to attracting the attention of potential fans and consumers (Couvelaere & Richelieu, 2005; Hall et al., 2010; Theodorakis et al., 2011), meaning that sports managers need to be increasingly aware of how spectator demand can be optimised in order to increase ticket sales and other match-related revenue (Calabuig Moreno et al., 2015; DeSchriver & Jensen, 2002).

In this paper, we analyse a set of survey data collected from 17 Danish national men's soccer team home matches, covering the period from 2013–2017, using regression models to identify factors correlated to spectators' interest in attending future matches. While there is a large body of research on spectator demand related to elite club sport and national leagues (e.g. DeSchriver & Jensen, 2002; Forrest & Simmons, 2006; Getz et al., 2001; Simmons, 1996), only a limited number of studies on games involving national teams (e.g. Kringstad et al., 2021) have been produced.

This paper aims to fill this gap and is structured as follows: First, we briefly establish a conceptual framework based on a review of existing literature on factors related to spectator demand. Second, we present the data and provide a brief overview of the methodological approach. Third, we discuss the results and conclude by focusing on the limitations and implications of our findings and prospects for future research.

SPECTATOR DEMAND-RELATED FACTORS AT SPORTS GAMES: A BRIEF LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Literature review

Literature on spectator demand has grown significantly over the years (Martin et al., 2008; Schreyer & Ansari, 2021), and has taken many different approaches (Biscaia, Correia, Yoshida, et al., 2013). Some studies have focused on service quality (e.g. Dale et al., 2005; Ko et al., 2011), others on match scheduling (e.g. Iho & Heikkilä, 2010), and some have also studied unpredictable factors affecting attendance, such as match day weather (Storm et al., 2018). Borland and Macdonald (2003) take a seminal approach to structuring the themes of these different types of studies, arguing that when looking at demand related to sporting events and spectator sports, several factors are at play: 1) consumer preferences, 2) economic factors, 3) quality of the experience, 4) characteristics of the sporting contest, and 5) supply capacity. In a recent scoping review, Schreyer and Ansari (2021) identify 195 papers that have been published within these categories. We will touch on selected studies from each category except supply capacity, because this paper studies matches that have not had full capacity crowds and because focusing on supply does not say much about demand (Dobson & Goddard, 2011).

1) Consumer Preferences

Preferences for watching sports games live can be very different among different segments of consumers (Borland & Macdonald, 2003). In short, they can depend on gender (Tainsky et al., 2014), income (Lera-López et al., 2011), and loyalty (Kringstad et al., 2021). This is – for example – evident in the study conducted by Kim and Trail (2010), who find that attachment (loyalty) to the team is a strong predictor of (future) demand. James and Ross (2004) broaden this perspective by comparing sports consumers'

motivation to attend amateur and semi-professional sports matches in the US. Here, the spectators were motivated by factors that are generally associated with sport, such as entertainment value or drama. However, the factors vary across different segments in their sample.

2) Economic Factors

Economic factors encompass a wide range of variables, such as ticket prices (García & Rodríguez, 2009), the total cost of attending (Borland & Lye, 1992) including opportunity costs (Downward & Dawson, 2000), proximity to the event (Meier et al., 2016), and the availability of substitutes (Baimbridge et al., 1996).

Biscaia, Correia, Yoshida, Rosado, and Marôco (2013) surveyed Portuguese club soccer fans on factors including ticket pricing, finding that consumers' perceptions of ticket pricing were positively connected to their behavioural intention to purchase tickets again. The results of the survey indicated, according to the authors, that flexible ticket pricing for different seat locations and day/hour of the match could help increase demand.

Regarding competing leisure activities, some scholars note that broadcasting the same match on television can be categorised as an activity that has a direct impact on match day attendance (Storm et al., 2018). Other sports events or games and other leisure activities like going to the theatre are considered as indirect competition (Borland & Macdonald, 2003). But there is little to no evidence of negative effects in this regard (e.g. Cox, 2012; García & Rodríguez, 2002). Proximity to the games is of relevance as an economic factor. Travelling time creates opportunity and direct costs with the evidence showing a negative effect (Babatunde Buraimo, 2008; Meier et al., 2016).

3) Quality of the Experience

The conditions under which the attended game takes place can determine the quality of the experience for spectators. These conditions can include the weather (for example, rain and snow or extreme temperatures) (García & Rodríguez, 2002), the state of the facilities (i.e. whether the stadium is new, refurbished or old (Feddersen et al., 2006)), and match scheduling (B. Buraimo et al., 2009). Hall et al. (2010) find that facilities are among 'the most significant predictors of attendance' (p. 332), and include parking, access to the stadium and seating in their analysis. Yoshida and James (2010) analyse data from professional baseball and college football games in Japan and the US, finding that the atmosphere at the stadium – also associated with the quality of the experience – is a strong predictor of game satisfaction and demand.

In regard to weather and scheduling, the evidence is mixed. Some studies cannot prove that rain has a negative effect (e.g. Baimbridge et al., 1996), whereas others can (e.g. Iho & Heikkilä, 2010). However, a weekend match day is often preferred to a normal week day (Storm et al., 2018).

4) Characteristics of the Sporting Contest

'Characteristics of the sporting contest' refers to both the relative and absolute strength between the two teams in question. Theodorakis et al. (2013) study outcome (game quality and team performance) quality in Greek club soccer, finding that this dimension has a significant impact on spectator satisfaction and behavioural intention to purchase tickets. Watanabe and Soebbing (2017) use data from the Chinese Super League (CSL) to reach a similar conclusion that demand is (positively) related to the strength of the opponent and rivalries among teams. Other studies have considered questions of competitive balance with mixed evidence (Borland & Macdonald, 2003). Spectators are

also attracted to important games, such as playoff rounds or finals, or (international) tournaments with prestigious prizes at stake (Scelles et al., 2016).

In summary, research on spectator demand related factors is broad and covers a variety of different sports, events, and nations, but it also has a clear bias towards (professional) club sports and national leagues. The exceptions are Feddersen and Rott (2011), who look at German national football team television viewership and Kringstad et al. (2021), who analyze spectator demand for women's national matches in Denmark. However, research on national soccer matches is scarce, which is a problem because it leaves national federations without appropriate evidence to guide the optimisation of their match day experiences and subsequent revenue streams. To build on the existing research, we provide insights from men's national matches in Denmark.

Conceptual Framework

In terms of conceptual framework for the analysis, it is clear from the above review that many methods to measure demand have been used in contemporary research. Some have used objective spectator figures (e.g. Storm et al., 2018) and others look at survey data measuring satisfaction or behavioural intention (e.g. Theodorakis et al., 2013). In this paper, our approach is limited by the data available (more on this below). We use a proxy for demand: Spectator interest in attending (future) games, anticipating that if the survey respondents were satisfied with their experience at national team home games, then their interest in attending future matches would increase (Getz et al., 2001; Theodorakis et al., 2009).[ii] According to Sumino and Harada (2004), intention is a key predictor for actual behaviour – and therefore demand.

As consumer satisfaction and behavioural intention are determined by a variety of factors (Getz et al., 2001; M. Yoshida & James, 2010), including past experiences, we deploy regression models on our data.

It is important to take into consideration that factors influencing satisfaction and behavioural intention can differ across segments of spectators. Such differences can be taken into account by applying controls to our regression models to look for variations between the spectator groups. In the next section, we will touch more on this whilst presenting our data and methodology.

DATA, METHODS AND EMPIRICAL REGRESSION MODELS

To conduct our analysis, we accessed data gathered by Dansk Boldspil-Union, DBU (*The Danish Football Association)*, which conducted surveys among people who bought tickets online for Denmark's national team home matches in 2013-2017. This presented us with data from 17 home matches held at the national stadium, *Telia Parken* located in the Danish capital, Copenhagen, including responses from 24,044 spectators.[iii]

Dependent Variable

Our dependent variable, *Interest in attending live games* (*IIALG*), is taken from the survey question: 'To what degree are you interested in attending one of Denmark's matches at the national arena?' with the Likert-type (1932) scale options ranging from 0 (to a small degree) to 10 (to a very large degree). This variable has a mean of 7.756 and a standard deviation of 2.416.

Independent Variables

As outlined in the literature review, a broad set of factors can have an impact on spectators' satisfaction at sports games and – in turn – their behavioural intentions to (re)purchase tickets for future events (James & Ross, 2004). Hence, we deploy a broad set of independent variables and test their relation to the dependent variable.

First, we include relevant controls at the spectator level, all of which are operationalised as dummy variables. These include *Woman*, *Age*, *Residence*, *Previous attendance*, and *With children*. The dummies are – as mentioned earlier – deployed to see whether game quality is experienced differently across different spectator segments (*Consumer preferences*).

Woman is a category aimed at looking at consumer differences between genders (Trail et al., 2008) and *age* is divided into five categories in order to test whether there

are age specific differences to *IIALG* (Masayuki Yoshida & Gordon, 2012). *Previous attendance* shows how many matches the spectator has attended over the last two years, with the choices including 'this is the first match', '2–4' or '5 or more'. This category is included because previous consumption has been proven to affect current consumption of the same product (Bodet & Bernache-Assollant, 2011; Laverie & Arnett, 2000). Therefore, we expect the number of previous games attended to be positively correlated with our dependent variable.

Finally, *With children* takes the value of 1 if the respondent went to the match together with a child aged 16 years or under. It is difficult to declare any clear expectation regarding this variable as we have not encountered any studies using such a control. However, taking children could enhance the experience by making it more fun.

Proximity to games can, as mentioned in the literature review, influence spectator demand due to the cost of travelling to and from the stadium (*Economic Factors*). This is why our variable *Residence* shows whether the spectator comes from Greater Copenhagen (where *Telia Parken* is located), other parts of Zealand, Jutland (southern and central), Northern Jutland, Bornholm, or other places in Denmark. Based on existing research, we expect that people traveling long distances might be less interested in attending future games than those who live closer to the national stadium.

We also aim to test the relationship between match-specific variables and our dependent variable. The variable *Stand*, which is related to *Quality of viewing*, indicates whether the respondents had tickets to the long sides of the stadium (A or C) or the short sides (B or D). It is well known that the atmosphere at the stadium is a determinant of demand (Borland & Macdonald, 2003) and, for this reason, could affect *IIALG*. However, the atmosphere could be different depending on the stand in which the spectator is located, so this control aims to provide us with information in this regard.

The weather can also influence demand and overall satisfaction (Baimbridge et al., 1996; García & Rodríguez, 2002), so to test how the weather is correlated to our dependent variable, we deploy a *Rain* variable (value 1 if it rained during the match) and a temperature variable measured by *Celsius*. We have also tested for potential non-linear relationships between temperature and *IIALG* by including the squared term of *Celsius*. We expect a negative correlation between *Rain* and our dependent variable, whereas higher temperatures could affect attendance positively (Iho & Heikkilä, 2010). In case of a non-linear effect, the positive effect starts to wane when temperatures rise to less comfortable levels.

Finally, *Time* (i.e. if the match start is 18:00, 20:15, or 20:45) and *Match day* (Monday–Thursday, Friday, Saturday and Sunday) are entered to test whether there are timeslots that are more attractive than others (Forrest & Simmons, 2006). Here we would expect weekend matches to be preferred over weekdays (B. Buraimo et al., 2009; Madalozzo & Villar, 2009), although when *Time* is included, we would expect spectators to be more positive towards an earlier kick-off on weekdays or Sundays and a later kick-off on Fridays and Saturdays.

In regard to *Characteristics of the sporting contest*, we include *Result* (loss, draw, or win) and number of *Home goals*, because performance is often a significant driver of spectator satisfaction and (future) demand (Biscaia, Correia, Yoshida, et al., 2013; Dale et al., 2005; DeSchriver & Jensen, 2002; Ko et al., 2011; Kuenzel & Yassim, 2007). One way to include a more general measure of quality of the Danish national team is to include Denmark's placement in the FIFA World Rankings in the variable *FIFA DK*. Further, the quality of the opponents can have an influence (Greenwell et al., 2002), so we include *FIFA away* – the away team's ranking – as an independent variable.

Specifications

To carry out the analysis, we rely on a pooled OLS regression using robust standard errors to relax the assumptions of independent and normally distributed errors (Mehmetoglu & Jakobsen, 2017). We use the Huber-White robust standard errors (Huber, 1967; White, 1980), which provide reasonably accurate *p*-values. To measure the results of our explanatory variables, we use sampling theory to generalise from our sample to the broader population. It is important to stress that we were working with neither a representative sample of the Danish population nor a representative sample of the national match-attending Danish population, because the questionnaire was sent to all persons who bought a ticket online following each game, and their responses could be different from those who purchased their tickets at the stadium.

The survey response rate varies from game to game, with some of the most important matches corresponding with a high response rate (e.g. Denmark–Romania on 8 October 2017, 31.6%; Denmark–Poland on 1 September 2017, 41.8%; and Denmark–Sweden November 2015, 35.8%). This being said, the total numbers of respondents do not represent a large share of all spectators at each game.[iv] However, given the data at our disposal, we regard our sample as being drawn from the population of match-going home crowd for Denmark's national team at the national arena. We present two models in order to test both the linear and non-linear effect of temperature.

RESULTS AND DISCUSSION

Examining Table 1, which shows the output from our model, we can see that *Women* score on average half a point more than men on the dependent variable, which is surprising as sport viewing and spectatorship often appeals more to men (Hartmann, 2003).

--- Insert Table 1 around here ---

There is a negative correlation between *Age* and interest in attending live games, with the 0–18 year-old category (which is the reference group) being most satisfied, followed by 19–30, 31–45, and 61+ year-old. The least satisfied age category is the 45–60 year-olds. It is difficult to assess why this is the case without designing specific studies to measure this group. However, it is likely that younger people are more impressed when attending a national team game than adults.

Regarding where the spectators live, spectators based in the Greater Copenhagen area show the least interest in returning to national team matches, whereas people from Northern Jutland are the most interested. Residents of other areas are placed in-between these categories. People from all regions are significantly more interested than the reference category (Greater Copenhagen) except those from Bornholm and the Other-category (both these groups have a low *N*). The results are surprising and inconsistent with previous research that has focused on national league club matches (e.g. Babatunde Buraimo, 2008; Meier et al., 2016), and indicate that there can be a difference between spectators attending a club match and spectators attending a national team game. Possibly, attending a national league game is a much greater experience for people living outside

Copenhagen than for those living in Greater Copenhagen or close by because they are more used to large events which often take place in large cities.

Regarding the variable *Stand*, we see that there is a positive (but not substantially strong or significant) relationship between being seated in the B-stand and the dependent variable. At national games, the B-stand is branded as the 'atmosphere stand' where spectators use drums and sing to create a lively atmosphere.

Further, the output suggests that the more matches attended during the last two years, the more interested one is in attending future live games (*Previous attendance*). This is the strongest finding from the spectator-level variables, as a person who has attended 5+ matches will score 1.52 more on the dependent variable than the reference category (1st match). This is consistent with existing research (e.g. Bodet & Bernache-Assollant, 2011). Bringing *Children* to the match appears to have no effect.

We also notice that the result of the match matters to the overall experience. The number of home-ground goals scored also contributes to an increase in the dependent variable, which is in accordance with our expectations. However, this effect is only significant at the 10% level in model 2 as we also control for match result. We see that spectators are most satisfied when matches commence early (at 18:00) and are played on Fridays or Saturdays, which is partly in correspondence with our expectations.

We also test whether the teams' *FIFA-ranking* correlates with our dependent variable. The interpretation is counter-intuitive as a low score on this variable means that the team fares better in the FIFA rankings. We see little effect connected to ranking (both the Danish team's and their opponent's), indicating that the overall strength of the national team does not influence our dependent much in model 1. In model 2, the effect of Denmark's ranking becomes strongly significant, and the opposing team's ranking is significant at the 10% level.

Regarding *Weather*, it was expected that *Rain* would affect our dependent variable negatively. There is actually a relatively substantial (but not significant) positive relationship between *Rain* and *IIALG* (model 1). However, only three of the 17 matches were affected by rain; two of these (against Serbia in 2015 and Armenia in 2016) resulted in important Danish victories, and the third was a loss against an attractive opponent (Portugal, featuring Ronaldo, in 2014). In model 2 (where we include Celsius squared) the effect of weather on attendance becomes statistically significant. The effect of temperatures ranging from 0 to 19 degrees *Celsius* shows signs of non-linearity, with the effect being substantial and statistically significant (see model 2), which is in line with existing research.

CONCLUSION, IMPLICATIONS AND FUTURE RESEARCH

Summary

This paper has aimed at identifying factors that are related to spectators' interest in attending (future) Danish national matches. By deploying a regression approach to a unique set of data provided by DBU, we provide new insights on sport spectator demand, expanding on existing research by analysing how several individual and match-specific factors are related to satisfaction among spectators of national team matches.

We find that *Women* are more interested than men in attending future games. Further, we find that interest is negatively correlated with (increasing) *Age*, while people coming from the Northern Jutland are the most interested in returning for future games at the national stadium. Most importantly, we find that if the number of games *(Previously attended)* increases among our respondents, so does their interest in purchasing tickets for future games. Also, the *Result* of the game affects interest, with a win being of greatest importance. Finally, we find a relationship between the *FIFA-ranking* of Denmark and its opponent, whereas *Temperature* and *Rain* are positively correlated with interest.

Implications

The results presented have some theoretical and practical implications. In relation to theory, we find that the results are generally consistent with our expectations. However, the variables *Gender* and *Distance* stand out. We did not expect women and people who travel long distances to attend the matches to score higher against our dependent variable than men and people who live closer to stadium. This indicates that satisfaction and behavioural intentions are formed differently in relation to national games than to club matches.

Our results have implications for sports managers who work on improving spectator demand, especially those responsible for promoting national team home games held at *Telia Parken* stadium. Even though many of our variables fall outside of the managers' direct control, such as *Weather* and the match *Result*, the evidence provided could inform managers and other staff as to where one should direct the focus (Theodorakis et al., 2011). For example, managers could seek more information regarding the reasons behind the differences among specific segments of the spectators in order to better understand their motives (James & Ross, 2004) - and based on this information improve aggregate demand. The results also suggest that matches attract the most spectators if they are scheduled at 18:00 and at weekends (Friday–Sunday).

Finally, responses from returning spectators indicate that there is potential in developing loyalty programmes to attract new spectators or other strategies aimed at encouraging existing spectators to return in the future (Wakefield & Blodgett, 1996).

Limitations and future research

The study presented here has some limitations that pave the way for future research. First, the sample used could be biased in the sense that it only includes spectators who bought their tickets online. Further, there could (potentially) be selection bias at play if only specific groups of the online buyers responded to the surveys analysed. As there is no way to compare their experiences with spectators who bought their tickets in-person, based on the available data, it would be beneficial for future studies to include survey data from attendees who bought their tickets through different outlets.

Second, future studies should test a broader set of manageable variables to gauge whether specific initiatives could be established to encourage spectators to return. Using

a structural equation modelling (SEM) design could reveal how other factors contribute to explaining other patterns that influence spectator demand.

Finally, it would be beneficial if more studies focused on national team games, as most studies of spectators focus on club sports. The evidence presented here is a first step towards understanding the differences between club soccer and national team soccer with regard to spectator demand. It is our hope that this examination will inspire other researchers to provide more insights in the future.

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Table 1: Regression output (*IIALG*), Pooled OLS

	(1)		(2)	
Intercept	9.568***	(0.686)	8.523***	(0.564)
Woman	0.517***	(0.066)	0.487***	(0.061)
Age categ.				
0–18 (ref.)				
19–30	-0.365***	(0.123)	-0.353**	(0.121)
31–45	-0.545***	(0.103)	-0.531***	(0.102)
45–60	-0.624***	(0.109)	-0.619***	(0.108)
61+	-0.529***	(0.122)	-0.522***	(0.123)
Residence				
Copenh.(ref.)				
Zealand	0.205***	(0.032)	0.218***	(0.031)
Fyn	0.243***	(0.073)	0.235***	(0.072)
Jutland	0.215**	(0.089)	0.211**	(0.088)
North.-Jutl.	0.379***	(0.105)	0.368***	(0.105)
Bornholm	0.169	(0.310)	0.115	(0.314)
Other	0.243	(0.146)	0.227	(0.146)
Stand				
A-stand(ref.)				
B-stand	0.072	(0.058)	0.101	(0.059)
C-stand	-0.042	(0.080)	-0.011	(0.077)
D-stand	0.009	(0.125)	0.017	(0.126)
Prev. attend.				
1st match(ref.)				
2–4 matches	0.647***	(0.046)	0.685***	(0.036)
5+ matches	1.518***	(0.073)	1.522***	(0.069)
With children	0.018	(0.058)	0.003	(0.057)
Match-variables				
Result				
Loss(ref.)				
Draw	0.054	(0.259)	-0.214	(0.158)
Win	0.983**	(0.378)	1.327***	(0.208)
Home goals	0.085	(0.099)	0.095*	(0.048)
Time				
18:00(ref.)				
20:15	-1.068**	(0.363)	-1.311***	(0.158)
20:45	-1.158***	(0.166)	-1.175***	(0.195)
Weekday				
Mo–Thu(ref.)				
Friday	0.522**	(0.194)	0.880***	(0.124)
Saturday	0.349	(0.316)	0.678***	(0.179)
Sunday	-0.112	(0.135)	-0.027	(0.191)
FIFA DK	-0.024	(0.015)	-0.038***	(0.010)
FIFA Away	-0.007	(0.004)	-0.004*	(0.002)
Rain	0.834	(0.220)	0.755***	(0.185)
Celsius	-0.078**	(0.036)	0.226***	(0.048)
Celsius²			-0.015***	(0.003)
Observations	24,044		24,044	
R^2	0.107		0.120	

Note: Two-sided hypothesis tests: ***p<.01, **p<.05, *p<.10. Coefficients and (standard errors). Temperature is measured in Celsius. Robust standard errors, observations are clustered by matches.

APPENDIX

Table A1. Matches included in analysis

#	Opponent	Year	Date	Result	Spectators	*N*
1	Bulgaria	2013	March 26	1–1	22,357	176
2	Armenia	2013	June 11	0–4	14,284	600
3	Italy	2013	October 11	2–2	35,305	1,479
4	Malta	2013	October 15	6–0	11,479	470
5	Sweden	2014	May 28	1–0	27,872	1,528
6	Armenia	2014	September 7	2–1	20,141	1,211
7	Portugal	2014	October 14	0–1	36,562	1,784
8	Serbia	2015	June 13	2–0	30,887	1,792
9	Albania	2015	September 4	0–0	35,648	1,736
10	France	2015	October 11	1–2	18,145	1,088
11	Sweden	2015	November 17	2–2	36,051	2,126
12	Armenia	2016	September 4	1–0	21,795	1,358
13	Montenegro	2016	October 11	0–1	20,852	913
14	Kazakhstan	2016	November 11	4–1	18,901	910
15	Poland	2017	September 1	4–0	34,570	1,846
16	Romania	2017	October 8	1–1	36,084	2,423
17	Ireland	2017	November 11	0–0	36,189	2,604

Table A2. Overview of reviewed published studies

(In order of appearance)

Authors	Title	Type of Analysis	Findings
(Borland & Macdonald, 2003)	Demand for Sport	Review.	Develops a conceptual framework for understanding factors related to demand at sports games and events.
(Tainsky et al., 2014)	Will the real fans please remain seated? Gender and television ratings for pre-game and game broadcasts	Standard OLS regression estimating Male and Female demand models.	Examines game characteristics to understand gender specific differences in relation to demand. Very small differences between sexes were found.
(Lera-López et al., 2011)	Determinants of Individual Consumption on Sports Attendance in Spain	Estimation of Tobit and hurdle models to understand sports attendance.	The study examines the importance of household income, gender and educational level in relation to attending amateur and professional sporting events.
(Kringstad et al., 2021)	Match Experience at the Danish Women' s Soccer National A-Team Matches: An Explorative Study	Estimation of Multilevel regression models to understand factors related to spectator match satisfaction.	Genders differences are found with women being more satisfied than men. Also, the significance of the match, kick-off time, and the results exercise influence.
(Kim & Trail, 2010)	Constraints and Motivators: A New Model to Explain Sport Consumer Behavior	Structural Equation Modelling (SEM).	Attachment to team (positive), lack of success (negative) and leisure alternatives (negative) were among factors identified

			having an influence on sport consumer behavior.
(James & Ross, 2004)	Comparing Sport Consumer Motivations across Multiple Sports	Structural Equation Modelling (SEM) of Sport Consumer Motivations.	Factors related to demand were generally related to sports specific characteristics – for example, entertainment value, skills, and drama.
(García & Rodríguez, 2009)	Sports Attendance: A Survey of the Literature 1973-1997	Review.	Examination of modelling approaches.
(Borland & Lye, 1992)	Attendance at Australian Rules football: A panel study	Dynamic panel data modelling.	Spectator habits, stadium size, uncertainty of outcome, and team success are identified as significant factors of demand.
(Downward & Dawson, 2000)	The Economics of Professional Team Sports	Textbook on theories, evidence, and literature of professional team sports and demand.	N/A
(Meier et al., 2016)	The demand for women's league soccer in Germany	FE panel data regression models.	Loyalty (positive) and distance (negative) matter to attendance.
(Baimbridge et al., 1996)	Satellite Television and the Demand for Football: A Whole New Ball Game?	Estimation of demand function.	Live transmissions (substitutes) reduce attendance. However, net financial impact for the clubs is positive.
(Biscaia, Correia, Ross, et al., 2013)	The role of service quality and ticket pricing on satisfaction and behavioural intention within professional football	Structural Equation Modelling (SEM).	Player Performance, Service quality at the Stadium, and ticket pricing affects satisfaction and demand.
(Cox, 2012)	Live Broadcasting, Gate Revenue, and Football Club Performance: Some Evidence	FE panel data regression modelling.	Effect of live broadcasting on match day revenue (attendance) is negative. However, in total, marginal revenue is above marginal cost.
(García & Rodríguez, 2002)	The Determinants of Football Match Attendance Revisited - Empirical Evidence from the Spanish Football League	Estimation of attendance model.	Variables on economic factors, quality, uncertainty of outcome and opportunity cost were tested and being consistent with contemporary research.
(Babatunde Buraimo, 2008)	Stadium Attendance and Television Audience Demand in English League Football	Estimation of stadium attendance and tv audience demand functions.	Television broadcasts have a negative effect on stadium attendance. However, a large number of spectators at the stadium feeds back positively on the size of tv viewer audience.
(Hall et al., 2010)	An empirical model of attendance factors at major sporting events	Structural Equation Modelling (SEM).	Emotional aspects – such as having fun and being entertained – and facilities (attendees wants comfort) are important to attendees.
(M. Yoshida & James, 2010)	Customer Satisfaction with Game and Service Experiences: Antecedents and Consequences	Structural Equation Modelling (SEM).	Game atmosphere and stadium personnel exercised a positive impact on game and service satisfaction (at stadium).
(Iho & Heikkilä, 2010)	Impact of Advance Ticket Sales on Attendance in the Finnish Football League	Standard OLS models with log transformed dependent variable.	Rain impact attendance negatively. Offering ticket sales in advance of matches has a positive effect on demand related to the respective teams.

(Storm et al., 2018)	The complex challenge of spectator demand: Attendance drivers in the Danish men's handball league	Panel data regression models deployed on spectator data.	Negative effects from simultaneous live tv broadcasting of other league matches were found together with positive effect from rainy weather were among identified effects.
(Theodorakis et al., 2013)	Predicting spectators' behavioural intentions in professional football: The role of satisfaction and service quality	Structural Equation Modelling (SEM).	Service quality had a positive impact on game satisfaction. Game outcome quality exercised a positive influence too.
(Watanabe & Soebbing, 2017)	Chinese super league: Attendance, pricing, and team performance	Linier regression models.	Strong opponents and rival matches are identified as significant determinants of spectator demand.
(Scelles et al., 2016)	Do all sporting prizes have a significant positive impact on attendance in a European national football league? Competitive intensity in the French Ligue 1	Tobit model estimations.	Significant impact of matches that leads to sporting prizes. For example, qualification to the UEFA Europa League.
(Feddersen & Rott, 2011)	Determinants of demand for televised live football: Features of the German national football team	Estimation of regression models to understand demand factors.	Significant matches with star players together with kick-off time and the weather is identified as being related to demand.

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[i] By 'soccer' we mean 'association football', i.e. the European version of football.

[ii] The results section will highlight that spectators with a history of attendance are likely to be more interested (satisfied) than other spectator groups.

[iii] For a list of matches including N of spectators in our models, see Appendix A1.

[iv] We obtained survey data from 24,055 people, which is equivalent to 5.26% of the total number of spectators at the 17 games included in the study (477,122, see Table A1 in the appendix). Therefore, the total number of respondents does not represent a large proportion of spectators.