



Structural-Functional Model of Social Support for Athletes Across the Stages of Long-Term Athletic Development: A Bibliometric and Network Analysis (1981–2026)

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Abstract

Background. Preserving athletes' mental well-being and social functioning under conditions of intensified training demands has become a critical challenge in contemporary elite sport. Annual training loads at the highest levels of performance may reach 1,500 hours, increasing vulnerability to burnout, social isolation, and identity-related difficulties. In response to the global transformation of elite sport in the 2020s, there is a growing need for integrated athlete support systems grounded in established theoretical frameworks of long-term athlete preparation.

Objectives. To develop a theoretically grounded structural-functional model of social support for athletes based on V. Platonov's long-term athlete preparation framework using bibliometric and network analysis.

Materials and Methods. Bibliometric metadata were retrieved from the Scopus database, yielding 550 scientific publications published between 1981 and March 2026. Science mapping was conducted using VOSviewer (version 1.6.20), applying keyword co-occurrence analysis and Louvain clustering. Following screening and normalization procedures, 134 keywords meeting the inclusion threshold ($n \geq 5$) were included in the network analysis. Cluster structures were subsequently interpreted in relation to V. Platonov's eight-stage model of long-term athlete preparation.

Results. The analysis identified eight thematic clusters reflecting the major domains of athlete social support across the athletic life course. The network structure indicated a progression from early-stage family- and school-based support toward institutional support mechanisms associated with dual career development, mental health, health maintenance, and career transition. The integrated athlete domain demonstrated the highest network centrality (TLS = 1146), highlighting the central conceptual role of athlete-centered support within the identified knowledge structure. Recent publication trends suggest increasing scholarly attention to athlete well-being, dual career pathways, and mental health as key priorities in contemporary sport science.

Conclusions. The proposed structural-functional model provides a conceptual framework for integrating psychosocial support into long-term athlete preparation systems. The findings suggest that social support should be considered a strategically important structural component of athlete development, with potential implications for burnout prevention, career sustainability, and post-sport reintegration. The model may serve as a practical reference for sport organizations and higher education institutions in designing stage-specific athlete support strategies.

Keywords: social support, athlete development, dual career, athletic identity, career transition, bibliometric analysis, structural-functional model.

Introduction

The global transformation of elite sport in the 2020s necessitates a substantial modernization of athlete support

systems. Contemporary training is characterized by extreme intensification, with annual training loads at the highest levels of performance reaching 1,400–1,500 hours (Platonov, 2006). Professor Volodymyr Platonov's contributions to this field are foundational, as the long-term periodization system he developed provides methodological coherence for athlete preparation while accounting for the objective patterns of

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psychophysiological adaptation to training loads (Platonov, 2021; Platonov, 2013; Lyakh et al., 2014).

However, the relevance of this study is further reinforced by the fact that athletic success today depends not only on physical condition, but also on the quality of social support, which serves as a buffer against stress and burnout (Luo et al., 2025; Saeed et al., 2025; Yiyi et al., 2025). The need to develop a model of social support integrated across the stages of long-term athletic development, as conceptualized by Volodymyr Platonov, arises from the necessity to overcome fragmentation in support provision and to preserve athletes' personal capital (Bulatova et al., 2025). Contemporary sport requires a paradigmatic shift from reactive assistance to proactive support for the athlete as a whole person throughout the entire life course (Pryimak, 2025a).

Between 1981 and 2026, the scientific discourse evolved from the fragmented examination of the "retirement crisis" to the development of holistic models of the athlete life course. A significant contribution to understanding this evolution was made by Khudolii and Ivashchenko (2026), who, through a bibliometric analysis of PETM, identified a sustained trend toward thematic diversification in sport science. Their findings documented a rapid increase in the prominence of research focused on health, inclusion, and functional outcomes, indicating that the scientific discourse has expanded beyond purely methodological and training-related dimensions (Khudolii & Ivashchenko, 2026).

A central position in contemporary conceptual frameworks is occupied by the Holistic Athletic Career (HAC) model proposed by Paul Wylleman (2019). This model postulates that athlete development unfolds simultaneously across sporting, psychological, academic, and financial domains, with deficits in any one domain inevitably constraining progress in the others (Wylleman, 2018, 2020). In contrast, Stambulova and Schinke (2025) conceptualize transition as a prolonged process of developing athletic retirement literacy, in which the cultivation of adaptive competencies during the peak of an athlete's career is considered essential (Stambulova & Schinke, 2025). Meanwhile, Kristoffer Henriksen et al. (2024) shift the focus toward the transition environment (TE), emphasizing that successful adaptation depends on the coordination of micro- and macro-level systems surrounding the athlete (Stambulova & Henriksen, 2025).

Statistical evidence supporting the mediating role of social support was provided by Luo et al. (2025), whose meta-analysis of 14,462 athletes identified a consistent negative association with depression ($r = -0.27$) and anxiety ($r = -0.22$). These findings align with the conclusions of Barbara Nuetzel (2023, 2025) and Eadie E. Simons and Matthew Bird (2022), who identified elite youth athletes as a particularly high-risk group under conditions of intensified training demands. In the Ukrainian context, Mariia Bulatova et al. (2025) found that 87.3% of specialists consider social support a strategic priority, while also identifying a systemic imbalance between the demands of sport and education as the principal barrier (Bulatova et al., 2025). These conclusions are further developed in the work of Mariia Pryimak (2025b, 2025c, 2025d), which substantiates a stage-specific approach to adaptation: at the early stages of Platonov's framework, family "emotional approval" plays a decisive role, whereas at the highest levels of performance, stress management and

financial literacy become critical (Pryimak, 2024e; Pryimak, 2025f). In her most recent studies, the author proposes a holistic career management strategy as a mechanism for overcoming identity crises (Pryimak, 2025g).

Additional dimensions of resilience were explored by Chrétien et al. (2024), who identified a direct relationship between athlete resilience and the quality of the coach-athlete dyad, with trust emerging as a key determinant of well-being. A sociocultural perspective is added by the work of Yoon Jin Kim and Marcelle C. Dawson, who, through the lens of Goffman's stigma theory, examine the formation of coaching identity among former athletes (Kim & Dawson, 2022). Jane Thornton et al. (2023) and McClaskey et al. (2025) provide a detailed analysis of gender-specific factors, demonstrating that elite female athletes require more flexible institutional support systems. Pedagogical mechanisms for the development of social skills through game-based models, particularly Teaching Games for Understanding (TGfU), were examined by Uray Gustian et al. (2025), Valero-Valenzuela et al. (2020), and José L. Arias-Estero et al. (2020), highlighting their role in early socialization.

Important aspects of the dual career framework are highlighted in the works of Capranica et al. (2022), Linnér et al. (2026), and Di Rocco (2025), who demonstrate that institutional support within universities constitutes a fundamental mechanism for preventing premature career termination. This perspective is further complemented by the research of De Brandt et al. (2018), which examines the competencies required to successfully combine education with elite sport. The issue of mental health as a critical resource for athletic success is also addressed in the work of Ponomaryov et al. (2024).

Despite the substantial body of research and the foundational significance of V. Platonov's long-term athlete preparation system (2021), the scientific literature still lacks an integrated model that directly aligns specific types of support with the structural components of his framework. Most existing studies focus on a single critical transition point, without accounting for the dynamic transformation of athletes' needs across the entire life course.

The aim of this study is to develop and theoretically substantiate a structural and functional model of social support for athletes based on V. Platonov's contemporary system of long-term training periodization.

Research hypothesis. We hypothesize that the structure of athlete social support transforms synchronously with the evolution of training objectives within V. Platonov's framework, shifting from the dominance of emotional support at the micro level during the early stages to the predominance of institutional support at the macro level at the highest levels of performance.

Scientific novelty. For the first time, a structural-functional model comprising eight thematic clusters has been theoretically substantiated through bibliometric modeling of a co-occurrence network of 134 terms, with these clusters dynamically aligned with V. Platonov's eight-stage system of long-term athlete preparation.

Practical significance. The findings of this study may be used by sport organizations and higher education institutions to develop social support roadmaps, thereby contributing to the minimization of burnout risks and the successful professional reintegration of athletes.

Materials and Methods

Study Design

This study was conducted within a quantitative bibliometric research design employing the science mapping approach, integrated into a systems analysis of the athlete life course. This design enables the synthesis of large-scale bibliometric metadata to identify conceptual relationships and thematic patterns in the evolution of scientific perspectives on social support in sport. The methodological framework is grounded in approaches to constructing intellectual knowledge structures, as validated in contemporary scientometric research in the fields of physical education and sport science.

Data Source and Search Strategy

The empirical foundation of this study consisted of bibliographic metadata retrieved from the international scientometric database Scopus. The search was conducted in March 2026 using the advanced query functionality to ensure precision in sample selection. The search strategy was based on the application of Boolean operators and the proximity operator (W/3):

TITLE-ABS-KEY ((social W/3 (adapt* OR adjust* OR integrat* OR support OR identity OR personal*)) AND (athlet* OR sport*)) AND (career OR lifecycle OR transition* OR retire* OR “dual career” OR “long-term athlete development” OR “periodization” OR “career longevity” OR “sports training” OR “life course”))

The chronological scope of the search covered the period from 1981 to March 2026. An additional data-cleaning step involved the application of an affiliation-based exclusion filter: AND (EXCLUDE (AFFILCOUNTRY, “russian federation”)). The final dataset comprised 550 source records.

Eligibility Criteria and Screening

The selection of scientific publications was conducted in accordance with the PRISMA 2020 guidelines (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), ensuring transparency and reproducibility of the results. At the initial stage, a preliminary screening of titles and abstracts was performed to assess thematic relevance. The inclusion criterion for the network analysis was a minimum keyword occurrence frequency of $n \geq 5$, which allowed for the reduction of terminological noise. At the second stage, author name normalization and affiliation standardization procedures were applied. The final dataset used for constructing the co-occurrence maps comprised 134 nodes.

Bibliometric Mapping and Statistical Analysis

Statistical processing and network visualization were performed using VOSviewer software (version 1.6.20). The Louvain community detection algorithm was employed to identify thematic communities. The resolution parameter was calibrated to improve the interpretability of cluster structures in relation to the selected theoretical framework. The analytical procedure included:

Local optimization of modularity to maximize the density of internal connections within clusters.

Generation of eight differentiated thematic clusters reflecting the structure of social support across different stages of the athletic career.

Data Synthesis and Conceptual Modeling

The results of the bibliometric mapping were subjected to qualitative interpretation and systematically mapped onto V. Platonov’s classical model of long-term athlete preparation (Platonov, 2021). This approach made it possible to align the dynamics of athletes’ social support needs with the pedagogical objectives of each of the eight stages of the training process, ranging from Initial Preparation to Retirement from Elite Sport.

Analysis Metrics

The primary quantitative indicators included:

Occurrence frequency (Occurrences): the number of documents in which a given term appears.

Total Link Strength (TLS): the cumulative intensity of interactions between a specific node and all other elements within the network.

Study Limitations

The findings of this study are limited by the scope and depth of source indexing within the Scopus database. Given the time-lag effect in database indexing, data from the most recent period (2025–2026) may not be fully comprehensive; however, they remain indicative of the most current directions in the development of sport science.

Results

The results of the retrospective analysis made it possible to visualize the trajectory of scientific interest in athlete social support over the past 45 years (Figure 1). Quantitative indicators of publication activity provide objective evidence of a paradigmatic shift in sport science, whereby the transition from isolated theoretical inquiries to a substantial body of empirical research reflects the global demand for the humanization of athlete development systems.

The graphical analysis demonstrates a consistently low level of publication activity until 2010, followed by a sharp intensification of research on social support. The exponential growth observed in 2024–2025, with a peak of 90 publications per year, suggests that social support has become an increasingly prominent topic in contemporary athlete development research, while athletes’ mental well-being has gained growing scholarly attention in the post-pandemic context.

To identify the conceptual core of the system, the weight and influence of the central concepts were assessed. The indicator ($n = 134$) represents the total number of unique terms comprising the conceptual lexicon of the model. Particular attention should be given to the close terminological relationship between the nodes “athlete” and “athletes.” From a scientometric perspective, these terms function as conceptual twins that, through data

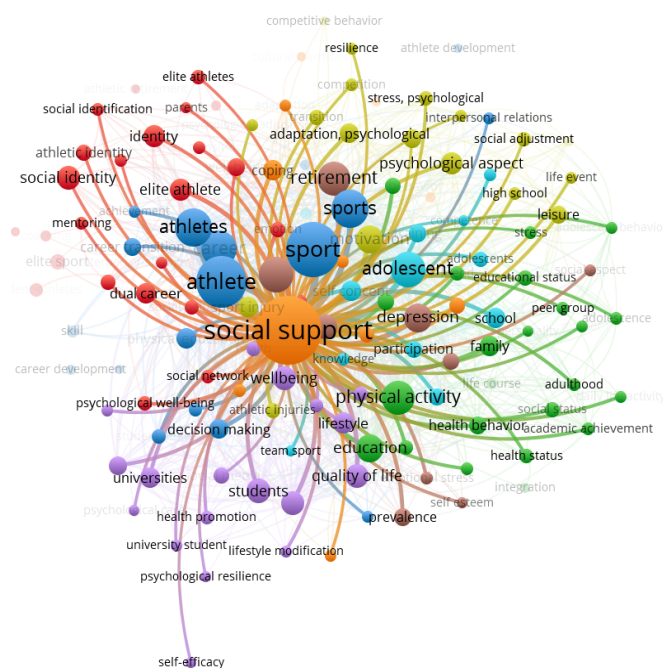


Fig. 1. Annual Trends in Scientific Publications (1981–2026)

normalization, effectively form a unified mega-node. The combined occurrence frequency of this dyad reached 160, while the integrated Total Link Strength attained an exceptionally high value (TLS = 1146). This finding positions the human factor as the central organizing element of the network, around which all psychosocial variables presented in Table 1 are structured.

Table 1. Analysis of the Weight and Influence of Central Network Nodes (n = 134)

Keyword	Cluster	Occurrences	Total Link Strength (TLS)
athlete + athletes	2	160	1146
athletic identity	2	38	85
career	8	53	424
mental health	5	52	361
social support	6	23	198
burnout	5	18	65
anxiety	5	26	213
depression	5	34	252

To provide a more detailed representation of the intellectual structure of social support, all 134 keywords were distributed across eight functional domains, which, following optimization of the resolution parameter (Resolution = 1.35), demonstrated clear alignment with the eight stages of V. Platonov's athlete preparation system. This classification made it possible to identify latent patterns of social interaction at each stage of the athletic career.

Table 2 presents the substantive composition of these clusters, with each element filtered according to a significance threshold of $n \geq 5$, ensuring the robustness of the identified knowledge communities and their correspondence to the stages of long-term athlete preparation – from initial socialization (C1) to successful reintegration following retirement from sport (C8).

The modeling process revealed a clearly defined hierarchical architecture of athlete social support. The findings indicate that the microsystems of family and school

Table 2. Detailed Composition of Thematic Clusters in Athlete Social Support (n = 134)

Stage According to V. Platonov	Cluster No.	Number of Items	Keywords (Items)
I. Initial Preparation	1	22	Academic achievement, adolescence, adolescent behavior, child parent relation, education, educational status, family, friend, mother, parents, peer group, school, social interaction, social status.
II. Preliminary Basic Preparation	2	20	Athlete, athletes, athletic identity, coaching, coaches, identity, interpersonal communication, leadership, mentoring, social behavior, social environment, social identification, sport.
III. Specialized Basic Preparation	3	18	Adaptation, psychological adaptation, adaptive behavior, age factors, competition, competitive behavior, cultural transition, interpersonal relations, leisure activities, social capital, sports.
IV. Preparation for Peak Performance	4	16	Athletic performance, elite athlete, elite sport, achievement, motivation, performance, self-concept, self-esteem, team sport, training, return to sport.
V. Maximum Realization of Individual Potential	5	15	Anxiety, burnout, depression, emotional stress, mental health, psychological resilience, resilience, stress, psychological stress, coping, coping behavior.
VI. Maintenance of Peak Sporting Performance	6	16	Dual career, student-athlete, university student, college student, universities, learning, career choice, career development, physical education, skill, awareness.
VII. Gradual Performance Decline	7	14	Health status, health promotion, lifestyle, life style, quality of life, self-care, self-efficacy, athletic injuries, sport injury, psychological care, wellbeing.
VIII. Retirement from Elite Sport	8	13	Career, career transition, athletic retirement, retirement, transition, transitions, life satisfaction, life event, loneliness, social adaptation, social reintegration.

Table 3. Structural-Functional Model of Support Across the Stages of V. Platonov's Athlete Preparation Framework

Reparation Stage (V. Platonov's Framework)	Cluster	TLS	Psychosocial Risks and Barriers	Adaptation Resources and Coping Potential	Stakeholder Map	CAP Technologies and Support Vector	Expected Outcome
I. Initial Preparation	C1	245	Fear of failure, excessive parental pressure	Play-based motivation, enjoyment of movement	Parents, physical education teachers	Emotional foundation: Active Start programs, active games	Sport engagement
II. Preliminary Basic Preparation	C1/C2	310	Conflict between play and academic activities	Self-discipline, volitional development	Family, friends, school coaches	Developmental balance: Olympic education, youth sport school support	Initial athletic identity
III. Specialized Basic Preparation	C3	740	Pubertal crisis, risk of burnout	Role resilience, time management	Coaching staff, friends outside sport	Professional mentoring: career planning seminars	Stable athletic identity
IV. Preparation for Peak Performance	C4	820	High competitive stress, fear of deselection	Self-efficacy, prior coping experience	Sports physicians, psychologists, commissions	Psychological self-regulation: mental health screening	Psychological hardness
V. Maximum Realization of Individual Potential	C4/C5	1146	Exclusive identity, media pressure	Cognitive flexibility, social capital	Professional community, managers	Buffer protection: specialized CAP support programs	Professional resilience and health
VI. Maintenance of Peak Sporting Performance	C5	680	Fear of age-related decline, performance deterioration	Strategic retirement planning	Mentors, higher education institutions, consultants	Institutional stability: Next Step programs, higher education pathways	Career flexibility and higher education attainment
VII. Gradual Performance Decline	C6/C7	560	Systemic sport–education imbalance	Academic adaptability, self-management	Universities, federations, student communities	Integration technologies: tutoring, flexible academic schedules	Dual career readiness (DC)
VIII. Retirement from Elite Sport	C8	424	Social maladaptation, loss of status	Athletic retirement literacy (ARL)	Veteran sport associations, family, HR professionals	Instrumental reintegration: employment transition programs	Social autonomy and successful reintegration

(Cluster 1) establish the foundational basis for adaptation during the Initial Preparation stage. As athletic expertise develops, the focus progressively shifts toward institutional dual career structures (Cluster 6) and mechanisms for managing psychophysiological reserves (Cluster 5).

Of particular importance is the identification of Cluster 7 (Health and Rehabilitation) and Cluster 8 (Career Transition), which supports the hypothesis that social support evolves from emotional affirmation at the beginning of the athletic pathway to professional reintegration at the conclusion of the sporting career. The presence of a strong mental health and resilience core (Clusters 5 and 7) supports the conceptual interpretation of social support as an important protective resource within athlete development systems under conditions of intensive training demands.

This structure provides the empirical foundation for the development of an integrated support model presented in Table 3.

The most significant outcome of this study is the mapping of eight thematic clusters onto Volodymyr Platonov's foundational eight-stage athlete preparation system. This transforms a static term map into a dynamic roadmap for athlete support. Within this model, social support is conceptualized as an evolving resource whose nature changes in response to increasing training loads and psychological pressures at each stage of professional development.

The proposed structural-functional model (Table 3) demonstrates that V. Platonov's framework may be meaningfully complemented by a social support dimension to strengthen athlete development pathways. Based on the conceptual mapping of network domains, the stages of peak performance appear to represent periods of heightened psychosocial vulnerability requiring intensified support mechanisms.

The findings further indicate that insufficient institutional support during the final stages (VI–VIII) may contribute to identity-related disruptions and transition crises. To address these challenges, the model incorporates athletic retirement literacy (ARL) programs and specialized Career Assistance Programs (CAP). Taken together, these results suggest that social support should be understood not as an auxiliary element, but as a structural component of contemporary athlete preparation systems that contributes to the preservation of human capital in sport.

Discussion

The findings of the bibliometric analysis suggest that, over the past 45 years, sport

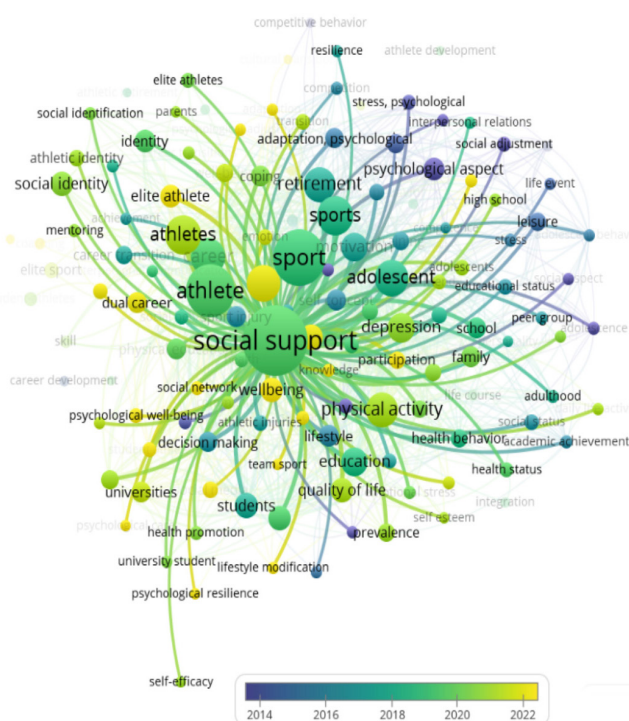


Fig. 2. Overlay visualization of the keyword co-occurrence network by average publication year

science has undergone a complex transformation from narrowly focused investigations of the “career termination crisis” (1980s–1990s) toward the development of integrated, holistic models of the athlete life course (2020–2026) (Luo et al., 2025; Stambulova & Schinke, 2025). The exponential growth in publication activity identified from 2015 onward reflects a broader global trend toward the humanization of sport, in which athlete well-being is increasingly recognized as an essential condition for sustainable professional performance.

The analysis of the chronological evolution of scientific interest (2014–2022) demonstrates a clear shift in research priorities (Figure 2). While the earlier terminological base (represented in dark blue) was primarily concentrated on general aspects of physical activity and adaptation, the most recent thematic vectors (yellow–green spectrum) are centered on concepts such as well-being, dual career, mental health, and university student.

This provides visual confirmation of the paradigm shift from the biologization of sport toward holistic support for the athlete as a whole person across all stages of the life course. This fully aligns with the conclusions of Khudolii and Ivashchenko (2026) regarding the thematic diversification of sport science toward inclusion, health, and functional psychological outcomes.

Our findings suggest that social support should no longer be viewed merely as an auxiliary resource, but rather as a strategically important component of contemporary athlete development systems. Analysis of the central network elements ($n = 134$) indicated that the integrated athlete domain (TLS = 1146) occupies a central conceptual position within the identified psychosocial knowledge

structure, reflecting a shift in priorities from “performance at any cost” toward the preservation of human capital in elite sport (Pryimak, 2025a).

The distribution of the terminological base across eight thematic clusters enabled the identification of specific support vectors that have previously been addressed only fragmentarily in the literature:

1. Foundational Block (Clusters 1–3): Cluster 1 (Socialization) clearly delineates the foundation of socialization, in which parental support serves as the principal factor in athlete retention during the early stages. In contrast to Wylleman (2019), our findings emphasize that during Stages I–II of Platonov’s framework, support functions as an “emotional shield” protecting the child from premature specialization (Wylleman, 2019; Lee et al., 2018). Cluster 2 (Foundational Development) demonstrates the critical role of the coach. However, the elevated TLS value for the term athletic identity (85) (see Table 1) indicates the risk of identity foreclosure, which, according to Kim and Dawson (2022), may become a barrier to successful post-sport adaptation.

2. Psychological Safety Core (Clusters 4, 5, and 7): A central contribution of our model is the network-based identification of these clusters as a core safety-related domain within the conceptual framework. The concept of social support emerges as a central psychosocial construct within the broader literature on training-related stress and athlete mental well-being. The meta-analysis by Luo et al. (2025) ($n = 14,462$) demonstrates that, for elite athletes at the Maximum Realization stage (Stages IV–V in Platonov’s framework), support from close relationships exerts a stronger protective effect ($r = -0.27$) than team cohesion. Previous evidence suggests that the absence of such support networks may increase vulnerability to burnout, whose TLS value (65) indicates its notable prevalence among young athletes. Our interpretation aligns with previous evidence suggesting an association between social support and athlete engagement (Ye & Liu, 2016).

3. Institutional and Applied Context (Clusters 6 and 8): These findings gain particular significance when compared with applied research conducted in Ukraine. Survey data from 150 specialists (2025) revealed a paradox: 87.3% of respondents recognize social adaptation as critical, yet actual funding and athlete awareness remain low (Bulatova et al., 2025). The principal challenges in Ukraine include the sport–education imbalance (54.5%) and psychological overload (40.0%), which directly correspond to the clusters identified in our analysis – Cluster 6 (Dual Career) and Cluster 5 (Mental Health). Unlike European standards, Ukrainian practice often remains fragmented and ad hoc (Di Rocco et al., 2025), underscoring the need for a transition toward an institutionalized support model as early as Stages VI–VII in Platonov’s framework.

Analysis of recent years (2024–2026) indicates the growing role of digital support. The use of mobile applications for monitoring athletes’ condition is emerging as a new tool that ensures continuity of support during injury recovery or remote training camps (Gertz et al., 2026). In addition, the effectiveness of the model depends on mental health literacy. A limited ability to identify one’s own psychosocial needs during the Preparation for Peak Performance stage (Stage IV) may be associated with increased vulnerability to

anxiety, as reflected in the relatively high Total Link Strength value observed for the term anxiety (TLS = 213).

The most relevant contemporary vector is Cluster 8 (Transition). Our model proposes a reconceptualization of Stage VIII in Platonov's framework – from a period of “decline” to a phase of active social reconstruction. The concept of athletic retirement literacy (ARL) becomes central in this context (Stambulova & Schinke, 2025). Gender differences also warrant particular attention (Thornton et al., 2024). Female athletes demonstrate distinct trajectories of maladaptation: the high prevalence of reproductive health challenges (19%) and the risk of early osteoarthritis necessitate the inclusion of medico-social modules within the overall model. Women also exhibit higher levels of anxiety (RR = 1.42) (McCluskey et al., 2025).

Thus, the application of Resolution = 1.35 enabled the development of a dynamic social support roadmap, in which each of the eight stages of V. Platonov's athlete preparation framework corresponds to a specific mechanism of social protection aimed at preserving human capital in elite sport.

Conclusions

The developed structural-functional model of athlete social support constitutes an integrated scientific and methodological framework grounded in the objective findings of bibliometric analysis and embedded within V. Platonov's foundational system of long-term athlete preparation periodization. The present study suggests that the nature of psychosocial support undergoes a systematic and nonlinear transformation in parallel with the evolution of training objectives. The transition from the emotional microenvironment of the family during the early stages to the institutional macro-level of higher education institutions and specialized career assistance programs at the highest stages of athletic performance emerges as a critical condition for preserving the athlete's personal capital.

The structural-functional model supports the strategic significance of social support as an important component of athlete development systems, with potential relevance for addressing risks related to depressive symptoms, anxiety, and emotional exhaustion. This allows for a reconceptualization of social resources – not as merely auxiliary factors, but as an integral structural component of athletic performance and professional longevity.

The particular scientific value of the proposed model lies in its capacity to provide mechanisms for the proactive reconstruction of athlete identity prior to career termination. The development of athletic retirement literacy and the implementation of individualized social support roadmaps within higher education institutions and sport organizations offer a means of overcoming the fragmentation of existing support systems. Such an approach may facilitate the social reintegration of athletes into society and support smoother career transitions.

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Ethics Approval

Ethics committee approval was not required for this publication, as the study is theoretical-conceptual and scientometric in nature. The research methodology was based exclusively on the systematization and analysis of open bibliographic datasets and publicly available sources, with no involvement of human or animal participants, and no collection, analysis, or dissemination of confidential personal data.

Data Availability Statement

The bibliometric data analyzed in this study were retrieved from the Scopus database and are available through institutional access to Scopus. The processed datasets generated during the current study are available from the corresponding author upon reasonable request. However, the data may be made available from the corresponding author upon reasonable request and subject to approval by the relevant institutional bodies.

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Conflicts of Interest

The authors declare no financial or personal conflicts of interest that could have influenced the objectivity of the findings or the interpretation of the study results.

AI Transparency Statement

Artificial intelligence tools were not used for data collection, statistical analysis, or interpretation of results. During manuscript preparation, artificial intelligence tools were partially used for language editing of the text. Full responsibility for the content, conclusions, and accuracy of the work rests with the authors.

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Структурно-функціональна модель соціальної підтримки атлетів на етапах багаторічної підготовки: бібліометричний та мережевий аналіз (1981–2026)

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Авторський вклад: А – дизайн дослідження; В – збір даних; С – статаналіз; D – підготовка рукопису; Е – збір коштів

Реферат. Стаття: 10 с., 3 табл., 2 рис., 39 джерел.

Вступ. Збереження ментального благополуччя та соціального функціонування атлетів в умовах інтенсифікованих тренувальних навантажень є актуальним викликом сучасного спорту вищих досягнень. На етапах найвищої спортивної майстерності річний обсяг тренувальної роботи може сягати 1500 годин, що підвищує вразливість до вигорання, соціальної ізоляції та труднощів, пов'язаних із спортивною ідентичністю. Глобальна трансформація спорту вищих досягнень у 2020-х роках актуалізує потребу в інтегрованих системах соціального супроводу, заснованих на теоретично обґрунтованих моделях багаторічної підготовки спортсменів.

Мета дослідження. Теоретично обґрунтувати структурно-функціональну модель соціальної підтримки атлетів на основі системи багаторічної підготовки спортсменів В. Платонова шляхом бібліометричного та мережевого аналізу.

Матеріали і методи. Емпіричну основу дослідження становили бібліометричні метадані, отримані з наукометричної бази Scopus. До аналізу включено 550 наукових публікацій, опублікованих у період з 1981 року по березень 2026 року.

Бібліометричне картографування здійснювалося із застосуванням програмного забезпечення VOSviewer (версія 1.6.20) з використанням аналізу співзвучності ключових слів та алгоритму кластеризації Лувена. Після процедур скринінгу, нормалізації та застосування критерію включення ($n \geq 5$) до мережевого аналізу включено 134 ключові слова. Отримані кластерні структури інтерпретовано у співвіднесенні з восьмиетапною системою багаторічної підготовки спортсменів В. Платонова.

Результати. У результаті аналізу ідентифіковано вісім тематичних кластерів, що відображають ключові домени соціальної підтримки атлетів упродовж спортивного життєвого шляху. Структура мережі вказує на поступовий перехід від сімейно- та шкільно-орієнтованих форм підтримки на ранніх етапах до інституційних механізмів підтримки, пов'язаних із дуальною кар'єрою, ментальним здоров'ям, збереженням здоров'я та кар'єрним переходом. Найвищу центральність у мережі продемонстрував інтегрований домен athlete (TLS = 1146), що підкреслює центральну концептуальну роль атлето-центричного підходу в ідентифікованій структурі знань. Аналіз публікаційної динаміки також засвідчив зростання наукової уваги до проблем ментального благополуччя, дуальної кар'єри та соціальної підтримки у сучасній спортивній науці.

Висновки. Запропонована структурно-функціональна модель формує концептуальну основу для інтеграції психо-соціального супроводу в системи багаторічної підготовки спортсменів. Отримані результати свідчать, що соціальна підтримка може розглядатися як стратегічно важливий структурний компонент розвитку атлета, з потенційним значенням для профілактики вигорання, підтримки кар'єрної стійкості та соціальної реінтеграції після завершення спортивної кар'єри. Модель може бути використана фізкультурно-спортивними організаціями та закладами вищої освіти для розроблення етапно-специфічних стратегій соціального супроводу атлетів.

Ключові слова: соціальна підтримка, розвиток атлета, дуальна кар'єра, спортивна ідентичність, кар'єрний перехід, бібліометричний аналіз, структурно-функціональна модель.

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