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Assessing the environment of athletic talent development: A study of young male football players in academy leagues

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Abstract

This study examines talent development to determine the factors that influence the development of young male soccer players. The study involved 225 male soccer players playing in the academy leagues of the Turkish Soccer Association. The data was collected using a demographic questionnaire and the "Sporting Talent Development Environment Scale" translated into Turkish. Statistical analyzes using SPSS 22 confirmed the reliability of the data collected and its suitability for parametric tests. The results showed that there were no significant differences in talent development depending on educational level, with the exception of holistic quality preparation, where a significant difference was found. In addition, the correlations between age and the subscales of the scale revealed negative correlations with holistic quality preparation, planning expectations and supportive environment. These results are promising for the development of more effective and informed talent development strategies in sport and contribute to a better understanding of the mechanisms involved in the development of athletic ability in young male soccer players.

Keywords: Athletic environment, sport talent development, talent development, young male football players

Sportif yetenek geliştirme ortamının değerlendirilmesi: Akademi liglerindeki genç erkek futbolcular üzerine bir çalışma

Öz

Bu çalışma, genç erkek futbolcuların gelişimini etkileyen faktörleri belirlemek için yetenek gelişimini incelemektedir. Çalışmaya Türkiye Futbol Federasyonu'nun akademi liglerinde oynayan 225 erkek futbolcu katılmıştır. Veriler demografik bir anket ve Türkçe'ye çevrilen "Sportif Yetenek Gelişim Ortamı Ölçeği" kullanılarak toplanmıştır. SPSS 22 ile yapılan istatistiksel analizler, toplanan verilerin güvenilirliğini ve parametrik testler için uygunluğunu doğrulamıştır. Sonuçlar, kayda değer bir farkın gözlemlendiği bütünsel kalite hazırlığı haricinde, eğitim seviyesine bağlı olarak yetenek gelişiminde önemli bir fark olmadığını göstermiştir. Ayrıca, yaş ve ölçeğin alt boyutları arasındaki korelasyonlar, bütünsel kalite hazırlığı, planlama beklentileri ve destekleyici ortam ile negatif ilişkiler ortaya koymuştur. Bu bulgular, sporda daha etkili ve bilgiye dayalı yetenek geliştirme stratejilerinin geliştirilmesi açısından umut vericidir ve genç erkek futbolcularda atletik yeteneğin geliştirilmesinde rol oynayan mekanizmaların daha iyi anlaşılmasına katkıda bulunmaktadır.

Anahtar Kelimeler: *Atletik çevre, genç erkek futbolcular, sporda yetenek gelişimi, yetenek gelişimi*

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INTRODUCTION

Talent is characterized as an exceptional ability that is specific to a certain area, partly innate and fully capable of development in the early stages (Howe et al., 1998; Ceylan, 2022). In the field of sport, talent is defined as above-average performance achieved in various disciplines by individuals who are believed to possess special or high-level predispositions due to hereditary or acquired behavioral conditions. The aim of talent selection in sport is to identify athletes who are suited to the specific characteristics of the chosen sport. To achieve higher performance in sports, it is crucial to select talented athletes early and accurately and to integrate them into long-term, systematically planned training programs. The age at which training is started, initial performance and the age of optimal performance are the focus of scientific research in different age groups and sports (Özveren et al., 2014; Çebi et al., 2021). As a complex trait, talent is inherited, has a complex structure and is influenced by environmental conditions. Although sport scientists continue to define the characteristics required for peak performance, there is no national or international consensus on a definition of talent that encompasses the identification, selection and development of talent. In general, coach observation and expert judgement are critical in talent screening and selection (Kozel, 1996; Sevimli, 2015).

Achieving a high level of success in sports is closely related to early orientation to sports. The timely orientation of children and young people to the branches in which they will provide the highest efficiency constitutes the most important subject of sports science. For this reason, it is an important factor to direct children to the branch in which they can be successful at the earliest possible age (Tutkun, 2007). Talent training is just as important in sports practice as talent selection. Karl (2001) stated that the benefits of studies in the field of talent selection and talent training in terms of sports practice are that the coach's work efficiency is increased depending on the athlete's talent, the number of high performance athletes increases, competition and motivation among athletes increases, and they have higher self-confidence compared to athletes who are not trained through a scientific selection process. Each branch of sport requires different qualities to be present together. Each branch emphasizes different qualities of the athlete (Pekel, 2007). Identifying the most talented athletes and subjecting them to special training is one of the most important issues in modern sport. In sport, as in the arts, it is very important to discover the most talented individuals at a young age, keep them under constant control and help them reach the highest level in their field (Bompa, 1990; Dinçer, 2023).

In light of this information, the importance of talent development and aftercare is emphasised in the literature. In this study, we examined the environment of athletic talent development to understand the factors that influence the talent development of young male football players. This study can help develop better strategies to maximise athletes' potential. By applying a science-based approach, our research aims to expand and strengthen existing knowledge about talent development in sport. We believe that this will contribute to more effective and knowledge-based talent development strategies in sport. Also, our study examines the impact on this specific group by focusing on the academy leagues where young male football players are located. This study aims to understand the factors that promote the development of young male football players by assessing the sport talent development environment and contributing to the field on a scientific basis.

METHOD

Research group (population-sample)

The participants of the study were 225 male football players competing in the academy leagues affiliated to the Turkish Football Federation. The mean age of the participants was 17.22±0.45 years.

Data collection tools

To obtain the data, we first used the demographic information form we created. In addition to the demographic information form, the scale with the original name "Talent Development Environment Questionnaire for Sport" created by Li et al. (2015) and translated into Turkish as "Sport Talent Development Environment Scale" was used. The Talent Development Environment Questionnaire for Sport consists of 5 sub-dimensions and 25 items. These sub-dimensions were labelled as long-term development (5 items), holistic quality preparation (7 items), planning expectations (5 items), communication (4 items) and supportive environment (4 items). The resulting scale with 22 items and 5 sub-dimensions was adapted for Turkish use and found to be suitable (Berk & Ağaoğlu, 2021).

Data analysis

The analyses were carried out using the statistical programme SPSS 22. The analysis of the data obtained resulted in a reliability coefficient of the Cronbach alpha scale of 0.88 and normality values between -2 and +2. According to these values, the data obtained are reliable and suitable for parametric tests (George & Mallery, 2010). When analysing the data, descriptive analysis was used for the mean values, the T-test for the comparison of independent groups and the Pearson correlation for the search for correlations.

FINDINGS

Table 1. Mean responses of the participants to the scale items (n=225)

Scale Items	Minimum	Maximum	x̄±S.D.
1- My training is specifically designed to help me develop effectively in the long term.	2	6	5.40±0.775
2-My coach tells me that what I do in training and competition is more important than winning.	2	6	5.44±0.779
3- I spend most of my time developing the skills and characteristics that my coach tells me I will need to compete successfully at the senior/professional level.	2	6	5.32±0.681
4- My coach allows me to learn by making mistakes.	2	6	5.27±0.790
5- I am offered good opportunities even if my performance is poor.	1	6	4.63±1.180
6- My coach rarely talks to me about my health.	1	6	3.58±1.553
7- I am rarely encouraged to plan how to deal with things that can go wrong.	1	6	3.99±1.381
8- The instructions on what I should do to improve in my branch are not very clear.	1	6	2.85±1.458
9- I do not receive much training on how to balance training, competition and recovery.	1	6	2.76±1.428
10- My coaches take time to talk to my parents about me and what I am trying to achieve	1	6	3.99±1.370
11- The advice given by my parents and the advice given by my coaches fit together.	1	6	4.80±1.040
12- My development and personal performance are regularly evaluated on an individual basis.	2	6	4.98±0.962
13- I take part in most of the decisions about my sport development.	1	6	4.99±0.932
14- My coach and I regularly set specific goals for my individual development.	1	6	4.51±1.173
15- My coach and I regularly talk about what I need to do to reach the highest level in my branch (e.g. training environment, competition performance, physically, mentally, technically, tactically).	1	6	5.00±0.996
16- I talk to my coach about what current and/or past world class athletes did to be successful.	1	6	4.85±1.131
17- My coach and I often try to find out what my next big test will be before it happens.	1	6	4.58±1.153
18- My coach explains how my training and competition programme together help my development.	2	6	4.98±0.957
19- I can access different specialists to help my sport development (e.g. physiotherapist, sport psychologist, conditioning, nutritionist, life coach).	1	6	4.82±1.194
20- I have the chance to see my coach or other support staff when I need them (e.g. physiotherapist, psychologist, fitness trainer, nutritionist, life coach).	1	6	5.07±0.901
21- My coach regularly talks to other people who support me in what I want to achieve in my sport (e.g. physiotherapist, sports psychologist, strength and conditioning coach, nutritionist, life coach).	1	6	4.54±1.306
22- Those who help me in my field agree with each other about what is best for me (e.g. coaches, physiotherapists, sport psychologists, conditioners, nutritionists), life coaches).	1	6	5.06±1.031

When the mean values of the participants' responses to the scale items are analysed, the highest mean value is the item "My coach tells me that what I do in training and competition is more important than winning" with 5.44±0.779. The lowest mean value is the item "I do not get much training to balance training, competition and recovery" with 2.76±1.428.

Table 2. Mean scale sub-dimensions of the participants (n=225)

Sub Dimensions	Minimum	Maximum	x̄±S.D.
Long-term development focus	2.80	6.00	5.21±0.619
Holistic Quality Preparation	1.00	6.00	3.29±1.097
Alignment of expectations	2.00	6.00	4.66±0.804
Communication	1.50	6.00	4.83±0.886
Support network	1.00	6.00	4.86±0.918

Table 2 shows that the mean value of the sub-dimension Long- term development was 5.21±0.619, holistic quality preparation was 3.29±1.097, planning expectations was 4.66±0.804, communication was 4.83±0.886 and the supportive environment was 4.86±0.918.

Table 3. Comparison of the scale sub-dimensions according to the educational status of the participants (n=225)

Sub Dimensions	Education	N	x̄±S.D.	t	p
Long-term development focus	Secondary Education	145	5.24±0.59	0.787	0.433
	University	80	5.11±0.78		
Holistic Quality Preparation	Secondary Education	145	3.42±1.09	3.474	**0.001***
	University	80	2.45±0.81		
Alignment of expectations	Secondary Education	145	4.65±0.86	0.197	0.845
	University	80	4.62±0.53		
Communication	Secondary Education	145	4.82±0.96	-0.415	0.680
	University	80	4.88±0.47		
Support network	Secondary Education	145	4.88±0.98	-0.123	0.903
	University	80	4.91±0.59		

*=p<0.05

According to Table 3, no statistically significant difference was found between the secondary education group and the university group in the sub-dimensions of long-term development, planning expectations, communication and supportive environment (p>0.05). A statistically significant difference was found in the holistic quality preparation sub-dimension (p<0.05), which indicates that there is a significant difference between the level of education and holistic quality preparation.

Table 4. Comparison of the scale sub-dimensions according to the age of the participants (n=225)

		Long-term development focus	Holistic Quality Preparation	Alignment of expectations	Communication	Support network
Age	r	-0.100	**-0.225***	**-0.256****	-0.118	**-0.212***
	p	0.277	0.015	0.005	0.199	0.020

*. Correlation is significant at the 0.05 level

**. Correlation is significant at the 0.01 level

This table shows how the sub-dimensions of the scale relate to the age status of the people taking part in the study. The table shows that the correlation coefficient for the Long-term development sub-dimension is negative and not statistically significant (p>0.05). This could indicate that there is no significant correlation between age and long-term development. The correlation coefficient in the sub-dimension Holistic quality preparation is negative and

statistically significant (p>0.05). This could indicate that age has a negative correlation with holistic quality preparation, i.e. the ratings of holistic preparation may have decreased with increasing age. For the sub-dimension of planning expectations, the correlation coefficient is negative and statistically significant (p>0.05). This could indicate that age is negatively related to planning expectations. For the communication sub-dimension, the correlation coefficient is negative but not statistically significant (p>0.05). In this case, it can be said that there is no significant correlation between age and communication. For the sub-dimension Supportive environment, the correlation coefficient is negative and statistically significant (p>0.05). This could indicate that age is negatively associated with the supportive environment.

DISCUSSION AND CONCLUSION

When the findings of our study are discussed the high mean value (5.21) in the long-term development sub-dimension could indicate that the participants generally have a high rating and a high consensus on long-term development. The mean score in the Holistic Quality Preparation sub-dimension was low. This could indicate that participants have different views on holistic quality preparation and that there is some diversity in ratings. A moderate mean score (4.66) on the planning expectations sub-dimension suggests that participants generally have a common view on planning expectations. A moderate mean (4.83) in the communication sub-dimension indicates that there is general agreement on communication. A moderate mean (4.86) in the Supportive Environment sub-dimension indicates that participants generally agree with the supportive environment (Table 2). In examining a similar study, Berk (2023) found that there was a significant difference between the scale scores of team and individual divisions in terms of talent development. According to the results of his study, basketball players had a higher positive attitude towards talent development than football players, swimmers, tennis players and track and field athletes, and volleyball players had a higher attitude than tennis players.

A significant difference was found between the secondary school and university groups in the dimension of holistic quality preparation (p<0.05). This could indicate that the level of education has an influence on the assessment of the holistic quality of preparation. For the sub-dimensions of long-term development, planning expectations, communication and supportive environment, no significant difference was found between the secondary school group and the university group (p>0.05). This could indicate that the level of education does not have a significant influence on the ratings of long-term development, planning expectations, communication and supportive environment (Table 3). These results suggest that the context in

which the study was conducted and cultural factors may influence participants' ratings. Different cultures may have different responses to the same measurement instrument. Analysing similar studies in the literature, van Rens et al. (2015) investigated the effect of participation in a talent school on the athletic and academic performance level of talented athletes and showed that this had no effect on their current and highest athletic performance level (both at junior and senior level). Athletes were neither more satisfied with the combination of school and sport, nor were they more motivated for their sport. Furthermore, the results showed that the athletes were less motivated to succeed in school; they also achieved lower levels of education in both secondary and post-secondary school. A study by Von Heijden et al. (2012) also showed that talented athletes who attended a school were more satisfied with the combination of school and sport than those who attended a general school. Furthermore, talented athletes benefited much more from facilities that support the combination of elite sport and school, such as structural exemptions for courses, flexible timetables, individual support from teachers and the postponement of exams. The fact that different results were obtained in the sub-dimensions in our study suggests similarities with van Rens et al. (2015) and Von Heijden et al.

There was no significant correlation between age and long-term development ($p>0.05$). This could indicate that age is not statistically related to this sub-dimension of the scale. There is a negative and significant correlation between age and holistic quality preparation ($p<0.05$). This could indicate that the ratings of the holistic quality of preparation decrease with increasing age. However, as the correlation coefficient is -0.225, this relationship can be considered weak. There is a negative and significant relationship between age and planning expectations ($p<0.01$). This could indicate that the assessment of planning expectations decreases with increasing age. However, as the correlation coefficient is -0.256, this relationship can be regarded as weak. No significant correlation was found between age and communication ($p>0.05$). This could indicate that age is not statistically related to this sub-dimension of the scale. There is a negative and significant correlation between age and the supportive environment ($p<0.05$). This could indicate that the ratings of the supportive environment decrease with increasing age. However, as the correlation coefficient is -0.212, this relationship can be considered weak (Table 4). These results show that age is weakly but significantly associated with certain sub-dimensions of the scale. Individuals' values, priorities and expectations can change at different stages of life. Therefore, the assessment of issues such as holistic preparation and planning expectations may also change with increasing age. Lifestyle,

cultural values and social environment can differ from age group to age group (Ünlü & Çeviker, 2022). These factors can influence the ratings on the sub-dimensions of the scale. Each of these explanations shows that the relationship between age and the sub-dimensions of the scale is complex and multi-layered. When examining similar studies, Cao et al. (2023) found a correlation between the sub-dimensions Long-term development focus and Alignment of expectations and age in their study of young elite athletes. No significant correlation was found for other sub-dimensions. In our study, a correlation was found between the sub-dimension Alignment of Expectations and age. When examining the literature, studies on young elite athletes examining age and the sub-dimensions of the scale are unfortunately limited (Schinke et al., 2022; Cao et al., 2023).

Recommendations

Qualitative research or interviews could be conducted to understand the different views of the participants. Since there is a significant difference between the secondary school group and the university group on the Holistic Quality Preparation dimension, it might be useful to investigate the specific factors that contribute to this difference. By assessing factors such as differences between programmes, teaching methods, or expectations, interventions can be adjusted accordingly. Identify where improvements can be made to improve the overall atmosphere of support for participants. Focus on maintaining and strengthening long-term development and planning expectations.

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KATKI ORANI ***CONTRIBUTION RATE***	**AÇIKLAMA** ***EXPLANATION***	**KATKIDA BULUNANLAR** ***CONTRIBUTORS***
Fikir ve Kavramsal Örgü *Idea or Notion*	Araştırma hipotezini veya fikrini oluşturmak *Form the research hypothesis or idea*	Melek BAYINDIR Hakan KOLAYIS
Tasarım *Design*	Yöntem ve araştırma desenini tasarlamak *To design the method and research design.*	Melek BAYINDIR
Literatür Tarama *Literature Review*	Çalışma için gerekli literatürü taramak *Review the literature required for the study*	Melek BAYINDIR Hakan KOLAYIS
Veri Toplama ve İşleme *Data Collecting and Processing*	Verileri toplamak, düzenlemek ve raporlaştırmak *Collecting, organizing and reporting data*	Melek BAYINDIR
Tartışma ve Yorum *Discussion and Commentary*	Elde edilen bulguların değerlendirilmesi *Evaluation of the obtained finding*	Melek BAYINDIR Hakan KOLAYIS

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