

BIBLIOMETRIC ANALYSIS OF FOOTBALL-RELATED THESES PUBLISHED IN THE TURKISH NATIONAL THESIS CENTER: IMPLICATIONS FOR PHYSICAL EDUCATION, SPORT PEDAGOGY, AND GRADUATE TRAINING

ANÁLISE BIBLIOMÉTRICA DE TESES RELACIONADAS AO FUTEBOL PUBLICADAS NO TURKISH NATIONAL THESIS CENTER: IMPLICAÇÕES PARA A EDUCAÇÃO FÍSICA, A PEDAGOGIA DO ESPORTE E A FORMAÇÃO EM PÓS-GRADUAÇÃO

ANÁLISIS BIBLIOMÉTRICO DE TESIS RELACIONADAS CON EL FÚTBOL PUBLICADAS EN EL TURKISH NATIONAL THESIS CENTER: IMPLICACIONES PARA LA EDUCACIÓN FÍSICA, LA PEDAGOGÍA DEL DEPORTE Y LA FORMACIÓN DE POSGRADO



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ABSTRACT: A bibliometric analysis was conducted of 2,398 theses on football registered in the Turkish National Thesis Center (YÖKTez), focusing on their educational implications for Physical Education, sports pedagogy, and university-level professional training. The Bradford zone analysis revealed that 8 universities produced one-third of the theses, while 134 peripheral institutions were required to achieve an equivalent volume. Marmara University led the output (n = 190), while the Marmara and Central Anatolia regions accounted for 60.20% of the national production. State universities were responsible for 84.2% of the theses, distributed across 120 institutions, with an average of 16.7 theses per institution, compared with 7.5 at foundation universities. Turkish was the predominant language (95.91%), followed by English (3.75%). The findings demonstrate continued growth in football research but also reveal institutional concentration, regional disparities, low doctoral output, and limited international visibility, highlighting the need to strengthen doctoral training, expand research in underrepresented regions, and integrate football-related studies more closely into curricula and teacher education.

KEYWORDS: Football. Bibliometric analysis. National Thesis Center. Physical education. Sport pedagogy.

RESUMO: Foi realizada uma análise bibliométrica de 2.398 teses sobre futebol registradas no Turkish National Thesis Center (YÖKTez), com foco nas implicações educacionais para a Educação Física, a pedagogia do esporte e a formação profissional universitária. A análise de zonas de Bradford revelou que 8 universidades produziram um terço das teses, enquanto 134 instituições periféricas foram necessárias para alcançar volume equivalente. A Universidade de Marmara liderou a produção (n = 190), e as regiões de Marmara e Anatólia Central concentraram 60,20% da produção nacional. Universidades estatais responderam por 84,2% das teses, distribuídas em 120 instituições, com média de 16,7 teses por instituição, contra 7,5 nas universidades fundacionais. O turco predominou (95,91%), seguido pelo inglês (3,75%). Os resultados evidenciam crescimento da pesquisa sobre futebol, mas também concentração institucional, disparidades regionais, baixa produção doutoral e limitada visibilidade internacional, indicando a necessidade de fortalecer a formação doutoral, ampliar a pesquisa regional e integrar esses estudos ao currículo e à formação docente.

PALAVRAS-CHAVE: Futebol. Análise bibliométrica. National Thesis Center. Educação Física. Pedagogia do esporte.

RESUMEN: Se realizó un análisis bibliométrico de 2.398 tesis sobre fútbol registradas en el Turkish National Thesis Center (YÖKTez), con énfasis en sus implicaciones educativas para la Educación Física, la pedagogía del deporte y la formación profesional universitaria. El análisis de las zonas de Bradford reveló que 8 universidades produjeron un tercio de las tesis, mientras que fueron necesarias 134 instituciones periféricas para alcanzar un volumen equivalente. La Universidad de Marmara lideró la producción (n = 190), mientras que las regiones de Marmara y Anatolia Central concentraron el 60,20 % de la producción nacional. Las universidades estatales fueron responsables del 84,2 % de las tesis, distribuidas en 120 instituciones, con un promedio de 16,7 tesis por institución, frente a 7,5 en las universidades fundacionales. El turco fue el idioma predominante (95,91 %), seguido del inglés (3,75 %). Los resultados evidencian un crecimiento continuo de la investigación sobre fútbol, pero también revelan concentración institucional, disparidades regionales, baja producción doctoral y limitada visibilidad internacional, lo que pone de manifiesto la necesidad de fortalecer la formación doctoral, ampliar la investigación en regiones subrepresentadas e integrar más estrechamente los estudios relacionados con el fútbol en los planes de estudio y la formación docente.

PALABRAS CLAVE: Fútbol. Análisis bibliométrico. National Thesis Center. Educación Física. Pedagogía del deporte.

INTRODUCTION

Bibliometrics is a field of inquiry grounded in measurement and enumeration. Bibliometric studies analyze specific characteristics of documents or publications to draw conclusions about scientific communication (Al & Coştur, 2007; Algin, 2024). The primary aim of such work is to show researchers what orientations other scholars in a given field have adopted, so that those preparing new studies can make better-informed decisions about what types of research are needed. Examining earlier findings also enables investigators to develop alternative perspectives or to approach a topic from a fresh angle (Jacobs, 2001). Etymologically, the term derives from the Latin “*deportare*,” meaning play and entertainment, which evolved into the French “*desport*” and subsequently into the English “sport”; it serves as a common term encompassing all physical activities performed for play and competition (Polat & Bingöl, 2022; Serin et al., 2025).

Research on the relationship between sport and personality has shown that individuals who exercise regularly tend to score higher on extraversion, conscientiousness, and adaptability (Tazegül, 2014). Among all sport disciplines, football occupies a distinctive position: it is the world’s most popular sport, with hundreds of thousands of licensed players (Aşçı, 2009), and its cultural reach continues to expand (Göksel et al., 2016). Football is far more than a game. Beyond entertainment and competition, it offers individuals a vehicle for expressing identity, national pride, and social belonging. The sport not only shapes personal identities but also creates spaces where different social identities meet and influence one another (Talimciler, 2008). In recent decades, football has evolved into a massive entertainment industry with professional, commercial, and spectatorial dimensions that extend well beyond the playing field (Koçer, 2012), and its economic footprint, measured in transfer fees, broadcasting rights, and merchandise, grows each year (Kuyucu, 2014). Passionate supporters follow their clubs closely, investing emotion, loyalty, and hope in their teams’ fortunes (Singh & Lamba, 2019; Kaya & Algin, 2022). Football has also brought into being an entire ecosystem of associated mechanisms and institutions, from media networks to governing bodies (Talimciler, 2006). International matches and club cup competitions serve as vehicles for building and sustaining a shared global sporting culture (Talimciler, 2008; Tokgöz, 2014). Technological developments and the rise of social media have further amplified access, allowing fans to follow every aspect of the sport through websites, blogs, and digital platforms (Solmaz & Baritci, 2019).

Mapping graduate theses is not only a descriptive exercise. Theses produced in universities indicate how academic programs define research priorities, how supervisory

capacity is distributed, and how specific themes enter professional training. Football is relevant to this agenda because it appears in Physical Education curricula, extracurricular school sport, university sport programs, coach education, youth development, inclusion policies, and community-based educational initiatives. Accordingly, a bibliometric map of football-related theses can help identify whether graduate education is producing knowledge that supports pedagogical practice, curriculum planning, and the management of educational sport programs (Bailey, 2006; Kirk, 2010; UNESCO, 2015).

The origins of football stretch far deeper than its modern codification. Games involving kicking a ball existed in China as early as 2600 BC under the name “*ts’u kü*” (Stemmler, 2000), while Japan’s “*Kemari*,” a cooperative ball-juggling game, dates from the seventh century. Across medieval Europe, variants such as the French “*la soule*” were widespread yet violent enough to provoke repeated royal bans (Stemmler, 2000). The Italian “*calcio*” of the sixteenth century represented a more restrained form, though it too gradually absorbed the roughness of its northern counterparts (Bozdemir, 1998). Modern football as we know it dates from 1863, when the Football Association was founded in London and the rules of association football were formally separated from those of rugby (Stemmler, 2000). FIFA followed in 1904 and UEFA in 1954 (Bozdemir, 1998). In Türkiye, the first football league was established in Istanbul in 1904, the Turkish Football Federation was founded in 1923, and professionalism was adopted in 1951 (Polat, 2003; Babacan, 1993). Differential learning approaches in football, where players are encouraged to bring creativity to the fore rather than rely on repetitive drills, have been identified as a factor that can transfer beyond the pitch into daily problem-solving (Özüak & Çağlayan, 2019). This study therefore analyzed football-titled theses in the National Thesis Center database using bibliometric criteria. The findings are expected to contribute to the development of academic output in the football field and to encourage interdisciplinary collaboration.

BIBLIOMETRICS

The term “bibliometrics” derives from the roots “biblio” and “metrics.” “Biblio” originates from the Latin and Greek “*biblion*,” equivalent to “*bybl(os)*,” meaning book, while “metrics” comes from the Latin and Greek “*metricus*” or “*metrikos*,” meaning the science of measurement (Sengupta, 1992). The concept was first introduced by Pritchard (1969), who defined it as the application of mathematical and statistical methods to books and other

communication media. Bibliometrics serves as a guide within the written communication process while also enabling the examination of the nature and development of a given scientific discipline (Pritchard, 1969).

Schrader (1981) approached bibliometrics as a technical science concerned with the numerical characterization of recorded discourse. Diodato (1994, as cited in Köseoğlu et al., 2016) defined it as a method that allows the quantitative examination of scientific productivity and can be applied to the analysis of academic research. Within this framework, parameters such as citations, authors, keywords, topics, and methods are categorized, described, and evaluated through statistical techniques (Diodato, 1994, as cited in Köseoğlu et al., 2016; Alkan et al., 2025). Bibliometrics makes it possible to collect and interpret statistics on the usage and historical development of research published in books and journals (Raisig, 1962). Roy and Başak (2013) described bibliometrics as a discipline that employs quantitative methods to evaluate the scientific communication process of written documents. Through bibliometric analyses, the development of the literature can be observed and quantitative examinations can be conducted to contribute to the field in question (Okubo, 1997; Toros & Şekeroğlu, 2026). Bibliometrics draws on mathematical and statistical methods to analyze a field's developmental trajectory, and it allows researchers to investigate who is studying what, where, and how (Sanchez et al., 2017; Yıldız et al., 2025).

The study was conducted to examine football-related academic theses published in Turkey in a systematic manner, with the aim of revealing institutional, regional, linguistic, and degree-level trends in the field. In addition to increasing the visibility of local academic output, the study asks how this body of graduate research can inform Physical Education, sport pedagogy, and professional preparation in sport sciences. The guiding question is therefore not only how many football-related theses have been produced, but also what their distribution reveals about the capacity of Turkish higher education to generate pedagogically and institutionally relevant knowledge for sport education.

METHODOLOGY

A bibliometric analysis, a form of document review within qualitative research methods, was used to profile the football-related theses published in the National Thesis Center (YÖKTez) database as of 1 January 2026. The study population comprised all theses registered

in the YÖKTez database. The sample was limited to theses containing the word “futbol” (football) in their titles, yielding a total of 2,398 records.

Data Collection and Analysis

Data were retrieved from the YÖKTez database on 1 January 2026 by entering the keyword “futbol.” Each record was catalogued by thesis title, publication year, affiliated university, publication language, and thesis type. The database offers an automatic download function; however, because certain fields could not be customized and some entries contained missing information, manual verification and correction were required. The cleaned dataset was organized in Microsoft Excel. Frequency and percentage tables were prepared for each variable, and the results were visualized through tables and charts.

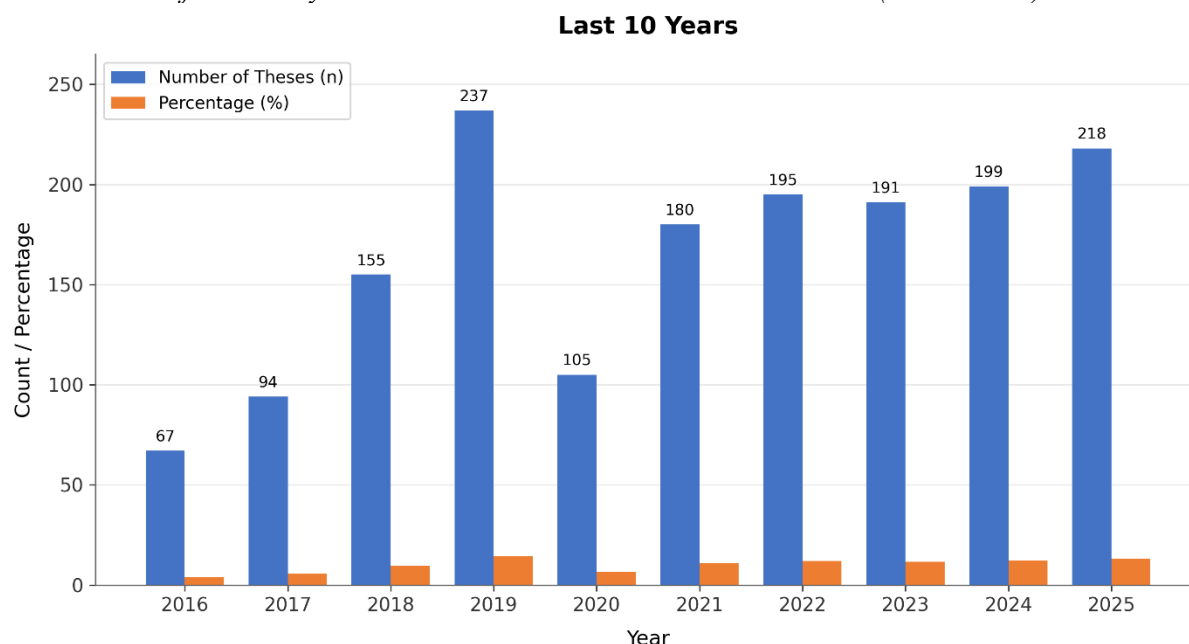
The interpretation of results prioritized variables with direct relevance to university distribution, regional inequalities, degree level, publication language, and the capacity of graduate programs to sustain advanced research. These variables were interpreted as indicators of research training capacity, supervisory infrastructure, and the institutional conditions under which knowledge on football and sport pedagogy is produced.

RESULTS

Figure 1 presents the annual distribution of football-related theses published in the YÖKTez database over the most recent ten-year period (2016 to 2025).

Figure 1.

Distribution of Theses by Publication Year in the YÖKTez Database (2016–2025)



Note. The Authors. Blue bars represent raw thesis counts (n); orange bars represent each year's percentage share of the ten-year total (N = 1,641). The 2020 decline coincides with disruptions to academic activity during the COVID-19 pandemic.

Table 1 displays the distribution of all 2,398 theses across 169 universities.

Table 1.

Distribution of Theses by University

University Name	Number of Publications
Abant İzzet Baysal University	10
Abdullah Gül University	1
Acibadem Mehmet Ali Aydınlar University	6
Adiyaman University	1
Afyon Kocatepe University	14
Ağrı Ibrahim Çeçen University	6
Akdeniz University	35
Aksaray University	9
Alanya Alaaddin Keykubat University	4
Amasya University	7
Anadolu University	41
Ankara Hacı Bayram Veli University	3
Ankara Social Sciences University	1
Ankara University	72
Ankara Yıldırım Beyazıt University	8
Antalya Bilim University	1
Ardahan University	5
Ataturk University	27
Atilim University	1

Avrasya University	1
Aydın Adnan Menderes University	21
Bahcesehir University	58
Balıkesir University	18
Bandırma 17 Eylül University	1
Bartın University	5
Başkent University	14
Batman University	5
Bayburt University	9
Bezmialem Vakıf University	5
Bingöl University	3
Biruni University	1
Bitlis Eren University	4
Boğaziçi University	12
Bolu Abant İzzet Baysal University	5
Bozok University	1
Burdur Mehmet Akif Ersoy University	15
Bursa Uludağ University	10
Celal Bayar University	21
Cumhuriyet University	7
Çağ University	6
Çukurova University	20
Dicle University	5
Dogus University	1
Dokuz Eylül University	29
Dumlupınar University	35
Düzce University	10
Ege University	59
Erciyes University	29
Erzincan Binali Yıldırım University	4
Erzincan University	1
Erzurum Technical University	3
Eskişehir Osmangazi University	2
Eskişehir Technical University	12
Fenerbahçe University	2
Fırat University	42
Galatasaray University	8
Gazi University	168
Gaziantep University	37
Gaziosmanpaşa University	1
Gebze Institute of Technology	1
Giresun University	9
Gümüşhane University	3
Hacettepe University	44
Hakkari University	2
Haliç University	22
Harran University	12
Hasan Kalyoncu University	4
Hatay Mustafa Kemal University	8

Hitit University	11
Iğdır University	14
Isparta University of Applied Sciences	1
Işık University	2
Inönü University	32
Istanbul Arel University	7
Istanbul Atlas University	2
Istanbul Aydın University	10
Istanbul Bilgi University	10
Istanbul Bilim University	1
Istanbul Gedik University	17
Istanbul Gelişim University	76
Istanbul Kultur University	3
Istanbul Medipol University	4
Istanbul Nişantaşı University	17
Istanbul Okan University	15
Istanbul Rumeli University	1
Istanbul Şehir University	1
Istanbul Technical University	5
Istanbul Commerce University	6
Istanbul Topkapı University	2
Istanbul University	49
Istanbul University-Cerrahpaşa	19
Istanbul 29 Mayıs University	1
Istinye University	1
Izmir Democracy University	1
Izmir University of Economics	2
Izmir Katip Çelebi University	7
Izmir Institute of Technology	2
Izmir Tinaztepe University	2
Kadir Has University	7
Kafkas University	3
Kahramanmaraş Sütçü Imam University	11
Cappadocia University	1
Karabük University	9
Karadeniz Technical University	29
Karamanoğlu Mehmetbey University	16
Kastamonu University	9
Kayseri University	1
Kyrgyz-Turkish Manas University	1
Kırıkkale University	20
Kırşehir Ahi Evran University	3
Kilis 7 Aralık University	3
Kocaeli University	35
Konya Technical University	1
Kütahya Dumlupınar University	24
Lokman Hekim University	4
Maltepe University	4
Manisa Celal Bayar University	30

Mardin Artuklu University	4
Marmara University	190
Mehmet Akif Ersoy University	2
Mersin University	22
Mimar Sinan Fine Arts University	2
Muğla Sıtkı Kocman University	30
Muğla University	5
Munzur University	2
Mus Alparslan University	5
Necmettin Erbakan University	11
Nevşehir Hacı Bektaş Veli University	1
Niğde Ömer Halisdemir University	14
Niğde University	19
Niğantaşı University	1
Nuh Naci Yazgan University	1
Okan University	4
Ondokuz Mayıs University	75
Ordu University	13
Middle East Technical University	21
Ozyeğin University	2
Pamukkale University	24
Police Academy	1
Recep Tayyip Erdoğan University	4
Sabancı University	1
University of Health Sciences	2
Sakarya University of Applied Sciences	19
Sakarya University	31
Sanko University	2
Selçuk University	115
Siirt University	3
Sinop University	6
Sivas Cumhuriyet University	9
Süleyman Demirel University	16
Tekirdağ Namık Kemal University	2
TOBB University of Economics and Technology	2
Tokat Gaziosmanpaşa University	10
Trabzon University	21
Trakya University	14
Turgut Özal University	1
Ufuk University	4
Uludağ University	7
Uşak University	4
Uskudar University	12
Van Yüzüncü Yıl University	11
Yalova University	3
Yeditepe University	14
Yıldırım Beyazıt University	1
Yıldız Technical University	7
Yozgat Bozok University	7

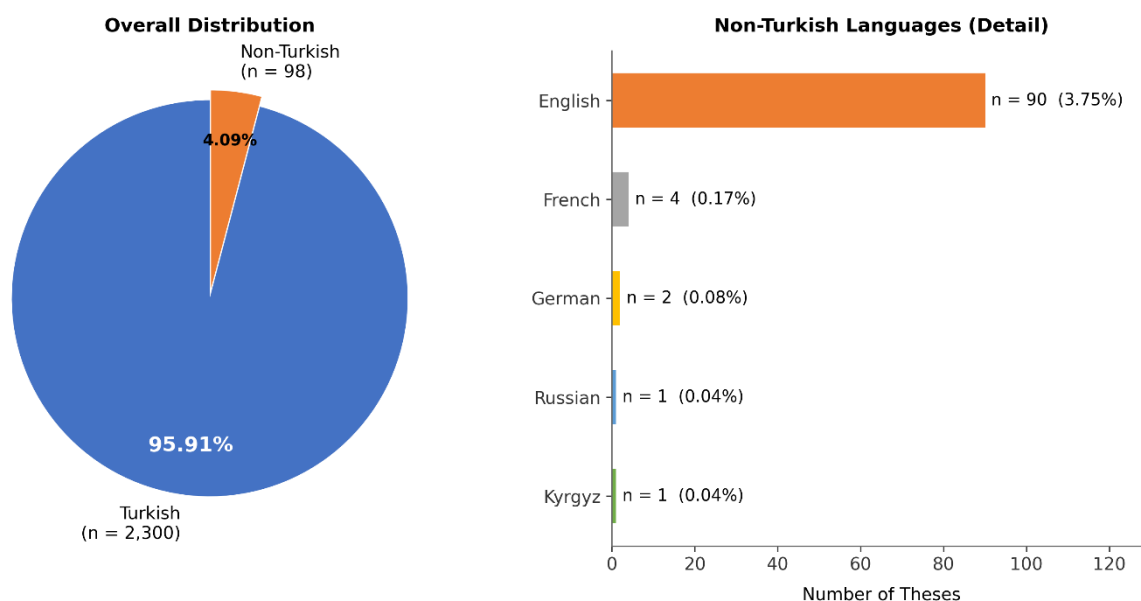
Yüzüncü Yıl University	4
Zonguldak Karaelmas University	1
Foreign Universities	11
Total (169 Different Universities)	2398

Note. The Authors.

Marmara University led all institutions with 190 theses. Gazi University ranked second ($n = 168$), followed by Selçuk University ($n = 115$). At the opposite end, 32 universities contributed a single thesis each. The spread across 169 institutions indicates that football research is not confined to a small number of centers, though output remains heavily concentrated in a few large universities.

Figure 2 presents the language distribution in two panels: the overall Turkish versus non-Turkish split and a detailed breakdown of the five non-Turkish languages.

Figure 2.
Distribution of Theses by Publication Language



Note. The Authors. Left panel shows the proportion of Turkish-language theses (95.91%) relative to all non-Turkish theses combined (4.09%). Right panel disaggregates the non-Turkish category by individual language; percentages refer to each language's share of the full dataset ($N = 2,398$).

Figure 3 presents a keyword cloud derived from the thesis titles in the dataset. “Football” dominates as the most frequent term, followed by “score,” “sport,” “determination,” “victory,” and “ambition.” This distribution reflects a thematic concentration around competition, physical performance, and psychological constructs, while terms more directly associated with schooling, curriculum, pedagogy, inclusion, and teacher education appear less prominently.

From an educational standpoint, this suggests that football-related graduate research may still be insufficiently connected to the pedagogical dimension of Physical Education, despite the relevance of football for school and university sport programs.

Figure 3.

Keyword Cloud of Football-Related Theses

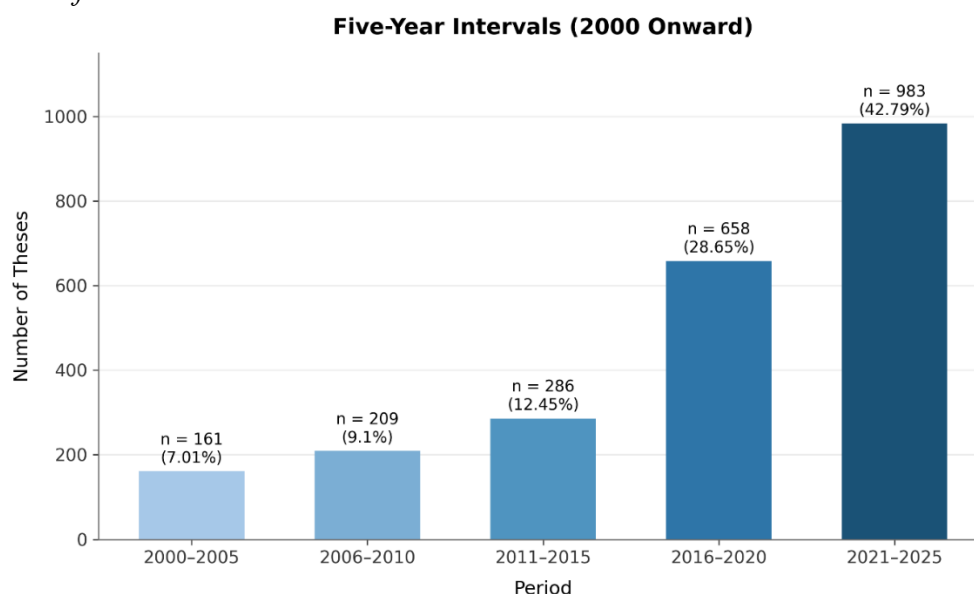


Note. The Authors. Word size is proportional to frequency of occurrence across thesis titles and keywords in the dataset ($N = 2,398$). Keywords are presented in English translation from the Turkish originals.

Figure 4 visualizes the acceleration in output across successive five-year windows, with the most recent period (2021 to 2025) producing nearly six times the volume of the earliest (2000 to 2005).

Figure 4.

Distribution of Theses in Five-Year Intervals



Note. The Authors. Bars represent the number of football-related theses registered in the YÖKTez database within each five-year period ($N = 2,297$). The 101 theses published before 2000 are excluded from this periodization. Percentages indicate each period's share of the post-2000 total. Progressive shading reflects the upward trend in output volume.

Table 2 presents the distribution of theses according to degree level. Master's theses constituted the vast majority of the dataset (80.78%, $n = 1,937$), a pattern consistent with the structure of Turkish graduate education, where master's programs far outnumber doctoral programs in sport sciences. Doctoral dissertations accounted for 18.43% ($n = 442$), while medical specialty theses made up less than one percent (0.79%, $n = 19$). The low volume of doctoral and medical specialty work raises the question of whether football research at advanced degree levels is constrained by supervisory capacity, funding, or limited interest from clinical and doctoral programs.

The predominance of master's theses indicates a broad base of professional and academic interest, but the comparatively smaller doctoral output suggests limited consolidation of long-term research agendas. For sport pedagogy and Physical Education, doctoral research is particularly important because it can generate longitudinal, intervention-based, and theoretically grounded studies on teaching, curriculum, inclusion, assessment, and learning in sport contexts (Hastie et al., 2011; Kirk, 2010).

Table 2.
Distribution of Theses by Type

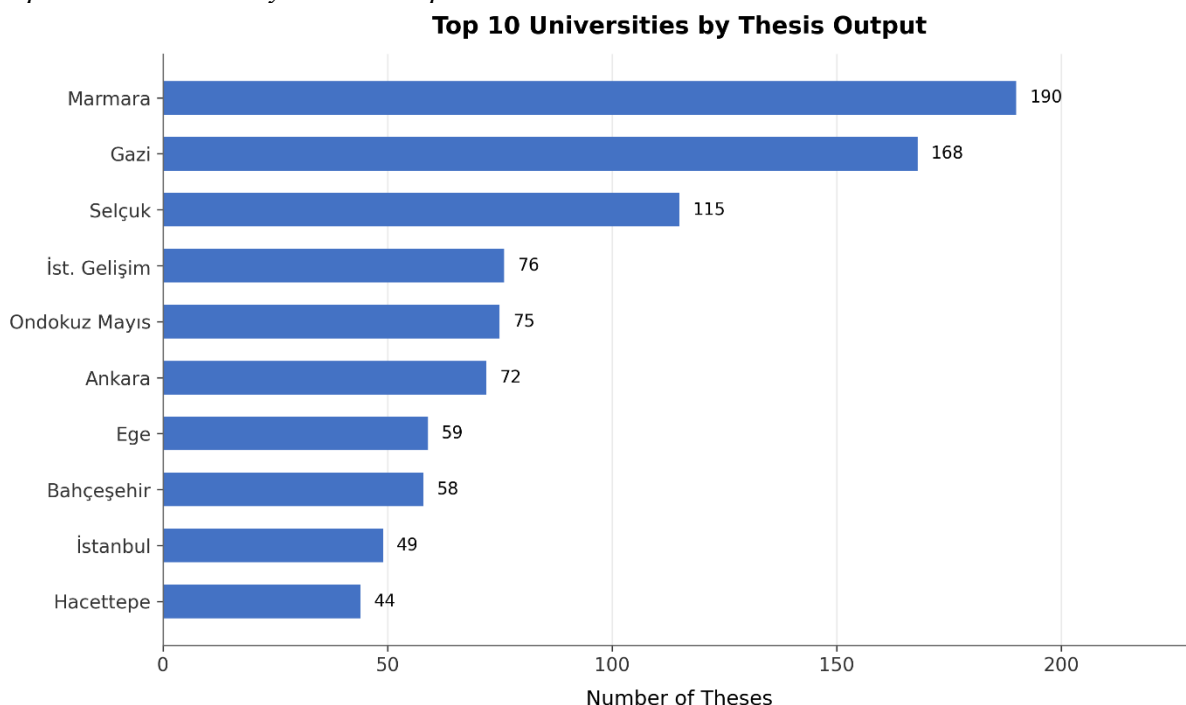
Thesis Type	n	%
Master's thesis	1,937	80.78
Doctoral dissertation	442	18.43
Medical specialty thesis	19	0.79
Total	2,398	100

Note. The Authors.

Figure 5 visualizes this concentration.

Figure 5.

Top 10 Universities by Thesis Output



Note. The Authors. Bars represent raw thesis counts. These ten institutions collectively account for 38.20% of the dataset (N = 2,398); the remaining 159 universities produce 61.80%.

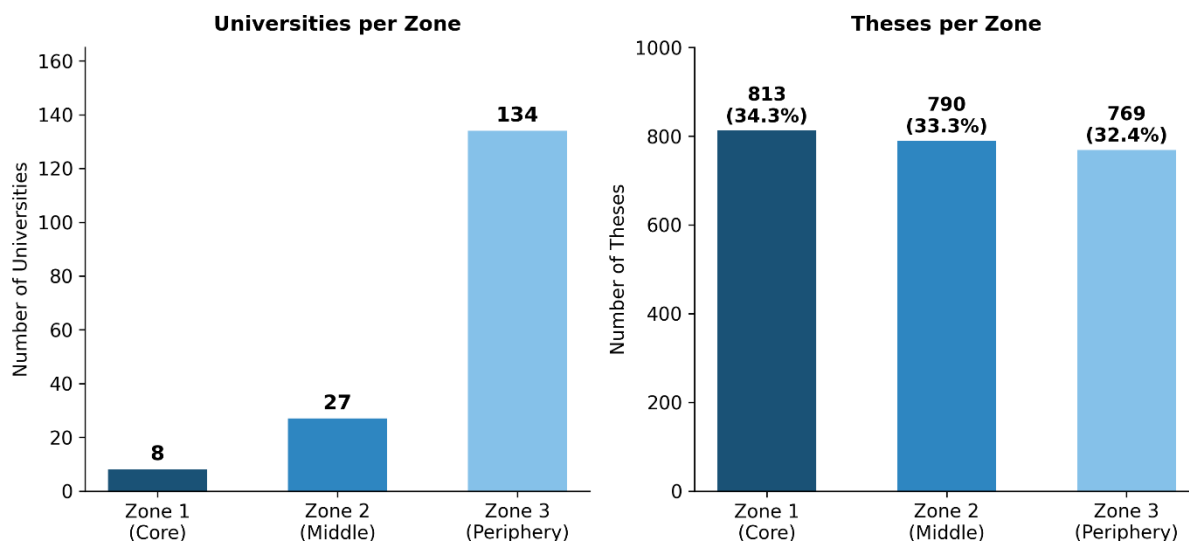
Bradford Zone Analysis

Applying Bradford's Law of Scattering to the institutional distribution yielded three zones of approximately equal thesis output. Zone 1 (core) comprised just 8 universities, yet these produced 813 theses (34.3%). Zone 2 (middle) required 27 universities to generate a comparable volume of 790 theses (33.3%). Zone 3 (periphery) contained 134 universities, which together contributed 769 theses (32.4%). The Bradford multipliers were 3.4 (Zone 2 / Zone 1) and 16.8 (Zone 3 / Zone 1), indicating a high degree of institutional concentration: each successive zone required roughly 3 to 17 times as many universities to match the output of the core. Figure 6 presents this distribution.

Figure 6.

Bradford Zone Analysis of Institutional Output

Bradford Zone Analysis of Institutional Output

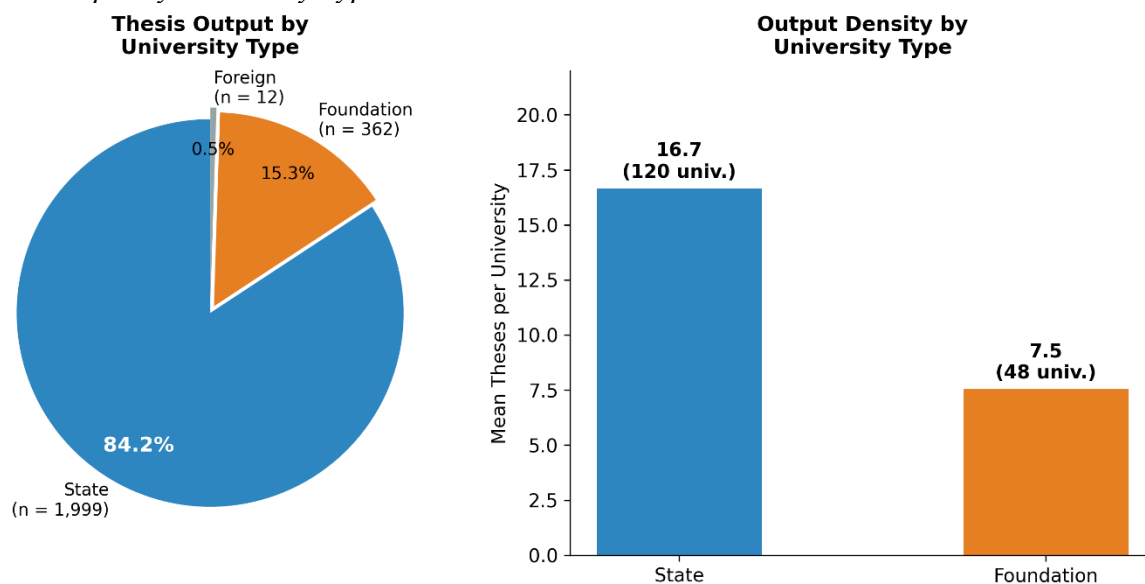


Note. The Authors. Left panel shows the number of universities in each zone; right panel shows thesis output per zone. Each zone produces roughly one-third of total output, but the number of institutions required to reach that threshold increases sharply from core to periphery (8 vs. 27 vs. 134).

State versus Foundation Universities

Of the 167 domestic institutions in the dataset, 120 were state universities and 48 were foundation (private) universities. State universities produced 1,999 theses (84.2%), while foundation universities contributed 362 (15.3%). Twelve theses originated from foreign institutions. When output density was calculated, state universities averaged 16.7 theses per institution compared with 7.5 for foundation universities. The gap likely reflects the longer history and larger graduate enrollments of state universities, particularly in sport sciences departments, rather than a difference in research interest. Figure 7 presents both the proportional split and the output density comparison.

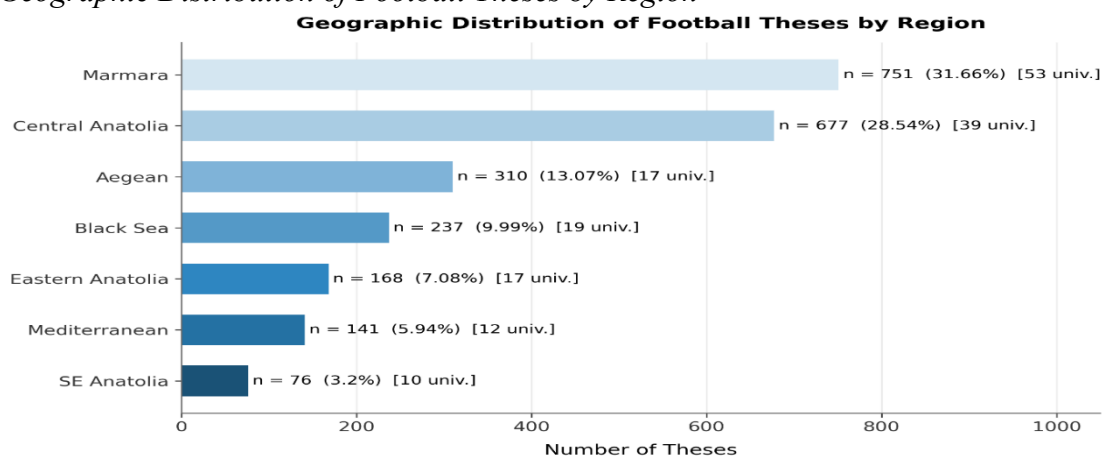
Figure 7.
Thesis Output by University Type



Note. The Authors. Left panel shows the proportional share of state, foundation, and foreign universities. Right panel compares the mean number of theses per institution for state and foundation universities. Foreign institutions ($n = 2$) are excluded from the density comparison.

Figure 8 displays the full regional breakdown. The contrast between the Aegean region, which averaged the highest per-institution output (18.2 theses) despite ranking third in total volume, and Southeastern Anatolia, which recorded the lowest density (7.6 theses per institution), suggests that raw university count alone does not explain regional differences in football research productivity.

Figure 8.
Geographic Distribution of Football Theses by Region



Note. The Authors. Bars represent thesis counts per geographic region. Bracketed values indicate the number of universities in each region. Foreign institutions ($n = 2$, 12 theses) are excluded.

The regional distribution also has implications for educational equity. If football-related graduate research is concentrated in a limited number of regions and universities, then the capacity to produce locally relevant knowledge for school sport, community sport, and Physical Education teacher education may also be unevenly distributed. This is particularly important in contexts where educational sport programs need to respond to regional differences in infrastructure, access, socioeconomic conditions, and institutional support.

Growth Dynamics

Period-over-period growth rates and a compound annual growth rate (CAGR) were calculated to quantify the upward trend visible in Tables 1 and 4. Output grew by 29.8% between 2000–2005 and 2006–2010, by 36.8% between 2006–2010 and 2011–2015, by 130.1% between 2011–2015 and 2016–2020, and by 49.4% between 2016–2020 and 2021–2025. The CAGR across the full 25-year span was 9.2%, and the most recent period produced 6.1 times the volume of the earliest. The single largest acceleration occurred in the 2016–2020 window, where output more than doubled relative to the preceding period; this jump coincides with the expansion of graduate programs in Turkish sport sciences faculties during those years.

DISCUSSION

A total of 2,398 football-titled theses registered in the National Thesis Center database were examined through bibliometric methods, and the dataset was further analyzed for institutional concentration, geographic distribution, university type, and growth dynamics.

Annual output in football research has followed a consistent upward trajectory, with a compound annual growth rate of 9.2% across the 25-year post-2000 period. The sharpest acceleration occurred between 2011 to 2015 and 2016 to 2020, when output more than doubled (130.1% growth), a pattern that coincides with the expansion of graduate programs in Turkish sport sciences faculties. The highest single-year count was recorded in 2019 ($n = 237$), and the drop in 2020 ($n = 105$) aligns with pandemic-related disruptions to academic activity. Recovery was swift: output has remained above 190 theses per year since 2022, and the most recent five-year window (2021 to 2025) alone accounts for 42.79% of all post-2000 production.

The state versus foundation breakdown showed that state universities produced 84.2% of all theses across 120 institutions, compared with 15.3% from 48 foundation universities. Per-institution output was more than twice as high at state universities (16.7 vs. 7.5 theses), a gap

that likely reflects their longer histories and larger sport sciences enrollments rather than a fundamental difference in research orientation. Foundation universities with strong sport sciences programs, such as Bahçeşehir ($n = 58$) and İstanbul Gelişim ($n = 76$), performed at levels comparable to mid-tier state institutions, suggesting that program-level investment matters more than institutional type.

By thesis type, master's theses constituted 80.78% of the dataset, doctoral dissertations 18.43%, and medical specialty theses less than one percent. The overwhelming dominance of master's-level work raises questions about the depth and methodological rigor of the literature as a whole. Doctoral dissertations typically employ more sophisticated designs, larger samples, and longer time horizons; their relatively low share suggests that the field may be producing breadth at the expense of depth. The near-absence of medical specialty theses ($n = 19$) indicates that football has yet to gain traction as a research topic within clinical training programs, despite clear relevance to sports medicine, orthopedics, and rehabilitation.

These findings should be read in relation to the educational role of sport in higher education. Football-related theses can contribute to teacher education, coach education, youth sport pedagogy, assessment in Physical Education, inclusive participation, and the design of school-university partnerships. However, the current bibliometric profile suggests that the field remains more strongly organized around performance, competition, and sport science than around pedagogical and curricular problems. Strengthening the educational dimension would require graduate programs to encourage research questions that examine how football is taught, how students learn through sport, how inclusive participation can be organized, and how educational institutions manage sport programs as part of broader development and citizenship agendas.

The institutional concentration revealed by the Bradford zone analysis is also relevant. When a small group of universities produces a large share of theses, research agendas, supervisory expertise, and methodological traditions may become concentrated in a few academic centers. This can limit the circulation of pedagogical innovations and reduce the visibility of problems faced by schools and universities in less represented regions. Collaborative supervision, inter-institutional research networks, and targeted support for doctoral programs could help reduce this imbalance and expand the educational relevance of football-related research.

The dominance of Turkish-language theses (95.91%) confirms that the literature is produced primarily for the domestic scholarly community. English-language output accounted

for only 3.75%, a proportion insufficient to achieve meaningful international visibility. Raising the English-language share is the most direct route to ensuring that Turkish football scholarship contributes to and benefits from the global research conversation.

Several actionable recommendations emerge from these findings. Thematic coverage should expand beyond training science and performance analysis to encompass sport pedagogy, school Physical Education, teacher education, inclusive sport, youth development, sport psychology, sport management, injury prevention, and the sociological dimensions of football. Institutions in underrepresented regions, particularly Southeastern and Eastern Anatolia, should be targeted for capacity-building through collaborative supervision arrangements, joint research projects, and dedicated funding lines. The proportion of doctoral-level research should also increase; incentive structures at the program level could encourage more doctoral candidates to undertake football-related dissertations with advanced methodological designs and explicit educational relevance. Graduate programs should actively encourage English-language thesis production, or at minimum require English-language abstracts and keywords, to improve discoverability in international databases. Periodic repetition of bibliometric analyses at regular intervals would allow the field's development, concentration patterns, and regional disparities to be tracked over time, providing an evidence base for educational research policy. Finally, interdisciplinary collaboration between sport sciences, education faculties, health sciences, social sciences, and engineering faculties would broaden both the methodological toolkit and the applied relevance of football research in Turkey.

FINAL CONSIDERATIONS

Football-related thesis production in Türkiye has grown at a compound annual rate of 9.2% since 2000, yet that growth is unevenly distributed across institutions, regions, degree levels, and languages. Eight core universities produce one-third of all output; Southeastern and Eastern Anatolia lag behind in per-institution productivity; master's theses outnumber doctoral dissertations by a ratio of more than four to one; and fewer than 4% of all theses are written in English. For educational policy and management, these imbalances matter because they shape the capacity of higher education to produce knowledge for Physical Education, sport pedagogy, teacher and coach education, inclusive participation, and the management of educational sport programs.

Addressing them through targeted regional investment, doctoral-level incentives, interdisciplinary collaboration, pedagogically oriented research agendas, and international publication strategies will determine whether Turkish football scholarship can contribute not only to sport sciences, but also to educational theory, practice, and policy.

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