



Mapping the Evolution of Leadership in Sports Coaching: A Bibliometric Review

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Abstract

Leadership in sports coaching plays a crucial role in enhancing athlete performance and team well-being. This study aims to identify key themes in sports coaching leadership using bibliometric analysis supported by VOSviewer software. The analysis results reveal eight main clusters, including athlete leadership, motivational climate, team cohesion, and athletes' mental health. Each cluster highlights the strong relationship between coaching leadership styles and athletes' experiences and performance. Leadership styles such as transformational leadership and servant leadership have been found to contribute positively to athletes' motivation, satisfaction, and mental well-being, whereas unsupportive approaches are often associated with burnout. Additionally, the bibliometric analysis identifies the significant contributions of leading authors and countries such as the United Kingdom and the United States in this research field. This study emphasizes the importance of a holistic leadership approach that focuses not only on technical strategies but also on athletes' psychological well-being to achieve optimal performance.

INTRODUCTION

Sports coaching leadership plays a fundamental role in shaping the development, performance, and psychological well-being of athletes. However, despite its significance, challenges remain in identifying the most effective leadership approaches that cater to diverse athlete needs and sporting environments. Traditional authoritarian coaching models have often been criticized for their limited focus on athlete autonomy and psychological well-being, raising concerns about their long-term impact on motivation and engagement (Chelladurai & Saleh, 1980; Fransen et al., 2018). Recent research suggests that transformational, servant, democratic, and autonomy-supportive leadership styles may be more effective in optimizing athlete outcomes (Bass & Riggio, 2006; Cotterill & Fransen, 2016). Yet, there is still a gap in understanding how these leadership styles interact with different sports contexts, athlete personalities, and team dynamics. Moreover, the lack of consensus on the best leadership strategies highlights the need for further investigation into how coaches can balance technical instruction with psychological support and motivational strategies (Rieke, Hammermeister, & Chase, 2008; Turnnidge & Côté, 2019). Addressing these issues is crucial to ensuring that sports coaching leadership fosters not only performance excellence but also athlete well-being and long-term participation in sports.

A growing body of literature suggests that transformational leadership, characterized by vision, intellectual stimulation, and individualized consideration, is one of the most effective styles in fostering athlete motivation, self-efficacy, and team cohesion (Arthur et al.,

2017; Callow et al., 2009). Coaches who employ transformational leadership techniques help athletes develop strong mental fortitude, adaptability, and intrinsic motivation—key components for success in high-performance sports (Gould & Whitley, 2009; Wagstaff et al., 2017). Similarly, servant leadership, which prioritizes athlete well-being and personal growth, has been linked to higher levels of satisfaction, trust, and reduced risk of burnout in sports environments (Rieke et al., 2008; Leo et al., 2019). Conversely, transactional and autocratic leadership styles, which focus on rigid structures, rewards, and punishments, may contribute to increased stress, anxiety, and disengagement, particularly in youth and elite athletes facing intense performance pressures (Gustafsson et al., 2017; Ryan & Deci, 2017).

In recent years, the field of sports coaching leadership has shifted its focus toward the psychological and emotional aspects of athlete development. With rising concerns about athlete burnout, anxiety, and depression in competitive sports, researchers have emphasized the need for leadership models that integrate both performance optimization and mental health support (Deci & Ryan, 1985; Henriksen et al., 2020). Studies have shown that a positive motivational climate, created by supportive and empathetic coaching behaviors, significantly enhances athlete engagement and well-being (Dweck, 2017; Appleton et al., 2011). Athlete-centered coaching approaches, which encourage autonomy, self-reflection, and leadership development within the team, are gaining traction as essential components of effective sports leadership (Hodge et al., 2014; Vella et al., 2013).

A bibliometric analysis using VOSviewer software has identified key themes in sports coaching leadership, highlighting clusters related to athlete motivation, team cohesion, leadership effectiveness, and the role of mental skills in high-performance sports (Apriady et al., 2024). These findings indicate a growing recognition of the complex interplay between coaching leadership styles, team dynamics, and individual athlete psychology. Additionally, cross-cultural research suggests that the effectiveness of leadership styles varies across different sports and cultural settings.

While Western coaching models often emphasize autonomy-supportive leadership, hierarchical and directive coaching styles remain prevalent in certain Asian and Latin American sports contexts (Hodge et al., 2014). These differences highlight the need for context-specific leadership approaches that account for cultural and organizational variations in coaching philosophy (Vella et al., 2013).

This study aims to conduct a bibliometric analysis of sports coaching leadership research to identify the most influential themes, trends, and authors in the field. By mapping out frequently studied topics and their interconnections, this study will provide valuable insights into the evolving landscape of coaching leadership and its implications for athlete development. The findings will contribute to a more comprehensive understanding of how leadership strategies influence both performance outcomes and psychological well-being in sports settings

METHOD

This study employs a quantitative approach through bibliometric analysis using VOSviewer software to identify key

themes in sports coaching leadership. The data for this study were sourced from reputable academic databases, including Elsevier, Emerald Insight, Springer, Taylor & Francis, and Google Scholar. These databases were selected due to their extensive collection of peer-reviewed articles, ensuring high-quality and credible research sources. The inclusion criteria for the articles were based on relevance to sports coaching leadership, publication in Scopus-indexed or Web of Science-indexed journals

Once data is collected, a visualization analysis is performed using VOSviewer, generating network maps to display relationships between keywords and main themes within the research field. VOSviewer clusters frequently co-occurring keywords, identifying trends and research focuses. Each cluster is presented in different colors and node sizes, with colors representing specific themes and node sizes indicating keyword frequency.

This study identifies several key clusters, such as leadership style, athlete burnout, team cohesion, motivation, and athlete development, highlighting the strong interconnection between these themes in research networks. The final stage involves result interpretation, where visual maps are evaluated to understand the meanings and relationships between clusters and emerging themes. This approach enables a comprehensive mapping of research trends and influential contributions in sports coaching leadership

RESULT AND DISCUSSION

This study produced three tables reflecting key themes in sports coaching leadership based on VOSViewer analysis, major authors and their citations, and the contributions of countries in sports research. According to Table 1, cluster analysis identified eight main groups focusing on various aspects of leadership in sports coaching. These clusters cover topics such as athlete leadership, motivational climate, team cohesion, and mental health, which significantly impact athletes' experiences and well-being.

Leadership in sports coaching plays a pivotal role in shaping athlete development, team cohesion, and overall performance. The findings underscore the significant influence of coaching leadership on both individual and team outcomes. Effective leadership styles, particularly transformational leadership and servant leadership, have been shown to enhance athlete performance by fostering intrinsic motivation, self-efficacy, and adaptability (Arthur, Bastardoz, & Eklund, 2017; Callow et al., 2009). These leadership approaches encourage athletes to exceed their own expectations, which is critical in high-performance sports.

Leadership that promotes a positive motivational climate and encourages collaboration among team members strengthens team cohesion and trust. This is particularly important in team sports, where collective efficacy and shared goals are essential for success (Fransen et al., 2018; Leo

et al., 2019). Furthermore, the psychological well-being of athletes is closely tied to coaching leadership. Supportive leadership styles, such as servant leadership and autonomy-supportive coaching, are associated with lower levels of stress, anxiety, and burnout (Gustafsson et al., 2017; Ryan & Deci, 2017). Conversely, autocratic and transactional leadership styles may exacerbate psychological distress, particularly among youth and elite athletes.

Leadership that emphasizes holistic development—integrating technical skills, mental resilience, and personal growth—contributes to long-term athlete success and sustained participation in sports. This approach is particularly relevant in youth sports, where the focus extends beyond immediate performance to lifelong engagement in physical activity (Vella, Oades, & Crowe, 2013; Turnnidge & Côté, 2019).

The bibliometric analysis identified several leadership styles that are prevalent in sports coaching research, each with distinct characteristics and impacts. Transformational leadership, characterized by vision, intellectual stimulation, and individualized consideration, is highly effective in inspiring athletes to achieve their full potential. Transformational leaders foster intrinsic motivation and self-efficacy, which are critical for success in competitive sports (Bass & Riggio, 2006; Callow et al., 2009).

Servant leadership, which prioritizes the well-being and personal growth of athletes, creates a supportive and empathetic coaching environment. This approach has been linked to higher levels of athlete satisfaction, trust, and

reduced risk of burnout (Rieke, Hammermeister, & Chase, 2008; Leo et al., 2019). In contrast, autocratic leadership, often associated with a top-down decision-making approach, can be effective in highly structured environments but has been criticized for its negative impact on athlete autonomy and psychological well-being, particularly in youth sports (Chelladurai & Saleh, 1980; Fransen et al., 2018).

Democratic leadership involves athletes in decision-making processes, fostering a sense of ownership and responsibility. This style is associated with higher levels of athlete engagement and satisfaction, particularly in team sports where collaboration is essential (Hodge, Henry, & Smith, 2014; Vella et al., 2013). On the other hand, transactional leadership, which focuses on rewards and punishments, can achieve short-term goals but may lead to increased stress and disengagement, particularly among youth athletes facing intense performance pressures (Gustafsson et al., 2017; Ryan & Deci, 2017).

The cluster analysis revealed eight main themes, with the largest cluster (23.07%) focusing on athlete leadership and team involvement. The second cluster, covering issues such as leadership barriers and challenges, highlights a strong focus on injury prevention and risk management. Other clusters, including character development through physical education and the role of female coaches, demonstrate the breadth of research interest in sports leadership. Each cluster provides insights into the dominant themes in this research field, showcasing the multifaceted nature of leadership in sports coaching that requires comprehensive attention.

Table 1. Clusters and Keywords Based on VOSViewer

Cluster	Items	Colors	Percentage	Total
Cluster 1	athlete leadership, burnout, case study, coaches leadership style, engagement, group cohesion, mediating role, motivational climate, servant leadership, sport team, sports, team identification	Red	23,07%	12
Cluster 2	barrier, challenge, football, football coach, identity leadership, implementation, injury prevention, opportunity, power, youth sport, qualitative study	Green	21,15%	11
Cluster 3	implication, physical education, positive youth development, practice, research, youth	Blue	11,5%	6
Cluster 4	athlete satisfaction, basic psychological need, coach leadership style, covid, life skill, motivation	Yellow	11,5%	6
Cluster 5	case, head coach, lesson, sports coaching, woman	Purple	9,6%	5
Cluster 6	coaching, coaching efficacy, leadership style, team performance, trust	Light Blue	9,6%	5
Cluster 7	coach athlete relationship, coach leadership, collective efficacy, theory	Orange	7,6%	4
Cluster 8	elite sport, mental health, qualitative analysis	Pink	5,7%	3
Total			100%	52



Figure 1. Clusters and Keywords Based on VOSViewer

Table 2 shows the top ten authors with significant influence in the field of sports coaching leadership based on the number of publications and citations they have received. The authors with the highest contributions are Fransen Katrien and Boen Filip, with 673

and 455 citations, respectively, across 16 and 14 publications. This indicates that their contributions to sports leadership research are highly recognized in academia and frequently referenced in subsequent studies. Additionally, other authors such as Haslam S. Alexander and Steffens Niklas K. have significant citation and document counts, indicating that they are also key references in this research.

Table 2. Authors, Documents, and Citations

No	Authors	Documents	Citation	Total
1	Boen, Filip	14	455	35
2	Fransen, Katrien	16	673	35
3	Haslam, S. Alexander	5	77	17
4	Steffens, Niklas. K	6	114	17
5	Vande Broek, Gert	9	324	17
6	Cote, Jean	13	131	14
7	Cotterill, Stewart T	5	192	11
8	Bruner, Mark W	6	24	10
9	Martin, Luc J	8	53	10
10	Turnnidge, Jennifer	8	88	10

Table 2. Authors, Documents, and Citations



Figure 2. Authors, Documents, and Citations Based on VOSViewer

Table 3 presents the contributions of countries in the field of sports leadership, with the United Kingdom and the United States being the most productive and impactful. The United Kingdom has 104 documents with a total of 1,873 citations, while the United States has 131 documents with 1,609 citations. Countries such as Canada, Australia, and Belgium also show substantial publication and citation counts, indicating their active participation in this research. The involvement of various countries in these publications demonstrates global recognition and attention

to leadership in sports coaching, particularly in relation to athlete mental health, coaching leadership styles, and character development through sports.

Table 3. Countries, Documents, and Citations

No	Countries	Documents	Citations	Total
1	United Kingdom	104	1873	52
2	United States	131	1609	52
3	Canada	83	993	44
4	Australia	43	810	32
5	Belgium	27	764	20
6	Germany	15	136	16
7	Portugal	21	229	14
8	Spain	31	268	11
9	Sweden	16	305	11
10	South Korea	22	221	10

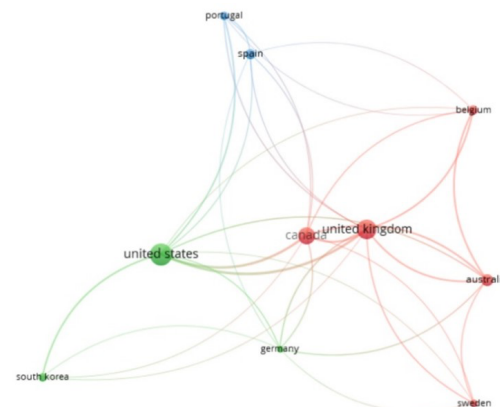


Figure 3. Countries, Documents, and Citations Based on VOSViewer

Overall, the interpretation of the results from these three tables demonstrates that research on leadership in sports coaching has a broad scope and is globally recognized. These results underscore the importance of various themes related to leadership styles, athlete mental health, and challenges in leadership management, each of which significantly contributes to improving coaching

quality and athlete well-being in the context of sport.

CONCLUSION

The bibliometric analysis of sports coaching leadership highlights key themes such as athlete motivation, leadership styles, team cohesion, and mental well-being, emphasizing the significant role of transformational and servant leadership in enhancing athlete performance and satisfaction. The study identifies major contributors and research trends in this field, demonstrating the increasing global attention to effective coaching strategies. Findings suggest that leadership approaches focusing on both technical skills and psychological support positively impact athletes, reducing burnout and fostering long-term development. These insights underscore the need for a holistic and inclusive coaching framework to optimize both individual and team success in sports.

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