

A Factor-Analytic Study of Selected Psychological Traits as Indicators for the Selection of Youth Football Players

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Abstract

This study aimed to determine the factor structure of selected psychological trait measures in youth football players, with a view to establishing scientifically grounded indicators for sport selection. A descriptive survey design was adopted. The study was conducted on a purposive sample of 119 youth players (under 13 years) registered with eight clubs affiliated to the Provincial Football League of Souk Ahras, Algeria. Data were collected using the Tutco and Ritchard Sport Motivational Traits Rating Scale, retained after a process of expert review in which the prescribed agreement ratios were applied and the remaining psychological inventories were excluded. The data were submitted to exploratory factor analysis using the principal components method with orthogonal (Varimax) rotation. After the drive and aggression dimensions had been excluded, the analysis yielded two principal psychological factors accounting for the psychological structure underlying selection. The first factor was headed by the trait of trust in others, with a loading of 0.626, and comprised five dimensions (trust in others, mental toughness, conscientiousness, leadership, and determination). The second factor was labelled emotional control, with a loading of 0.773, and comprised four dimensions (emotional control, coachability, responsibility, and self-confidence). These two factors are proposed as a measurement basis and a standardised scientific indicator for the selection and guidance of youth players.

Keywords: sport selection; psychological traits; exploratory factor analysis; youth football players; motivational traits; talent identification.

1. Introduction

Sport has attracted growing interest from researchers and scientists worldwide, who seek to raise performance levels and achieve record results by applying scientific principles and by intensifying the research and experimentation that substantially influence athletes' performance in competition. The concepts underpinning sports training have accordingly become broader and more consequential, and have become linked to a set of disciplines that inform them and give them a scientific character, such as biomechanics, sports medicine, exercise physiology, and psychology. Owing to this scientific interest, sport has risen to professional and international levels, and modern football is a clear illustration of this trend. Those responsible for the sport pay particular attention to developing players' skills and

strategies, improving styles of play, and identifying talent early, with an emphasis on scientific selection that takes into account the biological, motor, and psychological characteristics of players (Hammad, 2001). Such approaches contribute to the effective investment of human effort in sport, in that the best physical, psychological, physiological, and social attributes of athletes are brought into intensive and well-designed training; through this directed effort, optimal results in sports competition can be achieved (Rissan & Rahma, 1990).

Selecting the individual best suited to a given activity is a fundamental step towards attaining championship level, and many researchers have therefore devoted considerable attention to this process. Numerous studies in physical education and sport in general, and in selection in particular, have underlined the importance of selecting young athletes. Mohamed Sabri Omar (1991) adds that identifying the requirements of a given activity through individuals' abilities is one of the basic principles of selection procedures. The importance of selection is further illustrated by the Olympic Games, where certain countries have consistently maintained leading positions despite small populations relative to major nations, a situation attributable primarily to the attention that specialists in physical education and sport in those countries give to selection across the various sporting activities.

Changes over time and developments in sports training have altered the approach previously followed by some coaches in developing sporting talent. It is no longer sufficient for a coach to rely on field experience and personal expertise to bring talented athletes to a high level; coaches are now expected to possess specialised skills, particularly when working with younger age groups, so as to be able to develop young players and elicit the best possible performance in line with their abilities and potential through a scientific methodology. Consequently, newly qualified coaches specialising in sports training have been entrusted with the preparation of young players. The youth coach is the person primarily responsible for the future pillars of the team: he selects players with the capacities and aptitudes appropriate to football, drawing on physical, morphological, physiological, and psychological determinants in the selection process, and administering the tests and measurements required to identify the best candidates. The coach must approach this process with care and attention, since any shortcoming or oversight in selection may drive a young player of considerable potential away from football; predicting the capacities and potential of a young player therefore requires particular attention and care if the loss of football talent is to be avoided.

Despite the popularity of football in Algeria and the substantial budgets allocated by the State, the attainment of the required levels of professionalism and excellence may be delayed in comparison with certain other countries. This is due in part to reliance on non-scientific methods in the training and selection of talented players. The study by Cherifi Selim (2009) documented this situation, showing that there is a pressing need to adopt more scientific and specialised training methods and techniques; raising the level of Algerian football may require improvements to training infrastructure and the adoption of strategies grounded in scientific research and technological development in this field.

To ensure that the selection of talented athletes proceeds soundly, it must incorporate multiple objective determinants spanning physical and biological aspects, since these determinants support the prediction of advanced performance levels through accurate

measurement and testing of individual capacities. Within the process of selection and guidance, psychological factors play an important role: they represent the capacity to make use of physical, functional, and motor attributes according to the degree of effort demanded by a given sport. Given the diversity of sporting activities, each activity has come to have psychological requirements that distinguish it from others, whether in relation to the nature, components, or content of the activity, the nature of the motor skills or tactical abilities required to perform it, the mental processes it demands, or the particular psychological traits the athlete is expected to display (Bahi et al., 2002). Psychological factors are likewise among the important aspects of preparing an athlete to reach a high level of achievement; they complement the athlete's overall standard and help the athlete adapt to the various pressures encountered before and during training and matches. Today, many researchers and specialists concerned with the selection of talented footballers converge on valuing the role of the psychological dimension in sound selection, given its importance across the different stages of selection for appraising the psychological characteristics of the talented young player and his readiness for competition (Mansour, 2007).

1.1 Research question and hypothesis

On this basis, the following general question is posed:

Are there psychological factors that determine the selection of youth football players?

Hypothesis: There are psychological factors that determine the selection of youth football players.

1.2 Significance of the study

The significance of this study lies in identifying the psychological traits that contribute clearly to the selection of youth football players, thereby assisting football coaches in choosing and selecting the best individuals through a standardised scientific approach that saves time, effort, and resources. This in turn supports efforts to keep pace with the rapid progress and development of football and to achieve the best possible results in the future at continental, world, and Olympic levels.

1.3 Aim of the study

The general aim of the study is to determine the factor structure of selected psychological trait measures in youth football players, through:

- identifying the most important psychological trait measures for youth football players as selection indicators.

2. Theoretical Background

2.1 Conceptual definitions

Factor analysis. The *Standards for Educational and Psychological Testing* (AERA & National Council on Measurement in Education, 1999) define factor analysis as one of several statistical methods that classify the relationships among a set of variables by statistically deriving new variables, termed factors, that are fewer in number than the original set of variables.

Psychological traits. These are the relatively stable characteristics and patterns that distinguish an individual in his way of thinking, feeling, and responding emotionally and behaviourally to different situations. They encompass the mental and emotional processes — such as perception, motivation, intelligence, emotions, and psychological dispositions — that

influence how the individual interacts with himself and with the surrounding environment (Myers, 2014).

Sport selection. A process through which the best individuals are chosen from among a large number of players according to specified determinants (Hammad, 1996, p. 306).

Youth players (juniors). Children of both sexes, boys and girls, aged between 5 and 13 years. These years fall within middle childhood (approximately 8–10 years), late childhood (approximately 11–12 years), and the beginning of early adolescence (Al-Hawi, 2004, p. 21).

Football. A team sport played by two teams that attempt to score goals against each other. A football team comprises eleven players, and the game is governed by an international federation — the first world federation for the game — whose responsibilities include establishing and applying the laws of the game and administering competitions, among other tasks (Abu Abdou, 2002, p. 21).

2.2 Previous studies

Messaoudi (2023) , in a study entitled *A Factor-Analytic Study of Selected Physical Abilities as an Indicator for the Selection of Youth Players in Football Academies in Medina*, aimed to determine the factor structure of a set of physical measurements and tests in order to arrive at a precise scientific indicator for the selection process. The researcher used a descriptive design based on factor analysis with a sample of 130 youth players from football academies. The statistical procedures comprised means, standard deviations, the Pearson correlation coefficient, and the Shapiro–Wilk test of normality, in addition to exploratory factor analysis using Hotelling’s principal components method with orthogonal (Varimax) rotation. The factor analysis yielded four principal physical factors accounting for the phenomenon: sprinting speed and motor response, ranked first, followed by cardiorespiratory endurance, explosive strength of the lower limbs, and finally agility and motor coordination, identified as the most important physical indicators to be relied upon in the selection of youth players.

Chehat and Belboul (2021), in a study entitled *Psychological Determinants in the Sport Selection Process in Algerian Professional Football from the Players’ Perspective*, aimed to identify and rank the psychological attributes of greatest importance among elite players, with a view to establishing clear scientific foundations for selecting young football talent and building their athletic personality. The researchers used a descriptive-analytical design with a purposive sample of professional players from clubs in the Algerian Ligue 1 (16 teams nationally), using a questionnaire scored on a seven-point Likert scale. The statistical procedures comprised frequencies, percentages, means, standard deviations, relative weight, together with the Pearson correlation coefficient and Cronbach’s alpha to verify validity and reliability. The results produced a classification and ranking of the psychological determinants according to their importance in selection: self-confidence ranked first among the psychological indicators, followed by sport motivation (achievement motivation), and then attentional focus and coping with anxiety and competitive pressure, presented as precise and decisive pillars that technical staff should adopt as core indicators in screening young talent and guiding it towards elite football.

Halim Cherifi (2018) , in a study entitled *Construction of a Test Battery for Measuring Psychological Variables and Personality Traits as an Indicator for the Selection and Guidance of Football Players*, aimed to design and construct a standardised battery of

psychological tests based on decisive psychological traits, and to determine the factor structure of the most prominent of these traits among talented young players so that they might serve as a scientific indicator in the selection process. The researcher adopted a descriptive design combining survey and factor-analytic approaches as best suited to the stated objectives. The study was conducted on a sample of approximately 100 to 120 young players from football clubs active in the younger age categories, supplemented by a survey of the views of a group of coaches and experts in order to identify the most influential traits. Data analysis drew on a set of advanced statistical procedures, including exploratory factor analysis using Hotelling's principal components method. After factor analysis, the results yielded and supported clear core psychological factors, the most prominent of which were self-confidence, coping with anxiety, and motivation for sporting achievement. The resulting battery also demonstrated sound psychometric properties in terms of validity, reliability, and factor loadings, allowing coaches and practitioners in the field to rely on it with confidence as a formal indicator for selecting and guiding young players.

Abdeljihad (2017) examined *The Importance of Psychological Factors in the Selection of Talented Football Players*, seeking to identify the role of athletic personality traits and of social and emotional intelligence in predicting the success of young players. The study used a descriptive-analytical design with a sample of players from the various age categories. The statistical procedures comprised the mean, relative weight, the standard deviation, and the *t*-test for differences between independent groups. The results indicated that psychological and social traits have a direct and decisive influence on the persistence and development of football talent, and that the traits most strongly associated with talented players were high achievement motivation and the ability to control emotions in critical competitive situations.

Khalil (2014) investigated *The Psychological Traits Required for the Selection of Youth Water Polo Players*, with the researcher seeking to construct and design a scientific measurement instrument to identify the psychological characteristics that determine success in this competitive aquatic sport. The researcher used a descriptive design with its analytical procedures, applied to a randomly selected sample of 250 young players from the Al-Ahly, Al-Gezira, and Heliopolis clubs in the age categories from 14 to 17 years. The statistical procedures used in data analysis and scale construction comprised means, standard deviations, percentages, the Pearson correlation coefficient, and the *t*-test for differences, in addition to factor analysis for extracting the pure psychological factors accounting for the phenomenon. The factor analysis yielded five core psychological traits constituting the general psychological structure of the water polo player: boldness, achievement motivation, courage, self-confidence, and persistence. An integrated, standardised scale for young players was constructed, comprising 42 items (28 positively worded and 14 negatively worded), to serve as an objective instrument and measurement indicator in sport selection and guidance in the youth sector.

3. Methods

3.1 Research design

In view of the aims of the study and the nature of the topic, a descriptive design with a survey approach was adopted.

3.2 Population and sample

The study population comprised youth football players in the under-13 age category registered with the Provincial Football League of Souk Ahras for the 2022/2023 season, totalling 483 players.

The sample was selected purposively and included all under-13 youth football players active in the football schools of the municipal clubs of Souk Ahras Province affiliated to the Provincial Football League of Souk Ahras for the 2022/2023 season, comprising eight clubs. The sample totalled 162 young players. Of these, 18 players were assigned to the pilot study, and 25 players were excluded because the paper forms of the psychological measurement instrument were not returned, bringing the main study sample to 119 young players. Table 1 presents the classification of the research sample, the number of players in the study sample, and the number excluded for each club.

Table 1. Distribution of the research sample and excluded players by club

No.	Club	Youth players (n)	%	Pilot sample (n)	%	Exclude d (n)	%	Main sample (n)	%
01	MM Souk Ahras	20	12.34 %	02	11.11 %	04	16 %	14	11.76 %
02	CSTC Souk Ahras	22	13.58 %	03	16.66 %	02	8%	17	14.28 %
03	CA Souk Ahras	22	13.58 %	03	16.66 %	03	12 %	16	13.44 %
04	E Souk Ahras	20	12.34 %	02	11.11 %	02	8%	16	13.44 %
05	CS Hamma Loulou	20	12.34 %	02	11.11 %	02	8%	16	13.44 %
06	CAM Souk Ahras	20	12.34 %	02	11.11 %	04	16 %	14	11.76 %
07	AS Atletico	19	11.72 %	02	11.11 %	04	16 %	13	10.92 %
08	CSA Iben Roched	19	11.72 %	02	11.11 %	04	16 %	13	10.92 %
Tot al		162	100 %	18	100 %	25	100 %	119	100 %

Note. Club abbreviations: MM Souk Ahras = Mouloudia de Souk Ahras Amateur Sports Club; CSTC Souk Ahras = Souk Ahras Municipal Workers Amateur Sports Club; CA Souk Ahras = Chabab Amal Souk Ahras Amateur Sports Club; E Souk Ahras = Wifak Souk Ahras Amateur Sports Club; CS Hamma Loulou = Hamma Loulou Souk Ahras Amateur Sports Club; CAM Souk Ahras = Mouloudia de Souk Ahras Academy; AS Atletico = Atletico Souk

Ahras Amateur Sports Club; CSA Iben Roched = Ibn Rushd Souk Ahras Amateur Sports Club.

Note. Compiled by the authors from the records of the Provincial Football League of Souk Ahras for the 2022/2023 season.

3.3 Scope of the study

Setting. The study was conducted at the municipal football grounds of Souk Ahras: Gouar Ettayeb Municipal Stadium, Badji Mokhtar Sports Complex (annex ground), Hamma Loulou Municipal Stadium, and the Ibn Rushd 108 district ground.

Time frame. The pilot study was conducted from late April to early June 2023, followed by the main application of the study from early June to the end of July 2023, after which the data were compiled and the applied component of the research was carried out.

3.4 Instruments

3.4.1 Selection of psychological trait variables and their tests

A form was designed to collect expert opinion (an expert opinion survey form) in order to identify the most important variables associated with each of the traits initially retained. Once the form had been prepared and formatted in its final version, it was submitted in both paper and electronic format to 17 referees and experts among academic staff in physical education and sport within and outside Algeria. The eligibility criteria for experts were a doctoral degree in physical education and sport and at least ten years of experience in coaching or in teaching within the field of scientific research.

Table 2. Expert ratings and percentages for the psychological trait variables

No.	Psychological trait	Percentage (%)	Excluded traits
1	Personality	48.82%	X
2	Motivational traits	90.58%	
3	Temperamental patterns	44.11%	X
4	Anxiety	34.11%	X
5	Memory	23.52%	X

Note. Table 2 presents the variables of the psychological determinant together with the rating and percentage obtained by each variable. As shown in the table, psychological traits obtaining less than 50% were excluded.

Table 3. Percentages of expert agreement on the psychological trait tests

N o.	Variable	Psychological test	Frequen cy	Expert agreement (%)	Excluded attributes
1	Motivational traits	Tutco and Ritchard Sport Motivational Traits Rating Scale (adapted by Mohamed Hassan Allawi)	12	70.58%	
		Sport Motivational Traits Inventory by Mohamed Hassan Allawi	5	29.41%	X

Note. Table 3 presents the psychological tests for the psychological trait variables agreed upon by the experts, amounting to one test. As shown in the table, psychological trait tests obtaining less than 50% were excluded.

3.5 Procedures

3.5.1 Pilot study

After completing the administrative and organisational procedures, a series of pilot studies was conducted between 28 April 2025 and 4 June 2025.

First pilot study (28 April 2025 – 5 May 2025). This study was conducted with 18 young players selected at random, as shown in Table 1 concerning the classification of the research sample. Its purpose was familiarisation with, and training in the administration of, the psychological scale.

Second pilot study (6 May 2025 – 13 May 2025). The first administration of the scale was carried out as part of the second pilot study.

Third pilot study (26 May 2025 – 4 June 2025). The second administration of the scale was carried out. The timing of measurement was standardised, and the second administration took place two weeks after the date of the first. The reliability coefficient of the scale was then computed (Table 4).

Table 4. Test–retest reliability coefficients of the scale dimensions

Test	First administration: Mean	First administration: SD	Second administration: Mean	Second administration: SD	Sig .	Statistical significance	Correlation coefficient
Drive	16.22	2.07	15.67	2.22	0.000	Significant at 0.01	0.834
Aggression	16.77	4.69	15.94	4.43	0.000	Significant at 0.01	0.782
Determination	18.67	2.33	18.94	2.75	0.000	Significant at 0.01	0.741
Responsibility	19.50	2.31	19.44	2.75	0.000	Significant at 0.01	0.713
Leadership	17.83	4.45	17.17	4.37	0.000	Significant at 0.01	0.867
Self-confidence	20.56	3.63	20.44	3.11	0.000	Significant at 0.01	0.841
Emotional control	14.17	3.47	15.33	2.83	0.001	Significant at 0.01	0.708
Mental toughness	17.28	3.58	16.94	3.33	0.000	Significant at 0.01	0.806

Coachability	21.00	3.79	20.89	4.31	0.01	Significant at 0.01	0.703
Conscientiousness	19.17	2.15	18.89	2.95	0.00	Significant at 0.01	0.755
Trust in others	16.28	2.44	15.33	3.68	0.01	Significant at 0.01	0.756

Note. Compiled by the authors from SPSS v26 output.

Table 4 shows that the correlation coefficients (reliability coefficients) for the 11 tests ranged from 0.703 to 0.867 and were all statistically significant at $\alpha = 0.01$. All are considered reliable, since they exceed the correlation value of 0.70, which indicates that these tests are suitable for factor analysis with the research sample; these were the tests accepted for the main study.

Table 5. Validity coefficients of the research variables

Test	Self-validity (reliability)
Drive	0.913
Aggression	0.884
Determination	0.860
Responsibility	0.844
Leadership	0.931
Self-confidence	0.917
Emotional control	0.841
Mental toughness	0.897
Coachability	0.838
Conscientiousness	0.868
Trust in others	0.869

Note. Table 5 presents the validity values of the tests, obtained through the self-validity (reliability) method. These are very strong coefficients indicating that each test measures what it was designed to measure; their values ranged from 0.838 to 0.931. It may therefore be concluded that the test results can be relied upon, that they are appropriate to the study sample and its characteristics, and that they are suitable for factor analysis.

3.5.2 Main study

The scale was administered to the main research sample of 119 under-13 youth football players at the youth training grounds between 8 June 2023 and 29 July 2023.

3.6 Statistical analysis

Once all measurements and tests had been completed with the main research sample, the data were transferred into a format suitable for statistical processing. Statistical analyses were performed using SPSS v26 and comprised the mean, the standard deviation, the Pearson correlation coefficient, and factor analysis.

4. Results

Hypothesis: There are psychological factors that determine the selection of football players.

To test the hypothesis and extract the factors relating to selection on the psychological dimension, the analysis proceeded through a series of stages.

4.1 Stage 1: Sampling adequacy and the nature of the correlation matrix

To verify these conditions, the Kaiser–Meyer–Olkin Measure of Sampling Adequacy and Bartlett’s Test were computed, as shown in the table below.

Table 6. KMO value and Bartlett’s Test

KMO and Bartlett’s Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.695
Bartlett’s Test of Sphericity	Approx. Chi-Square	225.388
	df	55
	Sig.	0.000

Note. Compiled by the authors from SPSS v26 output.

The table shows that the KMO value is 0.695, which exceeds 0.50 and is therefore considered acceptable, indicating that the sample is adequate for exploratory factor analysis. Bartlett’s Test value is 225.388 with a probability value of 0.000, which is below 0.01 and indicates that the test is significant; the correlation matrix is therefore not an identity matrix but contains the minimum level of interrelationship required.

4.2 Stage 2: Adequacy of the correlation of each dimension with the remaining dimensions

At this stage, the anti-image matrix was used to verify that the level of correlation between each dimension and the remaining dimensions was sufficient for factor analysis of the psychological dimension in the selection of youth football players. The diagonal cells of the matrix were examined, and a value above 0.50 was required for a variable to be retained in the exploratory factor analysis.

Table 7. Anti-image matrix for the psychological dimension in the selection of youth football players

Dimension	MSA value	Decision
Drive	0.457	Not acceptable
Aggression	0.492	Not acceptable
Determination	0.810	Acceptable
Responsibility	0.760	Acceptable
Leadership	0.840	Acceptable
Self-confidence	0.768	Acceptable
Emotional control	0.646	Acceptable
Mental toughness	0.650	Acceptable
Coachability	0.834	Acceptable
Conscientiousness	0.719	Acceptable
Trust in others	0.555	Acceptable

Table 7 presents the Measures of Sampling Adequacy (MSA), that is, the values in the diagonal cells of the anti-image correlation matrix, for each dimension of the psychological

aspect of selection. These values are required to exceed 0.50 according to Kaiser's criterion. As the table shows, most MSA values exceed 0.50 and are therefore considered acceptable, indicating that the level of correlation between each dimension and the remaining dimensions is sufficient for factor analysis. The exceptions are the drive and aggression dimensions, which were excluded from the analysis because the MSA for drive is 0.457 and the MSA for aggression is 0.492, both below 0.50.

4.3 Stage 3: Factor extraction

Principal components analysis was used to extract the factors (selection determinants) in descending order of importance, from the first factor to the last, the first factor accounting for the largest proportion of variance. Extraction was based on Kaiser's eigenvalue criterion with orthogonal rotation, and factors with loadings equal to or exceeding 0.35 were retained. This analysis was conducted after excluding the drive and aggression dimensions, and two principal factors were extracted, as shown in the following tables.

Figure 1. Scree plot for the extraction of factors relating to the selection of youth football players on the psychological dimension

The figure shows that two factors for the selection of youth players were extracted on the psychological dimension: from the second factor onwards, the curve begins to level off gradually up to the ninth factor, since the analysis assumes the presence of nine factors on the basis that each variable represents an independent factor. The tables below present the distribution of the variables (dimensions) across the extracted factors.

Table 8. Loadings of the variables on the first psychological factor

Rank	Dimension	Loading
01	Trust in others	0.626
02	Mental toughness	0.603
03	Conscientiousness	0.587
04	Leadership	0.527
05	Determination	0.500

Table 8 shows the dimensions constituting the first psychological factor, five in number, ranked as follows: trust in others ranked first, with a loading of 0.626, followed by mental toughness in second place, with a loading of 0.603, then conscientiousness in third place, with a loading of 0.587, then leadership in fourth place, with a loading of 0.527, and finally determination in fifth place, with a loading of 0.500.

Table 9. Loadings of the variables on the second psychological factor

Rank	Dimension	Loading
01	Emotional control	0.773
02	Coachability	0.662
03	Responsibility	0.610
04	Self-confidence	0.552

Table 9 shows the dimensions constituting the second psychological factor, four in number, ranked as follows: emotional control ranked first, with a loading of 0.773, followed by coachability in second place, with a loading of 0.662, then responsibility in third place, with a loading of 0.610, and then self-confidence in fourth place, with a loading of 0.552.

5. Discussion

The results of the study show that exploratory factor analysis extracted two factors relating to psychological traits, and that the dimensions loading on the first and second factors are clearly interrelated, being linked to motivation. Mustapha Aranda (2011) notes that a trait is a specific tendency or predisposition to respond, and that traits are psychoneural characteristics determining how a person behaves; they are not independent units within the individual but a consistent set of attributes that combine to produce behavioural effects. Accordingly, a single complex act cannot be attributed to one isolated trait, but is the product of a set of consistent traits, each contributing to certain aspects of behaviour.

Our findings are consistent with those of Belboul and Chehat (2021), who identified self-control under intense emotion (emotional control) and classified it among the psychological considerations to be relied upon as determinants in the sport selection process in football. Our findings diverge from most other studies in that these neglected the psychological dimension, with the exception of Khalifa (1998), who identified independent factors for measuring the psychological dimension, assessed through tests of pictorial intelligence and athletic personality; El-Sayed (1996), who identified two factors, neuroticism and dominance; Mubarak (1994), who used a temperamental patterns inventory but did not obtain psychological factors; and El-Semari (1989), who used an emotional response scale with the same outcome.

In the present study, the dimension with the highest loading on the first factor is the trait of trust in others, while the dimension with the highest loading on the second factor is the trait of emotional control, both of which are motivational traits. Kheir Allah (1982) defines motivation as a latent energy within the organism that arouses it to behave in a particular way in the external world; this occurs through the selection of the response that is functionally useful in adapting to the external environment and the prioritisation of that response over other possible responses, resulting in the satisfaction of a particular need or the attainment of a particular goal. The authors note that trust in others is the basis of every successful relationship, whether in science or in everyday life, and that success in football requires choosing a good team and trusting its members, since trust generates trust and trust generates success. None of the previous studies identified this factor, namely the dimension or trait of trust in others. With regard to the factor of emotional control, Oussama Ratib (2001) and Mohamed Allawi (1992) both note that athletes must compete with maximum effort, whether winning or losing, until the end of the competition, which is achieved through a high degree of self-control; the coach must accustom the player to confronting various obstacles and difficulties by providing training in the many situations involving obstacles or difficulties that frequently arise during sporting competition, without tension or emotional arousal that would adversely affect performance.

Mahmoud (2016) notes that psychological preparation in football encompasses all the procedures and tasks set by the coach with the aim of consolidating volitional traits and developing moral values in the player. Abu Zeid (2003) adds that, given the convergence in the level of most elite athletes internationally and their similarity when their physical, technical, and tactical levels are appraised, their results in competitive encounters nonetheless differ because of the psychological factor, on which the attainment of superiority and

achievement largely rests. This entails enhancing the player's volitional and moral traits, which helps him exert his utmost effort to reach the highest sporting levels, and which in turn depends on the degree of the athlete's self-confidence.

6. Conclusion

Within the limits of the aims and sample of the research and of the scale and tests used, and on the basis of the procedures followed and the results obtained from the statistical analysis, the following conclusions may be drawn.

In the light of the conditions for accepting factors, two psychological factors were accepted, both of which met all the conditions:

- **Factor 1:** labelled *trust in others*, with a loading value of 0.626; five tests loaded on this factor.
- **Factor 2:** labelled *emotional control*, with a loading value of 0.773; four tests loaded on this factor.

The difference between coaches lies in their ability to identify talent and talented players and to develop them effectively, since the principal aim of the selection process is to find the talented player and develop his skills so that he becomes a future star. Coaches and those in charge must therefore pay considerable attention to the selection process and must be qualified and experienced in this field. They should also design well-constructed training programmes based on selection criteria and indicators, with the aim of achieving the highest level of performance and developing teams and clubs, and should not neglect any of the physical, technical, or psychological aspects, given their shared importance in attaining sporting excellence at international level.

Furthermore, psychological measurement, in its study of psychological phenomena, proceeds by examining a set of behavioural indicators of behaviour (such as anxiety, tension, and depression) using instruments such as psychological tests and scales. It should be noted, however, that factors underlying the respondent's answers to the test or scale administered arise from a set of latent traits — experiences, abilities, aptitudes, mental abilities, feelings and emotions, and other traits that do not emerge as a principal dimension of the test. These must therefore be investigated and verified before administration by means of the statistical methods and procedures designed for that purpose, of which factor analysis is perhaps the most appropriate, since it proceeds from trait theory (latent traits), which holds that individuals' responses to stimuli stem from traits underlying behaviour (the response).

It has likewise become incumbent upon every student and researcher in psychology to be conversant with the statistical and mathematical methods used in analysing the dimensions of psychological phenomena. The convergent approach to factor analysis has become one of the most successful methods in most psychological research conducted by master's and doctoral students in faculties of education and comparable faculties, as confirmed by El-Sayed (1979), using exploratory and confirmatory factor analysis to estimate the psychometric properties — reliability and validity — of the scales, tests, and various instruments used in data collection, factor analysis being a precise method for estimating the reliability and validity of scales and tests.

7. Recommendations

In conclusion, the authors recommend the following:

- Providing an appropriate environment prior to the selection of young players.
- Opening the field to sport psychologists so that they may participate in building football teams and in monitoring talent at an early age, and appointing competent coaches for the selection of young players.
- Adopting scientific methods and moving away from arbitrary methods in the classification and selection of football players, together with the use of standardised tests and scales in the selection process, so as to provide more accurate and objective information about young players' abilities.
- Making use of all available methods and means that ensure sound selection of football players.
- Using computer techniques and software in the classification and selection of football players.
- Classifying and selecting football players on the basis of indicators additional to those adopted in the present study, and conducting similar studies in other sports and with different age groups so that the findings may inform the selection of the best candidates in those sports.
- Ensuring that the selection of youth football players rests on a comprehensive and integrated perspective, rather than being confined to the appraisal of a single aspect such as physical level while neglecting other aspects such as the psychological, technical, anthropometric, and physiological dimensions. Successful selection requires the study of the various determinants and characteristics that contribute to producing a well-rounded player, thereby allowing sporting talent to be identified more accurately and objectively.
- Drawing on the findings of the present research and disseminating them among sporting bodies and clubs.
- Conducting periodic and continuous selection procedures, rather than relying on the results of a single test or a single observation in judging a player's future.

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