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Yahya Nawzat Yahya al-Dulaimi
Department of Physical
Education and Sports Sciences,
Mosul University, College of
Basic Education, Iraq

Manhal Khattab Sultan al-Jawari
Associate Professor, Department
of Physical Education and
Sports Sciences, Mosul
University, College of Basic
Education, Iraq

Constructing and applying a psychological differentiation scale on soccer players in Mosul academies

Yahya Nawzat Yahya al-Dulaimi and Manhal Khattab Sultan al-Jawari

Abstract

This study aimed at constructing and applying a psychological differentiation scale on soccer players in Mosul academies. It also aimed to reveal the degree of psychological differentiation among the players of the Mosul Soccer Academy. The researchers used the descriptive approach for its suitability to the objectives of the research, and the research population included the players of the soccer academies of the city of Mosul. The research sample included (252) players, who represent (59.3%) of the research population. The scale-building sample included (192) players, representing (76.19%) of the research sample. As for the application sample, it included (60) players, representing a percentage of (23.80) of the research sample. The final scale formula included (33) items distributed on (4) axes; ambition (8) items, initiative (8) items, independence (9) items, orientation towards results (8) items. The results reflected that the players of Mosul soccer academies enjoy a high degree of psychological differentiation. They have the ability to regulate emotions and correct thinking during the stress and tension caused by direct contact with the opponent.

Keywords: Soccer players, Mosul academies, psychological differentiation, soccer

Introduction

The psychological development of athletes is one of the important tasks that coaches and workers in the sports field must be aware of, as it is one of the processes contributing to the development of sports achievements. Moreover, sports clubs are considered an essential pillar in the development of sports in society, which becomes more important when players with outstanding capabilities are available. This is due to their role in the planning and organizing process for the future. In this respect, the psychological preparation of the players plays an important role in achieving the best sports achievements, as it is no less important than the physical, skilful and tactical preparation processes, especially in the field of preparing athletes at the level of sports academies, which is a real nucleus for future athletes.

The psychological differentiation is one of the important dimensions in the personality of the player, as it differs from one person to another with regard to dealing with the pressures that surround the environment of the players, especially the age group of the members of the current study sample, which is represented by the players of the soccer academies of the city of Mosul. The importance of psychological differentiation is evident in the soccer game, which requires the availability of players with physical, skilful and psychological characteristics, collective play and team spirit to face psychological pressure, enhance confidence and recognize the potentials and mental capabilities of the player in accordance with the rules of the game to play under pressure with one team spirit and achieve the win.

In this respect, Bowen believes that psychological differentiation is the balance between basic drives. The first drive is teamwork and it focuses on the human need and desire to communicate with others. This type of communication provides a vital function of safety, caregiving and education. Therefore, people need relationships to help them *get along* optimally. The second driver in psychological differentiation is individualism, as this drive enhances the individual's sense of self, values, beliefs, and goal-oriented behavior. This perception of differentiation is the process by which individuals affirm and act upon their personal beliefs and values while maintaining relationships (Frederick, *et al.*, 2016:555) ^[16].

Corresponding Author:

Yahya Nawzat Yahya al-Dulaimi
Department of Physical
Education and Sports Sciences,
Mosul University, College of
Basic Education, Iraq

Psychological differentiation is an important variable that affects stress levels, stress control and coping methods. Moreover, the psychological differentiation functions of the players have an important role in reducing their stress, and that the high degree of psychological differentiation is an important mediating variable beneficial to mental health. Therefore, players must have good psychological differentiation scores and adaptive methods to cope with stress by looking at themselves and the relationships with others around them. (Bae & Hong, 2008:27) ^[11].

Watkin has conducted many studies on psychological differentiation. His studies have taken a stable trend in terms of meaning and specific usage, which includes the meaning of separation and specialization. In this respect, differentiation according to Watkin indicates the psychological activities that mean specialization and the functional specialization of each activity (Desouki, 1989:699) ^[14].

Thus, the importance of studying the psychological differentiation of soccer players is highlighted, since psychological differentiation greatly affects the outcomes of the behavior and performance of players during the game. Besides, the current research is of added importance as it is applied to a group of athletes who are the basis of future athletes. This importance appears from two aspects: the first is the age stage of soccer players, which is the stage of adolescence and youth. This stage is of great importance in the life of the individual in terms of their possession of unlimited energies and capabilities that qualify them towards advanced positions in competitive tournaments. As for the second aspect, it is represented in the importance of these academies. They are the key for any club towards long-term success, as stars are produced to support sports clubs and national teams.

Statement of the Problem

As a result of the nature of soccer activity, which requires direct contact with the players of the opposing team, the players experience many psychological emotions that generate an emotional charge that pushes them to confront these situations and interact with them. This requires high psychological differentiation to deal positively with these situations, which have a direct impact on behavior. These situations may often cause severe anxiety and confusion for the player and prevent him from progressing and performing, as psychological differentiation depends on the way the player perceives the world around him. This means that the way the player deals with these situations is affected by the level of his psychological differentiation, as the weakness of psychological differentiation is a problem in the personality of some players and their ability to deal with it. This may lead to major changes in his way of thinking and dealing with others. Thus, psychological differentiation may affect the psyche of the players, which in one way or another affects the development of the players physically and technically. It increases their eagerness to work as hard as possible to achieve victory. The importance of this project as one of the new projects for the city of Mosul to develop the sport of soccer drives the researchers, who are soccer players, to take it upon themselves to conduct this study. Hence, the current research problem emerged in shedding light on the psychological differentiation of the players of the Mosul soccer academies. This is due to its great influence on the level of players and its impact on their behavior and the outcomes of competitions. Accordingly, the problem is identified by the following question:

What is the degree of psychological differentiation among the soccer players of the Mosul academies?

Objectives

1. Constructing a scale of psychological differentiation and applying it on the soccer players at Mosul academies.
2. Identifying the degree of psychological differentiation among soccer players at Mosul academies.

Research hypothesis

H1: Soccer players at Mosul academies have a high degree of psychological differentiation.

Research limits

Population: Mosul academies soccer players.

Time: 1/12/2022 to 1/6/2023.

Place: Mosul soccer academies.

Terminology

Psychological differentiation

Witkin (1974) ^[28] defined psychological differentiation as a complex system of characteristics and traits and is linked to the concept of specialization, which means the ability to specialize and separate between different fields such as the separation between perception and feelings, the separation between behavior and thinking, and the separation between the elements of the surrounding environment and the self (Witkin, 1974:4) ^[28].

Yarhouse & Sells (2017) ^[30] defines it as "the degree to which [people] are able to distinguish between feelings and reason so that they are free to choose to be guided by either feelings or logic." (Yarhouse, & Sells, 2017:75) ^[30].

The researchers define it procedurally as the degree that the player obtains on the psychological differentiation scale that will be built. The closer the score of the player to the total score means that the player has a high level of psychological differentiation, and vice versa.

Research procedures

Research Methodology

The researchers used the descriptive method based on the survey and correlation method, due to its suitability to the nature of the research. "The descriptive research aims to study the phenomenon as it exists in reality and is concerned with describing it as an accurate description through the qualitative expression that describes the phenomenon and explains its characteristics" (Abbas *et al.*, 2009:74) ^[27]. Furthermore, the method of correlation studies seeks to reveal the relationship between two or more variables in order to find out the extent of the correlation between these variables and then express them numerically (Melhem, 2010:27) ^[3].

Research Population

The research population is all elements or people; objectives, subjects, or individuals to whom the results of the study are generalized and who represent the research problem".

The current research population included all the players of Mosul City Soccer Academy for the sports season (2022-2023), and for the age group (15-19) years; (425) players representing (21) academies.

The research sample

The research sample included players from Mosul soccer academies who were chosen by the intentional method; (252) players, represent (59.29%) of the research population. They

were selected from (21) sports academies. Those academies are Al-Arabi Academy, Mosul City Academy, Al-Hadba Forum Academy, Sugar Academy, Olympic Academy, Al-Quds Academy, Karama Academy, Sumer Academy, Mansour Forum Academy, Al-Nidal Academy, Mosul Club Academy, Tahrir Academy, Tariq Bin Ziyad Academy, Al-Nasr Academy, Muhammad Askar Academy, Al-Zahraa Academy, Mosul Forum Academy, Al-Numaniyah Academy, Mosuli Waves Academy, Sons of the Tigris Academy and Al-Aneeq Academy for the sports season (2022-2023).

The research sample was divided into

Scale-building sample

The scale-building sample for the psychological

differentiation scale included (192) players; (140) players for the purposes of differentiation validity, (10) players for the purposes of exploratory experiments, and (30) players for the purposes of the reliability procedure. They were chosen randomly from the total research population. Besides, (12) players were excluded for not completing their forms, representing (76.10%) of the research sample. Table (1) shows this.

Application sample

The psychological differentiation scale was applied to (60) players from the research population, representing (23.80%) of the total research sample.

Table 1: The numbers and percentages of the research population and its samples

Research Population Details	Number of players		Percentage
Total research population	425		100 %
Sample of building research tool	192		76.19 %
	No.	Percentage	
Construction validity sample	140	55.55%	
The first exploratory experiment	5	1.98%	
The second exploratory experiment	5	1.98%	
Reliability	30	11.90%	
The excluded	12	4.76%	
Sample of final application of the scale	60		23.80 %

Research tool

Psychological differentiation scale

The researchers construct a scale of psychological differentiation for the players of the soccer academies in Mosul so that it is compatible with the current research population.

Steps to construct a psychological differentiation scale

Allen & Yen indicate that the process of constructing any scale goes through several stages:

- Planning for the scale by defining the areas that cover its items.
- Drafting items for each field.
- Applying the items to a representative sample of the research population.
- Performing an analysis of the items of the scale.
- The scale is applied after verifying its scientific specifications and setting standards for how to correct it (Allen & Yen, 1979:118-119).

Planning to build the scale by defining the areas that cover its items

After surveying the literature, theoretical frameworks, and

references related to the subject of psychological differentiation in general, and the previous studies of psychological and social measures that dealt with the subject of psychological differentiation, and by examining the scales used in the previous studies that dealt with this topic and using them to serve the research, including (Al-Bayati, 2014) [6], (Hussein, 2018) [18], (Al-Sheikh, 2021) [10], (Abu Al-Nada, 2021) [1], (Hussein, 2018) [18], (Al-Agha, 2013) [4], (Talreja, 2018) [25], and (Hwang & Kim, 2009) [19].

Despite the newness of some of these studies, the scales used in them are not commensurate with the purposes and sample of the current study. Therefore, it was necessary to construct a new scale of psychological differentiation that is more appropriate to the nature of the sample in the sports field, and more fulfilling the purposes of the study. The researchers proposed a group of axes that are believed to cover this concept. To ensure the correctness of defining these axes and the extent to which they represent psychological differentiation, the researchers presented them to a group of specialized experts (Appendix 1). The experts were asked to determine the validity of the theoretical definition of the concept of psychological differentiation and the validity of the axes. Table (2) shows this.

Table 2: The percentage of agreement of experts agreeing and disagreeing on the domains of the psychological differentiation scale

No.	Domains	Experts	Agree	Disagree	Percentage	Result
1	Ambition	21	21	Zero	100%	Accepted
2	Initiative	21	21	Zero	100%	Accepted
3	Independence	21	20	1	95.23%	Accepted
4	Orientation towards results	21	20	1	95.23%	Accepted
5	Emotional response	21	5	16	23.80%	Rejected
6	Social relations	21	4	17	19.04%	Rejected

With this procedure, the axes (5-6) did not obtain the acceptable percentage of agreement, which provoked the researchers to exclude these two axes. Thus, the number of final fields became (4) fields. The researchers also conducted

a number of interviews with specialists in educational and psychological sciences and sports psychology, who referred to the four axes that obtained the acceptable percentage of agreement in the above table due to their suitability for the

players of young academies at the level of the city of Mosul, especially after the massive destruction of sports facilities during the process of liberating the city from ISIS terrorist gangs. The experts focused on the four accepted axes; having ambition, initiative, obtaining independence, and then orientation towards results.

Preparing the items for the scale in its initial form

The items were prepared in their initial form for the scale through a number of steps, namely:

- Deriving some items from the theoretical frameworks, studies and literature mentioned earlier, which dealt with the concept of psychological differentiation. The researchers also prepared some items by analyzing the results of an open questionnaire that was distributed to a random sample of players from the Mosul Soccer Academy. Thus, the total number of items of the psychological differentiation scale in its initial form became (52) items distributed over the four axes. The items have been formulated in the form of phrases, each of which represents a situation that the player goes through, followed by five alternatives to the answer: (It applies to me to a very great degree, it applies to me to a great degree, it applies to me to a moderate degree, it applies to me to a small extent, and it does not apply to me). In formulating the items, the researchers relied on the developed Likert five-point method, which is similar to the multiple-choice method, "as the respondent is presented with items and asked to specify his answer by selecting an alternative from several alternatives with different weights" (Al-Ajili *et al.*, 1990:377) [5].

Scale validity

Face validity

After preparing the items of the scale; (52) items, their structuring and preparation in their initial form, were presented in the form of a questionnaire addressed to a number of experts and specialists in the field of educational and psychological sciences, sports psychology, measurement and evaluation (Appendix 1), for the purpose of evaluating them and judging their suitability for the field for which they were developed. To prepare and structure the scale items in their initial form, they were presented to a number of experienced and specialized people for the purpose of evaluating them and judging their validity, and making appropriate adjustments through (deleting, rephrasing, or adding a number of items) and in a manner consistent with the research population" (Tbeel, 2008:292) [26]. This is due to that "the validity of the arbitrators can be adopted as a kind of face validity" (Ferguson, 1981:104).

The validity based on the experts' views was calculated through the percentage of experts' agreement on the validity of the scale items, as (75%) or more of the experts' views were accepted. Bloom *et al.* indicate that "an agreement of the experts on the validity of the items and the possibility of making modifications must be obtained by no less than (75%) or more than the estimates of experts in this type of validity" (Bloom *et al.*, 1983:126). Thus, (10) items were deleted and excluded for not obtaining (75%) or more of the experts' view. Table (3) shows this.

Table 3: Percentage of expert agreement on the items of the dimensions of the proposed creative leadership scale

Item No.	Ambition		Initiative		Independence		Orientation towards the results	
	Agreeing experts	Percentage	Agreeing experts	Percentage	Agreeing expert	Percentage	Agreeing expert	Percentage
1	17	100%	12	70.58	16	94.11	17	100%
2	16	94.11	15	88.23	17	100%	15	88.23
3	14	82.35	17	100%	12	70.58	17	82.35
4	10	58.82	13	76.47	16	94.11	17	100%
5	17	100%	16	94.11	15	88.23	17	100%
6	14	82.35	16	94.11	17	100%	10	82.70
7	15	88.23	15	88.23	17	100%	15	88.23
8	17	100%	16	94.11	15	88.23	17	100%
9	15	88.23	10	58.82	17	100%	13	76.47
10	16	94.11	15	88.23	16	94.11	15	88.23
11	17	100%	17	100%	11	64.70	11	64.70
12	11	64.70	17	100%	17	100%	12	70.58
13	11	64.70	15	88.23	17	100%	15	88.23

The first exploratory experiment of the scale

It is advised, before printing the scale and producing it in its final form, to apply its items to a small sample" (Al-Nabhan, 2004:185) [9]. Thus, the scale was applied to a sample that included (5) players who were chosen randomly from the research population and were excluded from the experiment. The result of the experiment showed no ambiguity about the items of the scale. Besides, the way of answering was clear and understandable, and the average time taken to answer all the scales ranged between (12-15) minutes.

Structural validity

One of the specifications of a good scale is to perform the process of statistical analysis of its items to find out the potential of the items to distinguish between individuals who obtain high levels and those who obtain low levels in the

same scale (Jaber & Kazem, 1973, 272) [20]. To find out the validity of the construction, the researchers used statistical analysis in two ways:

- The method of the two extreme groups.
- The internal consistency method.

The method of the two extreme groups

One of the specifications of a good scale is to conduct a statistical analysis of its items to find out "the ability of the proposed test to differentiate between individuals who have a high degree of the trait on the one hand, and individuals who have a low degree of the same trait on the other hand (Radwan, 2006:244) [23]. Differentiation validity was calculated for each item using the method of the two extreme groups, thus the size of the differentiation sample was (140) players. The scale was applied in its initial form to the

differentiation sample and the number of its items was (42) items. Two extreme groups were chosen after arranging their scores in descending order. To achieve this, a ratio of (27) was chosen % of the scores (Higher and lower) by (38) players for each group to represent the two extreme groups.

The value of the scale (sig.) was adopted to test the significance of the differences between the averages of the answers of the upper and lower groups for each item of the scale, using the (SPSS) system on the computer. Table (4) shows this.

Table 4: The differentiation power using the two extreme groups' method, t-test, and the (sig.) value of the psychological differentiation scale

Item No.	Group A		Group B		Calculate t-value	Sig.	Indication
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation			
1	5	0	4.526	1.006	2.901	0.005	Differentiated
2	4.974	0.162	4.421	0.976	3.442	0.001	Differentiated
3	4.921	0.359	4.289	0.956	3.813	0.000	Differentiated
4	4.947	0.226	4.132	0.811	5.972	0.000	Differentiated
5	4.947	0.226	4.053	0.985	5.458	0.000	Differentiated
6	5	0	3.868	1.095	6.372	0.000	Differentiated
7	4.974	0.162	3.842	1.079	6.395	0.000	Differentiated
8	4.789	0.704	3.947	1.114	3.941	0.000	Differentiated
9	4.816	0.692	4.079	1.148	3.389	0.001	Differentiated
10	4.921	0.273	3.816	1.333	5.008	0.000	Differentiated
11	4.895	0.311	4.026	1.150	4.492	0.000	Differentiated
12	4.789	0.474	3.868	1.189	4.434	0.000	Differentiated
13	4.658	0.994	4.395	1.001	1.150	0.254	Non-differentiated
14	4.868	0.343	3.711	1.037	6.534	0.000	Differentiated
15	4.974	0.162	3.658	1.169	6.873	0.000	Differentiated
16	4.789	0.704	4.368	0.714	2.590	0.012	Differentiated
17	5	0	3.658	1.097	7.540	0.000	Differentiated
18	4.737	0.760	3.921	0.941	4.158	0.000	Differentiated
19	4.711	0.802	3.842	1.305	3.494	0.001	Differentiated
20	4.842	0.679	3.895	1.247	4.112	0.000	Differentiated
21	4.684	0.525	3.737	1.201	4.455	0.000	Differentiated
22	4.711	0.460	3.763	1.149	4.718	0.000	Differentiated
23	4.868	0.343	3.921	1.171	4.785	0.000	Differentiated
24	4.816	0.393	3.632	1.261	5.527	0.000	Differentiated
25	4.526	0.762	3.711	1.206	3.525	0.001	Differentiated
26	4.526	0.687	3.5	1.225	4.505	0.000	Differentiated
27	4.079	1.075	4.263	1.057	-0.753	0.454	Non-differentiated
28	4.500	0.726	3.632	1.239	3.727	0.000	Differentiated
29	4.605	0.679	3.816	1.036	3.928	0.000	Differentiated
30	4.763	0.852	2.842	1.480	6.934	0.000	Differentiated
31	4.289	0.956	3.789	1.119	2.094	0.040	Differentiated
32	3.974	0.972	3.842	1.128	0.545	0.588	Non-differentiated
33	4.368	1.025	2.789	1.473	5.424	0.000	Differentiated
34	3.579	1.266	3.395	1.198	0.652	0.517	Non-differentiated
35	4.5	0.797	2.684	1.254	7.532	0.000	Differentiated
36	4.105	1.203	2.158	1.220	7.006	0.000	Differentiated
37	3.211	1.695	2.684	1.454	1.453	0.151	Non-Differentiated
38	3.579	1.244	2.289	1.431	4.191	0.000	Differentiated
39	3.263	1.178	2.5	1.520	2.446	0.017	Differentiated
40	1.921	1.100	2.132	1.189	-0.801	0.426	Non-differentiated
41	1.684	1.118	2.263	1.245	-2.133	0.036	Differentiated
42	1.684	0.904	1.605	0.718	0.422	0.675	Non-differentiated

Table (6) above clearly reflects that the (sig.) values for the items of the scale ranged between (0.000 - 0.675). When referring to the level of significance (sig.) \leq (0.05), we find that (35) items have proven their differentiation ability, with the exception of items (13-27-32-34-37-40-42) whose differentiation ability has not been proven. This is because their value was greater than the value (0.05). Thus, these items have been omitted due to poor differentiation.

Internal consistency style

An examination of the scale's internal consistency or coefficient of consistency leads to an estimate of its formative validity. It can be calculated by finding the correlation between the scale items and the total score of the individual, which is a criterion for the validity of the test for the statistical analysis sample. The simple correlation coefficient (R) was used to achieve this. Table (5) shows this.

Table 5: Correlation coefficient between the item score and the total score of the psychological differentiation scale

Item No.	Correlation coefficient	Sig.	Item No.	Correlation coefficient	Sig.	Item No.	Correlation coefficient	Sig.
1	0.45	0.00	15	0.57	0.00	29	0.22	0.01
2	0.38	0.00	16	0.20	0.02	39	0.50	0.00
3	0.49	0.00	17	0.60	0.00	31	0.23	0.01
4	0.48	0.00	18	0.45	0.00	32	-----	-----
5	0.66	0.00	19	0.38	0.00	33	0.43	0.00
6	0.55	0.00	20	0.47	0.00	34	-----	-----
7	0.72	0.00	21	0.53	0.00	35	0.50	0.00
8	0.52	0.00	22	0.55	0.00	36	0.43	0.00
9	0.32	0.00	23	0.47	0.00	37	-----	-----
10	0.58	0.00	24	0.50	0.00	38	0.26	0.00
11	0.48	0.00	25	0.44	0.00	39	0.15	0.08
12	0.60	0.00	26	0.39	0.00	40	-----	-----
13	-----	-----	27	-----	-----	41	-0.15	0.09
14	0.65	0.00	28	0.33	0.00	42

Significant at $\leq (0.05)$

Table (5) evidently reveals that the value of (sig.) ranged between (0.000-0.09). When referring to the significance level (sig.) $\leq (0.05)$, we find that all the items were distinguished except for the items with the number (39, 41), as the value of (sig.) was greater than the value of (0.05). Consequently, they were deleted from the scale. Table (6) shows the items excluded from the scale axes in its final form.

Table 6: Items excluded from the psychological differentiation scale

No.	Field representing it	Field	Excluded items
1	1 st	Ambition	32- 40
2	2 nd	Initiative	41
3	3 rd	Independence	27-42-39
4	4 th	Orientation towards results	13-34-37

Scale Reliability Half-split method

Reliability refers to "the extent of accuracy, proficiency, or consistency with which the scale measures the phenomenon" (Radwan, 2006:98) [23]. For the purpose of knowing the reliability of the scale, the half-split method was used for the items (odd and even) and included (30) copies of the questionnaire after deleting the non-differentiated items from the scale, then divided into two halves: the first half represents the odd sequences (16) items, and the second half represents the even sequences (16) items. Item (39) was excluded. It should be noted that this method was used in some studies such as (Al-Kawaz, 2005:76) [7], (Ahmed *et al.*, 2010:297) [3] and (Tubail, 2009:52) [27].

The simple correlation coefficient (Pearson) was used between the scores of the two halves of the scale, and the calculated value of (R) was equal to (0.77) "as the correlation between the scores of the two halves of the scale is considered as internal consistency for only half of the scale and not for the scale as a whole" (Abu Hatab, 1984:116) [2]. In order to obtain an unbiased estimate of the reliability of the scale, the

(Spearman-Brown) equation was used, as the value of the total reliability coefficient was (0.87). This value is statistically significant, thus indicating the reliability of the scale.

The second exploratory experiment of the scale

The scale was applied to a sample of (5) players in Mosul soccer academies. The exploratory experiment is a scientific training for the researcher to know the negatives and positives that he encounters while conducting the tests in order to avoid them" (Al-Mandalawi, 1990:107) [31]. The results of the exploratory experiment showed that there is no ambiguity about the items of the scale. Besides, the way of answering was clear and understandable, and the average time taken to answer each scale ranged between (10-12) minutes.

Scale Description and Correction (Final Version)

After conducting the necessary requirements to construct a scale of psychological differentiation among the players of Mosul City Soccer Academy, the scale settled in its final form on (33) items distributed over (4) areas, namely: ambition (8 items), initiative (8 items), independence (9 items), and orientation towards results (8 items). The answer to it is according to the following alternatives (applies to me to a very large degree, applies to me to a large degree, applies to me to a moderate degree, applies to me to a small degree, does not apply to me) according to the following weights (5-1) degrees for the positive items and (1-5) degrees for the negative items.

Table (7) shows the positive and negative items for each domain of the scale. The total score for the scale ranged between 33 and 165, with a hypothetical average of (99), as the number of positive items was (25) and negative items (8). Appendix (2) shows the psychological differentiation scale in its final form.

Table 7: Positive and negative items of the psychological differentiation scale domains

No.	Domains	Positive items	Negative items	Total
1	Ambition	4-8-12-19-23	15-26-32	8
2	Initiative	2-6-10-13-25-28-33	17-21	9
3	Independence	3- 11-14-18-22-29-31	7	8
4	Orientation towards the results	1-5-16-20-24-27-30	9	8
	Total			33

The final application of the tools

After conducting all the procedures related to constructing the psychological differentiation scale and after verifying the validity of the scale to measure the phenomenon for which it was developed, the two scales were applied to the research sample members; (60) soccer players, for the period from 1/3/2022 to 20/3/2023.

Results and Discussions

In order to achieve the objectives of the current research, the two research tools were applied to the research sample members who were selected from Mosul soccer academies. After doing the statistical analyses of the data obtained, the results will be presented and discussed according to the research objectives.

Presentation and discussion of the results related to the first research objective (Constructing a scale of

Table 8: Results of the t-test for the difference between the arithmetic mean and the hypothetical mean of the psychological differentiation scale for the players of Mosul City Soccer Academy

Scale	Sample	Arithmetic mean	Standard deviation	Hypothetical mean	Calculated t-value	Sig.	Result
Psychological differentiation	60	137.71	7.80	99	38.43	0.000	Significant

Significant at $p \leq (0.05)$

Table (8) evidently shows that the arithmetic mean was (137.71) with a standard deviation of (7.80) degrees. And when compared with the hypothetical average of (99) using the one sample t-test, it was found that there is a statistically significant difference between the arithmetic and hypothetical means in favor of the arithmetic mean of the research sample, as the calculated t-value reached (38.43) with a level of significance (0.000), which is less than the value of the approved significance (0.05). With this result, the hypothesis of the study (The players of Mosul City Soccer Academy have psychological differentiation) is accepted.

The researchers attribute the current results to the specificity of the sample members in terms of undergoing a strict selection process from among a large number of players who were summoned for the general tests for admission to the academies (physical and skill tests) under the supervision of specialized training staff. It has been shown that the research sample possesses a good degree of psychological differentiation, in addition to the importance of the age group of the research sample (adolescence), which is an important stage for self-discovery. The important needs of adolescents include the interpersonal needs of the need for status and independence, achieving a satisfactory philosophy of life so that a person wants to have a position in life, that he is a person of value, and that he becomes the manager of his life. The player also tries to satisfy his needs, and that the sports personality always aspires to positive results, winning, and rejecting negative thoughts, given that it has many psychological and emotional capabilities in achieving more successes, and that the academies of sports clubs in the city of Mosul have good and clear grades that were produced by the results of the current research. This indicates that players can clearly separate their own thoughts from those of others, as they are more active and able to act independently despite all the difficulties and pressures they face during play and competition.

This result is consistent with (Muhammad, 2013) [22] as the more differentiated people retain autonomy in periods of stress, and are characterized as more flexible, more independent, and more adaptive to life's tensions, and their

Psychological differentiation and applying it on the soccer players at Mosul academies):

This objective was achieved as a procedural goal by constructing a psychological differentiation scale that fulfilled the necessary conditions for this type of psychological scale. This scale is one of the important and complementary tools to achieve other research objectives.

Presentation and discussion of the results related to the second research objective: (Identifying the degree of psychological differentiation among soccer players at Mosul academies):

In order to achieve the second objective, the psychological differentiation scale was applied in its final form to the application sample; (60) soccer players selected from Mosul soccer academies. After analyzing the players' responses in light of the answer alternatives, the statistical values shown in Table (8) were obtained.

life paths are more successful and orderly. They are also remarkably far from humanitarian problems (Muhammad, 2013:445) [22].

In this context, the idea of psychological differentiation was introduced to link personality and sensory perception due to the relationship of this idea to the degree of complexity of structures or systems. It explains the relationship between the growths of the process of psychological differentiation in the individual during the different stages of life.

Since the psychological system is linked to a large extent with continuous interaction with other elements present in the environment surrounding the individual, the concept of differentiation includes the ability to separate the different sensory functions within a single individual and the necessity of separating between what can be identified as characteristics belonging to the self and other characteristics that can be identified as characteristics outside the self. Thus, the individual's realization of himself as something separate from what is around him and his self-awareness as if it has a limited and drawn framework is very important. This helps the possibility of determining the appropriate functional behavior in each situation and it becomes a process that stems from within the individual and is not dependent on external matters.

The researchers believe that psychological differentiation includes self-recognition and self-enhancement, and is affected by the cognitive and social aspect of the players of sports academies in soccer, which leaves clear effects on the different aspects of personality through the differentiation between the players' self-awareness and their relationship with the important others in their lives. On the other hand, it reflects the players' sense of being separate from the environment, as well as a sense of independence from others. Through the results, it was found that the research sample has the ability to change and move from direct negative responses to emotions to positive attitudes that have the most impact on their psychological characteristics. The sample also has the ability to control and regulate emotions and correct thinking during stressful situations imposed by direct contact with the competitor.

This result is consistent with Bandura *et al.*, who explained that "psychological differentiation affects the individual's perception of his own self-efficacy and his ability to achieve a certain level of achievement. This means that individuals who have a strong sense of self-efficacy focus their attention on analyzing the problem and trying to find appropriate solutions to it. On the other hand, individuals who doubt their self-efficacy turn their attention inward and worry themselves when faced with the demands of a difficult environment. They dwell on their shortcomings and lack of self-efficacy. Moreover, they imagine their own failure, which in turn leads to negative results. This type of negative thinking causes stress and pressure. It ultimately limits the effective use of cognitive abilities." (Bandura *et al.*, 1987: 563) ^[12].

Conclusion and recommendations

Conclusion

The results of the current research have proved the effectiveness of the scale that was built to measure the degree of psychological differentiation of the soccer players of Mosul City academies and its ability to measure the studied phenomenon. Furthermore, the players of Mosul soccer academies enjoy a high degree of psychological differentiation. This is attributed to their ability to regulate emotions and correct thinking during stressful situations imposed by direct contact with the opponent.

Recommendations

It is recommended to:

1. Include in the training curricula periodic psychological counseling sessions in which the (sports psychologist) lectures to introduce the players to the importance of the psychological aspect of dealing with difficulties and pressures, and how to deal with these situations.
2. Use the psychological differentiation scale prepared in the current study by those in charge of these academies to assess the level of psychological differentiation and its impact on the behavior of the players.
3. Develop a plan of action and a future vision (by the sports industry) based on solid foundations that rely on experience, skill, and support (financially, morally, and socially) through the establishment of training camps and propaganda promotion for the private sector to raise the level of soccer academies in the city of Mosul.

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Appendix 1

A- To verify the validity of the theoretical definition of psychological differentiation and the validity of the domains.

B- To verify the validity of the psychological differentiation items and the validity of the alternatives.

No.	Name of the expert	Specialization	Place of work	A	B
1.	Prof. Nazem Shaker Al-Watar	Sports psychology	Physical education and sports sciences / University of Mosul	√	√
2.	Prof. Makki Mahmoud Hassan	measurement and evaluation	Physical education and sports sciences / University of Mosul	√	√
3.	Prof. Okla Suleiman Al-Houri	Sports psychology	Basic Education / University of Mosul	√	√
4.	Prof. Abdel-Wadoud Ahmed Khattab	Sports psychology	Physical education and sports sciences / University of Tikrit	√	√
5.	Prof. Saad Fadel Abdel Qader	measurement and evaluation	Basic Education / University of Mosul	√	√
6.	Prof. Esam Mohamed Abdel-Reda	Sports psychology	Physical education and sports sciences / University of Mosul	√	√
7.	Prof. Saad Abbas Al-Janabi	Sports psychology	Physical education and sports sciences / University of Tikrit	√	√
8.	Prof. Moayad Abdel Razek Al-Hasso	Sports psychology	Physical education and sports sciences / University of Mosul	√	√
9.	Prof. Dr. Nagham Mahmoud Mohamed	Sports psychology	Physical education and sports sciences / University of Mosul	√	√
10.	Prof. Ahmed Younis Al-Bajari	Sports psychology	College of Education / University of Mosul	√	√
11.	Assoc. Prof. Anwar Qassem Yahya	Educational psychology	Basic Education / University of Mosul	√	
12.	Assoc. Prof. Zikra Younis Al-Taie	Educational psychology	Basic Education / University of Mosul	√	
13.	Assoc. Prof. Nagham Khaled Naguib	Sports psychology	Physical education and sports sciences / University of Mosul	√	√
14.	Assoc. Prof. Rafi Idris Abdel Ghafour	Sports psychology	Physical education and sports sciences / University of Mosul	√	√
15.	Assoc. Prof. Yasser Mahfouz Hamed	Educational psychology	College of Education / University of Mosul	√	√
16.	Assoc. Prof. Ali Hussein Muhammad	measurement and evaluation	Physical Education / University of Mosul	√	√
17.	Assoc. Prof. Ahmed Moayed Hussein	measurement and evaluation	Basic Education / University of Mosul	√	√
18.	Assoc. Prof. Walid Thanoun Younes	Sports psychology	Physical Education / University of Mosul	√	√
19.	Assoc. Prof. Ahmed Hisham Ahmed	measurement and evaluation	Basic Education / University of Mosul	√	
20.	Mohamed Khairi	Sports psychology	Physical Education / University of Mosul	√	√
21.	Mohammed Khalid	Sports psychology	Physical Education / University of Mosul	√	√
Total				21	17

Appendix 2: Psychological differentiation scale (final draft)

No.	Items	It applies to me to a very great degree	It applies to me to a great degree	It applies to me to a moderate degree	It applies to me to a small extent	And it does not apply to me
1.	I make sure to complete the tasks assigned to me by the coach in the match.					
2.	I join my fellow players in activities and social events					
3.	I have the ability to deal with unexpected gaming events					
4.	I care about excellence and leadership over the rest of my colleagues in the academy					
5.	My positive thoughts help me to do well with the team					
6.	I take the initiative in resolving differences between my fellow players in the team					
7.	I get annoyed when my teammates interfere with my playing style					
8.	I set myself specific goals that I try to reach					

9.	I think about the strength of the opposing team a lot before the game				
10.	I strive to do my best to stand out from the rest of the players				
11.	I have a high degree of autonomy in carrying out my duties as a player				
12.	I seek to acquire all that is new in the field of my sports specialization				
13.	I provide psychological and moral support to my fellow players				
14.	I see that my personality is special in the team				
15.	I regret wasting so many chances in the match				
16.	I bring back previous success experiences to win				
17.	I call my colleagues names and nicknames that annoy them while playing				
18.	I stay away from any negative influences from my teammates				
19.	I make sure to constantly develop my physical and skill abilities				
20.	I do my best to achieve good results with the team.				
21.	I feel like some players wish I could leave the team				
22.	I have my own gaming skills				
23.	I look at my future in the academy with great optimism				
24.	I encourage the rest of my colleagues to work as a team				
25.	Make sure to abide by the rules of the game to avoid mistakes				
26.	If I encounter an embarrassing situation in competition, I prefer to avoid it				
27.	I avoid thinking about the pressures of training and competition				
28.	I have the determination and insistence to try again after every failure to perform				
29.	I deal independently with the problems that I encounter				
30.	I strive to achieve advanced results with the team				
31.	I think my role in the team is influential				
32.	I refuse to give up despite the decline in my level of play				
33.	I am not late for training despite my commitment to another job				