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Esports Beyond Gaming: Global Research Trends and Turkey's Scientific Visibility, a Bibliometric Analysis, 2006–2026

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ABSTRACT

Purpose: Esports has evolved from competitive video gaming into a multidisciplinary scientific field, yet Turkey's contribution and visibility within the global literature remain insufficiently characterized. This study mapped global esports research from 2006–2026 and evaluated Turkey's WoS-indexed scientific visibility, disciplinary profile, citation impact, institutional productivity, and international collaboration.

Methods: The Web of Science Core Collection was searched using a predefined Topic Search strategy restricted to articles and reviews. The global dataset comprised 2,297 records. Turkey-affiliated records were identified using both "Turkey" and "Turkiye"; 82 candidate records underwent manual title and abstract screening, yielding 63 esports-relevant publications. Annual output, research areas, authors, institutions, journals, citation indicators, and collaboration patterns were analyzed using WoS tools.

Results: Global esports research expanded markedly after 2020, with 75.4% of completed-year publications (2006–2026) appearing between 2020 and 2026. Turkey's validated esports output began in 2020 and rose to 17 publications in 2025; 15 additional publications were indexed in partial-year 2026. Psychology (n=12), Social Sciences (n=11), Computer Science (n=9), Sport Sciences (n=8), and Education (n=6) were the leading Turkish research areas. The Turkey dataset received 271 citations, averaged 4.30 citations per publication, and had an h-index of 11. International collaboration was dispersed, led by the United States, Germany, and Italy.

Conclusion: Turkey has emerged as a growing contributor to esports research, but its citation visibility and sustained international collaboration remain developing. Clearer distinctions between esports and broader gaming research, stronger interdisciplinary designs, and broader database coverage "including TR Dizin and graduate theses" may strengthen future national and international impact

Keywords: Esports; Competitive gaming; Bibliometrics; Video games; Gamers

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INTRODUCTION

Esports is often defined as organized video game competitions conducted individually or in teams within digital environments and governed by specific rules and competitive frameworks (Formosa et al., 2022; Reitman et al., 2019). Within this conceptual framework, a video game refers broadly to an interactive digital game played through electronic platforms, while a video gamer is any individual who engages in such games, regardless of purpose, skill level, or competitive involvement. Competitive gamers represent a narrower subgroup who plays with the explicit aim of outperforming opponents; however, competitive gaming does not necessarily constitute esports unless participation occurs within an organized, rule-governed, and structured competitive environment. Esports players, therefore, are individuals who participate in such formalized competitive systems, which may include ranked competitions, organized tournaments, leagues, or team-based structures. Professional esports players typically compete under formal team or organizational affiliations, participate regularly in high-level competitions, and may receive financial compensation, whereas amateur esports players engage in organized competition without full professional status. By contrast, recreational gamers primarily play video games for leisure, enjoyment, or social interaction rather than structured competitive performance (Figure 1).

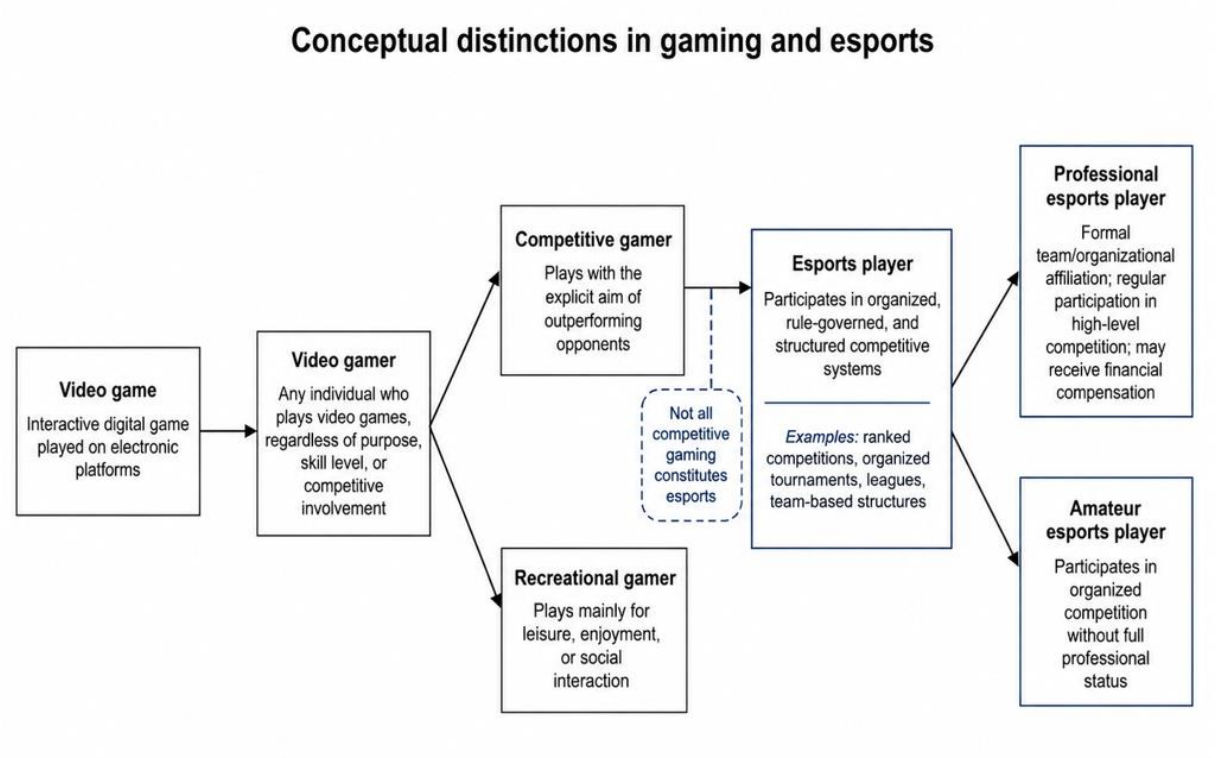


Figure 1: Conceptual distinctions in gaming and esports

Having evolved from traditional forms of competitive gaming into a global, professional ecosystem, esports has become one of the fastest "growing sociocultural and economic phenomena of our time, with an audience of hundreds of millions, a multibillion" dollar industry (Taşkıran, 2026), increasingly institutionalized leagues, and high-stakes international tournaments. This rapid transformation has elevated esports beyond the status of mere entertainment or leisure activity, establishing it as an independent and interdisciplinary field of academic inquiry that requires multidimensional, performance oriented, and methodologically rigorous investigation (Ardha et al., 2024). Within this expanding scholarly landscape, examining the global development and academic significance of esports studies and, more specifically, Turkey's scientific visibility and contribution to the field constitutes the central concern of this research.

Given their multifaceted nature, esports have evolved into an inherently interdisciplinary research domain. While early inquiries centered largely on sport sciences (Mancı et al., 2024), psychology (Mancı et al., 2023), computer science, and marketing, recent work increasingly addresses the physical and neurological demands (Mancı et al., 2026) of competitive play (Chiu et al., 2021; Leis & Lautenbach, 2020; Raggiotto & Scarpi, 2022; Reitman et al., 2019). Concerns surrounding sedentary behavior, sleep disruption (Aslan & Özdalyan, 2026; Mancı & Özdalyan, 2023), and musculoskeletal strain have engaged public health and rehabilitation specialists. Concurrently, emerging physiological studies examining reaction times, heart rate variability (André et al., 2020; Hoang et al., 2025), cognitive load (Leis & Lautenbach, 2020), and neuromuscular responses demonstrate that esports represents a complex model of human performance rather than a merely recreational pursuit (DiFrancisco-Donoghue et al., 2019, 2021; Matsui et al., 2024).

Driven by this multidisciplinary interest, global scholarly output in esports has expanded rapidly, gaining further momentum around the 2019–2020 period alongside accelerated digitalization during the COVID-19 pandemic (Baker et al., 2024; Reitman et al., 2019). As the field matures into an independent research domain, scient metric and bibliometric analyses become essential for mapping thematic shifts, citation impact, and emerging research gaps.

Existing bibliometric studies primarily depict macro-level global patterns identifying prominent authors, high-output countries, leading journals, and keyword co-occurrence networks (Belli & Saraçoğlu, 2023; Chiu et al., 2021). However, they frequently overlook granular, comparative perspectives that contextualize specific regional contributors within these broader networks or evaluate their presence in niche disciplines. Despite a rapidly expanding esports ecosystem and

an accompanying rise in national scholarly activity, Turkey's academic footprint remains poorly defined. To date, no systematic bibliometric investigation has quantified Turkey's publication volume, citation metrics, alignment with global research trajectories (particularly in performance and physiology), institutional productivity, or international collaboration patterns, leaving a clear gap in understanding its scientific contribution to the global literature.

Accordingly, this study aims to evaluate global scientific production in esports from 2006 to 2026 using bibliometric indicators and to contextualize Turkey's scholarly footprint across key performance metrics. Specifically, it seeks to (i) delineate annual publication growth and Turkey's share in global output, (ii) compare thematic orientations and disciplinary distributions between Turkey and global benchmarks, (iii) identify leading institutions, authors, and source journals, (iv) benchmark citation metrics and scientific impact, and (v) map international collaboration networks involving Turkish institutions.

MATERIAL and METHODS

Study Design and Data Source

This study employed a descriptive and comparative bibliometric design to examine the global development of esports research and Turkey's scientific visibility within the field. Bibliographic data were obtained from the Web of Science Core Collection (WoSCC) on 19 August 2026. The analysis covered publications indexed between 2006 and 2026. Only documents classified as Articles or Reviews were included. No additional language restriction was applied. Because data collection was conducted before the end of 2026, publications indexed for that year were considered partial-year data and were interpreted accordingly.

Search Strategy

The search strategy was developed to identify publications explicitly associated with esports and related terminology. The following topic search was performed in WoSCC:

[*TS= (esport* OR e-sport* OR "electronic sport*" OR cybersport* OR "cyber sport*" OR "professional gamer*" OR "pro gamer*" OR "pro-gamer*") AND DT= (Article OR Review*)]. The publication-year filter was restricted to 2006–2026. During development of the search strategy, additional expressions such as *competitive video gam** and *professional video gam** were examined for sensitivity. These terms substantially increased the retrieval of publications related to general video gaming rather than esports and were therefore not retained in the final search strategy. The final global search identified 2,297 publications.

Identification and Screening of the Turkey Dataset

To identify publications associated with Turkey, the global search strategy was combined with the country field [CU= (Turkey OR Turkiye)]. The use of both country labels was necessary because WoS indexed Turkey-affiliated publications under both Turkey and Turkiye during the study period (Teixeira and Nazarovets., 2026). The combined search initially identified 82 candidate publications. Because the Turkey subset was sufficiently small to permit record-level evaluation, all 82 records were subsequently screened manually based on their titles and abstracts. Publications were retained when esports constituted the primary research context, study population, activity, industry, competition, performance domain, or directly investigated phenomenon. Records were excluded when esports were mentioned only incidentally or when the primary focus was unrelated to esports, including studies predominantly addressing general video gaming, Internet Gaming Disorder, gaming addiction, Internet addiction, or other gaming-related phenomena without a direct esports' context. Following title and abstract screening, 63 publications met the eligibility criteria and constituted the final Turkey dataset.

The global dataset was retained as identified by the predefined WoS search strategy and was not subjected to the same record-level manual screening procedure because of its substantially larger size.

Data Extraction and Bibliometric Variables

Bibliometric information was obtained using the native analytical functions of Web of Science, including Analyze Results, Refine Results, and Citation Report. For the global dataset, the following variables were examined: annual publication output, countries/regions, research areas, publication sources, publishers, institutional affiliations, citation indicators, and other bibliometric characteristics available within WoS. For the manually screened Turkey dataset, analyses included annual publication output, authors, research areas, institutional affiliations, affiliation with department, publication titles, countries/regions, international collaboration partners, and citation indicators. Because WoS classifications such as research areas, affiliations, and countries/regions are not mutually exclusive, a single publication could contribute to more than one category (Birkle et al., 2020).

Publication Growth and Turkey's Scientific Output

Annual publication counts were examined descriptively for both the global and Turkey datasets. For Turkey, temporal publication patterns were calculated using the 63 publications

retained after title and abstract screening. The annual distribution was used to characterize the development of WoS-indexed esports research associated with Turkey. Because 2026 represented an incomplete publication year, its publication count was reported to reflect the most recent research activity but was not directly interpreted as equivalent to a completed calendar year.

Research-Area Analysis

The disciplinary structure of the literature was examined using the Web of Science Research Areas classification. Research-area frequencies were calculated separately for the global dataset and the final Turkey dataset. For Turkey, only publications retained after title and abstract screening were included in this analysis. To describe differences in disciplinary emphasis, a Relative Activity Index (RAI) was used where appropriate (Abramo et al., 2022). Values greater than 1 indicated relatively greater representation of a research area in the Turkey dataset, whereas values below 1 indicated relatively lower representation compared with the global literature. Because publications may be assigned to more than one WoS research area, category frequencies and percentages were considered non-mutually exclusive. Research areas represented by very small numbers of publications were interpreted cautiously.

Citation Impact and Scientific Visibility

Citation impact was assessed using the Web of Science Citation Report. The global and Turkey datasets were evaluated in terms of total citations, citations excluding self-citations, citing articles, citing articles excluding self-citations, average citations per publication, and h-index. For Turkey, citation indicators were recalculated using only the 63 publications included in the final screened dataset. Citation-based indicators were interpreted as time-dependent measures because older publications have had a longer opportunity to accumulate citations than more recently published studies (Szomszor et al., 2021).

Authors, Institutions, and Publication Sources

Author productivity within the final Turkey dataset was examined using WoS author information. Institutional productivity was evaluated using the Affiliations field, while department-level patterns were examined using Affiliation with Department. Publication sources were assessed using the Publication Titles field. Publisher distributions were also examined where relevant. Institutional and journal naming variations within WoS were considered when interpreting the results, particularly where the same organization or publication source could appear under different indexed forms.

International Collaboration

International collaboration involving Turkey was examined using the Countries/Regions field of the final screened Turkey dataset. Countries appearing together with Turkey or Turkiye were considered international collaboration partners. Collaboration frequency was expressed as the number of Turkey-affiliated publications associated with each partner country. Because a single publication may include authors from several countries, country frequencies were not summed to estimate the total number of internationally co-authored publications.

Data Analysis

All bibliometric analyses were conducted using the native analytical tools of the Web of Science Core Collection. No external bibliometric mapping or visualization software was used for the primary analyses. Results were summarized using publication counts, percentages, rankings, annual trends, citation indicators, and relative activity measures. As the study was descriptive and bibliometric in nature, no inferential statistical analyses were performed.

RESULTS

Global Publication Growth and the Screened Turkey Dataset

The predefined Web of Science search identified 2,297 articles and reviews published between 2006 and 2026. Global publication output increased from 3 publications in 2006 to 101 in 2019 and exceeded 200 publications per year from 2020 onward. The number of publications reached 270 in 2022, 291 in 2023, 302 in 2024, and 303 in 2025, which was the highest complete publication year. A total of 198 publications had been indexed in 2026 at the time of data retrieval; this value therefore represents a partial calendar year.

The Turkey country search initially retrieved 82 candidate records. Following manual title and abstract screening, 19 records were excluded because esports was not the primary research context, leaving 63 publications in the final Turkey dataset. No eligible Turkey-affiliated publications remained before 2020 after screening. Annual publication counts were 3 in 2020, 6 in 2021, 6 in 2022, 8 in 2023, 8 in 2024, 17 in 2025, and 15 in the partial 2026 period. Thus, 2025 represented the highest complete publication year for the screened Turkey dataset (Figure 2).



Figure 2. Annual publication trends in global and Turkey-affiliated esports research, 2006–2026. *Data for 2026 represents a partial publication year. *Note.* Turkey values are based on the final title/abstract-screened dataset (n=63).

Geographic Distribution of the Global Search-Based Corpus

The United States was the most frequently represented country in the global search-based corpus (n=471), followed by Spain (n=306), the People's Republic of China (n=228), England (n=209), Australia (n=177), Brazil (n=173), and Germany (n=148). South Korea (n=93) and Canada (n=92) were also among the leading contributors. Japan and Poland each contributed 62 publications. Within the unfiltered country field, Turkey-affiliated publications were indexed under both Turkiye (n=52) and Turkey (n=30), generating the 82 candidate records subjected to manual screening. Because record-level manual screening was applied only to the Turkey subset, the global country distribution is reported descriptively, and the screened Turkey dataset was not re-ranked against unscreened country totals.

Research Areas and Disciplinary Profile

The global corpus was multidisciplinary, with Social Sciences Other Topics (n=515), Sport Sciences (n=478), Psychology (n=331), Business & Economics (n=222), and Computer Science (n=217) as the most frequently represented Web of Science Research Areas. In the final Turkey dataset, Psychology was the most frequent research area (n=12), followed by Social

Sciences Other Topics (n=11), Computer Science (n=9), Sport Sciences (n=8), Education & Educational Research (n=6), and Public, Environmental & Occupational Health (n=5). Rehabilitation accounted for four publications, while Nutrition & Dietetics and Substance Abuse each accounted for three. Psychiatry was represented by two publications in the screened dataset.

Exploratory relative activity values for the larger categories indicated comparatively greater representation of Public, Environmental & Occupational Health (RAI=2.53), Education & Educational Research (RAI=2.01), Computer Science (RAI=1.51), and Psychology (RAI=1.32) in the screened Turkey dataset. Sport Sciences (RAI=0.61), Social Sciences Other Topics (RAI=0.78), and Business & Economics (RAI=0.33) showed lower relative representation (Figure 3). These ratios were interpreted descriptively because the Turkey subset underwent record-level screening whereas the global corpus did not.

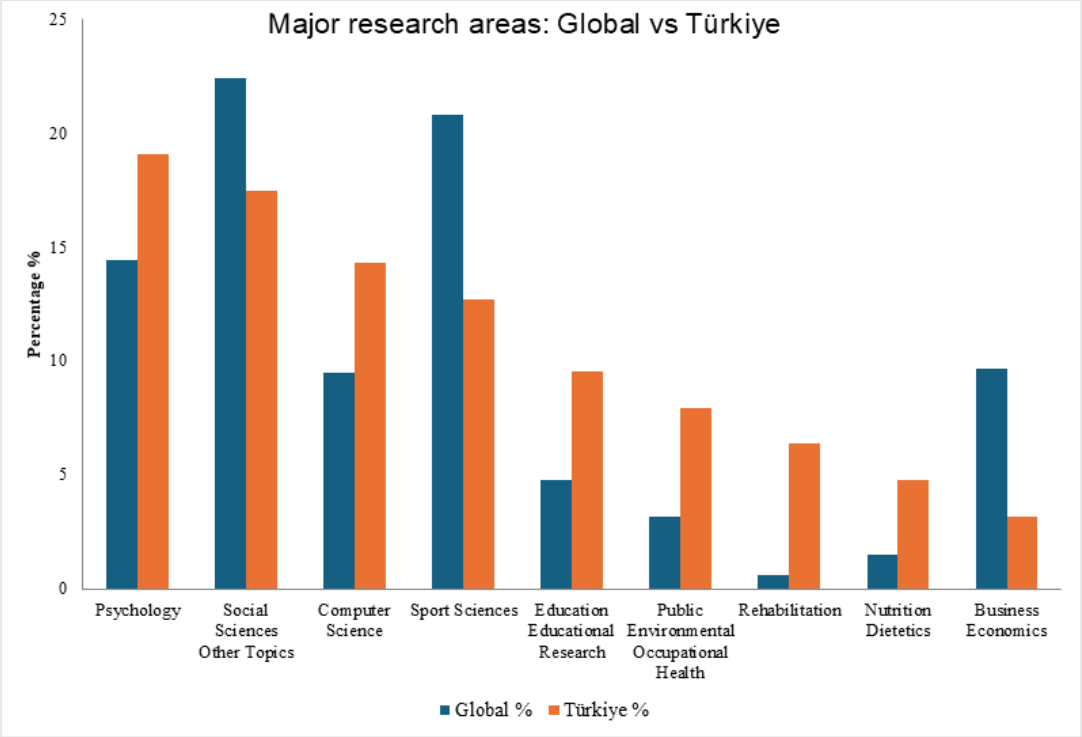


Figure 3: Comparison of major research areas in the global corpus and screened Turkey dataset.
Note. Percentages are based on N=2,297 for the global search-based corpus and n=63 for the screened Turkey dataset.

Citation Impact and Scientific Visibility

The 2,297 publications in the global search-based corpus received 36,257 citations, of which 22,399 remained after excluding self-citations. A total of 19,493 citing articles were identified, including 17,959 after excluding self-citing articles. The global corpus had an average of 15.78 citations per publication and an h-index of 79.

To provide a temporally comparable assessment, the global dataset was additionally restricted to 2020–2026, corresponding to the period in which eligible Turkey-affiliated esports publications were identified. During this matched period, the global corpus comprised 1,795 publications, which received 18,668 citations (10,368 excluding self-citations) from 9,438 citing articles (8,259 excluding self-citing articles). The average citation rate was 10.40 citations per publication, and the h-index was 55. In comparison, the screened Turkey dataset comprised 63 publications, receiving 271 citations (255 excluding self-citations) from 238 citing articles (226 excluding self-citing articles), with an average of 4.30 citations per publication and an h-index of 11. Thus, descriptive citation indicators remained lower for Turkey than for the global corpus when both datasets were considered within the same 2020–2026 publication window.

Leading Researchers and Institutional Distribution

According to Web of Science Researcher Profiles within the screened Turkey dataset, Alp Kaan Kilci had the highest publication frequency (n=6), (Kilci et al., 2026; Özdayi et al., 2026; Yalçıner & Kilci, 2023), followed by Egemen Mancı (n=5), (Mancı et al., 2025, 2026). Seyhan Bekir (Bekir, 2025; Makas et al., 2025), Nahit Özdayı (Özdayı et al., 2026),and Orçun Keçeci (Keçeci, 2026) each appeared in three publications. Balikesir University was the most frequently represented affiliation (n=8), followed by Dokuz Eylul University and Gazi University (n=7 each), Izmir Democracy University (n=6), Eskisehir Technical University (n=5), and Ankara University (n=4). At department level, Balikesir University Faculty of Sports Sciences (n=6) and Department of Sport Management (n=5) were the leading units, followed by Dokuz Eylul University Faculty of Medicine (n=3) and Balikesir University Department of Physical Education and Sport (n=2). Institutional naming variants in WoS were retained as indexed and were interpreted cautiously.

Publication Sources and Publishers

The screened Turkey literature was distributed across a broad range of publication sources. Frontiers in Psychology and Frontiers in Public Health each contained four

publications, while BMC Sports Science, Medicine and Rehabilitation and Entertainment Computing each contained three. Several journals contributed two publications, including Addicta- The Turkish Journal on Addictions, International Journal of Computer Games Technology, International Journal of Sports Science & Coaching, SAGE Open, Simulation & Gaming, and Sport TK- Revista Euroamericana de Ciencias del Deporte. At publisher level, Frontiers Media was the most frequently represented publisher in the screened Turkey dataset (n=9), followed by Springer Nature (n=8), Sage (n=7), Elsevier (n=5), and Wiley (n=4).

International Collaboration of Turkey

The United States was the most frequently represented international collaboration partner in the screened Turkey dataset, appearing in four Turkey-affiliated publications. Germany appeared in three publications and Italy in two. Cyprus, Denmark, Finland, France, Hungary, Iran, Ireland, Japan, the Netherlands, Romania, and South Korea each appeared in one publication. Because a single publication could include authors from more than one country, these frequencies represent partner-country occurrences rather than the total number of internationally co-authored publications.

DISCUSSION

Growth of Global Esports Research and the Emergence of Turkey

The present study demonstrates a substantial expansion of esports research over the last decade, with particularly pronounced growth after 2020. More than three-quarters of the publications from the completed 2006–2026 period was produced between 2020 and 2026, indicating that esports have transitioned from a relatively peripheral research topic into an established multidisciplinary field. This pattern is consistent with earlier reviews describing the rapid academic development of esports across sport science, psychology, business, information technology, communication, and social sciences (Reitman et al., 2019). More recent bibliometric evidence similarly indicates that esports research has diversified into multiple thematic domains, including health, sport, marketing, gambling, gender, and live streaming (Navarro-Lucena et al., 2025).

A similar but considerably more recent trajectory was observed for Turkey. Following title and abstract screening, no eligible Turkey-affiliated esports publication was identified before 2020 (by WOS), whereas publication output increased from three studies in 2020 to 17 in 2025. Moreover, 32 of the 63 publications (50.8%) were published in 2025–2026, and 48 publications (76.2%) appeared between 2023 and 2026. These findings suggest that Turkey's WoS-indexed esports research base is still in an early but rapidly expanding phase. The formal establishment of the Turkey Esports Federation in 2018 (Atici et al., 2023) provides an important institutional backdrop to this development, although the temporal association should not be interpreted as evidence of causality. At the unfiltered country-output level, Turkey (Turkey and Turkiye labels combined; n=82) occupied a publication range broadly comparable with other established or emerging esports research contributors such as South Korea (n=93) and Poland (n=62), although its output remained below Brazil (n=173). These comparisons are provided only as contextual indicators because record-level manual screening was subsequently applied to the Turkey dataset but not to the other national corpora.

Multidisciplinary Structure and the Changing Research Profile of Turkey

The global findings reinforce the strongly multidisciplinary character of esports research. Social Sciences Other Topics, Sport Sciences, Psychology, Business & Economics, and Computer Science were among the most prominent global research areas. This structure closely corresponds to the early characterization of esports as a research field spanning business, sport science, cognitive science (Düşkün & Ülgen, 2026), informatics, media studies, law, and sociology (Reitman et al., 2019), as well as more recent bibliometric evidence demonstrating the coexistence of health-, sport-, media-, and market-oriented research streams. Within the screened Turkey dataset, Psychology (n=12) was the most frequently represented research area, followed by Social Sciences Other Topics (n=11), Computer Science (n=9), Sport Sciences (n=8), and Education & Educational Research (n=6). The prominence of psychology is consistent with the broader esports' literature, in which psychological characteristics, motivation, cognitive performance, stress, and mental health have constituted major research themes from an early stage (Pedraza-Ramirez et al., 2025).

However, the Turkey profile should not be interpreted as being dominated by psychology alone. Following manual eligibility screening, Psychiatry accounted for only two publications, compared with 10 records in the initial unscreened Turkey set. This marked reduction indicates that broad esports-oriented searches may retrieve studies focused primarily on Internet Gaming Disorder, gaming addiction, or related psychopathology even when esports is not the central phenomenon. Accordingly, distinguishing esports from broader gaming contexts is methodologically important and is consistent with recent calls for clearer differentiation between esports athletes, competitive gamers, and recreational video-game players (Bubna et al., 2023; Formosa et al., 2022). The relative distribution of research areas further suggests a distinctive national profile. Compared with the global corpus, Turkey showed relatively greater representation in Psychology, Computer Science, Education Educational Research, Public Environmental Occupational Health, Rehabilitation, and Nutrition & Dietetics, whereas relative representation was lower in Social Sciences Other Topics, Sport Sciences, and Business & Economics. These patterns should be interpreted cautiously because WoS research areas are non-mutually exclusive and some categories contain small numbers of publications. Nevertheless, they suggest that esports research in Turkey is developing through a broad interdisciplinary structure that extends beyond sport sciences to include psychological, technological, educational, public health, rehabilitation, and nutritional perspectives.

Increasing Attention to Health and Performance

Health-related research represented a notable component of the Turkey literature (Kartal, 2023; Koçak, 2021). Public, Environmental & Occupational Health, Rehabilitation, Nutrition & Dietetics, Health Care Sciences & Services, Physiology, and related areas were all represented within the screened dataset. This diversification parallels the recent evolution of international esports research, which increasingly considers esports players not merely as gamers but as performance populations exposed to specific cognitive, musculoskeletal, nutritional, sleep, and lifestyle demand.

A 2023 scoping review identified both physical and psychological factors as important determinants of esports health and performance, highlighting issues related to prolonged computer use, cognitive demands, decision-making, communication, and training practices (Sanz-Matesanz et al., 2023). More recent evidence has strengthened this direction. A 2026 systematic review reported that acute physical exercise can improve several esports-related cognitive and performance outcomes, while a systematic scoping review concluded that the relationship between esports participation and health is complex rather than uniformly detrimental, with associations varying across sedentary behavior, body composition, gaming disorder, and psychological outcomes (Tang et al., 2023; Wachholz et al., 2026). The presence of health, rehabilitation, nutrition, cognitive performance, and sport-science studies in the Turkey dataset therefore appears consistent with an international transition toward a more holistic conceptualization of the esports athlete. This may represent an important future direction for Turkish research, particularly through interdisciplinary collaborations linking sport science, medicine, psychology, nutrition, rehabilitation, and computer science.

Citation Impact and Scientific Visibility

To provide a more temporally comparable assessment of scientific impact, the global dataset was additionally restricted to the same 2020–2026 period in which the screened Turkey literature emerged. During this period, the global corpus comprised 1,795 publications, receiving 18,668 citations (10,368 excluding self-citations), with an average of 10.40 citations per publication and an h-index of 55. The screened Turkey dataset comprised 63 publications, received 271 citations (255 excluding self-citations), averaged 4.30 citations per publication, and had an h-index of 11. Thus, even after aligning the publication window, Turkey's citation visibility remained lower than that of the global corpus. However, this difference should not be interpreted solely as a reflection of research quality, because Turkey's output was strongly concentrated in the most recent years, particularly 2025 and the incomplete 2026 period, leaving many publications with substantially shorter citation windows. These findings suggest that Turkey's rapid increase in publication volume has not yet been accompanied by a comparable accumulation of international citation impact. Strengthening international collaboration, publishing in highly visible interdisciplinary outlets, and addressing research questions with broader international relevance may therefore contribute to greater scientific visibility.

Authors, Institutions, and Research Concentration

The screened dataset showed a more balanced authorship structure than the unfiltered WoS results. Alp Kaan Kilci was the most frequently represented researcher with six publications, followed by Egemen Mancı with five, while several authors contributed three publications. The authors who had appeared highly dominant in the unfiltered dataset because of Internet Gaming Disorder studies were no longer among the leading contributors after title and abstract screening. Institutionally, esports research in Turkey was distributed across several universities. Balıkesir University had the highest indexed frequency, followed by Dokuz Eylül University, Gazi University, İzmir Democracy University, and Eskişehir Technical University. At department level, Balıkesir University showed a clear sport-science concentration, particularly within its Faculty of Sports Sciences and Department of Sport Management. Publication sources were also dispersed. Frontiers in Psychology and Frontiers in Public Health were the most frequent journals with four publications each, followed by BMC Sports Science, Medicine and Rehabilitation and Entertainment Computing with three each. This distribution reflects the multidisciplinary nature of esports research. Beyond WoS-indexed publication output, institutional contributions to Turkey's esports ecosystem should also be considered. Institutions such as Bahçeşehir University, through collaborations with organizations such as Turkish Esports Federation (TESFED) and dedicated esports initiatives, may have substantial ecosystem-level visibility and impact that are not fully captured by publication-based bibliometric indicators.

International Collaboration

International collaboration was present but relatively dispersed. The United States was the most frequent partner country, followed by Germany and Italy, while the remaining partner countries appeared in only one publication each. This pattern suggests that Turkey has established international research links, but sustained collaboration networks remain limited. Expanding multi country collaborations may improve sample diversity, generalizability, access to professional esports populations, and methodological capacity.

Methodological Implications of Defining Esports Research

The initial WoS search identified 82 Turkey-affiliated records, whereas title and abstract screening retained 63 publications as directly relevant to esports. Most excluded records focused primarily on general gaming, Internet Gaming Disorder, Internet addiction, or related behavioral outcomes rather than esports itself. This screening substantially changed the bibliometric profile, particularly by reducing the apparent prominence of Psychiatry and several recurrent authors. The finding highlights the importance of clearly distinguishing esports from broader gaming-related research. Record-level screening was applied only to the Turkey subset, while the much larger global dataset was retained according to the predefined WoS search strategy. Therefore, global–Turkey comparisons should be interpreted as contextual rather than fully symmetrical record-level comparisons.

Overall Interpretation

Taken together, the findings indicate that esports have developed into a rapidly expanding and genuinely multidisciplinary research field. Turkey entered this WoS-indexed literature relatively recently but has shown substantial growth since 2020, particularly during the last several years. National literature has diversified across psychology, computer science, sport science, education, public health, rehabilitation, and nutrition, while its citation visibility and international collaboration networks remain less mature than its recent publication growth.

The emerging pattern therefore suggests that the next stage of esports research in Turkey may depend less on increasing publication numbers alone and more on consolidating research quality, strengthening interdisciplinary and international collaboration, developing longitudinal and experimental studies, and producing research with greater international transferability and visibility.

Strengths and Limitations

This study has several limitations. The study relied exclusively on the Web of Science Core Collection. Therefore, publications indexed only in other international databases or national databases such as TR Dizin were not included. The findings consequently reflect Turkey's visibility within the WoS-indexed esports literature rather than the entirety of national esports research output. Additionally, all 82 Turkey-affiliated candidate records were manually screened by title and abstract, resulting in a final dataset of 63 esports-relevant publications. In contrast, the substantially larger global dataset was retained according to the predefined WoS search strategy without equivalent record-level manual screening. Therefore, global–Turkey comparisons should be interpreted as contextual rather than fully symmetrical record-level comparisons. In addition, WoS classifications are not mutually exclusive (Milojević, 2019), and variations in institutional or country naming may affect category-level analyses (Shu et al., 2019).

CONCLUSION

Esports have developed into a distinct and rapidly expanding research domain that extends beyond digital gaming and intersects with sport science, psychology, health, computer science, education, and the social sciences. The findings of this study indicate that the continued development of esports research requires clear definitions of esports populations and contexts, as the boundaries between esports, competitive gaming, recreational gaming, and gaming-related disorders can substantially influence how findings are interpreted. Turkey represents a rapidly emerging contributor to this field, with WoS-indexed esports research expanding markedly after 2020.

More broadly, the maturation of esports as a scientific field will depend on treating esports not simply as an extension of video gaming, but as a multidimensional competitive ecosystem with distinct athletes, performance demands, health considerations, technologies, organizations, and social structures. Future esports research should therefore prioritize methodological rigor, well-defined participant populations, interdisciplinary approaches, international collaboration, and research questions reflecting the specific performance, health, psychological, technological, and social characteristics of esports.

Although Turkey's publication activity has increased considerably, its citation visibility and sustained international collaboration remain at an earlier stage of development. Future studies

should also broaden the assessment of Turkey's scientific production by incorporating national databases such as TR Dizin and graduate thesis repositories, alongside international indexing databases. Such an approach would provide a more comprehensive picture of Turkey's contribution and scientific visibility in esports research.

For Turkey specifically, future research would benefit from multicenter and longitudinal studies involving well-defined competitive and professional esports populations, together with stronger integration of sport science, medicine, psychology, neuroscience, nutrition, rehabilitation, and computer science. Establishing sustained university–federation–industry collaborations may also facilitate larger datasets, standardized athlete monitoring, and internationally comparable research programs.

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