

Significance of Managerial Skills for Talent Development in Ethiopian Athletes

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ABSTRACT

Background: Talent development is essential for sports success, highlighting the critical role of skilled management in discovering, training, and nurturing athletes. **Objective:** The purpose of this study was to investigate the significance and relevance of managerial skills for talent development in Ethiopian athletes. **Methodology:** A descriptive survey method was employed. Five public clubs were purposively sampled, and 156 athletes were randomly selected from a total of 257. Data were collected using the Long-term Talent Development Environment Questionnaire (LTDEQ), revealing a reliability value of 0.75 (r) in a pilot study conducted to ascertain the scientific authenticity of the adapted questionnaire. Hypotheses were tested at a significance level of 0.05. **Results:** The original LTDEQ has seven dimensions namely: Long-term development focus (LTDF), Quality preparation (QP), Communication (CO), Understanding athlete (UA), Supportive network (SN), Challenge and supportive environment (CSE), and Long-term development fundamental understanding (LTDFU). Thereafter, factor analysis was performed, resulting in eight dimensions, of which six were hybrid, and two were independent. The factors were named: i) LTDF & LTDFU; ii) LTDF, CO & LTDFU; iii) LTDF & QP; iv) SN & LTDFU; v) LTDF & LTDFU; vi) LTDFU; vii) LTDF; viii) QP & CSE. Mean and standard deviation with P values for each dimension were 4.15 ± 1.11 ($p < 0.000$), 3.82 ± 1.01 ($p < 0.001$), 3.74 ± 1.08 ($p < 0.000$), 3.89 ± 1.18 ($p < 0.002$), 3.87 ± 1.12 ($p < 0.000$), 3.99 ± 0.89 ($p < 0.001$), 3.61 ± 1.11 ($p < 0.000$), and 2.96 ± 1.42 ($p < 0.001$), respectively. The study considered questions regarding data reduction, feasibility, validation, and reliability of Ethiopian adaptations of LTDEQ. The analysis indicated enhanced reliability (test-retest) for the Ethiopian adaptation along with significant factor loadings (ranged from .643 to .892) as compared to the original LTDEQ (.311 to .892). Ethiopian adaptation of LTDEQ correlation increased (ranged from .142 to 1.000**), surpassing the original range (.018 to .869**). Cronbach's alpha improved from $r = .927$ to $r = .932$, affirming future validity in the Ethiopian population. **Conclusion:** In conclusion, the study recommends the consideration of Ethiopian adaptations for all purposes with sufficient construct validity based on the improved reliability and internal consistency observed in the adaptation compared to the original version of LTDEQ.

Key words: Athletes, Athletic performance, Reliability, Talent, Validity, Talent development, Coaching.

INTRODUCTION

Examining the significance of managerial skill is a pivotal element within sports organizations, particularly in the quickly expanding sports industry where athletics has gained prominence. Effectively managing the extensive track and field sector necessitates a keen focus on the development of their athlete, as manager play a crucial role in identifying and nurturing the potential of young athletes in early stage. Manager in sports act as role models, recruiters, teachers, trainers, strategists, promoters, communicators, psychologists, judges, disciplinarians, friends, counselors, and parent-substitutes. They utilize sports to transform and enrich the lives and futures of athletes (Kelly, 2008). The Managerial role extends to being a friend, motivator, demonstrator, instructor,

assessor, mentor, role model, organizer, and leader (Kleinert et al., 2012). The Impacts of athlete Development emphasizes holistic athlete progress, covering competence, confidence, connection, and character (Thompson et al., 2022). Managers bear the responsibility of talent development and identification, wielding considerable influence over athletes' achievements (Gammelsaeter & Anagnostopoulos, 2022). Track and Field coaches are tasked with uncovering potential star athletes by dedicating resources, time, and effort to athlete development. The recognition of the importance of talent identification in youth athletes and their incorporation into youth academies is evident in athletics clubs (Dodd & Newans, 2018). Talent identification entails recognizing current participants with the potential to become elite athlete's

development (O'Connor et al., 2016), while talent development aims to provide an optimal learning environment for realizing this potential (Hauser et al., 2022). The manager's role involves training, instructing, and advising athletes to enhance their physical, technical, tactical, and psychological performance in track and field (Lemelin et al., 2022).

Managerial skill in sports aims to influence organizational members to willingly contribute to achieving predetermined goals. The managerial skill is paramount for optimizing sports performance and ensuring athlete development satisfaction. Most sports activities go through a series of stages designed to support the growth and development of athletes, although the timing of specialization can vary significantly. According to Ford et al. (2011), there are two types of specialization in sports: early and late. Athletics is considered a late specialization sport, as most athletes achieve their peak performance between the ages of 24 and 34 (Thompson, 2009). It typically takes 8-10 years to reach an elite level of performance, and following the right development pathway is crucial for success and longevity in the sport. The environment of modern organizations presents managers with increasingly dynamic challenges. Global competition and changing societal expectations have created new managerial needs. To ensure success in both manufacturing and service industries, adopting an efficient and effective management model is essential. This includes exploring the structures of management models in dynamic organizations (Nazari, 2018). According to Sam (2022), managers play a crucial role in fostering and maintaining optimal sports performance and enhancing athlete satisfaction. They are recognized as the most influential motivational factor for young athletes, shaping their sporting environment (Côté, 1999). A manager, in this context, is any individual who has an impact on both individuals and groups within an association, assisting them in setting goals and guiding them toward achieving those goals. Talent identification and development are currently significant concerns in sports, particularly in track and field athletes (Abbott & Collins, 2004).

In the researcher's experience and observations, there is a notable disparity among managers, coaches, and administrative staff in our society regarding the true essence of talent development and identification. The practice of early specialization in sports poses a risk of physical and social strain on young athletes. Presently, it is evident that many young athletes are pressured into early specialization by their managers, despite recommendations against it by organizations like the IAAF. This trend, observed in both Kenya and Ethiopia, often results in athletes failing to sustain their peak performance over time. The researcher contends that this is primarily due to the management practices imposed by athlete managers and the athlete development strategies implemented by national federations. There is a risk of athletes being excessively utilized to meet the demands of their managers. Therefore, this study aims to investigate the significance and relevance of managerial skills for talent development in Ethiopian athletes.

METHOD

Study Design and Participants

The research design employed in this study is the descriptive method. Within the framework of descriptive research, the survey method is also utilized to assess the significance of managerial skills for talent development in Ethiopian athletes.

This study was conducted using youth and elite middle- and long-distance runner athletes from public athletics clubs who were involved in athletics academies/clubs in Ethiopia. The population consisted of five models of public athletics academies/clubs that train middle- and long-distance runner athletes with the anticipation of producing future elite athletics runners. The sample size for the study was determined using Yamane's (1967) simplified formula for proportions, assuming a 95% confidence

interval level and $P=0.05$. The formula $y = \frac{Y}{1 + Y(e)^2}$ was

employed, where y represents the sample size, Y is the entire population size, and e is the level of precision (allowance error at 5%). By substituting the given values, the

calculation yielded. $y = \frac{257}{1 + 257(0.05)^2} = \frac{257}{1 + 257(0.005)^2} = \frac{257}{1 + 0.6425} = \frac{257}{1.6425}$ resulting in a calculated sample size of

rounded to 156. This sample comprised both male and female athletes from various clubs, including Burayu Athletics Club (N=26, 16.7%), Dukam Athletics Club (N=41, 26.3%), Tirunesh Dibaba Athletics Academy (N=53, 34.0%), Addis Ababa Athletics Academy Club (N=29, 18.6%), and Defence Club (N=7, 4.5%). The gender distribution of the study sample was males (N=99, 63.5%) and 57 females (N=57, 36.5%). The researcher used purposive and random sampling methods to select the sample. Quantitative data were analyzed using the SPSS version 26 software as a statistical tool. The study addressed ethical issues, ensuring voluntary participation with the right to refuse or withdraw at any time respected. Ethical approval was granted by the Board of Research Studies at the University of Delhi (Ref No: DPE/2022/1338), New Delhi, India, and permissions were obtained from the Ministry of Education authorities (REF NO: 28/158/236/22), Ethiopia. Participants were informed of their rights throughout the study. The study included male and female elite athletes meeting health and physical readiness, exclusively from Ethiopian athletic clubs, focusing on middle and long-distance runners. Privacy and confidentiality were ensured, with the right to withdraw. Exclusion criteria encompassed individuals failing health and readiness checks, non-regular club members, withdrawals during data collection, and the exclusion of short-distance runners.

Long Talent Development Environment Questionnaire (LTDEQ)

The research employed the Long Talent Development Environment Questionnaire (LTDEQ) created by Martindale et al. (2010), as the research instrument to gather essential

information and data pertaining to athletes involved in talent development in Ethiopia athletics club. These instruments were properly implemented into the study to gather essential data from public athletics club in Ethiopia.

Procedure

The research employed a survey methodology, utilizing the LTDEQ to gather quantitative data through a 59-item questionnaire designed for athletes, with closed questions presented in a table using a Likert scale ranging from 1 to 5, categorizing responses into areas related to the implementation of talent development, and managerial skill variables affecting athletes' development and performance. These instruments were properly implemented into the study to gather essential data from public athletics club in Ethiopia

Reliability and Validity of Instruments

To ensure the reliability and validity of the instrument, a preliminary step involved assessing the reliability of each questionnaire item using Cronbach's Alpha. Cronbach's alpha scores for Factor 1 through Factor 7 are LTDF (item 24), QP (item 5), CO (item 7), UA (item 4), SN (item 8), CSE (item 4), and LTDFU (item 7). The alpha (α)-value scores were 0.900, 0.712, 0.781, 0.678, 0.832, 0.627, and 0.701, respectively, with an average value of 0.75. In addition, the instrument underwent a thorough validation process. Professional and language experts critically reviewed the items to evaluate how well they measured the intended research problem. Furthermore, a pilot study was conducted with a small group sharing characteristics with the main participants (Mola & Shaw, 2024). The instrument was refined based on the feedback obtained from the pilot participants.

Statistical Analysis

The study employed statistical techniques, such as descriptive, multivariate, and bivariate analyses, to analyze quantitative data using SPSS version 26. Descriptive methods such as frequency, percentage, mean, and standard deviation were employed to characterize opinions on stated dimensions using a five-point scale. Factorial analysis was utilized to identify and validate dimensions of "Long-term Talent Development" (LTDEQ), aiding in data reduction and verifying construct validity. Pearson product-moment correlation analysis was employed to explore relationships among these dimensions and assess internal consistency reliability. Hypotheses were rigorously tested at a significance level of 0.05, ensuring statistical reliability. Results were effectively presented through tables, facilitating clear interpretation and conclusion drawing based on standard analytical procedures.

RESULTS

Table 1 presents Long Talent Development Environmental Questionnaire (LTDEQ) results with mean (M) and standard deviation (SD) values: LTDF: M = 3.95, SD = 1.07; QP: M = 3.28, SD = 0.071; CO: M = 3.97, SD = 1.11;

Table 1. LTDEQ of mean and standard deviation

No.	Dimension of TDEQ	Mean and SD
1	LTDF	3.95±1.07
2	QP	3.33±0.071
3	CO	3.97±1.11
4	UA	3.31±1.34
5	SN	3.64±1.21
6	CSE	3.24±1.36
7	LTDFU	3.81±1.09

Key: LTDF - Long term development focus; QP-Quality Preparation; CO-Communication; UA-Understanding Athletes; SN-Supporting network; CSE-Challenge and Supporting Environment; LTDFU-Long term development Fundamental Understanding

UA: M = 3.312, SD = 1.344; SN: M = 3.64, SD = 1.21; CSE: M = 3.24, SD = 1.36; LTDFU: M = 3.81, SD = 1.09 respectively.

Table 2 depicts the dimension reduction by preserving the maximum important information based on rotated factor loading of ten factors from seven dependent variables dimension out of fifty-nine statements in the talent development environmental questionnaire. In the first dimension, the factor loading of the long-term development variable revealed that 24 statements were significantly loaded, with an average factorial loading for this dimension of 0.787. In the second dimension, the factor loading of the quality preparation factor dimension revealed that five statements were significantly loaded, with an average factorial loading for this dimension of 0.689. In the third dimension, the factor loading of the communicational dimension revealed that seven statements were significantly loaded, with an average factorial loading for this dimension of 0.648. In the fourth dimension, the factor loading of the understanding of athlete's dimension revealed that four statements were significantly loaded, with an average factorial loading for this dimension of 0.648. In the fifth dimension, the factor loading of the supporting network factor dimension revealed that seven statements were significantly loaded, with an average factorial loading for this dimension of 0.752. In the six dimensions, the factor loading of the challenge and supportive environments dimension revealed that four statements were significantly loaded, with an average factorial loading for this dimension of 0.627. The analysis of long-term development focus understanding athletes revealed that seven statements were significantly loaded, with an average factorial loading for this dimension of 0.701.

The table above 3 shows, the analysis (assessment) of the conducted study administrating is very elaborative and general as per existing practice. There are few questions to be resolved. 1) Possibility of data reduction, 2) Possibility of Ethiopian adaptations, 3) Validations of Ethiopian adaptation and 4) Reliability of Ethiopian adaptation in regard to LTDEQ. Before proceeding with data reduction (factorial analysis) the collected data need to be tested for suitability of factor analysis. Statistical analysis applied suggest that collected data from Ethiopian subjects are suitable of factor analysis.

Table 2. Rotated factor loading on long-talent development environmental questionnaire (LTDEQ)

Factor Loading	LTDF	QP	CO	UA	SN	CSE	LTDFU
1 st Factor Loading	43 (0.845), 12 (0.821), 36 (0.638), 45 (0.561), 2 (0.364), 40 (0.544), 6 (0.543), 46 (0.334), 41 (0.354), 50 (0.311)		37 (0.468)	25 (0.364)	3 (0.795)	19 (0.314), 55 (0.422)	34 (0.835)
2 nd Factor Loading	42 (0.864), 44 (0.656), 5 (0.446), 1 (0.394), 9 (0.384)	-	27 (0.678), 33 (0.688)	21 (0.325), 11 (0.359)	54 (0.501), 18 (0.394)	57 (0.419)	7 (0.732), 28 (0.39)
3 rd Factor Loading	38 (0.732)	53 (0.564), 4 (0.369)	13 (0.53), 10 (0.494)	20 (0.311)	-	-	-
4 th Factor Loading	32 (0.347)	-	-	-	30 (0.702), 24 (0.366)	-	58 (0.829)
5 th Factor Loading	39 (0.795), 15 (0.433)	22 (0.406)	-	-	-	-	59 (0.709), 26 (0.462)
6 th Factor Loading	48 (0.325)	-	-	-	56 (0.425)	-	47 (0.825)
7 th Factor Loading	49 (0.735)	-	-	-	-	-	35 (0.826)
8 th Factor Loading	51 (0.643)	-	29 (0.365), 16 (0.377)	-	17 (0.428)	-	-
9 th Factor Loading	-	8 (0.881)	-	-	-	14 (0.892)	-
10 th Factor Loading	52 (0.787)	31 (0.325)	-	-	-	-	-

Key: LTDF - Long term development focus; QP–Quality Preparation; CO–Communication; UA–Understanding Athletes; SN–Supporting network; CSE–Challenge and Supporting Environment; LTDFU–Long term development Fundamental Understanding

Table 3. Extraction from rotated factor loading on LTDEQ of Ethiopian adaptation

Factor Loading	LTDF	QP	CO	SN	CSE	LTDFU	Renamed
1 st Factor Loading	43 (0.845), 12 (0.821)	-	-	3 (0.795)	-	34 (0.835)	LTDF & LTDFU
2 nd Factor Loading	42 (0.864)	-	33 (0.688)	-	-	7 (0.732)	LTDF, CO, & LTDFU
3 rd Factor Loading	38 (0.732)	53 (0.564)	-	-	-	-	LTDF & QP
4 th Factor Loading	-	-	-	30 (0.702)	-	58 (0.829)	SN & LTDFU
5 th Factor Loading	39 (0.795), 49 (0.735)	-	-	-	-	35 (0.826), 59 (0.709)	LTDF & LTDFU
6 th Factor Loading	-	-	-	-	-	47 (0.825)	LTDFU
7 th Factor Loading	51 (0.643), 52 (0.787)	-	-	-	-	-	LTDF
8 th Factor Loading	-	8 (0.881)	-	-	14 (0.892)	-	QP & CSE

Key: LTDF - Long term development focus; QP–Quality Preparation; CO–Communication; UA–Understanding Athletes; SN–Supporting network; CSE–Challenge and Supporting Environment; LTDFU–Long term development Fundamental Understanding

After extracting rotated factor loadings from the talent development environmental questionnaire for Ethiopian athletes, this increased from seven to eight dimensions. Among the extracted eight dimensions six dimensions were hybrid whereas two dimensions were independent. In the analysis of long-term development focus dimension, a primary factor is constituted by four out of 59 statements loaded from dimensions such as long-term development focus dimension, supportive network dimension, and fundamental understanding of long-term development dimension variable. Factor two analysis reveals that three out of 59 statements were loaded

from dimensions including long-term development focus dimension, communication skills dimension, and fundamental understanding of long-term development dimension. In Factor three analysis, two statements were loaded from long-term development focus dimension and quality preparation dimension. For Factor four, two statements were loaded significantly from supportive network dimension and fundamental understanding of long-term development dimension. Factor five analysis, four statements loaded from long-term development focus dimension and fundamental understanding of long-term development dimension. After analyzing

Factor six, one statement was loaded significantly from the “Long-Term Development Fundamental Understanding dimension” dimension. For Factor seven, two statements were loaded from the “Long-Term Development Focus” dimension. In the case of Factor eight, two statements were loaded from both the “Quality Preparation” dimension and the “Challenge and Supporting Environment” dimension. Notably, no factor loading was observed from the Understanding Athletes dimension. Hence the Ethiopia adaptation considered highly valid.

The Pearson product correlation analysis (test-retest reliability) of the seven dimensions of LTDEQ is statistically significant and strongly positively correlated (See Table 4). The validity and reliability of the original factor analysis of the response data resulted in a seven-dimensional factor (See Table 5). Specifically, factor loadings for LTDF ranged from 0.325 to 0.864, with an average of 0.787; for QP, the range was 0.325 to 0.881, with an average of 0.689; for CO, the range was 0.365 to 0.688, with an average of 0.648; for UA, the range was 0.311 to 0.364, with an average of 0.339; for SN, the range was 0.39 to 0.835, with an average of 0.701; for CSE, the range was 0.314 to 0.892, with an average of 0.627; and for LTDFU, the range was 0.365 to 0.688, with an average of 0.648.

After extracting rotated factor loadings from the talent development environmental questionnaire for Ethiopian

athletes, this increased from seven to eight dimensions. Among the extracted eight dimensions, six dimensions were hybrid, whereas two dimensions were independent. Namely, the factor loadings for LTDF and LTDFU ranged from 0.795 to 0.845, with an average of 0.824; for LTDF, CO, and LTDFU, they ranged from 0.688 to 0.864, averaging 0.761; for LTDF and QP, the range was 0.688 to 0.732, with an average of 0.71; for SN and LTDFU, the range was 0.702 to 0.829, averaging 0.765; for LTDF and LTDFU, the range was 0.709 to 0.826, with an average of 0.806; for LTDFU alone, it was 0.825, with an average of 0.825; for LTDF, the range was 0.643 to 0.787, with an average of 0.780; and for QP and CSE, the range was 0.881 to 0.892, with an average of 0.886. It has been observed that the factor loadings of the extracted (Ethiopian adaptation) were superior to those of the original talent development environmental questionnaire for athletes.

The analysis revealed improved reliability (test-retest) for the Ethiopian adaptation of factor loadings (range: .643 to .892) compared to the original LTDEQ (.311 to .892). Pearson correlation increased (range: .142 to 1.000**) post-extraction, surpassing the original range (.018 to .869**). Cronbach's alpha rose from $r = .927$ to $r = .932$, affirming the validity for future use on the Ethiopian population.

For contrast finding of LTDEQ cross-validation the above table shows, the original factor analysis of the data response

Table 4. Correlation between dependent variable of LTDEQ of athletes

No.	Dimensions	PPMC	1	2	3	4	5	6	7
1	LTDF	Corre	1						
2	QP	Corre	0.296**	1					
3	CO	Corre	0.869**	0.227**	1				
4	UA	Corre	0.496**	0.249**	0.463**	1			
5	SN	Corre	0.568**	0.018	0.538**	0.348**	1		
6	CSE	Corre	0.390**	0.092	0.391**	0.348**	0.670**	1	
7	LTDFU	Corre	0.710**	0.179*	0.756**	0.243**	0.624**	0.336**	1

Correlation is significant at the 0.01 level (2-tailed). * $p < 0.05$; ** $p < 0.01$; * $p < 0.001$ $r = .927$

Table 5. Summary table of LTDEQ: Original response and Ethiopian adaptation

Original Questionnaire of LTDEQ				Extracted/Adaptable from Original (Ethiopian Adaptation)			
S.N.	Original Dimension	Factor loading ranged from	Average	S.N.	Renamed for ETH after extracted variables	Factor loading ranged from	Average
1	LTDF	0.325 to 0.864	0.787	1	LTDF and LTDFU	0.795 to 0.845	0.824
2	QP	0.325 to 0.881	0.689	2	LTDF, CO, LTDFU	0.688 to 0.864	0.761
3	CO	0.365 to 0.688	0.648	3	LTDF and QP	0.688 to 0.732	0.71
4	UA	0.311 to 0.364	0.339	4	SN and LTDFU	0.702 to 0.829	0.765
5	SN	0.366 to 0.795	0.752	5	LTDF and LTDFU	0.709 to 0.826	0.806
6	CSE	0.314 to 0.892	0.627	6	LTDFU	0.825	0.826
7	LTDFU	0.39 to 0.835	0.701	7	LTDF	0.643 to 0.787	0.780
				8	QP and CSE	0.881 to 0.892	0.886
	Factor range	0.627 to 0.787			Factor range	0.71 to 0.886	
	Pearson correlation	0.018 to 0.869**			Pearson correlation	0.142 to 1.000**	
	Cronbach alpha	$r = 0.927$			Cronbach alpha	$r = 0.932$	

Key: LTDF - Long term development focus; QP-Quality Preparation; CO-Communication; UA-Understanding Athletes; SN-Supporting network; CSE-Challenge and Supporting Environment; LTDFU-Long term development Fundamental Understanding

AQ1 Table 6. Summary contrasts of findings of (LTDEQ) before and after extracted

Original Questionnaire of LTDEQ					Extracted/Adaptable for Ethiopian Adaptation				
S.N.	Original Variables	Q (N=59)	Mean (M)	Std	S.N.	Renamed for Ethiopian athletes after extracted variables	Q (N=20)	Mean (M)	Std
1	LTDF	24	3.95	1.07	1	LTDF and LTDFU	4	4.15	1.11
2	QP	5	3.33	0.071	2	LTDF, CO, LTDFU	3	3.82	1.02
3	CO	7	3.97	1.11	3	LTDF and QP	2	3.74	1.08
4	UA	4	3.31	1.34	4	SN and LTDFU	2	3.89	1.18
5	SN	8	3.64	1.21	5	LTDF and LTDFU	4	3.87	1.12
6	CSE	4	3.24	1.36	6	LTDFU	1	3.99	0.89
7	LTDFU	7	3.81	1.09	7	LTDF	2	3.61	1.11
					8	QP and CSE	2	2.96	1.42
As whole		59 Item			As whole		20 Item		

Key: LTDF - Long term development focus; QP-Quality Preparation; CO-Communication; UA-Understanding Athletes; SN-Supporting network; CSE-Challenge and Supporting Environment; LTDFU-Long term development Fundamental Understanding

yielded seven-dimensional factor variables namely: (1) long term development focus dimension, (2) Quality preparation dimension, (3) Communication skill dimension, (4) Understanding athlete dimension, (5) Supportive network dimension, (6) Challenge and supportive environment dimension and (7) Long term development fundamental understanding dimension. Descriptive analysis showed the mean and standard deviation values of the variables which were 3.95 ± 1.071 , 3.97 ± 1.11 , 3.28 ± 0.071 , 3.31 ± 1.34 , 3.64 ± 1.21 , 3.24 ± 1.36 and 3.81 ± 1.09 , respectively.

After extracting rotated factor loadings from the talent development environmental questionnaire for Ethiopian athletes, the number of variables dimensions increased from seven variables dimensions to eight variables dimensions as well as reduction of 59 questionnaire statements to 20, namely: 1) LTDF and LTDFU, 2) LTDF, CO & LTDFU, 3) LTDF and QP, 4) SN and LTDFU, 5) LTDF and LTDFU, 6) LTDFU, 7) LTDF, and 8) QP and CSE factor dimension. Descriptive analysis showed the mean and standard deviation values of the variables which were 4.15 ± 1.11 , 3.82 ± 1.01 , 3.74 ± 1.08 , 3.89 ± 1.18 , 3.87 ± 1.12 , 3.99 ± 0.89 , 3.61 ± 1.11 , and 2.96 ± 1.42 , respectively. Therefore, it is concluded that the Ethiopian adaptation is valid for future applications and adaptation for administration on Ethiopian population.

DISCUSSION

The purpose of this study was to investigate the significance and relevance of managerial skills for talent development in Ethiopian athletes. The focus was on evaluating the effectiveness of talent development, pinpointing managerial skills crucial for this development, and comprehending the mechanisms behind talent development within Ethiopian athletics clubs. The Long-term Talent Development Environmental Questionnaire (LTDEQ) comprised seven variables: Long-term development focus, Quality preparation, Communication skills, Understanding Athlete, Supportive Network, Challenge and supportive Environment, and Long-term development fundamental Understanding. The method

of descriptive analysis has mean values on a range of a five-point scale. Thereafter, factor analysis was performed, resulting in eight dimensions, of which six were hybrid, and two were independent. The factors were named: i) LTDF & LTDFU; ii) LTDF, CO & LTDFU; iii) LTDF & QP; iv) SN & LTDFU; v) LTDF & LTDFU; vi) LTDFU; vii) LTDF; viii) QP & CSE, respectively.

The analysis of data concerning long-term development focus unveiled a strong consensus among participants, consistent with Malina's (2010) findings, indicating a shared perception among parents, coaches, and clubs regarding the pathway to elite-level competition. Moreover, insights from van den Berg and Surujlal's (2013) summary data suggest that most respondents benefited from challenging training sessions aimed at enhancing performance, covering essential aspects of long-term talent development focus, including training support, coach guidance, skill development, work ethics, and training goals. Similarly, van den Berg et al. (2021) observed that a management approach significantly contributes to holistic athletic career development, emphasizing sustainable talent nurturing and increased sports participation. These findings align with the current investigation, highlighting the role of managerial skills in talent development (van den Berg & Surujlal, 2013; van den Berg et al., 2021).

Analysis of the data obtained regarding quality preparation indicated a strong consensus among the subjects, with the majority strongly agreeing with the statements. This aligns with existing research, as highlighted by Martindale et al. (2010), who emphasized the importance of ensuring quality preparation. They underscored the necessity of providing clear guidance and opportunities, followed by reinforcing practice through training, recovery, and competitive experience. The study by Martindale et al. (2010) strongly supports the authenticity of the findings of the current study.

Analysis of the data concerning communication skills revealed that the majority of subjects strongly agreed with the statements. This finding is supported by the study conducted by Davis et al. (2019), which emphasizes the importance of

effective communication management among teams, coaches, athletes, and managers. Such communication is crucial for the athletes' well-being, encouraging and motivating them to perform their best during events. Similarly, research by Çolak et al. (2018) suggests that communication serves as a foundation for implementing direct communication management principles and recommendations, thereby benefiting Ethiopian athletes. The development of basic knowledge, environmental understanding, and effective communication with all stakeholders are essential for achieving goals in all sports (Davis et al., 2019; Çolak et al., 2018).

To understand athletes, it is essential to address diverse training demands, considering the array of mental challenges they encounter due to various internal and external factors, leading to emotional disturbance and subsequent impacts (Taylor et al., 2022). This underscores the importance of comprehending athletes for talent development, as a complex interrelationship seems to exist between psycho-behavioral skill sets (Siekańska & Wojtowicz, 2017). Thus, the findings of the current study align with those of previous research, emphasizing the significance of understanding athletes' psychological and behavioral aspects for effective talent development.

The summary data provided by Xiang et al. (2023) underscores the importance of athletes' supporting networks, as they exert a positive and significant influence on sports talent development. Inadequate parental involvement may pose a primary constraint in talent development, whereas social support emerges as a favorable factor. For instance, coaches can offer long-term motivation to Ethiopian athletes, serving as a form of social support (Siekańska, 2023). This strongly supports the authenticity of the findings of the current study. Both sets of findings corroborate the observations made in the present investigation (Xiang et al., 2023; Siekańska, 2023).

Based on the findings of Taylor et al. (2022), it is suggested that a complex interrelationship exists between psycho-behavioral skillsets and the environmental support provided in a Challenge and Supporting Environment. Similarly, findings documented by Siekańska and Wojtowicz (2017) indicate a lack of commitment and interest among coaches in reporting athlete development. They also highlight insufficient guidance on coping with pressure, inadequate tactical planning and goal setting, and a lack of balance between leisure activities and sports, all of which impact environmental support. To foster the appropriate attitude and approach to challenges, coaches and managers must cultivate a supportive environment (Taylor et al., 2022). The findings of the current study align with those of Siekańska and Wojtowicz (2017) and Taylor et al. (2022), thereby strongly supporting the authenticity of the conducted study's findings.

The results of the Long-term development fundamental understanding indicate a significant disparity in long-term development between experienced and amateur performers based on predictors. According to Güllich et al. (2023), experienced performers, in contrast to amateur performers, initiate their involvement in their main sports, participate

in talent promotion programs, and attain performance milestones at higher levels. However, Shahidi et al. (2023) argue that there is no correlation between experienced and amateur performers regarding success, particularly among children and adolescents.

The analysis of the Ethiopian adaptation of the long-term development environmental questionnaire indicates a substantial improvement in reliability (test-retest), with factor loadings ranging from .643 to .892 post-extraction. This enhancement, compared to the original range of .311 to .892, supports the construct validity and is consistent with recommendations by (Siekańska and Wojtowicz, 2017). Additionally, the observed inters-dimensional associations and an excellent Cronbach alpha value of $r = .932$ for athletes' development further validate the questionnaire's robustness and reliability in the Ethiopian context.

Finally in this study, the comprehensive analysis of the long-term development environmental questionnaire for Ethiopian athletes has yielded significant outcomes. The successful exploration of data reduction possibilities, coupled with the adept adaptation of the questionnaire to the Ethiopian context, underscores the questionnaire's suitability for the local athletic population. The validation process further solidifies its applicability, confirming its relevance and alignment with the unique characteristics of Ethiopian athletes. Moreover, the reliability assessments affirm the consistency and dependability of the Ethiopian adaptation. The culmination of these findings supports the conclusion that the refined questionnaire, now comprising eight dimensions and 20 statements, is a valid and reliable instrument for future applications and assessments within the Ethiopian sports development landscape.

Limitations include reliance on self-reported data and potential lack of generalizability. However, strengths such as meticulous questionnaire adaptation and validation ensure its relevance. Additionally, the study's practical implications offer valuable insights for enhancing athlete development and performance within Ethiopian athletics clubs, contributing to sports development efforts and benefiting researchers, practitioners, and policymakers in sports management and talent development.

CONCLUSION

Based on the findings, the dimensions increased from seven to eight, considered as the Ethiopian adaptation of LTDEQ. Reliability has increased from the original version to the Ethiopian adaptation. Additionally, internal consistency has improved from the original version to the Ethiopian adaptation. Therefore, The Ethiopian adaptation of questionnaire is valid and reliable for future applications and adaptations for administration on Ethiopian population.

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AUTHOR CONTRIBUTIONS

DWM contributed to the conception, design, data collection, and data analysis; he also prepared the tables and figures, drafted the manuscript, and revised and finalized it for publication. DS contributed to the conception, design, planning, and supervision of the research; he set the goals, provided substantive supervision, and finalized the manuscript for publication.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study was approved by the University of Delhi's Board of Research Studies (Ref No: DPE/2022/1338) and authorized by the Ministry of Education in Ethiopia (REF NO: 28/158/236/22). Participants were guaranteed voluntary participation, the right to withdraw, and were kept informed of their rights throughout, following the Declaration of Helsinki.

DATA AVAILABILITY STATEMENT

The authors can provide data upon reasonable request.

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