SUSTAINABLE TALENT DEVELOPMENT IN YOUTH FOOTBALL: PERFORMANCE, WELL-BEING AND CONTINUED SPORT PARTICIPATION

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ABSTRACT
This study critically analyses sustainable talent development in youth football by integrating pedagogical, methodological and organisational perspectives. It proposes an integrated sustainable talent development model, which interprets talent protection as a balance between performance, physical and psychological well-being, continued sport participation and the quality of the developmental environment, aiming to prevent burnout, sport dropout, demotivation and early exclusion.

KEYWORDS
talent development; youth football; well-being; dropout.

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1. Introduction

Physical activity and sport are widely recognised as key determinants of health and well-being throughout the life course. Regular participation during childhood and adolescence contributes to the improvement of motor skills, physical fitness and sport-specific skills, while also promoting cognitive, psychological and social development and reducing the risk of numerous chronic conditions in adulthood (Chaput et al., 2020; Lubans et al., 2016). Alongside the benefits directly related to health, sport participation represents a privileged context for positive youth development, promoting not only physical and psychological well-being, but also the acquisition of personal and social skills, ethical and relational values, and the transfer of these skills to everyday life (Eime et al., 2013; Almeida et al., 2025). Through continuous interaction with coaches, teammates, opponents and families, sport contributes to the holistic development of the individual, preparing young people not only for sport participation but also for adult life (Ooms et al., 2026). In most educational systems, school represents the first institutional context responsible for promoting physical activity, physical education and active lifestyles, contributing to the development of motor skills and to students' physical and psychological well-being (Watson et al., 2017; Errisuriz et al., 2018). In the Italian context, this role has recently been strengthened by the introduction of specialist physical education teachers in primary schools and by national programmes aimed at promoting school sport, motor development, education for healthy lifestyles and students' physical and psychological well-being (Altavilla et al., 2022; Ministero dell'Istruzione e del Merito, 2025). However, the limited number of curricular hours devoted to physical education often makes it difficult for schools alone to contribute to achieving the levels of physical activity recommended by the World Health Organization (World

Health Organization, 2020). For this reason, sports clubs represent one of the main organised contexts for physical activity during childhood and adolescence. In Italy, organised sport involves a significant proportion of the youth population, and football plays a central role, standing out as the main team sport and one of the most widespread sporting phenomena in the country (ISTAT, 2024; Sport e Salute & ICSC, 2025). The popularity of football among children and adolescents means that sports clubs take on a role that goes beyond the purely competitive dimension: in addition to providing out-of-school contexts for sport participation, they serve as educational environments in which young people develop motor, relational and personal skills. From this perspective, football clubs can be regarded as socio-educational organisations capable of generating educational and social value for young football players and local communities (Raiola et al., 2023). Alongside the promotion of health, well-being, social inclusion and personal growth, football clubs also pursue an objective closely linked to their sporting mission: to identify, develop and support young athletes along a developmental pathway that enables them to progressively realise their potential and, where possible, reach the highest levels of competition. For many children and adolescents, participation in youth football represents not only an educational experience, but also an opportunity to nurture the dream of reaching elite football. However, this pathway should not be assessed solely in terms of access to the elite level, but also in relation to the ability to keep young people engaged in continued, meaningful sport experiences that are consistent with their well-being. From this perspective, talent development cannot be interpreted simply as the improvement of technical-tactical skills or physical qualities, but rather as a dynamic and multidimensional process in which technical, tactical, physical, psychological and social factors constantly interact to determine the young footballer's developmental trajectory (Kelly et al., 2022). The multidimensional nature of

talent development means that the developmental pathway cannot be oriented solely towards the achievement of sporting performance. Modern academies are called upon to promote the holistic development of the athlete, in which technical and tactical growth goes hand in hand with personal, psychological, social and educational development, preparing young people not only for a potential sporting career, but also for life within and beyond sport. From this perspective, the success of a development programme should not be assessed solely on the basis of the number of athletes who reach the professional level, but also in terms of the organisation's ability to foster positive and sustainable growth experiences that are consistent with the evolving needs of young players (Wachsmuth et al., 2025). At the same time, the developmental process of a young footballer is strongly influenced by the quality of the environment in which it takes place. The club's philosophy, the educational climate, the relationships established with coaches, teammates and family, as well as the organisation of the training process, are all factors capable of simultaneously influencing the athlete's learning, skill development, motivation, continued sport participation and well-being. Consequently, the development of a young footballer cannot be viewed as a purely individual process, but rather as the result of the ongoing interaction between personal characteristics and the quality of the developmental environment (Vaughan et al., 2022). The coexistence of educational and performance-related objectives therefore makes the design of developmental pathways in youth football particularly complex. Sports clubs are called upon to promote health, well-being, inclusion and the holistic development of the individual, while at the same time creating the conditions for each athlete to fully develop their potential and, where possible, reach the highest levels of competition. From this perspective, the quality of a development programme does not depend solely on competitive success, but on the ability of the sporting environment to

support the young athlete's personal and sporting growth in the long term through a shared organisational culture, meaningful relationships and planning that is consistent with the different stages of development (Larsen et al., 2013). For this very reason, talent development cannot be viewed solely as the pursuit of elite performance but must be understood as a sustainable process capable of supporting the young athlete through the various stages of growth without compromising their physical and psychological well-being. A programme that is not adequately tailored to the developmental characteristics of young athletes may encourage identification and selection processes influenced by the Relative Age Effect (Doncaster et al., 2020) and differences in the timing of biological maturation (Malina et al., 2015). If not properly managed, these conditions can compromise the quality of the sport experience and the psychological well-being of young athletes, increasing their vulnerability to burnout, disengagement and sport dropout (Gennings et al., 2026). Over the past two decades, international research has progressively broadened the understanding of talent development processes through different theoretical and methodological perspectives. In particular, increasing attention has been devoted to holistic talent development, talent development environments, long-term athlete development models, talent identification processes, the effects of biological maturation and the Relative Age Effect, and, more recently, the protection of well-being and well-becoming within young athletes' developmental pathways (Hauser et al., 2024; Hamzah et al., 2025). Although these contributions have significantly broadened the understanding of talent development processes, they have mostly been developed as independent research strands, addressing separately the pedagogical, methodological, organisational, biological and performance-related aspects that characterise the developmental pathway of young football players. Therefore, an integrated perspective capable of connecting these dimensions within a single theoretical

and applied framework remains limited, although it could support coaches, sports clubs and practitioners in the design of truly sustainable developmental pathways.

1.1. Purpose of the study

The present study aims to critically analyse the literature on the main talent development models in youth football, with the objective of integrating the available scientific evidence within a unified pedagogical, methodological and organisational perspective. This perspective may guide the design of developmental pathways that combine talent development, the athlete's physical and psychological well-being and the holistic growth of the person, while also contributing to the prevention of phenomena such as burnout and sport dropout.

2. Literature Review

2.1. Factors Affecting Talent Identification in Youth Football

Talent identification in youth football has traditionally assumed that performance observed in the early stages of development represents a reliable indicator of an athlete's future potential. Among the main factors influencing identification and selection processes, differences in the timing of biological maturation, the effects of the Relative Age Effect and the tendency to anticipate the assessment of athletic potential are particularly relevant (Sweeney et al., 2023). These elements may lead to an overestimation of the performances of young athletes characterised by earlier biological development, favouring their selection over peers who, despite having similar or even superior technical and tactical potential, show different growth

timelines (Curnyn et al., 2025). From this perspective, early maturation is frequently interpreted as an indicator of talent, generating a bias in selection processes that risks privileging immediate performance over the real potential for long-term development. Consequently, young football players who are initially less physically developed may be prematurely excluded from developmental pathways, despite possessing technical, cognitive or decision-making characteristics that could enable them to reach higher performance levels once the maturation process is complete. This issue highlights one of the main limitations of current talent identification models, in which the timing of selection may be strongly influenced by transient factors rather than by a genuine assessment of the athlete's future potential. This may compromise not only the identification of the most promising young players, but also the construction of truly sustainable developmental pathways.

2.2. Consequences of Non-Sustainable Talent Development

The biases that characterise traditional talent identification processes do not only produce selection errors but may also profoundly influence the entire developmental pathway of young football players. The tendency to attribute predominant predictive value to immediately observable performance frequently favours the selection of athletes characterised by earlier biological maturation, whose superior physical and athletic capacities are interpreted as expressions of greater talent. Conversely, young football players with slower biological development, despite possessing high technical, tactical and decision-making skills, may not be able to fully express their potential in the early stages of growth, appearing less competitive in performance terms and, consequently, receiving less consideration in selection processes. This dual dynamic generates a systematic error in the assessment of talent. On the one

hand, some young athletes are identified early as high-level prospects, receiving greater training opportunities, increasingly high expectations and a growing responsibility to maintain the required performance standards. On the other hand, athletes whose talent is not yet fully expressed risk being prematurely excluded from developmental pathways, losing the opportunity to benefit from educational and methodological contexts capable of supporting their future development. From this perspective, one of the main limitations of traditional identification models does not concern only the risk of selecting athletes who will not confirm their initial advantage over time, but also the possibility of excluding young football players whose potential remains temporarily unexpressed because of different maturation timelines. The consequences of these dynamics do not concern only the quality of selection processes but extend to the entire pathway of sporting growth. Young athletes who are identified early as talented may be progressively exposed to increasing levels of competitive pressure, external expectations and performance-related responsibilities, developing over time conditions of stress that, if not adequately managed, may contribute to burnout (Soares & Carvalho, 2023). In parallel, athletes who are excluded or insufficiently valued during the early stages of growth may experience a progressive reduction in motivation, self-efficacy and enjoyment associated with sport participation, eventually deciding to prematurely discontinue their sporting pathway, resulting in sport dropout (Back et al., 2022; Crane & Temple, 2015). In both situations, the outcome is the impairment of the young athlete's physical and psychological well-being and the inability of the system to fully value the available potential. In this sense, non-sustainable development models risk producing a double loss: on the one hand, they may compromise the well-being of young athletes who are selected early and exposed to high expectations; on the other hand, they may

reduce the developmental opportunities of those football players who, despite possessing potential, are not yet fully expressed during the early stages of the developmental pathway.

2.3. From Talent Identification to Talent Development

The critical issues associated with traditional identification processes have progressively changed the way talent is interpreted in the scientific literature. While the initial objective was mainly to identify the most promising young athletes as early as possible, a perspective has now emerged in which talent is no longer considered a stable quality to be recognised early, but rather a potential that can evolve over time. This shift has led to a revision of the criteria through which talent is observed and assessed. Performance expressed at a specific stage of growth is no longer the only element on which selection processes should be based, as it may be influenced by transient factors related to biological development, formative experiences and the context to which the athlete belongs. Consequently, assessment tends to move from the observation of immediate performance to the understanding of the athlete's developmental potential. The role of sports organisations has also undergone a significant transformation. The objective is no longer exclusively to select the most performing young players, but to design developmental pathways capable of supporting individual growth over time, recognising that talent represents the outcome of a dynamic process rather than a condition defined in the early stages of the sporting pathway.

2.4. Holistic Talent Development

The progressive move beyond an exclusively performance-based conception of talent development has favoured the emergence of holistic talent development, a paradigm that interprets the young athlete not only as a future performer, but as a person involved in a complex and multidimensional growth pathway. From this perspective, the achievement of sporting performance represents only one of the aims of the developmental process, which also includes the psychological, educational, social and personal development of the individual. Talent development is therefore not interpreted exclusively through the results achieved on the field, but also in relation to the athlete's ability to adapt to the different stages of growth, respond to the demands of the sporting environment and develop skills that are useful for their broader developmental pathway. This perspective moves beyond the traditional opposition between personal development and performance development, recognising that these dimensions are closely interdependent. The technical and tactical growth of the young football player is, in fact, difficult to separate from their psychological balance, the quality of the relationships established with coaches and teammates, the ability to cope with difficulties and the opportunity to experience positive and motivating sport experiences. Talent development therefore assumes a multidimensional nature, in which each component contributes to the development of both the athlete and the person. The holistic approach also changes the way in which the success of the developmental pathway is interpreted. The quality of a development system cannot be measured exclusively by the number of athletes who reach the professional level, but also by its ability to promote balanced growth pathways that respect individual maturation timelines and are oriented towards the overall well-being of the young football player.

2.5. Talent Development Environments

The effectiveness of an approach oriented towards the holistic development of the athlete inevitably depends on the quality of the context in which this process takes place. Talent development is not, in fact, the exclusive result of the individual characteristics of the young football player but emerges from the continuous interaction between the athlete and the environment. From this perspective, the environment does not represent a mere organisational background to sport participation, but an active element of the developmental process, capable of facilitating or hindering the expression of individual potential (Ivarsson et al., 2015). Academies, coaches, families, peer groups and sports organisations jointly contribute to the construction of a developmental ecosystem in which talent can be recognised, supported and progressively valued. The role of the environment therefore goes beyond the simple organisation of sport activity and assumes a genuine developmental responsibility. The quality of educational relationships, methodological coherence, the stability of the technical project and the presence of adequate psychological and social support represent fundamental elements in accompanying young athletes through the different stages of their developmental pathway. A favourable environment does not merely promote the acquisition of technical and tactical skills but creates the conditions that allow young people to face the demands of competitive sport and personal development in a balanced way. Consequently, the quality of a talent development environment cannot be assessed exclusively through the competitive results achieved by the organisation but should be interpreted in relation to its ability to promote sustainable, inclusive growth pathways that respect the individual characteristics of young athletes (Gangsø et al., 2021).

3. Integrated Sustainable Talent Development Model

Based on the critical issues highlighted in the previous sections, the present work proposes the Integrated Sustainable Talent Development Model as a preliminary theoretical framework for interpreting talent development in youth football from an integrated pedagogical, methodological and organisational perspective. The model should not be understood as a rigidly defined operational protocol, but as a perspective capable of connecting identification, development, well-being and environment. Within this framework, talent is not considered a stable condition to be recognised early, but a dynamic potential to be observed, supported and valued over time. The original contribution of the model lies in proposing an integrated theoretical framework that interprets talent protection as a balance between performance development, physical and psychological well-being, continued sport participation and the quality of the developmental environment. The model is based on three interdependent levels. The first concerns the young athlete, with their technical, tactical, physical, cognitive, psychological and social characteristics. The second concerns the developmental process, which should be longitudinal, flexible and sensitive to different maturation timelines. The third concerns the sporting environment, understood as an organisational, educational and relational system capable of facilitating or hindering the expression of individual potential. A central element of the model is the need to protect two different but equally vulnerable profiles. On the one hand, young athletes who are recognised early as talented may be exposed to pressure, expectations and performance-related responsibilities that risk compromising their physical and psychological well-being. On the other hand, football players whose potential is not yet fully expressed may be excluded or insufficiently valued, losing fundamental developmental opportunities and

increasing the risk of demotivation and sport dropout. Talent protection should therefore concern both those who are already visible and under pressure, and those who remain temporarily invisible but possess developmental potential that has not yet emerged. Within this perspective, the developmental environment cannot be interpreted as an abstract dimension, but as a relational system in which the behaviour of instructors, coaches and parents is particularly relevant. The motivational climate created by the coach, autonomy support, the quality of communication and the ability to avoid excessively controlling behaviours may influence motivation, well-being and sport engagement among young football players (Adie et al., 2012; Sevil-Serrano et al., 2021). At the same time, parental involvement also represents a decisive component of the developmental pathway: balanced support may foster confidence, autonomy and continued participation, whereas excessive expectations, performance pressure or inconsistent interference may increase stress, demotivation and the risk of dropout (Bonavolontà et al., 2021). In this sense, talent protection requires a genuine educational alliance between sports clubs, instructors, coaches and families, since the quality of developmental environments also depends on the alignment between athletes, parents and coaches (Sargent Megicks et al., 2022). A further aspect of the proposed framework concerns the need to keep opportunities for observation and valorisation open beyond the early stages of adolescence. Experience in the earliest youth categories does not necessarily appear to represent a stable indicator of future participation at the highest levels, while the trajectories of football players who reach senior international level are often non-linear, characterised by differentiated pathways, late entries and transitions across different developmental environments (Herrebrøden & Bjørndal, 2022; Sweeney et al., 2025). Consistently, early entry into a professional academy should not be interpreted as an essential requirement for reaching the highest

competitive levels, confirming the need to support open and progressive identification and development pathways (Platvoet et al., 2023; Dugdale et al., 2021). Within this framework, developing talent does not mean only supporting some athletes towards the elite level, but constructing pathways capable of combining performance, physical and psychological well-being and the holistic growth of the person. A sustainable development system should therefore be assessed not only on the basis of the number of athletes who reach highly competitive levels, but also in relation to its ability to preserve motivation, prevent burnout and dropout, respect different maturation timelines and support the young football player's long-term sport participation, regardless of whether they reach the professional level.

3.1. Educational, Methodological and Organisational Implications

At the educational level, the proposed model highlights the need to interpret the young football player not exclusively as an athlete to be selected, but as a person in development. The sporting pathway should contribute not only to performance development, but also to the construction of personal, relational and psychological skills that are useful within and beyond sport. From this perspective, talent protection coincides with the protection of the young athlete, their well-being and their opportunity to experience sport as a meaningful developmental experience. At the methodological level, there is a need to adopt more longitudinal and multidimensional observation and assessment processes. Immediate performance should be integrated with information relating to biological maturation, relative age, technical-tactical skills, decision-making ability, motivation and the quality of the sport experience. In this way, talent assessment can become less dependent on momentary performance and more oriented towards understanding

developmental potential. At the organisational level, sports clubs should recognise that not all youth contexts have the same function. Highly selective academies, amateur sectors and football schools open to participation respond to different logics and generate different levels of pressure, expectation and accessibility. For this reason, assessment and support criteria should be consistent with the nature of the context, avoiding the application of rigid selective models to pathways that also have an educational, inclusive and participatory function. In practical terms, this implies the construction of a genuine educational alliance between the sports club, instructors, coaches and family. The adults who support the young athlete should share coherent goals, language and behaviours, avoiding contradictory messages between performance, results, selection and personal growth. The sustainability of talent development therefore requires environments capable of protecting the already selected football player from excessive pressure and, at the same time, supporting those who are not yet considered, preventing the lack of early valorisation from turning into dropout.

3.2. Limitations and Future Research

The present work has some limitations. First, as this is a theoretical-argumentative review, the proposed model has not been empirically validated. The Integrated Sustainable Talent Development Model should therefore be interpreted as a preliminary conceptual framework, useful for guiding theoretical reflection and the design of future studies, but not yet as a validated operational tool. Second, the literature considered includes studies conducted in different sporting, cultural and organisational contexts. This heterogeneity makes it possible to build a broad perspective but requires caution when applying the model to different youth football systems. Differences between

professional academies, amateur sectors and football schools make it necessary to adapt each proposal to the specific characteristics of the context. Future studies should empirically examine the model through longitudinal designs, qualitative approaches and mixed methods capable of observing over time the relationship between identification processes, biological maturation, environmental quality, coach and parent behaviour, physical and psychological well-being and continued sport participation. Further research could also explore the role of the degree of selectivity and the model of access in determining opportunities, pressures and developmental trajectories among young football players.

4. Conclusions

Talent development in youth football cannot be interpreted exclusively as a process oriented towards the early selection of the best players or the achievement of elite performance. The literature shows that this pathway is influenced by biological, psychological, social and organisational factors which, if not adequately integrated, may generate selection biases, the loss of latent talents, burnout and dropout. The present work proposes an integrated and sustainable interpretation of Talent Development, in which performance growth, physical and psychological well-being and the holistic development of the person are understood as interdependent dimensions. The Integrated Sustainable Talent Development Model represents a possible theoretical framework for guiding academies, coaches, instructors, families and sports organisations towards pathways that are more equitable, flexible and capable of valuing the potential of young football players in the long term. In conclusion, safeguarding talent means assuming a dual educational and methodological responsibility: protecting the young athlete who has already

been recognised and is exposed to pressure, preventing early expectations from compromising their well-being, and supporting talent that has not yet been expressed, preventing early selection from producing exclusion, demotivation and sport dropout. From this perspective, talent protection is not only a strategy for improving future performance, but also a condition for preserving motivation, continued sport participation and physical and psychological well-being. Reducing early dropout and keeping more young people involved in sport may also increase opportunities for regular physical activity, including in amateur or non-professional contexts, contributing to the achievement of adequate levels of physical activity and strengthening the educational, social and health-related value of youth football.

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