Exploring the qualities of talent development environments within a Jordanian football context

Explorando las cualidades de los entornos de desarrollo de talento en el contexto del fútbol jordano

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Abstract

Introduction: Governing bodies, clubs, and academies responsible for the development of young people could become more effective and accountable in their designated tasks through the comprehension of the processes that take place in effective talent identification and development (TID). This study examined Arabic TDEQ Validation, Evaluation of TDE Quality (The Individualized Long-term Development Focus, Goal Setting and Coherent Support, Holistic Quality Preparation).
Method: The Arabic translated Talent Development Environment Questionnaire (TDEQ-5) was used in obtaining data from 564 young football players (319 males and 245 females) between 12 and 18 years of age, from clubs and academies across Jordan. Exploratory factor analysis showed a three-factor, 26 valid and reliable item solution (Arabic TDEQ-3).
Result: Results showed Individualised Long Term Development Focus, and Goal Setting and Coherent Support as the highest scoring factors of Jordanian football TDEs, while Holistic Quality Preparation was the weakest factor. In all three factors, males experienced better quality environments than females. Coaches should improve the development of psychological attributes, planning and clarity around progression requirements and communication with other coaches.
Conclusions: This study can be a headstart to the researchers and practitioners in Arab nations in their TDEs research and evaluation. Future work should consider cultural nuances in expanding the Arabic TDEQ.
Recommendation: Jordan Football Federation may consider expanding the support provided to the female teams at various age groups. Coaches need better communication skills and strategies to help female players improve their weaknesses, as this can influence positively their development.

Keywords

Talent development, environment questionnaire, Jordan, Middle East, football, culture, Arabic.

Resumen

Introducción: Los organismos rectores, clubes y academias responsables del desarrollo de jóvenes podrían ser más eficaces y responsables en sus tareas si comprendieran los procesos de identificación y desarrollo de talento (IDT). Este estudio examinó la validación del TDEQ árabe, la evaluación de la calidad del TDE (el enfoque de desarrollo individualizado a largo plazo, el establecimiento de objetivos y el apoyo coherente, la preparación holística de la calidad).
Método: Se utilizó el Cuestionario de Entorno de Desarrollo de Talento (TDEQ-5), traducido al árabe, para obtener datos de 564 jóvenes futbolistas (319 hombres y 245 mujeres) de entre 12 y 18 años, pertenecientes a clubes y academias de toda Jordania. El análisis factorial exploratorio reveló una solución de tres factores con 26 ítems válidos y fiables (TDEQ-3 en árabe).
Resultados: Los resultados mostraron que el Enfoque Individualizado en el Desarrollo a Largo Plazo, el Establecimiento de Metas y el Apoyo Coherente fueron los factores con mayor puntuación en los EDT del fútbol jordano, mientras que la Preparación Integral de Calidad fue el factor con menor puntuación. En los tres factores, los hombres experimentaron entornos de mayor calidad que las mujeres. Los entrenadores deben mejorar el desarrollo de atributos psicológicos, la planificación y la claridad en torno a los requisitos de progresión, así como la comunicación con otros entrenadores.
Conclusiones: Este estudio puede servir como punto de partida para investigadores y profesionales de países árabes en sus investigaciones y evaluaciones de entornos de desarrollo de talento (EDT). En futuros trabajos, se deberían considerar los matices culturales al ampliar el Cuestionario de Entorno de Desarrollo de Talento (CEDT) al árabe.
Recomendación: La Federación de Fútbol de Jordania podría considerar ampliar el apoyo brindado a los equipos femeninos en diferentes edades. Mejorar las habilidades de los entrenadores para comunicarse con las mujeres y manejar el área de debilidad de estas jugadoras, ya que esto puede tener un impacto en el desarrollo de su talento.

Palabras clave

Cuestionario de entorno de desarrollo de talento, Jordania, Oriente Medio, fútbol, cultura, Árabe.

Introduction

Selecting talents to play football from childhood is of paramount importance in reaching high levels. It is difficult to achieve high levels without training from a young age (Hoyos Cuartas et al., 2025). Selecting talents and directing them to the appropriate activity is no longer left to chance (Castro-Infantes et al., 2025). Rather, the selection process has become a process with scientific foundations that were reached as a result of the strenuous efforts of the opinions and research of specialists in this field. If the coach is guided by the scientific method in selecting talented players, this will help him develop the level and raise the level of achievement in the future, as the scientific method contributes to the selection as well as the prediction of the level of the talented player in the future in light of the information and standards obtained from him (Martín-Barrero et al., 2025).

Professional sports federations and teams worldwide now consider specific physical, psychological, mental, tactical, and technical attributes when selecting talented players for each position on the football team, based on the team's specific needs for that particular player (Burgos Angulo et al., 2025). However, this comes at a very high financial cost, leading these teams to invest heavily in developing talented players (Donny et al., 2025). This necessitates that teams adopt scientific methods for identifying footballing talent, and from this perspective, strategies have been developed to discover this pool of players, utilizing international standards for selecting footballing talent (De Souza Lima et al., 2025). In these events, massive amount of money is often invested for sports-related activities such as building and renovating old stadiums as preparation for the matches that often make historical marks. Investments for these purposes (building and renovating) have been on the rise, and over the years, these investments have led to the increase in training and performance standards. Not only that, it has intensified the need to have effective talent development (Martindale et al., 2005; Johnston et al., 2018; Sarmento et al., 2018; Bennett et al., 2019). In this regard, the effective development process needs to be understood, particularly in terms of financial gains.

Researchers have developed methods for nurturing athletic talent in football, employing models to discover, guide, and select the best players to identify those with the specific qualities of gifted individuals. This is achieved through a long-term process, all aimed at saving time, money, and effort (Castro-Infantes et al., 2025). Determining the suitability of talented individuals is typically done through collected data and through educational observation during years of organized athletic activity (Yunus & Aditya, 2024). Additionally, medical examinations, physical tests, and skill assessments allow for predictions of the level of specialization (Hoyos Cuartas et al., 2025). Kelly and Williams (2020) accordingly viewed investing in effective development as a good investment in the long-run. The authors also stressed the importance in increasing the quality of the talent pool.

Governing bodies, clubs, and academies responsible in the development of young people could become more effective and accountable in their designated tasks through the comprehension of the processes that take place in effective talent identification and development (TID) (Martindale et al., 2005). Furthermore, extant literature (see: Kelly et al., 2020; Li et al., 2015) has demonstrated the importance of identifying and developing talents as it significantly affects the development and performance of the athletes. Nonetheless, scholars today are increasingly interested in the characteristics of talent development environments (TDEs) (McAuley et al., 2022).

In this regard, Talent Development Environment Questionnaire from Martindale et al. (2010) identifies the strengths and weaknesses of various TDEs, so that priority areas could be identified to facilitate improvement (see: Apollaro et al., 2022; Cupples et al., 2020; Curran et al., 2021; Elumaro, et al., 2021; Gangso et al., 2021; Gesbert et al., 2021; Gledhill & Harwood, 2019; Mahmood et al., 2018; Mills et al., 2014; van den Berg et al., 2021) or interventions (e.g., Hall et al., 2019). High-quality environments are indeed vital in determining the athlete outcomes, such as progression (Martindale et al., 2012), motivation (e.g., Wang et al., 2011, 2016), psychological skills (e.g., Andronikos et al., 2021; Martindale et al., 2022), mental toughness (e.g., Li et al., 2019), stress and wellbeing (Ivarsson et al., 2015; Thomas et al., 2021), as well burnout (e.g., Li et al., 2017).

TDEQ has been translated in various languages to expand its usage globally (see: Alfermann et al., 2022; Apollaro et al., 2022; Brazo-Sayavera et al., 2017; Gangso et al., 2021; Gesbert et al., 2021; Ivarsson et al., 2015; Li et al., 2018; Martindale et al., 2022; Siekanska & Wojtowicz, 2017; Wang et al., 2016), but the Arabic translated TDEQ or TDEQ-5 is yet to be available. As such, TDE related studies in the Arab

region could not be carried out. However, considering the ability of this tool in identifying and improving TDEs; there is a need to use it within the Arab nation for the purpose. Jordan for instance, is an emergent football nation. Sport clubs and academies are on the rise in this country. However, Jordan still lacks effective talent development programs. Also, talent development environment in sports in Jordan has not been adequately researched, and this became the motivation for carrying out this study. Specifically, using a validated Arabic TDEQ, the present study examined the qualities of TDEs in Jordanian football.

The Jordanian Football Association has strived to elevate Jordanian football and move towards international standards by building youth football centers, despite the absence of international criteria for selecting talented players, in order to save time, effort, and money. The Jordanian Football Association has strived to elevate Jordanian football and move towards international standards by building youth football centers, but without adhering to international criteria for selecting talented players. This approach aims to save time, effort, and money. Furthermore, no researchers have undertaken studies on talent development methods or established fundamental criteria for selecting talented footballers.This study was conducted to exploring the qualities of talent development environments (TDEQ) within a Jordanian Football Context by the following:

- Arabic TDEQ Validation.
- Evaluation of TDE Quality (The Individualized Long-term Development Focus, Goal Setting and Coherent Support, Holistic Quality Preparation).

Method

Participants

This study employed 564 individuals (319 males and 245 females) as the study sample. These individuals were all Jordanian youth football players, and age-wise, they were between 12 and 18 years old (mean age: 14.38 years, SD: 2.15 years). In terms of the males; 163 were member of academies, while 156 were member of football clubs who had received training in the field for between 1 and 5 years. The chosen individuals were all perceived as 'talented' or were emergent elites. They were selected onto a recognized 'pathway trajectory' from which expertise can be reached. Also, they possessed the characteristics of athlete and 'excellence' environment in line with the items in the questionnaire, and the clubs and academies chosen in this study were based on the recommendation of regional sport confederations.

Procedure

The researchers consulted the Ethics Committee of Edinburgh Napier University (Ref: PG05). Additionally, permission was obtained from the Jordanian Football Association before approaching the players through their clubs across Jordan. For those whom were minors, the researchers obtained written consent fromt their parents or legal guardians. The questionnaire survey link was emailed to the study respondents via their club receptionists. Instructions were provided on the questionnaire administration to ease the process of answering the questionnaire.

Measures

This study employed TDEQ-5 in obtaining data. This tool has been adequately affirmed in terms of validity and reliability in various studies (e.g., Li et al., 2015). There were 28 items in the original TDEQ-5, and the items represented 5 factors (Li, et al. 2015) namely 1) Long-term Development (LTF) which was covered by 6 items, 2) Holistic Quality Preparation (HQP) which was covered by 7 items, 3) Support Network (SN) which was covered by 6 items, 4) Communication (COM) which was covered by 4 items, and 5) Alignment of Expectations (AOE) which was covered by 5 items. Each item was equipped with a 6-point Likert scale from the scale of 1 to denote "Strongly Agree" to the scale of 6 to denote "Strongly Disagree." TDEQ-5 also included seven negatively worded items and their scores were reversed. Prior to the survey, the TDEQ was first translated into Arabic language, considering that the study was carried out in Jordan which is an Arab nation. Using the Arabic translation version would ease the respondents in answering the questions as they were majorly Arab native speaker. Translating the instrument into the native language of the respondents has been recommended in several studies including Conrad et

al. (1999) and Forsyth et al. (1991). Three-step approach was used during the translation process. It included forward translation, backward translation, and cognitive interviews.

Data Analysis

The data analysis began with the execution of confirmatory factory analysis (CFA) on the latent structure of the Arabic version of the TDEQ. The general indices namely the comparative fit index (CFI), the standardized root Mean square residual (SRMR), and the root mean square error of approximation (RMSEA) as proposed by Fan, Thompson, and Wang (1999) were employed in determining the model-data fit. No adequate fit was possible, with CFI, RMSEA and SRMR values outwith the model fit indices ($\chi 2$ (df = 339) = 2338.30, p<0.01, CFI = 0.754, RMSEA = 0.102, SRMR = 0.148), and thus, exploratory factor analysis was performed.

The factor structure was identified using principal axis factoring extraction with an oblique with direct oblique rotation. The factor structure contains the smallest number of factors representing the common variation of a group of variables. The best number of factors to be held can be determined based on criteria including the assessment for a clean structure against complex one (Costello & Osborne, 2005), Cattell's screen test (1966), Kaiser-Guttman eigenvalue's size (Cattell, 1966) with 1.0 as the smallest value required, and Harman's (1976) method in describing groups. The cleanest factor structure was achieved by removing any item with loading lower than 0.320 as proposed by Martindale et al. (2010). Multivariate analysis of variance, subsequent univariate statistics, and a discriminant function analysis between TDEs of higher and lower quality (Field, 2006) were the methods used in determining the ecological validity TDEs.

Furthermore, the examined factors were ascertained in terms of the mean and standard deviations of their subscale scores. Also, descriptive statistics of each item was computed was performed based on Martindale et al. (2010). The recommendations of Mills et al. (2014) were followed, and therefore, the highest scoring 7 items (top 25%) were considered as strengths while the lowest scoring 7 items (bottom 25%) were regarded as areas to improve. The analysis was performed on the entire sample, and separately for male and female respondents.

Results

Arabic TDEQ Validation

Results showed significance of Bartlett's test of sphericity (Chi-Square= 8371.788, d.f.= 378, P< 0.001). In other words, the study variables were satisfactorily correlated. As such, EFA was good enough to proceed with. Additionally, the result of KMO proxy of sampling examination was significant (0.885, P< 0.001), and so, the sample size of this study was sufficient for the EFA, according to Sharma (1996).

This study identified three-factor structure as the best fit. The eigenvalues fell in the range between 32.026 and 0.583, representing 64.322% of the overall explained variance. The criteria in the methods were used. Meanwhile, as can be observed in Table 2, factor loadings across the three factors fell in the range between 0.320 and 0.807. Furthermore, two items showed low loading. These items were Q18 SN4 ('My coaches talk regularly to the other people who support me in my sport about what I am trying to achieve' (e.g., physiotherapist, sport psychologist, nutritionist, strength & conditioning coach, life style advisor)) and Q28 LTF6 ('My coach emphasises the need for constant work on fundamental and basic skills'). Both these items were removed.

The Arabic TDEQ-3 employed in this study contained 26 items covering three factors namely: 1) Individualized Long-term Development Focus (ILTDF), 2) Goal Setting and Coherent Support (GSCS), and 3) Holistic Quality Preparation (HQP). The strongest associated items per factor were included. The internal consistency estimates showed the following Cronbach alpha scores: Factor 1 – .889; Factor 2 – .862; and Factor 3 - .829. Based on Tabachnick and Fidell (2001), the scores were very reliable.

In Jordan, the quality of environments of the academy is generally better than that of the club in generating performers of elite level. In this study, the environments between the academy and the club were analysed and based on multivariate analysis of variance, the academy and club significantly different in terms of environments (F (315, 3) = 7.702; p<0.01). All the three factors showed significant difference.

As can be concluded based on the results in Table 1, the academy had better environments based on its higher score for all the three factors, in comparion the club.

Table 1 displays the mean scores, standard deviations, associated effect sizes, canonical correlation coefficients, and significance values for each factor of the TDEQ (the Arabic translated version), specifically between the 'higher quality' academy environments and 'lower quality' club environments. Based on the interpretations by Bargman (1970), the canonical correlation coefficients are comparable to factor loadings, adding to group separation. Furthermore, results showed that Factors 1 and 3 could distinguish between the groups most effectively, while Factor 2 was the least effective.

Table 1. Means and standard deviations for 'Higher Quality' and 'Lower Quality' environments with resulting effect size, significance values and canonical variate correlation coefficients for each factor

Factor	'Higher Quality' Academy Environment (n=163)	'Lower Quality' Club Environment (n=156)	Coefficients	Effect Size	Significance
Factor 1	5.08 (.66)	4.76 (.61)	.583	.057	P<0.01
Factor 3	4.97 (.81)	4.57 (.99)	.411	.048	P<0.01
Factor 2	4.28 (1.17)	3.90 (.84)	.187	.035	P<0.01

Results of the discriminant function analysis were significant (Wilks's Lambda, 0.932, X2 (3) 22.33, P<0.01) with a canonical correlation of .261. All three factors showed ability of accurately predicting 60.8% of the players into the right environment type.

Evaluation of TDE Quality

Table 2 displays the means and standard deviations for the three TDEQ factors for all the study participants. As shown, the highest value was scored by the factor of individualized long term development focus (4.79) and the factor of goal setting and coherent support (4.75), while the lowest mean value was recorded for the factor of holistic quality preparation (3.72). Additionally, results showed that the scores of female respondents were lower that those of male respondents in all three factors. The overall individual item-by item analysis can be viewed in Table 3, while item-by-item strengths and weaknesses for both genders are displayed in Figure 1.

Table 2. Means and standard deviation for factor for the overall sample, male sample, and female sample.

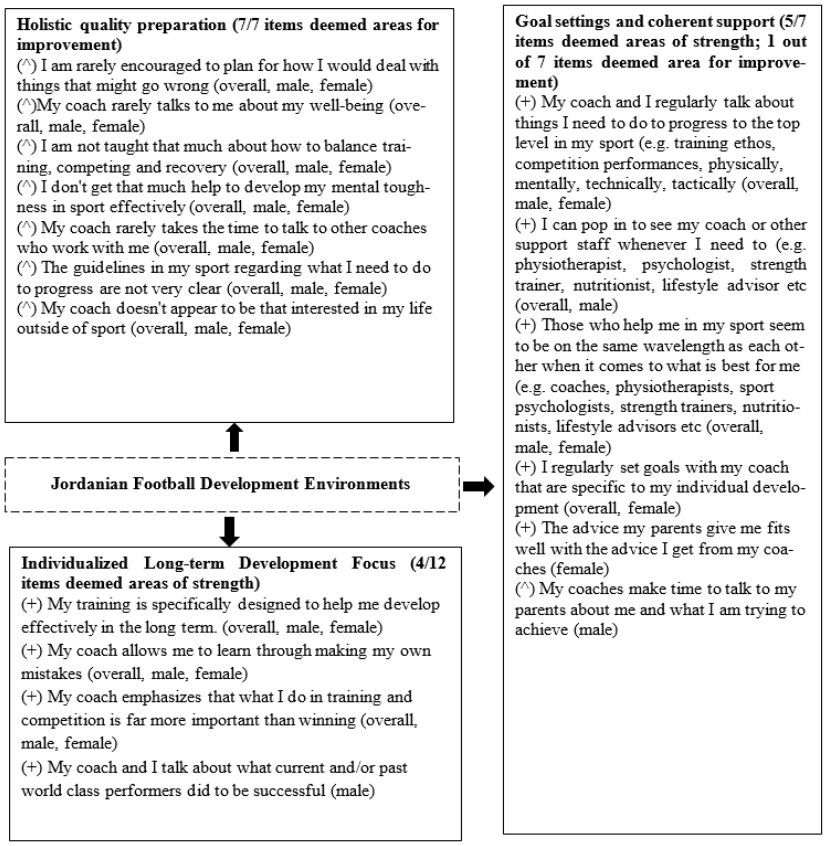
	Overall M(SD)	Males M(SD)	Females M(SD)
Overall TDEQ	4.42 (.74)	4.60 (.77)	4.19 (.69)
Individualized long term development focus	4.79 (.86)	4.92 (.65)	4.61 (1.05)
Goal setting and coherent support	4.75 (.90)	4.77 (.92)	4.71 (.86)
Holistic quality preparation	3.72 (1.19)	4.09 (1.04)	3.24 (1.20)

Table 3. Means and standard deviation for item-by-item analysis.

No.	Code	Items	Mean	SD
		Factor 1: Individualized long term development focus		
22	ILTDF7	My coach allows me to learn through making my own mistakes	5.08	1.21
25	ILTDF10	My coach emphasizes that what I do in training and competition is far more important than winning	5.03	1.23
19	ILTDF4	My training is specifically designed to help me develop effectively in the long term	4.91	1.22
4	ILTDF1	My coach and I talk about what current and/or past world class performers did to be successful	4.84	1.27
20	ILTDF5	I spend most of my time developing skills and attributes that my coach tells me I will need if I am to compete successfully at the top/professional level	4.84	1.29
21	ILTDF6	My coach explains how my training and competition programmed work together to help me develop	4.77	1.36
23	ILTDF8	I would be given good opportunities even if I experienced a dip in performance	4.76	1.34
9	ILTDF2	Currently, I have access to a variety of different types of professionals to help my sports development (e.g. physiotherapist, sport psychologist, strength trainer, nutritionist, lifestyle advisor etc	4.74	1.20
26	ILTDF11	My training programmes are developed specifically to my needs	4.72	1.24
27	ILTDF12	My coaches ensure that my school/uni/college understand about me and my training/ competitions	4.72	1.40
15	ILTDF3	I am involved in most decisions about my sport development	4.59	1.19
24	ILTDF9	My progress and personal performance is reviewed regularly on an individual basis	4.43	1.43
		Factor 2: Goal setting and coherent support		
6	GSCS3	My coach and I regularly talk about things I need to do to progress to the top level in my sport (e.g. training ethos, competition performances, physically, mentally, technically, tactically	5.00	1.22
1	GSCS1	I can pop in to see my coach or other support staff whenever I need to (e.g. physiotherapist, psychologist, strength trainer, nutritionist, lifestyle advisor etc	4.97	1.08

7	GSCS4	Those who help me in my sport seem to be on the same wavelength as each other when it comes to what is best for me (e.g. coaches, physiotherapists, sport psychologists, strength trainers, nutritionists, lifestyle advisors etc	4.89	1.23
14	GSCS6	I regularly set goals with my coach that are specific to my individual development	4.87	1.23
3	GSCS2	The advice my parents give me fits well with the advice I get from my coaches	4.61	1.37
8	GSCS5	My coach and I often try to identify what my next big test will be before it happens	4.51	1.26
16	GSCS7	My coaches make time to talk to my parents about me and what I am trying to achieve	4.39	1.50
		Factor 3: Holistic quality preparation		
5	HQP2	My coach doesn't appear to be that interested in my life outside of sport	3.97	1.61
12	HQP5	My coach rarely takes the time to talk to other coaches who work with me	3.91	1.69
10	HQP3	The guidelines in my sport regarding what I need to do to progress are not very clear	3.85	1.56
11	HQP4	I don't get that much help to develop my mental toughness in sport effectively	3.77	1.63
17	HQP7	I am not taught that much about how to balance training, competing and recovery	3.65	1.59
13	HQP6	My coach rarely talks to me about my well-being	3.60	1.67
2	HQP1	I am rarely encouraged to plan for how I would deal with things that might go wrong	3.31	1.49

Figure 1. Features of the player development environments over the full sample, male and female only. Items perceived as main strengths (+) and key areas for improvements



The Individualized Long-term Development Focus

Represented by 12 items, the factor of Individualised Long Term Development Focus is about the extent to which athletes were imparted with individualized opportunities for their long-term preparation, as can be exemplified by the opportunities of athletes to learn from own mistakes, the capability of the coaches in understanding the needs of athletes, the grasp towards the value performance during training, and the ability to learn from the experiences of past athletes. From the analysis result, this factor scored the highest mean value of 4.79. Furthermore, 3 of the 12 items of this factor were linked to the strengths of the development environment in the routes of Jordanian football youth, specifically item 22 ('My coach allows me to learn through making my own mistakes'), item 25 ('My coach emphasizes that what I do in training and competition is far more important than winning'), and Item 19 ('My training is specifically designed to help me develop effectively in the long term').

Specifically, the mean score for Item 22 was 5.08, denoting strong agreement of 78% of players towards this item, while the mean score of Item 25 was 5.03, with 74% of respondents expressing agreement towards this item. As for Item 19, the mean score was 4.91, where, nearly 70% of the respondents expressed agreement or strong agreement that their coaches were effectively focusing on long term development. On the other hand, no item was linked to relative areas of weakness.

Scores of the three items for were comparable for both male and female respondents. Results showed that the items were considered as strengths for each gender and for both genders overall. Additionally, nearly 70% of male respondents expressed agreement or strong agreement on Item 4 ('My coach and I talk about what current and/or past world class performers did to be successful'), with a mean score of 5.03, denoting a relative strength. Meanwhile, with a mean score of 4.53, Item 24 ('My progress and personal performance is reviewed regularly on an individual basis average') scored the lowest. About 55% of the study respondents expressed agreement or strong agreement towards this item. Based on this result, the item could still be perceived as a qualitatively positive item with high mean and agreement rate.

Goal Setting and Coherent Support

Covered by 7 items, the factor of Goal Setting and Coherent Support concerns the search for the most fitting path and support network for the athletes for their goals accomplishments. Regular goal setting with the coaches, determining the requirements specifically for sport development including training ethos, and assuring sound support from significant others, are among the examples. Based on the analysis results, this factor scored the highest mean value (4.75), and 4 of the items representing this factor were linked to the strengths of the development environment, namely Item 6 ('My coach and I regularly talk about things I need to do to progress to the top level in my sport'), Item 1 ('I can pop in to see my coach or other support staff whenever I need to'), Item 7 ('Those who help me in my sport seem to be on the same wavelength as each other when it comes to what is best for me'), and Item 14 ('I regularly set goals with my coach that are specific to my individual development').

Based on the results, Item 6 had a mean score of 5.0, with 71% of the respondents expressed agreement or strong agreement on the item, Item 1 scored a mean value of 4.97, with 70% of the respondents expressed agreement on the item, Item 7 scored a mean value of 4.89, where 70% of the respondents expressed agreement towards the item, while Item 14 scored a mean value of 4.87 with 66% respondents expressing agreement on the item. Meanwhile, no item fell into relative areas of weakness. Notably, one additional item was considered by the female respondents as a strength, while one area of weakness was identified by the male respondents.

Comparing the results based on gender; the female parcipants identified strength on items 6, 7, and 14. They also identified Item 3 ('The advice my parents give me fits well with the advice I get from my coaches') as a strength with a mean value of 4.71, and 54% of the female respondents expressed agreement towards the item. On the other hand, the male respondents identified strength on items 6, 1, and 7. Additionally, they identified one relative weakness in item 16 ('My coaches make time to talk to my parents about me and what I am trying to achieve') with a mean score of 4.27, where, 58% of them expressed agreement or strong agreement to the item, while 28% expressed disagreement to the item. Overall, Item 16 scored the lowest mean of 4.39, with 54% respondents expressing agreement, and 23% expressing disagreement in some way.

Holistic Quality Preparation

Represented by 7 items, the factor of Holistic Quality Preparation concerns the preparation level of the intervention programmers both inside and outside the surroundings of sports, as can be exemplified by the coach assuring the wellbeing of the athletes, and providing clear guidance & transition planning, and balanced life/sport preparation to them. Overall, the mean score of this factor was 3.72, and this score was the lowest in comparison with the other two factors. Results showed that all 7 items representing this factor were identified as weaknesses for both genders. Notably, the female respondents scored lower mean value than their male counterparts (3.24 as opposed to 4.09 for male respondents) on this item. Furthermore, the mean score for male respondents was mainly on the positive side of the likert scale, that is, they mainly showed some level of agreement, while that for their female counterparts was mainly on the negative side of the scale, that is, the females mainly showed some level of disagreement.

Here, the reverse scoring, 'agreeing' with the item actually denotes a positive experience with the item, as opposed to directly agreeing with the negatively worded item.

Results are as follows: for Item 2 ('I am rarely encouraged to plan for how I would deal with things that might go wrong'), 27% of respondents expressed agreement, while 62% expressed disagreement to some degree; for Item 13 ('My coach rarely talks to me about my well-being'), 39% of respondents expressed agreement while 50% of respondents expressed disagreement to certain degree; for Item 17 ('I am not taught that much about how to balance training, competing and recovery'), 41% of respondents expressed agreement while 47% expressed disagreement to some degree; for Item 11 ('I don't get that much help to develop my mental toughness in sport effectively'), 44% of respondents expressed agreement while 46% expressed disagreement to some degree; for Item 10 ('The guidelines in my sport regarding what I need to do to progress are not very clear'), 45% of respondents expressed agreement while 42% expressed disagreement to some degree; for Item 12 ('My coach rarely takes the time to talk to other coaches who work with me'), 45% of respondents agreement while 42% expressed disagreement to certain degree; and lastly, for Item 5 ('My coach doesn't appear to be that interested in my life outside of sport'), 48% of respondents expressed agreement while 43% expressed disagreement to certain degree. The mean scores for the aforementioned items were in the range between 3.31 and 3.97.

Discussion

The present study examined the qualities of TDEs in Jordanian football, as an effort to offer preliminary evidence to facilitate the development of talent pathways in the kingdom. Feedback from 564 young male and female footballers from academies and club in various regions in Jordan was obtained using validated Arabic translated TDEQ. The initial confirmatory factor analysis showed no support for the latent factor structure of the TDEQ-5 (Li et al., 2017), and so, this study performed exploratory factor analysis and resulted in internally reliable and ecologically valid 26 items within 3-factor solution. The discovery of new factor structure was in alignment with Jordan being different in terms of culture, religion, language, and lifestyles, in comparison to other countries. Owing to low loading, two items, namely Item 28 ('My coach emphasises the need for constant work on fundamental and basic skills') and Item 18 ('My coaches talk regularly to the other people who support me in my sport about what I am trying to achieve'), were excluded. Nonetheless, some items covered similar issues around coherent support and communication between different parties, retaining the concept of ongoing communication, such as Item 7 ('Those who help me in my sport seem to be on the same wavelength as each other when it comes to what is best for me'), Item 3 ('The advice my parents give me fits well with the advice I get from my coaches'), and Item 16 ('My coaches make time to talk to my parents about me and what I am trying to achieve'). Evidently, the conceptual loss was minimal and contributed to the increased psychometric strength of the scale.

Notably, results showed that all three factors (Individualised Long Term Development Focus, Holistic Quality Preparation, and Goal Setting & Coherent Support) significantly added to the projection of higher or lower quality environments, with the factors of Individualised Long Term Development Focus and Goal Setting and Coherent Support being the most significant discriminators in the Jordanian context. Comparatively, Martindale et al. (2012) reported that in the UK, the factors associated with the quality practice (e.g., effective goal setting and appropriate development focus) and comprehending the athlete (e.g., use of individualized approach) were the most noteworthy discriminators among various environment qualities. Notably, in the initial 7-factor TDEQ, the factor "understanding the athlete" associates with the factor "holistic quality preparation" the most, but results in this study showed that the latter was not significant as predictor in the Jordanian football setting. For this reason, within the context of less developed nations like Jordan, employing more fundamental processes around goal setting and appropriate support for development would be more impactful, and indeed, in developed countries, many of these more fundamental processes may already be ongoing, especially in the academy and talent pathway systems (Martindale et al., 2022). Hence, within more developed places, it is likely that the most effective environments are separate from the rest owing to their strong focus on more psychological elements of support and development. However, as explained by Martindale and Mortimer (2011), this factor is often very challenging to resource and operationalize.

In this study, the factors of Individualised Long Term Development Focus and Goal Setting and Coherent Support were concluded as the strongest features of the environment, while the factor of Holistic Quality Preparation was found to be the weakest. Furthermore, females generally had lower scores in comparison to their male counterparts, particularly for the factors of Holistic Quality Preparation and Individualised Long Term Development Focus. Respondents generally expressed 'agree a little bit to agree' to the factors of Individualised Long Term Development Focus and Goal Setting and Coherent Support. For the factor of Holistic Quality Preparation, female respondents generally expressed 'disagree a little bit,' implying the need for development for this factor for this gender.

TDEQ and TDEQ-5 had different structure, and so, results of this study cannot simply be compared to those of past studies. Somehow, the factor of 'Holistic Quality Preparation' or related factors/items often received lower scores. In a study on rugby and swimming academies in the UK by Martindale et al. (2012) for example, the factors 'Understanding the Athlete' and 'Quality Preparation' which are comparable to the factor 'Holistic Quality Preparation' in TDEQ-5 had received the lowest scores. Mills et al. (2014) reported comparable results in their study on Premier and Championship football academies in the UK. In the Australian rugby league school-based talent development programs, Cupples et al. (2020) also reported similar outcomes. In another study involving female amateur Irish hockey, Curran et al. (2020) reported that two out of three playing groups (U16, U18, U21, school, senior club, international) gave lowest scores to the factor of 'Holistic Quality Preparation' corresponding to their environment experiences. The factor of holistic quality preparation has received low scores in other studies, but it has not been the lowest scored factor in TDEs. Examining female football development squads and centres of excellence in the UK for example, Gledhill and Harwood (2019) reported fairly good score on this factor. Additionally, Thomas et al. (2020) reported comparable scores for this factor in their examination of the Caribbean track and field athletes. Holistic Quality Preparation also received fairly good score by the Norwegian and Swiss football academies (see: Gangso et al., 2021; Gesbert et al., 2021).

It can be construed by reported outcomes that other TDEQ factors fit more naturally within a coaching role or environment make them easier to fulfil. For instance, items representing other factors include offering a network of support professionals, reviewing performance, setting goals, creation of appropriate training programmes, permitting the input of athletes into their development, and parental involvements. Contrariwise, the factor Holistic Quality Preparation comprises items that are linked to psychological factors, for instance, development of mental toughness, allocation of time for understanding and catering to athlete wellbeing, clarifying the ensuing path, collaborating with other coaches on individual athletes. For coaches, they may lack the skills or time to fulfil the aforementioned tasks. Not only that, the coaches and current environments may not perceive this factor as vital. In English football for instance, Pain and Harwood (2007), reported hurdles in sport psychology support owing to negative views on sport psychology and lack of knowledge.

Where possible, TDEs need to include the factor of Holistic Quality Preparation because this factor has a positive impact on the development and performance of athletes, as also highlighted in Martindale et al. (2005, 2007, 2010). It has been evidenced that the factor of Holistic Quality Preparation experience can predict the development, wellbeing, motivational outcomes, mental toughness, burnout and goal orientations of athletes (see: Andronikos et al., 2021; Ivarsson et al., 2015; Li et al., 2017; 2019; Martindale et al., 2012; Thomas et al., 2020; Wang et al., 2011; 2016). For Jordanian TDEs, this factor (Holistic Quality Preparation) needs improvement, among the female footballers especially. As for the male counterparts, results showed weakness in the coach-parent communication. This may be attributed to the fact that sports in developing nations like Jordan is not considered as priority among parents (see: Elumaro, 2016). This fact should not be overlooked.

Equally, this study demonstrated the importance of recognizing relative strengths especially in two factors namely Individualised Long Term Development Focus and Goal Setting and Coherent Support. For the factor of Individualised Long Term Development Focus, the strength was identified in the following items: "My training is specifically designed to help me develop effectively in the long term"; "My coach allows me to learn through making my own mistakes"; "My coach emphasizes that what I do in training and competition is far more important than winning." For male respondents, the item "My coach and I talk about what current and/or past world class performers did to be successful" was rated as a strength. Notably, the importance of a long-term agenda and role models has indeed been highlighted in studies

including Henriksen and Stambulova (2019). The importance of learning to take accountability for learning was also highlighted in previous studies such as in Toering et al. (2009).

For the factor of Goal Setting and Coherent Support, the items rated as strength were: "My coach and I regularly talk about things I need to do to progress to the top level in my sport" and "Those who help me in my sport seem to be on the same wavelength as each other when it comes to what is best for me". For male respondents, the item considered as strength was, "I can pop in to see my coach or other support staff whenever I need to", whereas for female respondents, there were two items rated as strength namely, "I regularly set goals with my coach that are specific to my individual development" and "The advice my parents give me fits well with the advice I get from my coaches." Similarly, in talent development, Rhind and Jowett (2010) mentioned the need for consistent coach-athlete communication, while Henriksen et al. (2011) and Ivarsson et al. (2015) reported the importance of having support networks. Additionally, in talent development also, the importance of consistency between coaches and support staff was mentioned by Pankhurst et al. (2012), the importance of goal setting was indicated by Kingston and Wilson (2008), while the significance of parental role was mentioned by Harwood and Knight (2015).

Limitations and Future Directions

Based on the achieved outcomes, this study has a number of suggestions for future studies, to improve talent development in Jordan. Equally, it should be noted that while the study outcomes were generic, each region in Jordan is unique with different issues. Not only that, the evaluation of respondents was somewhat affected by their gender, which may be attributed by the fact that talent development among females in Jordan was generally less supported as opposed to that of their male counterparts. As a potential solution, JFA may consider expanding the support provided to the female teams at various ages. For instance, JFA may increase the financial support provided to the female teams and assure high-quality preparation, to ultimately improve their development and performance. Secondly, JFA may improve the skills of the coaches in communicating with the females in handling the weakness area of this female players as this can have impact on their talent development. The representatives of JFA should make regular visits to monitor the progress. Also, owing to culture, male-female communication in families seems more challenging in Jordan, and this matter should be addressed as well.

Conclusions

From the outcomes, this study could facilitate the Jordanian football in the effective utilization of its resources, providing that some preliminary works are carried out first. Furthermore, information from pertinent parties such as coaches, administrators, parents, and schools are crucial to facilitate the research. Also, as each region and sport is unique, it is necessary to create a contextualised work. In fact, the development of football-specific TDEQ has been proposed. Culture specific TDEQ has also been proposed, considering that Jordan and other Middle East have different culture in comparison to other nations. Indeed, futher works may expand the capability of forming more useful context specific tools.

Recommendation

Jordan football Fedreration may consider expanding the support provided to the female teams at various ages. improve the skills of the coaches in communicating with the females in handling the weakness area of this female players as this can have impact on their talent development.

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