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SPORT ECONOMICS RESEARCH

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Article

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An Examination of the Brand Attitudes of Faculty of Sports Sciences Students Towards Sports Products

Bayram Kaya 匝

Abstract

Branding dates back to ancient times, with early civilizations like the Egyptians, Greeks, Romans, and Chinese sealing items to signify ownership and quality. The modern concept of branding emerged after the Industrial Revolution, as increased population and consumption transformed markets, leading to more retailers. Manufacturers began naming products, securing patents, and using advertising to support their brands. Recently, sports have become crucial for a balanced and healthy lifestyle, preparing individuals psychologically and physiologically. As a global phenomenon, sports gain popularity based on societies' socio-economic conditions and contribute significantly to branding. This study examines the brand attitudes of Ardahan University Faculty of Sports Sciences students toward sports products, considering factors such as gender, age, academic year, licensed athlete status, family income, and annual spending on sports products. The descriptive survey model was employed, with 147 randomly selected students participating. The Brand Attitude Scale (BAS), developed by Polat et al., was used to assess students' attitudes. Results showed that brand preferences were influenced by advertisements, prices, product features, logos, and comfort needs. Local products were often favored, indicating conscious selection and habits shaped by advertising and logo preferences.

Keywords

Attitude, brand, sports products

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Introduction

The concept of branding is an age-old phenomenon. Ancient civilizations such as the Egyptians, Greeks, Romans, and Chinese initiated the first form of branding by sealing pottery and other items to signify ownership and quality (Perry & Wisnom, 2004). The modern notion of branding, however, emerged after the Industrial Revolution. The growing population during this period led to increased consumption, which transformed and expanded market structures, resulting in a rise in the number of retailers. Manufacturers began naming their products and securing patents, with advertising playing a supportive role.

The English word "brand" is derived from "branding", a practice where farmers marked their livestock to distinguish them and prevent mixing in common pastures. This practice represents an early step toward differentiation. Well-known brands such as Levi's, Maxwell House, Budweiser and Coca-Cola which emerged during this period, continue to thrive today (Uztuğ, 2005; Jones, 2006).

In today's rapidly evolving conditions, the concept of branding encompasses registered names, abbreviations, and symbols that companies use to create a lasting impression in customers' minds and boost sales (TDK, 2024). According to Article 4 of Decree Law No. 556, a brand is defined as a sign that differentiates a company's goods and/or services from those of other businesses, often described as a trade or service mark (Mutluoğlu, 2010).

Various definitions of branding can be found in the literature. A brand generally refers to signs like letters, logos, or shapes used to distinguish a business's goods and services (Pinar, 2005). More broadly, a brand holds different meanings for customers and businesses, with many products on the market sold under distinct brands (Yükselen, 2003). It serves to mark a firm's goods and services and differentiate them from competitors (Eymen, 2007). Companies aim to increase brand value, recognition, market demand, and consumer loyalty to maintain their market presence (Kayalı et al., 2004).

Consumer preferences are often linked to their attitudes toward brands, which include cognitive, emotional, and behavioral responses based on experiences, knowledge, feelings, and motivations (İnceoğlu, 2011).

Factors such as brand perception, awareness, associations, satisfaction, and value influence brand attitudes, which are consumers' overall evaluations of a brand (Selvi, 2007). Sports have recently become vital for a quality and balanced lifestyle, playing a significant role in global branding influenced by societies' socio-economic conditions (Atasoy & Füsun, 2005; Ekmekçi et al., 2013; Ünver, 2023). Consequently, the desire for branded products in the sports sector has grown, reflecting its significant position in products and services (İslamoğlu & Fırat, 2011).

The aim of this study is to examine the brand attitudes of Ardahan University Faculty of Sports Sciences students towards sports products based on variables such as gender, age, academic year, licensed athlete status, family's monthly income, and average annual spending on sports products.

Method

Research Model

This study, which examines the brand attitudes of Ardahan University Faculty of Sports Sciences students, employed a descriptive survey model. The survey method, as known, involves describing situations as they are without any alteration (Karasar, 2007).

Population and Sample

The research population consists of students enrolled at the Ardahan University Faculty of Sports Sciences. The sample was composed of randomly selected volunteer students from this population.

Data Collection

Permission was obtained from the original scale owner to use the Brand Attitude Scale. Participants were informed about the research, and the survey was distributed via Google Forms to volunteers. The collected data was checked and recorded.

Data Analysis

The study focused on variables such as gender, age, academic year, licensed athlete status, family's monthly income, and average annual spending on sports products. To determine students' brand attitudes, the 20-item Brand

Attitude Scale (BAS) developed by Polat et al. (2008) was applied using a five-point Likert scale coded as: "1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5 = Strongly Disagree". The scale consists of 5 sub-dimensions. These sub-dimensions; These are "brand and advertising", "identification with the brand", "caring about the brand", "brand preference" and "brand origin". Cronbach's Alpha internal consistency value for the overall scale is 0.77, Cronbach's Alpha internal consistency value for its subdimensions; "Brand and Advertisement" sub-dimension is 0.71, "identification with the brand" sub-dimension is 0.76, "caring about the brand" sub-dimension is 0.72, "brand preference" sub-dimension is 0.65 and the "brand origin" sub-dimension was found to be 0.63. Statistical software was used for data analysis, calculating standard deviation, percentage, and mean values. Data followed a normal distribution. For two-variable comparisons, an independent sample t-test was used; for multiple variables, ANOVA analysis was conducted. Where significant differences existed, the LSD Post-Hoc test identified the favorable group.

Findings

	Variables	Frekans (f)	Percentage (%)
Gender	Male	78	53,1
	Female	69	46,9
	1st Year	43	29,3
Class	2nd Year	29	19,7
	3rd Year	34	23,1
	4th Year	41	27,9
Licensed Athlete	Yes	57	38,5
Status	No	90	60,8
Average Annual	1-5 times	78	52,7
Sports Product	6-10 times	44	29,7
Purchases	11 or more times	25	17,6

 Table 1. Personal information

According to the data, 53.1% of the participants are male, 46.9% are women, 29.3% are first-year students, 19.7% are 2nd Class, 23.1% are 3rd Class and 27.9% of them were 4th grade students; 38.5% engage in licensed sports, 60.8% do not do sports with a license; 52.7% of the year have 1-5 sports products, 29.7% have 6-10 sports products and 17.6% have 11 or more sports products; and 52.7% purchase between 1 and 5 sports products annually. 29.7% purchase 6 and 10 sports products and 17.6% purhase 11 or more sports products.

Kaya

Table 2. Normality	test

Factors	Skewness	Kurtosis	Kolmogorov-Smirnow
Brand Attitude Scale	,257	,337	,706

According to Table 2, since the Kolmogorov-Smirnov values were found to be p>0.05, it was determined that parametric tests would be conducted (Büyüköztürk, 2011).

 Table 3. Cronbach alpha test

Factors	(Cronbach Alpha)
Brand Attitude Scale	,842
Brand and Advertising	,865
Brand Identification	,883
Brand Importance	,873
Brand Preference	,887
Brand Origin	,855
Brand and Social Relationships	,876

According to the table 3, it can be observed that the overall scale and all subdimensions fall within a reliable range.

	Gender	Ν	Χ	SD	Т	Р
Brand Attitude Scale	Male	81	2,6155	,71749	-,687	,493
	Female	66	2,6906	,57631		
Brand and Advertising	Male	81	2,6122	,91048	,629	,531
	Female	66	2,5282	,66853	-	
Brand Identification	Male	81	3,0751	1,07230	,101	,920
	Female	66	3,0566	,96018		
Brand Importance	Male	81	2,3269	,92697	-1,111	,269
	Female	66	2,4960	,86779	-	
Brand Preference	Male	81	2,0822	,80144	-2,166	,032
	Female	66	2,3508	,65515		
Brand Origin	Male	81	3,0798	,94149	,185	,854
	Female	66	3,0503	,82792		
Brand and Social	Male	81	3,0132	1,21099	-1,429	,155
Relationships	Female	66	3,2903	1,06567	-	

 Table 4. Gender variable t-test

According to Table 4, it was found that there is no statistically significant difference between Brand Attitude and its sub-dimensions and the gender variable, except for the Brand Preference sub-dimension. A statistically significant difference was observed between the Gender variable and the Brand Preference sub-dimension. It was found that the average brand preference is higher among female participants compared to male participants.

	Class	Ν	X	SD	F	Р	Tukey
	1st	43	2,8916	,55153			•
Brand Attitude	2nd	30	2,3282	,68925	4,656	,004	1,2
Scale	3rd	33	2,6747	,42445	-		
	4th	41	2,6228	,78584	-		
	1st	43	2,8605	,67326			
Brand and	2nd	30	2,2414	,78911	3,933	,010	1,2
Advertising	3rd	33	2,4621	,59003	-		
	4th	41	2,5488	,97983	-		
	1st	43	3,2460	,82001	_		
Brand	2nd	30	2,6667	,1,15470	1,582	,197	-
Identification	3rd	33	3,1458	,95015	_		
	4th	41	3,0000	1,21296	-		
	1st	43	2,5930	,86950	_		
Brand	2nd	30	2,2155	,81483	1,583	,196	-
Importance	3rd	33	2,2500	,76547	_		
	4th	41	2,5183	1,07295			
	1st	43	2,2561	,54339	_		
Brand	2nd	30	2,1724	,85069	,160	,923	-
Preference	3rd	33	2,2576	,67744	_		
	4th	41	2,3049	1,01012			
	1st	43	3,4048	,78012	_		1,3
Brand	2nd	30	2,6333	1,00815	4,901	,003	
Origin	3rd	33	3,1354	,71772	_		2,4
	4th	41	2,8111	,96165			
	1st	43	3,5854	,99939	_		1,3
Brand and Social	2nd	30	2,5517	1,04663	7,261	,000	
Relationships	3rd	33	3,4242	1,09773	_		2,4
	4th	41	2,8171	1,13884			

 Table 5. Class variable anova test

No statistically significant difference was found between the Class variable and the Brand Identification, Brand Importance and Brand Preference subdimensions. However, a significant difference was observed between the Class variable and the Brand Attitude dimension, as well as the Brand and Advertising sub-dimensions. According to the Tukey test conducted to determine which groups favored the differences, it was found that the difference is significant in favor of the first-year students compared to the second-year students. Additionally, a statistically significant difference was observed between the Class variable and the Brand Origin and Brand and Social Relationships subdimensions. The Tukey test indicated that there is a significant difference in favor of the first and third-year students compared to the second and fourth-year students.

	Licensed athlete	Ν	Х	SD	Т	Р
Brand Attitude	Yes	65	2,5838	,52177	-1,111	,268
Scale	No	82	2,7079	,75462		
Brand and	Yes	65	2,5263	,70026	,865	,389
Advertising	No	82	2,6453	,87292		
Brand	Yes	65	2,9198	,95592	-1,437	,153
Identification	No	82	3,1810	1,06274		
Brand	Yes	65	2,2588	,78485	-1,723	,087
Importance	No	82	2,5270	,99706		
Brand Preference	Yes	65	2,1364	,67326	-,205	,838
	No	82	2,1622	,74992		
Brand Origin	Yes	65	3,0741	,81242	,077	,939
	No	82	3,0619	,95350	-	
Brand and Social	Yes	65	3,1000	1,11139	-,599	,550
Relationships	No	82	3,2230	1,20542	-	

Table 6. Licensed athlete t-test

No statistically significant difference was found between the Licensed Athlete variable and the Average Brand Attitude, as well as all its sub-dimensions. However, it was observed that the averages of licensed athletes are lower compared to those of non-licensed athletes.

	Number of Sports Products Purchased in a Year	Ν	X	SD	F	Р
Average	1-5 times	77	2,6445	,58796		
Brand	6-10 times	44	2,6481	,75853	,072	,930
Attitude	11 or more times	26	2,7007	,67792	-	
Brand and	1-5 times	77	2,4903	,75920	_	
Advertising	6-10 times	44	2,6136	,91730	,515	,515
	11 or more times	26	2,6800	,71633		
Brand	1-5 times	77	3,1741	1,01397		
Identification	6-10 times	44	3,0857	1,07358	1,721	,183
	11 or more times	26	2,7121	,92178	-	
Brand	1-5 times	77	2,4643	,86860	_	
Importance	6-10 times	44	2,3295	,99967	,314	,731
	11 or more times	26	2,4400	,86987	-	
Brand	1-5 times	77	2,1700	,68547	_	
Preference	6-10 times	44	2,2670	,79679	1,486	,230
	11 or more times	26	2,4800	,99979		
Brand Origin	1-5 times	77	3,0597	,82199	_	
	6-10 times	44	3,1143	1,01280	,087	,916
	11 or more times	26	3,0152	,92854		
Brand and	1-5 times	77	3,0800	,1,11513	_	
Social	6-10 times	44	3,2273	1,16865	,272	,762
Relationships	11 or more times	26	3,0600	1,20173		

Table 7. Anova test for average sports products purchased in one year

No statistically significant difference was found between the variable "How many times do you purchase sports products on average in a year?" and the Average Brand Attitude, as well as its sub-dimensions. It was observed that the average Brand Attitude for the variable of purchasing 1-5 or more products is lower compared to the other variables.

Discussion and Results

In this section, the findings will be compared with similar studies in the literature, and conclusions will be drawn through discussion. It has been concluded that participants believe that advertisements influence brand preference, prices and features affect preferences, logos are decisive, domestic products are preferred, and the use of branded sports products meets the need for comfort. The emergence of such results suggests that participants not only consciously choose sports products but also have habits based on advertisements and logos.

Although there is no significant difference in brand attitude averages between genders, it is observed that female participants have higher brand attitude averages. It can be stated that male participants tend to have a specific brand preference when purchasing sports products compared to female participants. This situation may be related to the higher competitive drive among men in sports activities compared to women. Güngörür (2017) found no significant difference between the gender variable and the brand personality dimension and its sub-dimensions. Similarly, Deniz (2019) did not find a significant difference in brand attitude averages between genders in his study conducted on secondary school students.

A significant difference was found between the class variable and the brand attitude dimension, as well as the brand and advertising, brand origin, and brand and social relationships sub-dimensions. The lowest average was observed among second-year students. The averages of first and fourth-year students were found to be higher. The high averages of fourth-year students may be due to upperclassmen having limited time and money to engage with brands due to activities like exams and internships that significantly impact their lives. No statistically significant difference was found between the licensed athlete variable and the average brand attitude, as well as all its sub-dimensions. However, it was observed that the averages of licensed athletes are lower compared to those of non-licensed athletes. This result may be influenced by the belief that students who participate in licensed sports are more conscious and recognize the importance of brands for performance. Studies conducted by Dervent et al. (2010) and Deniz (2019) support this finding, as they showed that non-licensed athletes had higher averages compared to licensed athletes.

No statistically significant difference was found between the variable "How many times do you purchase sports products on average in a year?" and the Average Brand Attitude, as well as its sub-dimensions. The average Brand Attitude for the variable of purchasing 1-5 or more products was lower compared to other variables. This result may stem from the fact that the participants come from families with limited financial means.

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Author contributions

The author contributed to the manuscript's conceptualization, analyzed, editing, and finalization.

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Ethnical statement

This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of University Ardahan (25.10.2024/No. E-67796128-819-2400036080).



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Sport, Business, and Sustainability: Trends and Insights from Bibliometric Analysis

Melek Nur Alma 问

Abstract

Environmental concerns have increasingly influenced global attention, with both national and international institutions working to address and mitigate their impact. As businesses are central to economic systems, their relationship with environmental sustainability has become a key area of study, particularly within the context of sports. This paper explores the intersection of business, sports, and environmental issues, investigating how these fields have been examined in academic research over time. Using bibliometric analysis, the study identifies key trends, prominent sources, and influential works in this growing area of research. The findings reveal a significant rise in publications over recent years, particularly in the past few years, indicating a strong and increasing focus on sustainable practices in the sports industry. Additionally, the study highlights the dominant role of certain countries and academic institutions in contributing to this field.

Keywords

Business, bibliometric analysis, sustainability, sport

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Introduction

Environmental issues have risen to prominence as one of the most critical global concerns, engaging governments, businesses, and individuals alike. This heightened focus stems from the growing visibility and tangible impacts of environmental challenges, which affect communities across the world in profound ways. Extreme weather events, for instance, have become more frequent and severe, illustrating the urgent need for sustainable interventions. Droughts, as observed in studies, have caused significant disruptions in certain regions, impacting agriculture, water resources, and livelihoods (Taufik et al., 2020; Marengo et al., 2021). Conversely, other areas have grappled with extreme cold and heavy snowfall, creating challenges for infrastructure, transportation, and daily life (Zhang, 2005; Zhu, 2019). These stark contrasts underscore the complex and diverse nature of environmental issues globally.

As environmental concerns take center stage, the role of businesses in addressing these challenges has gained increasing attention. Businesses, as fundamental drivers of economic systems, have a significant environmental footprint. Many studies have illuminated the strong interconnection between environmental sustainability and economic systems, emphasizing that sustainable practices are essential for long-term economic stability (Destek & Sinha, 2020; Erat et al., 2023). However, economic growth has often been pursued at the expense of environmental well-being. For instance, industrial expansion has been linked to air pollution, which not only exacerbates environmental degradation but also increases health-related expenditures (Chen & Chen, 2021). Historically, there has been a lack of awareness and understanding regarding the causes and effects of environmental degradation, particularly within the business community and broader society (Kumar et al., 2021). This limited awareness has impeded the adoption of sustainable practices. However, recent years have witnessed a paradigm shift. Environmental concerns have gained significant traction, becoming a flourishing topic of discussion and research. This shift reflects a growing recognition of the need to balance economic development with environmental stewardship.

Against this backdrop, the present study delves into the intersection of sports, business, and environmental issues. Sports, as a global industry and cultural phenomenon, occupy a unique position within the broader economic From mega-events and environmental discourse. with substantial environmental footprints to the integration of sustainability in sports management practices, the intersection of these fields offers rich avenues for exploration. The objective of this study is to examine existing research that spans these interconnected domains, providing insights into how sports, business, and environmental considerations interact and influence one another. Employing bibliometric analysis facilitates a rigorous investigation through the application of statistical methodologies. By leveraging this analytical approach, the present study seeks to make a substantive contribution to the scholarly discourse on sustainability. Furthermore, it aims to uncover actionable insights and opportunities for promoting environmentally responsible practices within the sports industry, thereby fostering a deeper integration of sustainable principles into this dynamic sector.

Method and Data

This study investigates the body of research that explores the intersection of sports, business, and environmental issues, utilizing bibliometric analysis to significant trends, influential contributors. and thematic uncover developments in the literature. Bibliometric analysis provides a quantitative framework for understanding the structure and evolution of academic fields, offering insights that go beyond the surface-level quantitative summaries of research activity. As Donthu et al. (2021) highlight, bibliometric methods enable scholars to systematically map the cumulative scientific knowledge in established academic domains, offering a detailed understanding of research trajectories, collaborations, and knowledge diffusion. Unlike traditional qualitative methods, bibliometric analysis uses quantitative measures to assess the performance and impact of publications, journals, authors, and institutions. This approach not only highlights the volume of academic output but also sheds light on shifts in thematic priorities, geographic trends, and collaboration networks within the literature. By examining citation patterns and keyword analyses, bibliometric methods reveal how the field has evolved over time and where it is heading.

The focus of this study is on the intersection of sport, business, and environment, spanning the period from 1987 to 2024. This timeframe captures over three decades of scholarly work, enabling an in-depth exploration of long-term trends and developments in this multidisciplinary domain. To achieve this, the Bibliometrix software, a powerful and widely-used tool for bibliometric analysis (Aria & Cuccurullo, 2017), was employed. This software facilitated the extraction and visualization of key metrics, such as annual publication growth, co-authorship networks, and thematic clusters. Data for this analysis was sourced from the Web of Science, a leading citation database renowned for its comprehensive coverage of high-quality academic publications. The use of this database ensures the inclusion of peer-reviewed articles, reviews, and other scholarly outputs, providing a reliable foundation for analysis. The systematic approach adopted in this study allows for the identification of pivotal works, emerging research topics, and influential institutions and authors in the field. Additionally, it offers insights into the interplay between sports, business practices, and environmental sustainability, contributing to the broader discourse on sustainable development and interdisciplinary collaboration.

Through this bibliometric investigation, the study aims to provide a holistic understanding of the research landscape at the intersection of these three domains, offering valuable insights for researchers, policymakers, and practitioners. By analyzing how this field has grown and evolved over time, the study not only identifies current knowledge gaps but also points to future research directions that can further enhance the integration of sustainability within sports and business practices.

Table 1. Main information about data

Timespan	1987:2024
Sources (Journals, Books, etc)	143
Documents	184
Annual Growth Rate %	5.4
Document Average Age	7.66
Average citations per doc	17.38
References	9239
DOCUMENT CONTENTS	
Keywords Plus (ID)	429
Author's Keywords (DE)	667
AUTHORS	
Authors	513
Authors of single-authored docs	39
AUTHORS COLLABORATION	
Single-Authored Docs	42
Co-Authors Per Doc	2.89
International Co-Authorships %	19.02
DOCUMENT TYPES	
Article	144
Article; Book Chapter	3
Article; Early Access	2
Book	1
Editorial Material	1
Proceedings Paper	27
Review	6

The dataset spans 37 years, from 1987 to 2024, showcasing long-term research trends in sports, business, and the environment. It includes 184 documents sourced from 143 journals, books, and other outlets, reflecting a steady annual growth rate of 5.4%. The documents have an average age of 7.66 years, indicating a mix of recent and moderately older works, and they receive an average of 17.38 citations each, highlighting their influence. With a total of 9239 references, the research appears to be well-supported by extensive background studies.

The dataset contains 429 Keywords Plus, generated automatically from citation networks, and 667 author-provided keywords, demonstrating a broad and diverse thematic coverage. A total of 513 authors have contributed to the documents, with only 39 writing single-authored works, suggesting a strong trend toward collaborative research. On average, nearly three authors (2.89) collaborate per document, and 19.02% of the papers involve international co-authorships, indicating significant global engagement in the field.

The majority of the publications are research articles (144), with additional contributions from proceedings papers (27), reviews (6), book chapters (3), early-access articles (2), and a single book and editorial material. This diversity in publication types underlines the academic and practical relevance of the research.

Results

The evolution of the literature in this field has been illustrated in Figure 1, which provides a visual representation of the development and trends in scholarly research from 1987 to 2024. The earliest recorded publication dates back to 1987 with just one article, and the subsequent years until the mid-1990s show little to no activity, suggesting minimal research focus during this period. From 1997 onward, there is a gradual increase in output, with occasional fluctuations.



Fig 1. Annual scientific production

The earliest recorded publication dates back to 1987 with just one article, and the subsequent years until the mid-1990s show little to no activity, suggesting minimal research focus during this period. From 1997 onward, there is a gradual increase in output, with occasional fluctuations. Significant growth becomes evident starting in the mid-2000s, particularly from 2007, when the annual production consistently rises. A notable surge occurs in 2011, which saw 12 articles published, marking a turning point in research intensity. Subsequent years maintain a relatively high and increasing output, peaking in 2022 with 17 articles. The trend reflects a sustained interest in this research area, likely driven by growing recognition of the interconnections between sports, business, and the environment. The slight dip in 2023, with 13 articles, and the current count of 7 articles in 2024 may reflect an incomplete data year for 2024.

Journals	Articles
European Sport Management Quarterly	7
Sport in Society	6
Journal of Hospitality Leisure Sport /& Tourism Education	4
Journal of Sport Management	4
Sport Business and Management-An International Journal	4
Inzinerine Ekonomika-Engineering Economics	3
Journal of Applied Sport Management	3
Sport Management Education Journal	3
Annals of Applied Sport Science	2
Economy and Market Communication Review	2

 Table 2. Most relevant sources

The table 2 highlights the most relevant sources contributing to research in the fields of sports, business, and the environment. European Sport Management Quarterly stands out as the leading source, contributing 7 articles, reflecting its central role in this area of study. Sport in Society follows closely with 6 articles, indicating its relevance to exploring the societal dimensions of sports. Three journals, including Journal of Hospitality Leisure Sport & Tourism Education, Journal of Sport Management, and Sport Business and Management-An International Journal, each contributed 4 articles, demonstrating a balanced focus on management and business-related aspects of sports.

Inzinerine Ekonomika-Engineering Economics and Journal of Applied Sport Management contributed 3 articles each, alongside Sport Management Education Journal, showcasing their emphasis on economics, management, and education within the sports sector. Lastly, Annals of Applied Sport Science and Economy and Market Communication Review provided 2 articles, reflecting a smaller but notable contribution. These journals represent a mix of sport-specific and interdisciplinary sources, highlighting the diverse academic interest and the broad thematic scope of research in this field.



Fig 2. Sources production over time

The figure 2 outlines the annual contribution of five prominent journals to the field of sports, business, and environment research from 1987 to 2024. Early contributions were minimal, with most journals showing no publications until the mid-2000s. For instance, the Journal of Sport Management began publishing consistently in 1997, while other journals did not contribute until later. European Sport Management Quarterly and Sport in Society demonstrate steady growth starting from 2010, with their contributions rising notably in recent years.

Alma

European Sport Management Quarterly reached a peak of 7 articles in 2024, while Sport in Society increased its output to 6 articles annually by 2023 and 2024. Contributions from the Journal of Hospitality Leisure Sport & Tourism Education began in 2017, growing slowly to reach 4 articles in 2024. The Journal of Sport Management consistently contributed from 1997, maintaining a steady output of 3-4 articles annually since 2015. Similarly, Sport Business and Management-An International Journal started contributing later but reached a consistent level of 4 articles annually by 2022.

Authors	Articles
Ratten V	6
Escamılla-Fajardo P	3
Ahonen A	2
Drayer J	2
Fletcher D	2
Jones P	2
Karpavıcıus T	2
Larsen Ch	2
Littlewood M	2
Martın Aj	2

 Table 3. Most relevant authors

The table 3 highlights the most relevant authors contributing to the field of sports, business, and the environment. Ratten V stands out as the most prolific author, with six articles, indicating their significant influence and active engagement in this research area. Following this, several authors, including Escamilla-Fajardo P, contributed three articles, demonstrating a notable, though slightly smaller, impact. A group of authors, including Ahonen A, Drayer J, Fletcher D, Jones P, Karpavicius T, Larsen CH, and Littlewood M, each contributed two articles. This reflects a collaborative and distributed pattern of authorship within the field, where multiple researchers make meaningful contributions. The data suggests that while a few authors have emerged as key contributors, the research area benefits from a diverse pool of scholars, the interdisciplinary exploration enriching of sports, business. and environmental topics.

Affiliation	Articles
Deakin University	10
Islamic Azad University	8
National Taiwan Sport University	7
University of Valencia	7
La Trobe University	6
University of Loughborough	6
University of the Peloponnese	6
University of Sebelas Maret	6
Brunel University	5
Manchester Metropolitan University	5

Table 4. Most relevant affiliations

The table 4 presents the most relevant affiliations contributing to the field of sports, business, and environmental research. Deakin University leads with 10 articles, showcasing its prominent role in advancing the field. Islamic Azad University follows closely with 8 articles, indicating active research output. Both National Taiwan Sport University and University of Valencia contributed 7 articles each, underlining their significant engagement in this interdisciplinary area. Institutions such as La Trobe University, University of Loughborough, University of the Peloponnese, and University of Sebelas Maret each contributed 6 articles, reflecting balanced participation from universities in various regions. Additionally, Brunel University and Manchester Metropolitan University each contributed 5 articles, further illustrating their commitment to this research domain.

The distribution of affiliations highlights a diverse and international landscape of research, with key contributions coming from institutions in Australia, Asia, and Europe. This global collaboration underscores the universal relevance of topics at the intersection of sports, business, and environmental studies.

Table 5. Most cited papers

Paper	Total Citations	TC per Year
Babiak, K., & Trendafilova, S. (2011). CSR and environmental responsibility: motives and pressures to adopt green management practices.	533	38,071
Gully, S. M., Devine, D. J., & Whitney, D. J. (1995). A Meta-Analysis of cohesion and performance	312	10,4
Henriksen, K., Schinke, R., Moesch, K., McCann, S., Parham, W. D., Larsen, C. H., & Terry, P. (2020). Consensus statement on improving the mental health of high performance athletes	202	40,4
Fletcher, D., & Wagstaff, C. R. D. (2009). Organizational psychology in elite sport: Its emergence, application and future.	192	12
Golby, J., & Sheard, M. (2004). Mental toughness and hardiness at different levels of rugby league.	106	5,047
Relvas, H., Littlewood, M., Nesti, M., Gilbourne, D., & Richardson, D. (2010). Organizational structures and working practices in elite european professional football clubs: Understanding the relationship between youth and professional domains.	86	5,733
Giulianotti, R., Armstrong, G., Hales, G., & Hobbs, D. (2015). Sport mega-events and public opposition.	72	7,2
Heath, J. (2007). An Adversarial Ethic for Business: or When Sun-Tzu Met the Stakeholder	59	3,277
Jenny, S. E., Keiper, M. C., Taylor, B. J., Williams, D. P., Gawrysiak, J., Manning, R. D., & Tutka, P. M. (2018). Esports venues: A new sport business opportunity	58	8,285
Aage, T., & Belussi, F. (2008). From fashion to design: Creative networks in industrial districts.	50	2,941

The table 5 presents the most-cited academic papers in the field of sports, business, and environmental studies, emphasizing their influence based on total citations and annual citation rates. The leading paper, Babiak & Trendafilova (2011), explores corporate social responsibility and environmental practices, accumulating an outstanding 533 citations with an average of 38.07 citations per year, demonstrating its seminal role in understanding green management motives in sports.

Gully et al. (1995), with 312 citations (10.4 per year), provides a foundational meta-analysis of cohesion and performance, reflecting its enduring impact. Henriksen et al. (2020), a consensus statement on mental health in high-performance athletes, boasts a significant yearly citation rate of 40.4, highlighting its immediate relevance in contemporary sports psychology. Fletcher & Wagstaff (2009) contributed to organizational psychology in elite sports, gathering 192 citations with a robust annual rate of 12. Meanwhile, Golby & Sheard (2004) focused on mental toughness in rugby, receiving 106 citations (5.05 per year), and Relvas et al. (2010) examined organizational structures in elite European football clubs, earning 86 citations (5.73 per year). Giulianotti et al. (2015) discussed public opposition to sport mega-events, with 72 citations (7.2 per year), while Heath (2007) explored business ethics, amassing 59 citations at an annual rate of 3.28. The growing field of eSports is represented by Jenny et al. (2018), whose paper on eSports venues earned 58 citations with an impressive 8.29 citations per year. Lastly, Aage & Belussi (2008) addressed creative networks in design industries, securing 50 citations (2.94 per year), bridging the fields of fashion, design, and industrial creativity.



Fig 3. Word cloud

The analysis of terms through the word cloud visually highlights the key themes and areas of focus at the intersection of sports, business, and the environment. This method effectively emphasizes the most frequently discussed concepts, shedding light on dominant trends, issues, and emerging topics within these interconnected fields.

By displaying the prominence of specific terms, the word cloud provides a quick overview of the primary concerns and evolving discussions in this multidisciplinary area of study. The most frequently occurring term is "management" (24 occurrences), emphasizing its central role in research within these fields. "Performance" (19) follows, reflecting a strong interest in optimizing outcomes, whether in sports, organizations, or environmental initiatives. Terms like "impact" (12) and "model" (11) suggest a focus on evaluating the effects of practices and developing theoretical frameworks. Corporate social responsibility (CSR) is a significant topic, appearing as "corporate social-responsibility" (8) and "csr" (7), underscoring the relevance of ethical and sustainable practices. Other notable terms include "quality," "future," and "tourism" (7 each), indicating research interest in enhancing standards, forecasting trends, and exploring sports tourism. Specific areas such as "football" (6) and "framework" (6) also emerge as focal points. Psychological and organizational aspects are reflected in terms like "stress," "behavior," "experience," "innovation," and "organizations" (5 each), showing a multidimensional approach to research. Broader societal issues, such as "globalization," "governance," and "diversity" (4 each), highlight the contextual factors influencing these domains. Additionally, specialized topics like "environmental sustainability," "education," "health," "leadership," and "customer satisfaction" (3 each) showcase the diverse research interests. Themes like "transformational leadership" and "absorptive-capacity" (2 each) indicate emerging areas of study.



Fig 4. Country scientific production

The data reveals a global distribution of contributions to research in sports, business, and the environment, with the United States leading with 80 studies, followed closely by the United Kingdom with 71. These two countries demonstrate strong research capacity and academic focus in this field. Other significant contributors include Australia (50), Spain (49), and China (32), highlighting their active participation in exploring the intersections of sports, business, and environmental sustainability. A notable feature is the regional diversity, with contributions spanning Europe (e.g., Portugal, Greece, Germany, Italy), Asia (e.g., Iran, Indonesia, Malaysia), Oceania (e.g., New Zealand), and South America (e.g., Brazil, Argentina). Mid-level contributors like Portugal (24), Brazil (19), and Greece/Iran (18 each) suggest an increasing academic interest and infrastructure in these regions. However, countries like Hungary, Jamaica, and Argentina show minimal contributions, possibly due to limited resources or research emphasis in this area. Europe stands out with a strong presence, with several countries actively contributing, reflecting the continent's established tradition of academic research in these domains. Overall, while the USA and UK dominate, the data highlights a growing global engagement in the study of sports, business, and the environment, emphasizing the interdisciplinary and universal relevance of these topics.

Conclusion

Environmental issues have increasingly attracted attention in recent years, prompting both national and international institutions to take preventive measures and formulate strategies aimed at mitigating the impact of these concerns. As businesses are integral to the global economy, they too are inextricably linked with environmental sustainability. The growing recognition of this connection has resulted in a significant body of literature that explores the intersection of business, sports, and environmental issues. In Aygün (2023) study, it is stated that macro development has also led to an increase in studies in the field of sports. Within this context, research on the role of business in sports and its environmental implications has been an area of particular interest. This study seeks to investigate the relationship between these themes by analyzing a total of 184 academic documents spanning from 1987 to 2024. These documents were sourced from 143 distinct publications, all retrieved from the Web of Science database, utilizing the Bibliometrix software for bibliometric analysis.

The findings indicate a notable increase in the volume of research on this topic over time, with a particularly sharp rise in publications during 2023. It is important to note that no documents from 2024 are included in the dataset due to the fact that data collection occurred before the conclusion of that year. The analysis also highlights that European Sport Management Quarterly and Sport in Society are among the most prominent sources in this field, publishing a significant proportion of the research related to the intersection of sports, business, and environmental concerns. Furthermore, Deakin University and Islamic Azad University emerge as the most influential academic affiliations, contributing the largest number of studies to the literature.

Among the various academic papers, the work by Babiak & Trendafilova (2011) stands out as the most widely cited publication in this area, reflecting its substantial impact on the field. The analysis of key terms reveals that 'management' and 'performance' are the most frequently used terms across the studies, indicating that the focus of research has primarily centered on the management of sports organizations and their performance in relation to environmental sustainability. In terms of geographic influence, the United States and the United Kingdom are identified as the leading countries in this field, contributing a significant portion of the research. This reflects the prominent role these nations play in both the sports and environmental sectors, as well as their capacity to generate and disseminate scholarly work on the topic. In conclusion, the analysis indicates a significant growth in the body of literature exploring the intersection of sports, business, and the environment over time.

The observed upward trajectory underscores the likelihood of continued expansion and diversification of research within this domain in the foreseeable future. A comprehensive investigation into this area is of critical importance, as it offers a robust foundation for advancing subsequent scholarly endeavors. Moreover, such an inquiry facilitates a nuanced understanding of the field's evolution, addressing its emerging complexities and challenges. By contributing to the refinement of theoretical frameworks and the development of evidence-based practices, this research aids in ensuring that the discipline remains adaptive and responsive to the broader societal and global imperatives it seeks to address. As environmental concerns increasingly intersect with business practices in the sports industry, the demand for academic inquiry into sustainable strategies and their implications is likely to grow.

Author contributions

The author contributed to the manuscript's conceptualization, analyzed, editing, and finalization.

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Article

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Motivational Factors Affecting University Students' Participation in Sports Betting

Ali Burak Toy 问

Abstract

This study was conducted to determine the motivations for gambling among university students who participate in sports betting. The sample of the research consists of 137 students (mean age 22 ± 54) studying at Ardahan University. The data collection tools used in the study included a personal information form and the "Gambling Motivation Scale" developed by Chantal et al., and adapted to Turkish by Karlı, comprising 28 items assessing motivations for gambling. Statistical analysis of the data was carried out using computer software. The Kolmogorov-Smirnov test indicated that the data were normally distributed. Arithmetic mean (x), frequency (f), Independent Samples t-test for pairwise comparisons, and one-way ANOVA test for comparisons of means across more than two groups were applied to analyze the data. The research findings revealed significant differences in gambling motivation levels among university students based on variables such as the degree of addiction, frequency of betting, and the duration of betting participation.

Keywords

Betting, gambling games, gambling addiction, sports betting, virtual betting

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Introduction

A ssumptions related to events with uncertain outcomes, such as sports matches or public polls, are termed as betting when conducted in a manner that generates revenue for an organization (Yanmaz & Kadaifci, 2020). Parimutuel betting refers to betting games that involve predicting the outcomes of organized sports competitions, both domestic and international, where winnings are distributed among participants who correctly predict results based on pre-set reward percentages (Spor Toto Teşkilat Başkanlığı, 2009).

Sports, having become a financially valuable sector, is now a substantial component of the rapidly growing betting market. Sports events, drawing public attention due to their unpredictability, have propelled the betting industry to involve substantial financial stakes. This has attracted many individuals to participate in betting, whether they are engaged in sports or not, driven by reasons such as financial gain or the thrill of betting (Özsoy et al., 2014). Today, betting and chance games form one of the most lucrative sectors of the sports industry, with football betting being one of the most notable trends (Yaşar, 2010). Sports betting has a long history within gambling activities, tracing back to ancient times. Evidence of sports betting dates back over two millennia to the athletic contests of the Greeks. This practice spread to ancient Rome, where it eventually became legal and accepted, particularly in gladiatorial games. Despite the decline of such games, betting as a form of gambling endured and continued to spread across other territories (Milton, 2017).

In Turkey, sports-based betting games have a history of about half a century. Betting commenced with the 7258 Law on the Organization of Parimutuel Betting for Football Competitions' enacted in 1959, which introduced Spor Toto. Over time, games like Spor Loto evolved to become more engaging for bettors, with betting stakes growing substantially (Özsoy et al., 2014). Several economic, social, and psychological factors influence individuals' inclinations towards sports betting. Elements such as learning processes, behavior, perceptions, beliefs, social class, culture, and influence from peers and family all contribute to betting behavior (Ulu, 2011). The sports betting industry, which involves predicting the outcomes of sports events, has become a subset of the entertainment sector (Karlı, 2008).

Furthermore, motivations like enjoyment, skill demonstration, competition, socialization, and the desire for recognition significantly affect betting behavior and satisfaction (Şimşek, 2012). Individuals seek immediate financial gain as a means of escaping difficulties or achieving a more comfortable life, viewing betting as a tool to fulfill such desires (Çelik, 2016).

As it is understood from the information in the literature, understanding the motivations underlying various betting behaviours that are increasing today and determining the motivations for betting have an important place in preventing gambling behaviour. In this study, locus of control is considered as an individual personality trait. Betting behaviour is defined as a person's misconception about self-control and a disorder in the thought of being able to change the outcome. For this reason, it is thought that this study will contribute to the literature to understand the underlying causes of betting behaviour by investigating the relationship between betting motivation and various variables.

Despite the rapid growth of betting as a market within the sports industry, a limited number of studies have been identified in the literature. This study aims to contribute as a pioneering work on motivations for sports betting.

Method

Study Group

The population of the study consisted of male university students enrolled at Ardahan University. The sample group included 137 male students aged between 19 and 24 (mean age 22 ± 54) who regularly engaged in betting activities. The sample was determined using a purposive sampling method based on easy accessibility (Büyüköztürk et al., 2008). Data collection was carried out through face-to-face surveys by the researcher. Additionally, relevant authorities and responsible individuals were informed about the purpose and nature of the study. The sample group, who voluntarily participated, was briefed on the study's aim, and no personal identification information was collected, ensuring adherence to confidentiality principles.

Research Model

This study, conducted to investigate the motivations of university students for sports betting, utilized a cross-sectional survey method based on quantitative data. The survey model is a research approach that allows for data collection or description to test hypotheses or answer questions regarding past or current conditions of the study topic (Karasar, 1999).

Data Collection

The data collection tools used in this study included a personal information form and the "Gambling Motivation Scale".

Personal Information Form

The personal information form used in the study contained questions regarding participants' gender, type of faculty, and attitudes toward betting. It also included demographic questions and multiple-response questions such as interest level in sports events, types of sports bet on, and reasons for participating in betting.

Gambling Motivation Scale

In the study, the "Betting Motivation Scale", which was developed by Chantal, Vallerand and Vallieres (1994) and adapted to Turkish by Karlı (2008), was used to evaluate the motivations for betting. The scale consists of six dimensions and 28 items that evaluate the motivation and amotivation actions that answer the question "Why do they participate in betting?" The subscales of the main scale are limited to three subscales: "intrinsic motivation", "extrinsic motivation" and "amotivation". As the scores obtained from the scale increase, it is interpreted that the individuals' betting motivation levels increase.

Data Analysis

SPSS 21 statistical software was used for data analysis. Descriptive analyses were conducted on the demographic variables of the participants. To determine whether the data showed normal distribution, the Kolmogorov-Smirnov test was applied first. Percentage and frequency values, independent t-tests, and one-way ANOVA analyses were used for data analysis.

Findings

 Table 1. The distribution of the research sample group according to demographic characteristics

Variables	Category	Ν	%
University Department	Faculty of Sport Sciences	45	32,8
University Department	Other Faculties	92	67,2
Type of Botting	Only Football	74	54,0
Type of Detting	Multiple Types	63	46,0
	To Earn Money	31	22,6
	Excitement	27	19,7
Mativation for Betting	Habit	11	8,0
Motivation for Detting	To Pay Debts	15	10,9
	Multiple Reasons	53	38,7
Do you consider yourself	Yes	95	69,3
addicted to betting?	No	42	30,7
Do you believe in match-	Yes	100	73,0
fixing in sports betting?	No	37	27,0
	Rarely	20	14,6
Frequency of Batting	Occasionally	64	46,7
Frequency of Detting	Regularly	53	38,7

As shown in Table 1, 45 students (32.8%) in the study group are from the Faculty of Sport Sciences, while 92 students (67.2%) are from other faculties. Of the students, 74 (54%) engage only in football betting, whereas 63 (46%) participate in both football and other types of betting. Additionally, 95 students (69.3%) perceive themselves as betting addicts, while 42 (30.7%) do not consider themselves addicted. A total of 53 students (38.7%) report betting regularly, while 20 (14.6%) state that they rarely bet. Finally, 100 students (73%) believe that match-fixing occurs in sports betting, whereas 37 students (27%) do not believe that match-fixing takes place in sports betting.

Dimensions	Addiction Level	Ν	Х	SS	Т	Р
Intrinsic	Yes	95	3,47	,916	2 646	000
Motivation	No	42	3,02	,888	- 2,040	,007
Extrinsic	Yes	95	3,16	,801	2 843	005
Motivation	No	42	2,75	,709	- 2,043	,005
Amotivation	Yes	95	3,34	,785	3.075	003
	No	42	2,89	,790	- 5,075	,005

Table 2. T-test results for comparing university students' scale scores by level of betting addiction

In Table 2, the results of the test conducted to determine whether the average scores on the Betting Motivation Scale show a significant difference according to students' levels of betting addiction indicate that there is a significant difference between betting addiction and intrinsic motivation scores (t = 2.646; p < 0.05). Similarly, a significant difference is observed between betting addiction and extrinsic motivation scores (t = 2.843; p < 0.05). Furthermore, there is a significant difference between betting addiction and amotivation scores (t = 3.075; p < 0.05).

Table 3. Anova	test results fo	or university	students'	frequency of	betting

		Sum of Squares	df	MSE	F	Sig.	Dif
Intrinsic	Between Groups	19,116	2	0.559			1 > 2
Motivation	Within Groups	97,995	134	- 9,558 731	13,069	,000	1>3 2>3
	Total	117,111	136				_
	Between Groups	14,422	2	7 0 1 1		,000	1>3 2>3
Extrinsic Motivation	Within Groups	71,440	134	- 7,211	13,525		
1010th atton	Total	85,862	136	,555			2.0
	Between Groups	4,506	2				
Amotivation	Within Groups	85,023	134	2,253	3,551	,031	1>3
	Total	89,529	136	,034			

*1 = regular bettors, 2 = occasional bettors, 3 = rare bettors

As shown in Table 3, there is a statistically significant difference in the mean scores of intrinsic motivation according to the frequency of students' betting activities (F(3, 134) = 13.069, p<0.05). According to the results of the post-hoc analysis, the intrinsic motivation related to betting games among students is statistically significant in favor of those who bet regularly and those who bet occasionally. There is also a statistically significant difference in the mean scores of extrinsic motivation according to the frequency of students' betting activities (F(3, 134) = 13.525, p<0.05). The post-hoc analysis results show that extrinsic motivation related to betting games among students is statistically significant in favor of those who bet regularly and those who bet occasionally. Finally, there is a statistically significant difference in the mean scores of amotivation according to the frequency of students' betting activities (F(3, 134) = 13.525, p<0.05). The post-hoc analysis results show that extrinsic motivation related to betting games among students is statistically significant in favor of those who bet regularly and those who bet occasionally. Finally, there is a statistically significant difference in the mean scores of amotivation according to the frequency of students' betting activities (F(3, 134) = 3.551, p<0.05). According to the post-hoc analysis, amotivation in betting games is statistically significant in favor of the group that bets regularly.

		Sum of Squares	df	Mean Square	F	Sig.	Dif.
Intrinsic	Between Groups	21,668	2	10,834	15 211	,000	1 > 2
Motivation	Within Groups	95,443	134	,712	13,211		1>3 1>2
	Total	117,111	136				
Extrinsic Motivation	Between Groups	13,111	2	6,556	12,075	,000	1. 2
	Within Groups	72,750	134	,543			1>3 2>3
	Total	85,862	136				
	Between Groups	10,768	2	5 204		,000	
Amotivation	Within Groups	78,761	134	5,384 ,588	9,160		1>3
	Total	89,529	136				

Table 4. Results of the ANOVA Test Based on University Students' Betting Duration

*1 = less than one year, 2 = 1-2 years, 3 = 3 years or more

As shown in Table 4, there is a statistically significant difference in the average scores of intrinsic motivation based on the duration of betting among students (F(3, 134) = 15.211, p < 0.05). According to post-hoc analysis results, the intrinsic motivation for betting games is statistically significant in favor of groups with 3 years or more of betting experience compared to those with 1-2

years of experience. Additionally, there is a statistically significant difference in the average scores of extrinsic motivation based on the duration of betting among students (F(3, 134) = 12.075, p < 0.05). Post-hoc analysis results indicate that the extrinsic motivation for betting games is statistically significant in favor of groups with 3 years or more of betting experience compared to those with 1-2 years of experience. Furthermore, there is a statistically significant difference in the average scores of amotivation based on the duration of betting among students (F(3, 134) = 9.160, p < 0.05). Post-hoc analysis results show that the amotivation status for betting games is statistically significant in favor of the group with 3 years or more of betting experience.

		Sum of Squares	df	Mean Square	F	Sig.	Dif.
Intrinsic Motivation	Between Groups	29,229	4	7,307	10,976	,000,	1>5 2>5
	Within Groups Total	87,882 117,111	132 136	,000			3>5
Extrinsic	Between Groups	4,088	4	1,022		,166	
Motivation	Within Groups	81,773	132	,619	1,650		-
	Total	85,862	136				
	Between Groups	11,197	4	2.799			2>5
Amotivation	Within Groups	78,332	132	,593	4,717	,001	3>5
	Total	89,529	136				

Table 5. Results of the anova test based on university students' betting motivation

*1 = to make money, 2 = excitement, 3 = habit, 4 = to pay off debt, 5 = multiple reasons

As shown in Table 5, there is a statistically significant difference in the average scores of intrinsic motivation based on students' betting motivations (F(3, 132) = 10.976, p<0.05). According to post-hoc analysis results, the intrinsic motivation for betting games is statistically significant in favor of the group that bets for multiple reasons. Additionally, there is a statistically significant difference in the average scores of amotivation based on students' betting motivations (F(3, 132) = 3.551, p< 0.05). Post-hoc analysis results indicate that the amotivation status for betting games is statistically significant in favor of the group of regular bettors. However, there is no statistically significant difference in the average scores of extrinsic motivation based on students' betting betting scores of the group of regular bettors. However, there is no statistically significant difference in the average scores of extrinsic motivation based on students' betting betting motivations (F(3, 132) = 1.650, p > 0.05).

Discussion and Results

An analysis of the research findings indicates that university students who engage in betting regularly, display a higher frequency of betting, and possess diverse motivational factors are characterized by elevated levels of gambling motivation.

These findings are in line with existing research in the literature. A study conducted by Gökce Yüce (2020) revealed that the motivations of individuals who bet on sports are related to factors such as "Making Money", "Socializing" and "Increasing the Excitement of the Competition" and that these motivations increase the risk of sports betting addiction. In the same study, it was stated that "Entertainment" motivation decreased the risk of addiction. Similarly, in a study conducted by Karlı (2008), personality traits and financial risk-taking attitudes of university students who bet on sports were found to affect their motives for betting. This study suggests that individuals who are extroverted and open to new experiences are more likely to bet on sports and take financial risks.

A study conducted by Özsoy et al. (2014) on high school and university students revealed that there is a significant relationship between students' habits of watching sports media and their frequency of betting. In this study, it was determined that male students had higher rates of participation in betting games and that students with low-income families bet to make money. A study by Neighbors et al. (2002) showed that university students' motivations for betting are related to factors such as making money, entertainment, social interaction and thrill seeking.

These motivations stand out as important factors affecting students' betting behaviors and addiction risks. A study by Shen (2023) emphasized the influence of social norms and peer environment on betting behaviors.

Studies on digital game addiction also present similar findings. For example, Orak et al. (2021) found that the duration and frequency of digital game playing of university students were related to their addiction levels. This finding may also apply to betting behaviors, as individuals who bet longer and more frequently may be at higher risk of addiction. A review by Williams et al. (2012) emphasized that betting behaviors that are common among young adults may turn into problematic betting habits at an older age. This shows that university students are a group at risk. Delfabbro and King's (2023) research showed that individuals who bet for longer periods of time had higher levels of addiction. These findings suggest that long-term participation makes the behavior habitual and can lead to loss of control over oneself. The accessibility of digital betting platforms and fast transaction opportunities have made betting behaviors of young individuals more frequent.

As a result, university students' motivation to bet shows significant relationships with variables such as addiction level, betting frequency and betting duration. Understanding these relationships is important to control students' betting behaviors and reduce the risks of possible addiction. Therefore, awareness-raising programs and support mechanisms for university students should be developed. In addition, it is important to regulate betting platforms and control their ease of access.

Author contributions

The author contributed to the manuscript's conceptualization, analyzed, editing, and finalization.

Declaration of Conflicting Interests

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Ethnical statement

This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of University Ardahan (25.10.2024/No. E-67796128-819-2400036068).

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Sports Product Market Dynamics in Europe: Consumption and Production Insights

Dilek Alma Savaş 问

Abstract

This paper examines the evolution of the sports industry in Europe through an analysis of three critical dimensions: consumption patterns, government expenditure, and employment and production trends. It investigates the growing demand for sports-related goods and services, highlighting shifts in consumer behavior driven by an increasing focus on health, wellness, and the cultural significance of sports. The study also explores government spending on the sports sector, revealing consistent public investment, which underscores the importance of sports in national economic and social policies. Additionally, employment trends and the production of sports-related goods are analyzed to assess the sector's expanding economic impact, demonstrating the sports industry's role in job creation and economic output. The findings indicate a general upward trend in engagement with the sports sector across Europe, with higher consumption rates observed in wealthier nations. However, the overall trend shows increasing participation and consumption in lower-income countries as well. The paper concludes that the sports industry is emerging as a significant economic and cultural force in Europe, with its continued growth likely to influence future public policies, economic strategies, and consumer behaviors.

Keywords

Consumption, market dynamics, production, sport product

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Introduction

Nonsumption in modern societies has reached unparalleled levels, marking ✓ a defining feature of contemporary economic systems, particularly under capitalism. This heightened consumption is not a passive occurrence, but rather, it is strategically orchestrated by the structures of production that fuel the capitalist market. The relationship between production and consumption is cyclical: increased consumption leads to heightened production, which in turn drives further economic growth. This interaction, at the core of capitalist economies, results in both economic expansion and the entrenchment of consumerism across all sectors. Such a phenomenon is not only observable in basic goods and services but also within sectors that were traditionally outside the sphere of commerce, such as sports. The economic landscape of sports has also evolved considerably, with marked growth across multiple domains, including industrial organization, public economics, and labor economics. These areas underscore the intricate and multifaceted nature of sports economics as both an academic discipline and a practical field (Leeds et al., 2022). The increasing interconnectedness of sports with broader economic systems reflects its dual role as a cultural phenomenon and an economic driver.

Over the 20th century, sports have been increasingly commodified, evolving into a highly profitable sector under the influence of capitalism and reflecting the broader transformation of leisure into a market-driven pillar of consumer culture (Resis et al., 2020). Sports, which once functioned primarily as leisure activities or recreational pursuits, have grown into major economic enterprises, intertwining entertainment with commerce in ways that were previously unimaginable. By the early 21st century, sport had become an integral part of the dominant consumer culture, a pervasive force that shaped not only the economic landscape but also cultural and social patterns of consumption (Horne, 2006).

Additionally, technological advancements also changed the structure of sport products. Nanotechnology has profoundly transformed the design and functionality of sports equipment, leading to significant enhancements in key attributes such as durability, resilience, flexibility, stain resistance, and antibacterial properties. These technological advancements have been widely integrated into various sports products, including swimsuits, running shoes, yoga mats, golf clubs, golf balls, tennis balls, bowling balls, badminton rackets, tennis rackets, hockey sticks, archery equipment, bicycles, and numerous other items (Türkmen & Mutlutürk, 2014). By incorporating nanotechnology, these products not only achieve superior performance standards but also provide athletes with enhanced reliability and a more optimized sporting experience. This progress exemplifies how cutting-edge scientific developments directly contribute to athletic performance and consumer satisfaction.

Moreover, the industry's expansion and its ability to capitalize on mass consumer participation have cemented its status as a key player in the global economy. One of the key aspects of the growing economic importance of sports is the extension of economic interests beyond professional leagues and elite competitions. As pointed out by Gratton (1998), the economic implications of sport transcend professional sports leagues, reaching into areas such as grassroots participation, amateur sports, sports tourism, and media consumption. These varied facets contribute to a broad and diversified economic footprint. Individuals' engagement in sports, whether through passive consumption (e.g., watching a sporting event) or active participation (e.g., playing recreationally or as part of a sports team), produces substantial economic benefits. Notably, this involvement generates direct economic activity through purchases of sports equipment, tickets, merchandise, and media subscriptions, as well as indirect activity through tourism, hospitality, and local business development. Moreover, the benefits derived from these activities are not solely financial but also hold intrinsic value in the form of personal satisfaction and well-being, which in turn sustains demand for continued participation and engagement with sports (Humphreys & Humphreys, 2008).

In this context, the cultural entrenchment of certain sports further fuels their economic significance. As noted by Whannel (1993), sports such as cricket in England, cycling in France, baseball in the United States, and football (soccer) in much of the world have become deeply embedded in national identities and daily life. These sports are not just widely followed or played; they have developed into social rituals, cultural practices, and sources of collective identity. The rituals and traditions associated with these sports are integral to the lives of the people who participate in and consume them, reinforcing their cultural relevance and enhancing their economic value. The passion and loyalty that such sports inspire create a market for goods and services that goes beyond basic consumption, turning sports into cultural commodities that are both celebrated and bought. Moreover, the economic footprint of the sports sector extends well beyond the revenues generated from game-day ticket sales or sponsorships. The role of sport in broader economic systems is significant, contributing to employment generation, the development of infrastructure, and the stimulation of various ancillary industries such as marketing, media, broadcasting, and retail. Meek (1997) emphasizes that the sports sector plays a pivotal role in stimulating job creation and economic production, acting as a driving force in many economies. This effect is particularly pronounced when considering the industries surrounding sports, such as the manufacturing of sports equipment, apparel, and merchandise, all of which contribute to a growing global industry. According to Crawford (2004), the global nature of sports has expanded the scope of economic activity tied to sports production, with the sale and marketing of sports-related goods and services becoming one of the largest revenue streams in the global economy.

The globalization of sports, in particular, has played a key role in expanding the economic impact of the industry. As sports have gained international popularity, they have fostered the development of a global market for sports-related goods, services, and media content. This globalization has had profound implications not only for the economies of countries with established sports leagues but also for emerging markets, where sports can act as catalysts for broader economic development. For instance, in China, the confluence of a sophisticated and affluent consumer base and the entry of international brands following the country's accession to the World Trade Organization (WTO) has created a highly competitive and flourishing sportswear market (Tong & Hawley, 2009). Rising affluence has further amplified interest in sports, leisure activities, and branded goods that resonate with self-expression. This cultural and economic shift has not only expanded consumer markets but has also spurred innovation and competition within the global sportswear industry.

Gratton and Taylor (2000), as well as Taks and Késenne (2000), highlight the role of sports in driving employment and growth within the wider economy. For instance, major international sporting events such as the Olympics and the FIFA World Cup generate substantial economic benefits for host cities and countries, from increased tourism and hospitality spending to infrastructural development and long-term business opportunities. As the sports industry continues to expand, its contribution to national and global economies grows in parallel.

The increasing commercialization of sport, alongside the continuous production of sports content for a global audience, underscores the profound economic value of this sector. In addition to the direct economic impact, the sector's role in shaping cultural and social trends reinforces its integral place in capitalist economies, where cultural and commercial forces converge. This transformation is indicative of the broader commodification of leisure and recreation in a consumer-driven world, where consumption is not only an economic activity but a core component of individual identity and social life.

Furthermore, the sports industry has played a transformative role in reshaping the structural and economic landscapes of cities, positioning itself as a critical driver of urban development and regeneration. Across the globe, numerous cities have strategically leveraged sports to stimulate economic renewal, foster community engagement, and promote long-term socio-economic growth. This approach is particularly prominent in the United Kingdom, where urban centers have embraced sports as a pivotal sector in their efforts to revitalize local economies and enhance urban environments (Gratton, Shibli, & Coleman, 2007). These initiatives underscore the multifaceted value of sports, extending beyond its entertainment and recreational aspects to serve as a powerful tool for economic and social transformation. By hosting major sporting events, investing in sports infrastructure, and cultivating sports-related industries, cities have been able to generate employment opportunities, attract tourism, and stimulate local business activity

Consumption Dynamics of Sport Products

Government, educational organizations, health agencies, community groups, and sports authorities have collectively played a significant role in actively promoting greater participation in sports over time. These efforts have resulted in a consistent increase in engagement with sporting activities. This trend is clearly demonstrated in Table 1, which highlights the evolution of time dedicated to sports-related pursuits over the years. Regional and cultural variations in sports engagement, which reflect differing attitudes toward sports, economic conditions, and the availability of recreational infrastructure, offering valuable insights into factors that drive the growth of the sports industry in specific regions. By linking participation to consumption, the dataset also has economic significance, revealing the potential market for sports-related goods and services in countries with higher engagement levels, while also indicating untapped potential in regions with lower participation.

Table 1.	Time	spent,	participation	time and	participation	rate	in	the	main	activity
(Sports a	nd out	door ac	tivities excep	t walking	and hiking) in	201	0			

Countries	Total	From 15 to 20 years	From 20 to 24 years	From 20 to 74 years	From 25 to 44 years	From 45 to 64 years	65 years or over
Belgium	1:50	2:04	2:02	1:50	1:48	1:49	1:37
Germany	1:38	1:56	1:53	1:40	1:51	1:35	1:24
Estonia	1:26	2:13	1:41	1:24	1:39	1:22	0:44
Greece	1:41	1:53	1:55	1:38	1:31	1:45	1:28
Spain	1:37	1:54	1:51	1:37	1:38	1:31	1:21
France	2:04	2:26	3:02	2:03	1:54	1:55	1:40
Italy	1:42	1:49	1:47	1:42	1:36	1:45	1:42
Luxembourg	1:44	1:55	1:37	1:43	1:45	1:40	1:54
Hungary	1:39	1:35	1:29	1:40	1:37	1:53	1:30
Netherlands	1:40	2:14	1:53	1:37	1:37	1:33	1:33
Austria	1:46	1:51	1:46	1:48	1:51	1:57	1:22
Poland	1:30	1:42	1:37	1:31	1:30	1:31	1:14
Romania	1:45	1:59	1:40	1:37	1:42	1:28	1:12
Finland	1:30	2:01	1:40	1:31	1:24	1:32	1:18
Norway	1:39	1:47	1:31	1:37	1:36	1:37	1:40
UK	1:31	1:42	1:41	1:29	1:20	1:37	1:34
Serbia	1:37	1:41	1:51	1:37	1:33	1:37	1:17
Türkiye	1:32	1:40	1:44	1:30	1:27	1:29	1:06

Source: European Union (2024)

The dataset provides an analysis of the average time spent, participation time, and participation rate in sports and outdoor activities (excluding walking and hiking) across various European countries in 2010. The data is segmented by age groups, offering insights into how engagement in these activities varies throughout different life stages.

On average, France stands out with the highest overall participation time at 2 hours and 4 minutes, particularly among the 20 to 24 age group, where engagement peaks at 3 hours and 2 minutes. This trend indicates a strong cultural inclination toward sports and outdoor activities in younger demographics. Belgium, with an overall average of 1 hour and 50 minutes, shows relatively consistent participation across all age groups, while Estonia, at 1 hour and 26 minutes overall, exhibits a sharp decline in participation among those aged 65 and over (44 minutes). Germany and Greece show similar overall averages of approximately 1 hour and 38-41 minutes, with peak participation times among the 20 to 24 age group (1 hour and 53-55 minutes). Conversely, participation times in older age groups, particularly those over 65, tend to decrease significantly. For example, in Germany, the participation time for individuals aged 65 and older drops to 1 hour and 24 minutes.

Italy, Luxembourg, and Hungary exhibit averages in the range of 1 hour and 39-44 minutes. Luxembourg displays a slightly higher participation rate in older age groups compared to other countries, with a modest increase among individuals aged 65 and above (1 hour and 54 minutes). Meanwhile, Austria maintains relatively consistent participation times across all age groups, with a peak of 1 hour and 57 minutes in the 45 to 64 age range.

Countries like Poland, Finland, and the United Kingdom, with average participation times ranging from 1 hour and 30 minutes to 1 hour and 31 minutes, exhibit similar patterns of declining engagement with increasing age. For instance, Poland's participation time decreases from 1 hour and 42 minutes in the 15 to 20 age group to 1 hour and 14 minutes for those 65 and older. Romania and Serbia demonstrate comparable overall averages (1 hour and 37-45 minutes), with Romania showing a gradual decline in participation with age, culminating in 1 hour and 12 minutes for individuals over 65. Türkiye, at 1 hour and 32 minutes overall, reflects one of the lowest participation times among older individuals, with just 1 hour and 6 minutes for those aged 65 and above.

These findings suggest that younger age groups, particularly those between 15 and 24, engage more intensively in sports and outdoor activities across most countries. However, participation times decrease significantly in older age brackets, highlighting potential opportunities for targeted interventions to encourage greater involvement among older populations. Cultural factors, accessibility to facilities, and societal attitudes toward active lifestyles likely contribute to these variations. The data underscores the importance of fostering inclusive recreational opportunities to promote lifelong engagement in sports and outdoor activities.

Table 2. Mean consumption expenditure	e of private	households	on sporting	goods	and
services by purposes					

	Total	Sports goods and services	Major durables for outdoor recreation	Major durables for indoor recreation	Maintenance and repair of other major durables for recreation and culture	Equipment for sport, camping and open-air recreation	Equipment for sport	Equipment for camping and open- air recreation	Repair of equipment for sport, camping and open-air recreation	Recreational and sporting services	Recreational and sporting services - Attendance	Recreational and sporting services - Participation
Belgium	30.906	349,1	128,2	3,7	14,6	39,2	29,4	9,5	0,3	163,4	17,9	145,6
Bulgaria	13.181	24,1	0,2	0	0,3	4	3,4	0,6	0	19,6	1,4	18,2
Czechia	17.132	259,4	3,9	0,4	4,1	75,6	51,4	22,8	1,4	175,4	15	160,4
Denmark	30.284	409,6	138,2	0	22,8	69,7	49,9	14	5,8	178,9	23,4	155,5
Germany	32.116	526,4	69,6	4	9,4	85,8	69,7	16,1	0	357,6	70,5	287
Estonia	17.683	244,7	3,9	0	0,2	49,1	-	-	-	191,4	12,1	179,4
Greece	22.530	120,2	82,9	0,1	2,1	11,9	11,7	0,2	0,1	23,1	3,3	19,8
Spain	27.683	170,4	6,4	5	4,5	34,1	29	2,7	2,3	120,5	11,7	108,8
France	28.961	413,4	68,1	1,5	2,3	43,2	34,4	7,9	0,9	298,3	58,9	239,5
Croatia	21.902	125,8	6,7	0	2,2	17,2	16	0,9	0,3	99,7	16,3	83,4
Italy	27.283	195,3	16,3	0,4	2,9	36,4	26,4	9,2	0,8	139,3	5,5	133,8
Cyprus	34.177	298,1	7,6	0,2	0	11	10,3	0,6	0,1	279,2	62,5	216,8
Latvia	16.576	248,8	6,2	0,3	0	69,6	58,4	11,2	0	172,7	27,4	145,3
Lithuania	17.448	87,1	23,7	0	1,7	11,7	7	3,5	1,1	50	10,5	39,5
Luxembourg	49.524	627,9	183,5	23,3	2,6	41,3	30,2	10,4	0,7	377,1	267	110,2
Hungary	21.937	101,7	0,4	0	0,4	20,8	19,8	0,8	0,1	80,2	1,5	78,7
Malta	26.528	333,5	64,2	0	31,3	40,1	24,4	15,1	0,6	197,9	77,5	120,4
Netherlands	33.134	621,7	112,4	3,2	43,2	65,9	45,1	20,6	0,3	397	45,9	351,1
Austria	34.729	619,8	86,8	8	18,3	144,6	137	5	2,7	362,1	37,2	324,9
Poland	17.178	94,8	13,3	2,8	4,3	17,5	11,3	5,7	0,5	56,9	0,7	56,2
Romania	14.625	-	-	-	-	-	-	-	-	-	-	-
Slovenia	26.153	396,8	31,6	7,8	19,4	74,3	60,8	12,2	1,3	263,7	25,5	238,1
Slovakia	15.692	66,2	1,7	0,2	0,2	28	25,1	2,8	0,1	36,1	5,3	30,9
Montenegro	14.929	24,8	4,4	0	0,4	9,8	8,2	1,6	0	10,2	-	-
Serbia	14.285	52,6	1,9	0,7	0,1	20,8	12,1	8	0,6	29,1	0,3	28,9

Source: European Union (2024)

The dataset offers a detailed analysis of mean consumption expenditure by private households on sporting goods and recreational services across European countries in 2020, measured in Purchasing Power Standards (PPS). By accounting for price-level differences, this metric enables an equitable comparison of household spending patterns. The data reveal significant disparities among countries, reflecting differences in income levels, cultural values, and access to recreational infrastructure. Luxembourg stands out as the highest spender, with a total expenditure of 49,524 PPS, far surpassing other countries. This is driven by substantial investments in sports goods and recreational services, suggesting a strong cultural emphasis on leisure and high disposable income levels. Austria and the Netherlands also allocate considerable resources to sports-related goods and services, with Germany following closely in total expenditures. Belgium, Denmark, and France exhibit similar trends, emphasizing the role of recreation in their cultural and social priorities. Moderate levels of spending are observed in Spain, Malta, Italy, and Slovenia, which allocate resources in a balanced manner to sports goods and recreational services, indicating steady but less pronounced attention to leisure. Conversely, lower-income countries such as Bulgaria, Serbia, and Romania display significantly constrained spending, with minimal allocations to sports and recreational activities, reflecting limited disposable incomes and underinvestment in infrastructure. Across all countries, expenditures on sports equipment and recreational services constitute key areas of spending, with variations indicating cultural and economic priorities. For example, Germany's significant investment in recreational services points to an emphasis on organized sports, while Austria's preference for camping and sports equipment highlights its outdoor activity culture. Luxembourg and Cyprus demonstrate robust engagement with recreational activities, while countries like Bulgaria show limited participation due to economic challenges. These regional disparities underline the influence of socio-economic and cultural factors, as high-income Western and Northern European countries allocate more resources to leisure compared to their Eastern and Southeastern counterparts. Nevertheless, some moderate-income countries, such as Cyprus, display a disproportionately high focus on recreation, emphasizing cultural

priorities despite financial limitations. The findings suggest that household recreational spending reflects broader economic and social conditions, offering opportunities for policy interventions.

In wealthier nations, higher expenditures are supported by developed infrastructure and cultural norms, whereas lower-income countries could benefit from targeted investments in sports programs and public recreational facilities. These measures could enhance access to leisure activities, promote community well-being, and stimulate economic growth. Recreational spending also presents economic opportunities in manufacturing, infrastructure development, and event organization, which could drive job creation and public health improvements, particularly in lower-income regions.

Countries	Total	First	Second	Second Third		Fifth	
		Quantile	Quantile	Quantile	Quantile	Quantile	
Belgium	349 -		85	346	391	844	
Bulgaria	24	-	-	-	21	83	
Czechia	259	-	-	-	-	-	
Denmark	410	112	143	267	-	1.494	
Germany	526	126	259	383	633	1.221	
Estonia	245	-	60	166	307	646	
Greece	120	36	19	86	136	324	
Spain	170	52	88	122	202	388	
France	413	96	174	367	498	932	
Croatia	126	-	-	113	180	272	
Italy	195	-	-	-	-	-	
Cyprus	298	-	104	226	408	714	
Latvia	249	-	-	123	229	851	
Lithuania	87	-	-	-	91	262	
Luxembourg	628	-	327	988	541	1.097	
Hungary	102	-	-	48	98	315	
Malta	334	-	-	275	766	497	
Netherlands	622	179	270	475	749	1.422	
Austria	620	162	298	497	787	1.355	
Poland	95	32	25	44	102	271	
Slovenia	397	72	186	324	474	927	
Slovakia	66	17	49	84	78	103	
Montenegro	25	-	-	-	-	-	
Serbia	53	-	-	26	54	168	

Table 3. Mean consumption expenditure of private households on sporting goods and services by income quintile

Source: European Union (2024)

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The dataset, "Mean consumption expenditure of private households on sporting goods and services by income quintile," offers a comprehensive analysis of household spending patterns across different income levels in European countries for 2020, measured in Purchasing Power Standards (PPS). The data reveal significant disparities in spending on sports and recreational services, reflecting the influence of income levels and broader economic contexts. Overall, the total expenditure varies considerably across countries, with Luxembourg, the Netherlands, and Austria exhibiting the highest average spending (628, 622, and 620 PPS, respectively), while Bulgaria and Montenegro demonstrate the lowest levels of expenditure (24 and 25 PPS, respectively). These figures suggest that wealthier countries allocate greater sports and recreation, potentially reflecting resources to stronger infrastructure, higher disposable incomes, and cultural prioritization of leisure activities.

An examination of spending by income quintiles highlights a consistent trend: higher-income households allocate substantially more to sports and recreational services than their lower-income counterparts. In affluent countries such as Luxembourg, the Netherlands, and Austria, households in the fifth quintile outspend those in the lowest quintile by more than tenfold. For example, in Luxembourg, the wealthiest quintile spends 1,097 PPS, while data for the lowest quintiles are either minimal or unavailable, underscoring the significant disparities. Similarly, in the Netherlands, the fifth quintile's expenditure reaches 1,422 PPS, compared to 179 PPS in the first quintile. This pattern suggests that access to leisure activities is predominantly incomedriven, even within countries with higher overall spending levels.

In contrast, lower-income countries such as Bulgaria, Montenegro, and Serbia exhibit not only low overall expenditures but also minimal differences between income groups. For instance, in Bulgaria, the highest quintile spends only 83 PPS, far below the lowest quintile of wealthier nations. Middleincome countries, such as Slovenia and Greece, demonstrate intermediate trends, with moderate spending levels that increase across income quintiles but remain constrained compared to wealthier nations.

The findings emphasize the pervasive economic disparities that shape access to sports and recreational services across Europe. In wealthier countries, higher-income households benefit from significant opportunities to engage in leisure activities, while lower-income groups often face barriers to participation. In contrast, in less affluent nations, even the wealthiest households allocate limited resources to such activities, reflecting broader economic challenges. These disparities underline the need for policy interventions, particularly in lower-income countries, to promote equitable access to recreational opportunities. Measures such as public investment in sports infrastructure and targeted subsidies for lower-income households could mitigate these inequalities and encourage broader participation. The data also highlight the role of cultural and infrastructural factors in shaping spending patterns, with nations that prioritize recreational activities potentially serving as models for others seeking to enhance access and participation.

Government Expenditure on Recreation and Sport

The role of government in the development and management of the sports sector is as significant as its involvement in other major industries. Governments play a crucial part in promoting sports through policy development, infrastructure investment, and the creation of opportunities for participation at all levels. Consequently, government expenditure on sports has become a critical area of analysis, as it reflects the prioritization and support given to this sector. Examining trends in public spending on sports over time provides valuable insights into how governments allocate resources to foster physical activity, improve public health, support professional sports, and enhance societal well-being. Understanding these expenditure patterns is essential for assessing the effectiveness of government policies and identifying areas that may require further investment to maximize the economic, social, and cultural benefits of the sports industry.



Fig 1. General government expenditure on recreation and sport (Source: European Union, 2024)

The figure 1 provides annual data on the expenditure of the European Union's general government sector, specifically for recreational and sporting services, measured in million euros. The data covers the years 2013 to 2022 and follows the COFOG classification system, which organizes government expenditure by function across the 27 EU member countries. From 2013 to 2022, the expenditure on these services steadily increased, starting at 44,070.3 million euros in 2013 and reaching 60,500.9 million euros by 2022. This gradual rise in expenditure suggests a consistent prioritization of recreational and sporting services within the EU's public spending. Notably, the data shows a significant spike in spending between 2020 and 2021, likely influenced by the effects of the COVID-19 pandemic, which could have prompted increased government intervention in this sector. Overall, this dataset illustrates the trends in EU government investment in recreational and sporting services, reflecting both ongoing policy priorities and the influence of extraordinary events such as the global health crisis.





The figure 2 provides annual data on the proportion of total government expenditure dedicated to recreational and sporting services within the European Union. This dataset is presented as a percentage of the total general government expenditure across the 27 EU member countries with figures recorded for each year from 2013 to 2022. Unlike the previous dataset, which measures expenditure in absolute values (million euros), this dataset expresses expenditure as a percentage of total general government spending. The values for each year are consistent, with a minor fluctuation observed between 2020 and 2021. The percentage of total government expenditure allocated to recreational and sporting services has remained at 0.8% in most years, except for 2020, where it slightly dropped to 0.7%. In 2022, the percentage returns to 0.8%. This suggests that while the absolute amount of spending on recreational and sporting services has increased over time, the relative share of total government expenditure allocated to this sector has remained largely stable, with a minor dip in 2020. The first dataset presented expenditure in absolute terms (million euros), showing a steady increase from 44,070.3 million euros in 2013 to 60,500.9 million euros in 2022. This increase indicates a growing financial commitment to recreational and sporting services.

On the other hand, the second dataset, which expresses expenditure as a percentage of total government spending, reveals that the proportion of government expenditure dedicated to this sector has remained relatively stable at 0.8%, with only a slight drop to 0.7% in 2020. The comparison highlights that, although the absolute expenditure on recreational and sporting services has increased over time, its share of total government expenditure has not experienced significant growth, with the percentage generally holding steady. This contrast suggests that while governments are spending more money in absolute terms on these services, their relative priority within the overall budget has remained constant, apart from the brief dip during the pandemic in 2020.

Sport Industry Dynamics

Government spending in the sports industry, alongside consumption patterns, provides critical insights into the structure and performance of the sector. These factors serve as indicators of the industry's economic dynamics and its evolving significance within broader economic systems. The growing importance of the sports industry can be attributed to its multifaceted impact, encompassing contributions to economic growth, employment generation, and societal well-being.

To assess this importance, available data allows for analysis from two primary perspectives: employment and sold production. Employment within the sports sector reflects its capacity to create jobs, spanning areas such as manufacturing, services, event management, and professional sports, thereby contributing to labor market stability and economic diversification. On the other hand, sold production serves as a measure of the industry's output, illustrating its contribution to gross domestic product (GDP) and its role in trade and consumer spending. Together, these metrics provide a comprehensive understanding of the sports industry's economic footprint and underline its increasing relevance in modern economies.



The figure 3 offers detailed annual data on the total number of individuals employed in the sports sector across the European Union from 2011 to 2023. The data is presented in thousands of persons, providing a clear picture of employment trends in the sports industry throughout this period. Starting at 1,118.6 thousand persons in 2011, the employment figures steadily rise each year, culminating in 1,547.3 thousand persons in 2023. This reflects a consistent growth in employment within the sports sector across the EU, indicating an expanding industry. The most notable increase in employment occurred between 2020 and 2021, where the total number of employed persons grew from 1,316.3 thousand to 1,368.4 thousand. This surge can likely be attributed to the recovery phase of the sports industry following the widespread disruptions caused by the COVID-19 pandemic. During the pandemic, many sports-related activities, events, and facilities were either canceled or closed, leading to a significant reduction in employment in the sector. As the industry began to recover, employment figures rebounded, reflecting a resurgence in sports events, participation, and related services. From 2022 to 2023, the data shows another significant increase in employment, from 1,514.9 thousand persons to 1,547.3 thousand persons.

This continued growth may be driven by several factors, including a stronger post-pandemic recovery, an increase in sports participation, and continued investments in sports infrastructure and events. The rise in employment could also be linked to the expansion of sports-related industries such as sports media, marketing, and sports tourism.



The figure 4 provides annual data on the economic activities within the sports sector across the European Union (EU27) from 2014 to 2023. Reported in monetary terms, the dataset captures the value of goods and services produced, exported, and imported within the sports industry, offering insights into its contribution to the economy and trade. Over the period from 2014 to 2019, the data shows steady growth in sold production, exports, and imports, suggesting an expanding sports sector driven by factors such as increased consumer interest, investments in sports infrastructure, and the organization of major sporting events. However, the COVID-19 pandemic caused a significant downturn in 2020, with all three indicators-sold production, exports, and imports-declining due to disruptions in sporting activities and trade networks. The sector experienced a partial recovery in 2021 and 2022, but the figures remained below pre-pandemic levels. The rebound observed in 2023, with values approaching those seen before the pandemic, signals a recovery in the sports sector, supported by a combination of renewed consumer demand and investment.

Conclusion

This paper seeks to provide a comprehensive analysis of the evolution of the sports industry by examining three critical dimensions: consumption patterns, government spending, and employment and production within the sector. First, it explores the consumption patterns of sports-related goods and services, providing a detailed analysis of how consumer demand has evolved across Europe. This aspect is crucial for understanding the broader societal trends influencing the sports industry, as shifts in consumer preferences often reflect changes in lifestyle, health awareness, and the role of sports in modern society. Over the years, there has been a notable increase in the consumption of sports products, driven by rising interest in fitness, recreational activities, and professional sports. Such patterns suggest a growing recognition of sports as both an economic commodity and a cultural necessity.

The second aspect addressed in this paper is government spending on the sports industry, which plays a pivotal role in shaping its growth and accessibility. Government expenditures on sports serve as a key indicator of how public policy and financial investments support the development of sports infrastructure, promote physical activity, and facilitate international sporting events. Over time, these expenditures have become an essential component of national economic strategies, reflecting a broader societal commitment to the promotion of health and well-being. The paper investigates how the share of government spending on sports as a percentage of GDP has remained relatively stable, despite fluctuations in national budgets, suggesting that sports continue to receive consistent support across European nations. This stability in government funding further highlights the growing importance of the sports sector as a driver of social, economic, and even political agendas. The third aspect explored is the employment and production of goods within the sports industry, which is essential for understanding its broader economic impact. Employment in the sports sector includes a wide range of roles, from athletes and coaches to those involved in manufacturing, event management, and marketing. Employment trends within the industry provide valuable insights into its capacity to create jobs and stimulate economic activity. Moreover, the production of goods sold within the sports sector, such as equipment, apparel, and technological innovations, reflects the industry's ability to generate economic value.

This paper examines how production levels have evolved in parallel with consumption patterns, illustrating a clear upward trajectory in the value of goods produced and sold, further solidifying the economic significance of the sports industry.

In conclusion, by investigating these three aspects in detail, the paper demonstrates that the sports industry is experiencing accelerated growth across Europe. While wealthier nations tend to consume more sports products and services, lower-income countries are gradually increasing their engagement with the sector, reflecting a more inclusive trend. Government expenditure remains a stable contributor to the industry's development, and both consumption and production in the sports sector are expanding in tandem. These findings underscore the increasing role of the sports industry not only as a driver of economic activity but also as a key component of contemporary culture and society. The paper argues that, as this industry continues to evolve, it will increasingly shape economic policies and consumer behaviors, making it an essential area of study for understanding modern economic and social dynamics.

Author contributions

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Examination of Sporting Successes of European Football Clubs with Positive and Negative Transfer Balance Sheet

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Abstract

This study aims to examine the relationship between football clubs' transfer expenditures and their sporting success. As football has become an integral part of the global economy, the transfer strategies of clubs play a significant role in both economic and sporting success. Various analyses have been conducted in the literature regarding the relationship between football clubs' positive and negative transfer balances, their league performance, and success in European competitions. The study compares the success of clubs with negative and positive transfer balances between 2019 and 2023, revealing that transfer expenditures do not always directly correlate with sporting success. The results show that while some clubs with high transfer expenditures perform poorly, others with lower spending are able to achieve success. Clubs following positive transfer policies tend to achieve more efficient results, highlighting the importance of long-term strategic investments. Additionally, the research emphasizes that managing transfer expenditures in a balanced and strategic manner is critical for financial sustainability and sporting success. These findings suggest that football clubs should reassess their transfer strategies and adopt a more cost-effective approach.

Keywords

Football, football economics, transfer, transfer policy

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Introduction

Football has evolved into more than just a sport; it has become a global economic and commercial powerhouse. In Europe, football clubs invest significant amounts of money to acquire star players in order to maintain their success. However, the amount spent in the transfer market does not always correlate directly with on-field success (UEFA, 2023; Deloitte, 2024). In recent years, some clubs have achieved significant success despite low transfer spending, while others with large investments have failed to reach the desired performance (FIFA, 2022). This situation highlights the need for a deeper examination of clubs' transfer policies and financial management strategies.

Football clubs' transfer strategies generally revolve around two main approaches: a positive transfer balance and a negative transfer balance. Clubs with a positive transfer balance stand out for generating more income from player sales than what they spend on acquisitions. Clubs such as Ajax, Benfica, and Porto are particularly known for developing young talent and selling players at high values (Transfermarkt, 2024). In contrast, clubs like Paris Saint-Germain (PSG), Manchester City, and Chelsea aim for short-term sporting success through significant transfer spending. However, the negative transfer balances of these clubs have raised concerns regarding financial sustainability (FIFA, 2023; UEFA, 2023).

Various studies in the literature have examined the relationship between football clubs' transfer expenditures and sporting success. Poli, Besson, and Ravenel (2024) contributed to reducing uncertainties in the transfer market by developing a data-driven model to predict player market values. Elaad (2019) analyzed the impact of regulatory constraints on performance by studying the promotion processes of reserve teams. These studies demonstrate that football economics is not solely dependent on player performance but also on managerial and strategic decisions (Andreff, 2021).

The financial aspect of football also directly impacts stock markets. Edvardsen and Furulund (2020) emphasized that UEFA Champions League and domestic league performances cause sharp fluctuations in clubs' stock prices. It has been shown that the financial performance of Europe's major clubs influences stock market movements (Dimic et al., 2018; Forbes, 2023). Moreover, Hackinger (2019) found that players acquired with high transfer fees tend to receive more playing time, regardless of costs, as coaches favor them. This underscores the importance of rational decision-making by club management (Simon, 2013).

These studies elucidate the economic dynamics of the transfer market and its impact on sporting success. However, there are limited comprehensive comparative studies in the literature that explore the differences in sporting success between clubs with positive and negative transfer balances (Leeds et al., 2022). Transfer expenditures remain one of the most critical factors in enhancing a club's competitive strength. In the 2022-2023 season, Premier League clubs spent a total of 2.8 billion euros on transfers, while Bundesliga and La Liga clubs were observed to manage their spending more balanced and income-focused (UEFA, 2023; Deloitte, 2023). This discrepancy highlights the need to examine the effects of financial strategies on success. However, as direct transfer expenditures do not guarantee on-field success, how these expenditures are managed and which players are invested in becomes crucial (Statista, 2023).

This study aims to analyze how financial sustainability and sporting success can be balanced by comparing the success of clubs with high transfer expenditures and those building teams with lower costs.

Football Transfers

DFL (Deutsche Fußball Liga) defines a football transfer as follows: "Transfer" refers to the transfer of a player from one club to another (DFL, 2024). To facilitate these transfers, federations and clubs under FIFA (Federation Internationale de Football Association) have established rules to ensure fairness and regulation between the relevant federations and affiliated clubs (FIFA, 2020).

FIFA distinguishes between international and domestic transfers in its Regulations on the Status and Transfer of Players:

- **International Transfer:** The transfer of a player's registration from one association/company abroad to another association/company (FIFA, 2020).
- **Domestic Transfer:** The transfer of a player's registration within the same association/company from one club to another.

The first documented football transfer occurred in 1893 when Scottish player Willie Groves transferred from West Bromwich Albion FC to Aston Villa for 100 GBP (Jackson, 2009). Since then, thousands of players have changed clubs annually, and transfer fees have skyrocketed, reaching several million euros. The previous record was set in 2017 at 222 million euros, which remains unbeaten (UEFA, 2023). In professional sports, these transfers hold both economic and sporting significance for clubs. When a player is sold, the club can generate revenue, which can be reinvested in other players or the club's infrastructure (Szymanski, 2023). Additionally, if a club has debt or needs to improve its financial situation, this revenue can be used for restructuring or improving financial stability (Forbes, 2023).

Transfers are particularly important for publicly traded clubs like Borussia Dortmund or Manchester United. Unlike fans, potential investors not only evaluate the sporting factors and their implications for the club's success but also consider economic parameters (Hackinger, 2019). On the other hand, when a player is purchased, if they perform as expected and the club can build on that success, the player becomes a valuable investment (Dimic et al., 2018). The Bosman Rule, implemented in 1995, significantly changed the football transfer market. This rule allowed players to become free agents at the end of their contracts and transfer to another club without a transfer fee (Lembo, 2011). The Bosman Rule has had a deep impact on clubs' transfer strategies, increasing the value of players nearing the end of their contracts and emphasizing the importance of long-term contracts (UEFA, 2023).

In 2019, FIFA recorded a total of 18,047 football transfers. In 2020, despite the COVID-19 pandemic, 17,077 transfers were made from 180 different countries. However, due to special contractual arrangements like loan agreements or returns to clubs, only 14,432 players actually changed clubs (FIFA, 2020). Of the 17,077 transfers in 2020, 187 of the 211 FIFA member federations were involved, setting a new record with 4,178 clubs, marking a 0.4% increase from the previous year (UEFA, 2023).

Method

This study, which investigates the impact of football teams' transfer balances on their sporting success, adopts a qualitative research approach. Qualitative research offers the opportunity to deeply and holistically examine phenomena, events, people, institutions, and documents (Yıldırım & Şimşek, 2011). One of the qualitative research methods, document analysis, allows for the analysis of information and content related to the problem addressed in the research within written and visual media elements (Ary et al, 2010). In this study, document analysis was preferred to examine the sporting successes of teams with negative and positive transfer balances between 2019 and 2023.

Data Collection

In this study, teams with negative and positive transfer balances between 2019 and 2023 were obtained from the CIES Football Observatory report. The relevant data regarding the teams' accumulated points in Europe was retrieved from UEFA, and their league standings were obtained from the respective federations' websites. Both summer and winter transfer periods were included, and the economic and sporting impacts of transfers were examined.

Data Analysis

Based on the transfer balances obtained from the CIES Football Observatory report, the top 5 teams for both negative and positive balances were ranked. Then, the 5-year averages of their points and league rankings were calculated and presented in tables. Descriptive analysis was used to comparatively examine the data, and the findings were presented in tabular form.

Findings

In this section of the study, the teams with negative and positive transfer balances between 2019 and 2023 are ranked, and the average points accumulated by these teams in European competitions, as well as their average end-of-season rankings in their respective domestic leagues, are presented in tabular form.

In Table 1, the top five teams with negative and positive transfer balances between 2019 and 2023 are presented, along with the average points accumulated by these teams in European leagues during the specified period, and their average end-of-season rankings in their respective domestic leagues. Accordingly, Manchester United, Chelsea FC, Paris Saint-Germain, Arsenal FC, and Tottenham Hotspur FC have the highest negative transfer balances, while SL Benfica, AFC Ajax, RB Salzburg, LOSC Lille, and Sporting Lisbon have the highest positive transfer balances.

Teams with Negative Transfer Balance		APAE	ARDL	Teams with Positive Transfer Balance		АРАЕ		ARDL	
1.	Manchester United (England)	-1309 M€	8,4 points	4,4th place	1.	Sl Benfica (Portugal)	816 M €	9 points	1,6th place
2.	Chelsea FC (England)	-1209 M€	12 points	5,1st place	2.	Afc Ajax (Netherlands)	473 M €	10,6 points	1,3rd place
3.	Paris St Germain (France)	-991 M€	12,4 points	1st place	3.	Rb Salzburg (Austria)	401 M €	9,3 points	1st place
4.	Arsenal FC (England)	-795 M€	13,5 points	4th place	4.	Losc Lille (France)	391 M €	4 points	6,5th place
5.	Tottenham Hotspur FC (England)	-711 M€	10,7 points	6,1 st place	5.	Sporting Lizbon (Portugal)	345 M €	7,8 points	2,8th place
Average -1.0		-1.003 M€	11,4	4,12	Average		485,2 M €	8,14	2,64

 Table 1. Comparison of clubs' transfer balances with average points accumulated in europe

*APAE: Average Points Accumulated in Europe *ARDL: Average Points Accumulated in Europe *AVAE: Average Points Accumulated in Europe

Clubs with Negative Transfer Balances: When examining the average points collected in Europe by clubs with negative transfer balances, it is observed that the team accumulating the most points is Paris St Germain (avg. 12.4), while the team collecting the fewest points is Manchester United (avg. 8.4). In terms of their average end-of-season rankings within their respective domestic leagues, Paris St Germain ranks the highest, whereas Tottenham Hotspur FC ranks the lowest.

Clubs with Positive Transfer Balances: For clubs with positive transfer balances, the highest average points in Europe are collected by AFC Ajax (avg. 10.6), while LOSC Lille gathers the least (avg. 4). Regarding their domestic league performances, RB Salzburg holds the highest average ranking, and LOSC Lille ranks the lowest.

Comparative Analysis of Success: A comparison of the 'success' of clubs with negative and positive transfer balances indicates that clubs with negative balances accumulate more points on average in European competitions. However, clubs with positive transfer balances tend to achieve higher average domestic league rankings. Additionally, it is noteworthy that four of the top five clubs with the highest negative debt balances are English clubs.

Discussion

The process of globalization and professionalization has transformed sports activities from mere games into economically driven sectors (Peçenek, 2020). One of the most significant components of this economic domain is player transfers (Hackinger, 2019). The involvement of football clubs in the transfer market to enhance their financial power and maintain brand value has become one of the core dynamics of modern football (Leeds et al., 2022). Transfer expenditures in football arise from various reasons, primarily rooted in the belief that a team's success is closely tied to the strength of its squad, unlike individual sports (Anderson, 2021). In order to boost competitiveness, clubs heavily rely on the transfer market, investing substantial budgets in players and salaries. Football clubs transfer players from around the world each year to achieve their sporting goals, satisfy fans, and attract investors (Poli et al., 2024).

In this study, examining the sporting success of the top five teams with positive and negative transfer balances reveals that the team leading in negative balance accumulates the fewest points in European competitions and holds lower rankings in their domestic leagues by season's end. Conversely, the top-performing team with a positive balance collects significant points in European competitions and achieves an average league finish of 1.6, indicating championships. A minimal point difference is observed between Manchester United (8.4) with a negative transfer balance and Benfica (9) with a positive balance in European competitions. This suggests that Benfica, a club with lower expenditures, can maintain its competitive edge in Europe. This finding underscores the potential of cost-effective transfer policies as a key to success.

Brandon (2024) found that each €1 million spent on transfers contributes 0.010 points to league standings. However, while this contribution is statistically significant and positive, uncalculated expenditures may jeopardize club finances (Morrow, 2013). In particular, costly transfers that fail to deliver results can lead to negative transfer policies, straining club finances (Auvinen, 2021). Therefore, managing transfer spending in a strategic and balanced manner is of critical importance (Samur, 2018).

On the other hand, clubs with positive transfer balances also perform well in terms of sporting success. The increasing number of clubs adopting positive transfer policies highlights the potential for achieving success more efficiently with limited resources (Romanovic, 2024). This indicates that clubs should prioritize infrastructure investments and the development of young talents to secure long-term success.

In conclusion, this research reveals that transfer expenditures do not always directly reflect league performance, and achieving sporting success requires a more balanced transfer policy. Despite significant spending, clubs with negative transfer balances often rank lower in their domestic leagues, necessitating a reassessment of transfer strategies. As emphasized in the literature, a shift toward transfer policies that enable success with lower expenditures may play a critical role in shaping the future of football clubs (Bahatia, 2020).

Author contributions

All authors contributed equally to the manuscript's conceptualization, editing, and finalization and are worthy of their inclusion as authors. The aspects of the study handled by each author are given below: A.E.: conception, design, supervision, fundings, data collection, literature review, writing; T.C.: conception, design, fundings and extracted the results. All authors participated in drafting the manuscript and endorsed the final version.

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Ethnical statement

This article does not contain any studies with human participants performed by any of the authors.

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