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## MAPPING THE SOCIAL DIMENSIONS OF SCHOOL SPORTS: A BIBLIOMETRIC STUDY OF SPORTS SOCIOLOGY RESEARCH

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**Abstract.** This bibliometric study investigates the critical role of social support in school sports, emphasizing its impact on students' personal development and engagement. Drawing on a comprehensive analysis of 2,245 articles published from 2014 to 2024, this research identifies emerging trends, influential authors, and key publications in the field. Findings reveal that participation in school sports enhances not only physical fitness but also emotional, cognitive, and social skills, ultimately contributing to life satisfaction and academic success. The analysis highlights the significance of a supportive network—including family, peers, and educators—in fostering positive outcomes for young athletes. Despite the growing interest in this area, gaps in the literature regarding the longitudinal evolution of social support in school sports are evident, necessitating further exploration of its dynamics across diverse cultural contexts. The study also presents a keyword cluster analysis that delineates two primary themes: methodological approaches and participant characteristics, shedding light on prevailing research foci. This research underscores the importance of interdisciplinary collaboration among educators, policymakers, and researchers to prioritize social support within school sports frameworks, thereby enhancing the educational experience and promoting holistic development among students.

**Keywords:** : Social Support, School Sports, Physical Education, Student Engagement, Bibliometric Analysis, Physical Education Trends, Youth Sports.

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### I. INTRODUCTION

Physical education (PE) serves as a platform for students to cultivate essential skills in emotional regulation, relationship building, goal setting, personal and social fulfilment, informed decision making, and problem solving (Dyson et al., 2021). In line with these objectives, research in children's physical education is evolving, focusing on the role of sports in supporting social and emotional skills while also ensuring regular physical activity for their development (Apriady, Robandi, et al., 2024). Physical education (PE) and school sports contribute to students' broader personal development by enhancing motor, cognitive, emotional, and social skills, thereby supporting their preparation for future challenges (Bessa et al., 2019). Involvement in school sports, therefore, not only improves physical well-being but also promotes character development, social integration, and

leadership abilities. Notably, participation in sport positively impacts life satisfaction, self-image, academic success, and career planning, promoting overall personal growth and future success (Bang et al., 2020; Marini et al., 2021; Upadyaya & Salmela-Aro, 2021). Participation in sports prioritizes both skill development and personal growth, indicating that motivation plays a crucial role in initiating and sustaining youth engagement in sport (Fitri et al., 2020). Young athletes benefit significantly from the support of coaches, parents, siblings, teammates, and officials, with parents providing resources and instilling values and life skills. This collective support system from family, teachers, and peers enhances both academic and athletic engagement, helping shape positive life outcomes and revealing variances in perceived support based on gender (Burke et al., 2024; Rautanen et al., 2021).

School engagement can be viewed through three primary aspects: behavioral, emotional, and cognitive engagement,

each of which contributes uniquely to the overall educational experience (Wong & Liem, 2022). Studies show that social support and alignment with the identity of those around them can motivate emotional engagement, directly affecting students' experiences of belonging in the moment (Neel, 2021). Cognitive engagement, one of the important elements of academic achievement is affected by intrinsic motivation and also the environment of the school. Therefore, understanding the associations between BSLE and cognitive engagement is important for facilitating deeper learning throughout life (Shi et al., 2021).

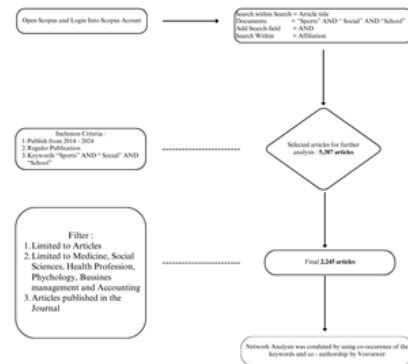
This supports the fulfillment of fundamental needs such as love and belonging, which, when satisfied, can enhance well-being. through fulfilling these vital needs in humans (Somoğlu & Cihan, 2021). Research on student athletes underlines the essential role of social support in developing and sustaining an active lifestyle (van Luchene & Delens, 2021). Parents with higher educational backgrounds often inspire their children to pursue higher education and provide life advice that aids decision-making during pivotal moments (Hu et al., 2021). In educational settings, engaging with teachers in enjoyable contexts, such as sports and games, are perceived as meaningful support, especially when teachers actively participate alongside students (Girard et al., 2022). In this context, terms associated with social support include received, perceived, enacted support, and supportive behaviors (Maymon & Hall, 2021). Despite extensive research indicating the positive effects of social support, there is still a notable gap in studies examining the evolution of literature and research trends on well-being and risk reduction in physical education and school sports (Piñeiro-Cossio et al., 2021). Although a considerable body of research has been conducted on social support in school sports, there is a paucity of studies examining the evolution of literature and research trends on this topic on a global scale.

Social support involves feeling loved, valued, and connected to a network offering emotional, practical, informational, or evaluative help. In sports, it includes various forms—emotional, esteem-based, informational, and material—each boosting confidence, with emotional and informational support being especially influential (Fogaca, 2021; Opstoel et al., 2020). Social support is an important feature in many behavioral-change interventions and is generally divided into four categories: emotional, instrumental, informational, and evaluative social support (Barik et al., 2020). In conclusion, social support is closely linked to well-being and success in quantitative studies (McLean et al., 2023).

## II. METHODS

We first conducted a bibliometric analysis to assemble a comprehensive body of literature on social support in school sport, examining scholarly trends, pivotal publications, and nascent themes. At the research level, this method exposes patterns of changing research themes, popular areas of research, and research collaborations in physical education (Apriady, Fitri, et al., 2024; Garg et al., 2023; Liu et al.,

2022; Passas, 2024). Mathematical models, network analysis, and clustering were also applied to analyse the effects of social support on participation levels on school sports . By way of bibliometric techniques, some important trends, authors, and publications were identified that confirmed the rising role of social support in the sociology of school sports (Carmona-serrano, 2020; Rizky et al., 2022).



**Fig. 1.** Document Article Filtering Process in Scopus

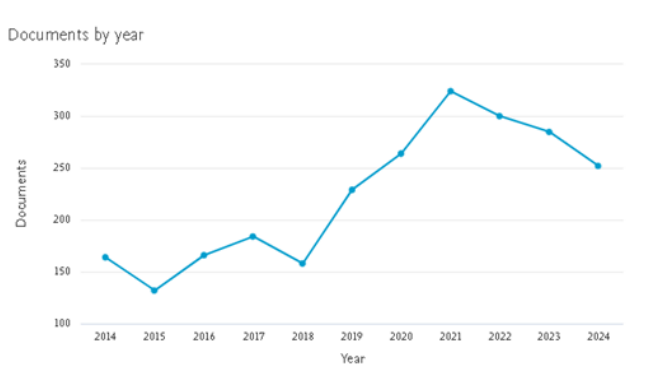
This research drew on Scopus data, covering about 2,245 articles published from 2014 to 2024. A search on 20 October 2024 focused on journals and articles exploring social support within school sports and its effects on students. The bibliographic information gathered included citations, keywords, abstracts, and significant findings. Filters were applied to ensure that only relevant articles were included, using specific keywords : TITLE-ABS-KEY ( Sports AND social AND School ) AND PUBYEAR > 2014 AND PUBYEAR < 2024 AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) ) AND (LIMIT -TO (SRCTYPE,"J")) AND (LIMIT-TO (SUB AREA, "Medicine" "Social Science" "Health Professions" "Psychology" "Business, "Management and Accounting"))

## III. RESULTS

### 1) Document Published

The "Documents per Year" graph displays the number of articles published on social support in school sports from 2014 to 2024, originating from 139 countries. Analysis of this data reveals a fluctuating trend, but with a general upward tendency. Specifically, a significant increase is observed from 121 articles in 2015 to a peak of 292 articles in 2021, indicating a substantial rise in interest in this topic during that period. While a decrease in publications is noted in 2022 and 2024 (to 279 and 236 respectively), the number of published articles remains relatively high compared to the earlier years (2014-2016). These annual fluctuations suggest the possible influence of external factors affecting publication numbers, such as shifts in research trends, funding availability, or significant events impacting interest in the topic. However, overall, the data trend demonstrates sustained and significant interest in research on social support in school sports during the period studied. Despite a

slight decrease in recent years, the consistently high number of publications highlights the importance of research on social support within school sports. Table 1 lists the top 10 authors with the most influential articles on social support in school sports. The most cited article is by Pietrobelli et al., with 772 citations, followed by McMahon et al. with 400 citations, and Tremblay et al. with 316 citations. In fifth place is Sabia et al. with 222 citations, and in sixth is Morton et al. with 208 citations. Articles by Wolanin et al., Casey, Bram et al., and McGuine et al. have fewer than 200 citations each, in that order. This table highlights the most influential articles and their citation counts, offering insights into significant research contributions in the field of social support in school sports.



**Fig. 2.** Document Published on Scopus Databased

Table 1 presents the top 10 authors whose articles on social support in school sports are most frequently cited. Pietrobelli et al. lead with 772 citations, followed by McMahon et al. with 400 citations, and Tremblay et al. with 316 citations. Sabia et al. rank fifth with 222 citations, and Morton et al. sixth with 208 citations. Articles by Wolanin et al., Casey, Bram et al., and McGuine et al. each have under 200 citations, listed in that order. This table emphasizes the most influential articles and their citation metrics, highlighting key research contributions in social support within school sports.

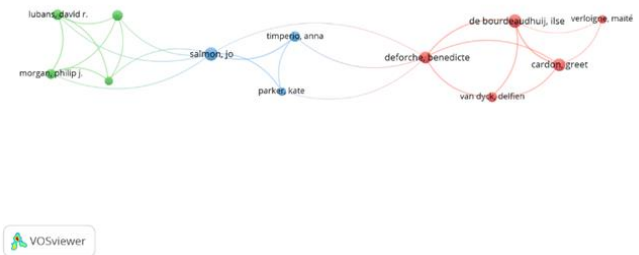
2) Author Analysis

Figure 3 displays the top ten researchers in the field of social support in school sports, ranked according to their number of publications and citation counts. This analysis highlights notable differences in productivity and influence among these researchers. Ilse De Bourdeaudhuij leads with 12 publications and 379 citations, underscoring a substantial impact on the field. Benedicte Deforche and Jo Salmon follow in second and third place, each with 10 publications and citation counts of 305 and 301, respectively, reflecting both productivity and strong influence. At the lower end, Zachary Y. Kerr shows a relatively smaller number of publications and citations, suggesting a more limited impact. Variations in document and citation counts may stem from factors such as research focus, chosen methodologies, and publication reach, with

**Table 1.** Top 10 Articles with the Most Citations on Scopus

| No | Document Title  | Authors and Year           | Citations Total |
|----|---|----------------------------|-----------------|
| 1  | Effects of COVID-19 Lockdown on Lifestyle Behaviors in Children with Obesity Living in Verona, Italy: A Longitudinal Study  | (Pietrobelli et al., 2020) | 772             |
| 2  | Physical activity in European adolescents and associations with anxiety, depression and well-being  | (McMahon et al., 2017)     | 400             |
| 3  | Physical activity of children: A global matrix of grades comparing 15 countries   | (Tremblay et al., 2014)    | 316             |
| 4  | Why are girls less physically active than boys? Findings from the LOOK longitudinal study   | (Telford et al., 2016)     | 298             |
| 5  | Association between questionnaire-and accelerometer-assessed physical activity: The role of sociodemographic factors  | (Sabia et al., 2014)       | 222             |
| 6  | The school environment and adolescent physical activity and sedentary behaviour: A mixed-studies systematic review  | (Morton et al., 2016)      | 208             |
| 7  | Depression in athletes: Prevalence and risk factors   | (Wolanin et al., 2015)     | 199             |
| 8  | Models-based practice: Great white hope or white elephant?  | (Casey, 2014)              | 174             |
| 9  | Where Have All the Fractures Gone? The Epidemiology of Pediatric Fractures during the COVID-19 Pandemic   | (Bram et al., 2020)        | 169             |
| 10 | Mental health, physical activity, and quality of life of us adolescent athletes during COVID-19-related school closures and sport cancellations: A study of 13 000 athletes | (McGuine et al., 2021)     | 162             |

higher citation counts often indicating widely influential work frequently referenced by peers. Overall, this table provides a comprehensive overview of the productivity and relative influence of the ten most prolific authors in social support research in school sports. This ranking helps identify thought leaders and the most influential research areas within this field.



**Figure 3.** Productive Authors based on Documents and Citation

**Table 2.** Authors. Document and Citations.

| Rank | Author                 | Doc. | Cite | Rank | Author           | Doc. | Cite |
|------|------------------------|------|------|------|------------------|------|------|
| 1    | De Bourdeaudhuij, Ilse | 12   | 379  | 6    | Erickson, Karl   | 8    | 234  |
| 2    | Deforche, Benedicte    | 10   | 305  | 7    | Burnett, Cora    | 8    | 69   |
| 3    | Salmon, Jo             | 10   | 301  | 8    | Timperio, Anna   | 7    | 165  |
| 4    | Cardon, Greet          | 9    | 215  | 9    | Sekulic, Damir   | 7    | 148  |
| 5    | Zenic, Natasa          | 8    | 138  | 10   | Kerr, Zachary Y. | 7    | 165  |

3) Country Analysis

Table 3 presents the ranking of the top ten countries based on research productivity in social support in school

sports, measured by the number of documents and citations. Data analysis reveals significant disparity, with the United States dominating as the primary contributor, producing 662 documents and 11,598 citations—far surpassing the United Kingdom (241 documents, 5,351 citations) and Australia (193 documents, 3,999 citations) in second and third places. Spain (187 documents, 2,704 citations) and Canada (159 documents, 2,660 citations) form the next group, while the countries ranked sixth through tenth (China, Germany, Italy, Brazil, and Sweden) show much lower productivity. These differences are likely influenced by factors such as research funding, infrastructure, number of researchers, international collaboration, and publication language. Although the US leads, the significant contributions from other countries indicate strong research centers worldwide, and further research is needed to understand the factors contributing to this disparity.

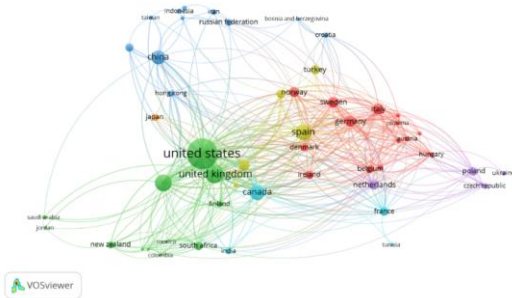


Fig 4. Most productive countries based on documents and citations

| Rank | Author         | Doc. | Cite  | Rank | Author  | Doc. | Cite |
|------|----------------|------|-------|------|---------|------|------|
| 1    | United States  | 662  | 11598 | 6    | China   | 133  | 784  |
| 2    | United Kingdom | 241  | 5351  | 7    | Germany | 90   | 1521 |
| 3    | Australia      | 193  | 3999  | 8    | Italy   | 85   | 2010 |
| 4    | Spain          | 187  | 2704  | 9    | Brazil  | 83   | 774  |
| 5    | Canada         | 159  | 2660  | 10   | Sweden  | 79   | 1234 |

#### 4) Co-occurrence Analysis of Keywords

Keywords in the literature help researchers convey an article's main content. When two keywords frequently appear together in multiple papers, it indicates a close connection between them and suggests similar themes across these papers (Dai et al., 2020). An organized arrangement of distinct but interrelated keyword clusters within a co-occurrence network offers a comprehensive overview of a research discourse (Katchanov & Markova, 2022). The co-keyword matrix reveals relationships among underlying topics, making the co-keywords approach appropriate for this study (Li et al., 2019). This research used VOSviewer to construct a co-keyword graph through the fractional counting method, applying a keyword occurrence threshold of 3 and focusing on author keywords.

Table 4, along with its visualization, presents a keyword cluster analysis generated in VOSviewer, identifying two primary themes in the research corpus. Cluster 1 (52%), shown predominantly in green, contains keywords linked to research methodology, theoretical concepts, and educational practices (e.g., 'approach', 'education', 'research', 'teacher'), whereas Cluster 2 (48%), mainly in red, centers on

participant traits, outcome measures, and research variables (e.g., 'age', 'gender', 'physical activity'). The network visualization supports this thematic division, showing strong connections within each cluster and underscoring the distinct focus areas of the two themes.

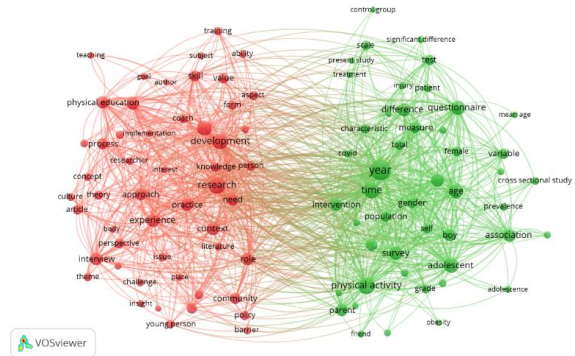


Fig 5. Keyword Analysis

Table 4. Clusters and keywords based on VOSviewer

| Cluster   | Item  | Colour | Percent | Total |
|-----------|---|--------|---------|-------|
| Cluster 1 | Ability, Approach, Article, Aspect, Attention, Author, Barrier, Body, Challenge, Coach, Community, Concept, Context, Culture, Development, Education, Experience, Field, Focus, Form, Goal, Implementation, Implication, Insight, Interest, Interview, Issue, Knowledge, Literature, Need, Opportunity, Person, Perspective, Physical Education, Place, Policy, Practice, Process, Research, Researcher, Role, School Sport, Skill, Society, Subject, Teacher, Theme, Theory, Training, Value, Young Person.  | Green  | 52%     | 52    |
| Cluster 2 | Adolescence, Adolescent, Age, Association, Behavior, Boy, Characteristic, Children, Control Group, Covid, Cross Sectional Study, Difference, Female, Frequency, Friend, Gender, Grade, Home, Increase, Injury, Intervention, Mean Age, Measure, Mental Health, Obesity, Parent, Patient, Pattern, Physical Activity, Population, Present Study, Prevalence, Questionnaire, Sample, Scale, Self, Significant Difference, Socioeconomic Status, Sport Participation, Sports Activity, Sports Participation, Survey, Test, Time, Total, Treatment, Variable, Year. | Red    | 48%     | 48    |
| Total     |   |        | 100%    | 100   |

## IV. DISCUSSION

The findings from this bibliometric study highlight the critical role of social support within school sports, illuminating its influence on students' physical, emotional, and social development. Consistent with prior studies, our analysis affirms that physical education (PE) and school sports act as vital platforms for fostering personal growth, where students not only develop motor and cognitive skills but also cultivate essential interpersonal abilities and emotional resilience. The upward trend in publications over the past decade underscores a sustained scholarly interest in examining the multifaceted contributions of social support within this context, suggesting an expanding recognition of

its importance in student-athlete development and broader educational outcomes.

The steady increase in literature reveals a growing acknowledgment of how participation in school sports extends beyond physical activity to impact life satisfaction, social identity, and future career planning, reinforcing its broader societal value. However, our findings also reveal fluctuations in publication numbers, particularly in recent years, which may be attributed to changing research trends or global disruptions, such as those related to the COVID-19 pandemic. This observation aligns with the influence of external events on academic priorities, possibly impacting funding and focus within the field of sports sociology. Further exploration is warranted to better understand these fluctuations and identify the specific drivers influencing publication trends.

Author and country analysis provides additional insight into the field's development and geographic concentration. The dominance of authors like Ilse De Bourdeaudhuij and institutions in the United States underscores the role of established research infrastructures in producing high-impact studies on social support in school sports. Nevertheless, the emerging contributions from countries like the United Kingdom, Australia, and Spain indicate an increasingly global discourse, which could foster greater collaborative efforts and diverse perspectives in future research. Further research should investigate how cultural contexts shape the expression and perception of social support in school sports. The keyword cluster analysis highlights two key themes in the literature: the methodological and theoretical dimensions of social support research, and variables related to participant characteristics and outcomes. These clusters reveal a significant dual focus within the field, with one area concentrating on the theoretical frameworks and methodologies that inform social support, while the other emphasizes the empirical results linked to school sports participation. This distinction indicates that future studies may benefit from combining these themes to provide a more comprehensive understanding of the impact of social support on various aspects of school sports and student development.

Although a substantial amount of literature has been analyzed, there remains a notable lack of research specifically addressing the global evolution and emerging trends of social support in school sports. The identified gaps suggest the need for detailed longitudinal studies that examine the relationship between social support, cultural factors, and educational practices over time. Moreover, additional research could explore the specific effects of different types of social support—such as emotional, instrumental, and informational—on the motivation and long-term engagement of student-athletes.

## V. CONCLUSIONS

This bibliometric analysis underscores the vital role of social support in school sports, highlighting significant trends and scholarly contributions from the past decade. The findings indicate that participation in school sports not only

improves physical fitness but also fosters emotional, cognitive, and social growth among students. The rising academic interest, particularly from prominent countries such as the United States, reflects an increasing awareness of these benefits.

The analysis stresses the necessity of a strong support network—including family, peers, and educators—in achieving positive outcomes for youth involved in sports. Factors such as parental engagement and peer relationships are crucial for enhancing students' sense of belonging, which is associated with their academic achievement and overall life satisfaction.

Despite the extensive research conducted, there remains a considerable gap in understanding the long-term evolution of social support in this context. Future investigations should focus on the dynamic nature of these relationships, the influence of cultural factors, and the impact of social media on the support systems for young athletes.

In summary, this study establishes a foundation for further exploration of social support mechanisms within school sports, calling for interdisciplinary collaboration among educators, policymakers, and researchers. Emphasizing social support within school sports initiatives can significantly improve educational experiences and contribute to the development of well-rounded individuals prepared to face future challenges.

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