

Development and Standardization of an Attentional Shifting Scale for Under-19 Football Players

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Abstract: This research aimed to develop and standardize a scale for attentional shifting among young football players under 19 years of age in Baghdad Governorate clubs, and to identify their level of attentional shifting. The researchers used the descriptive method, as it was suitable for the nature of the research. The research population consisted of 275 players from Baghdad Governorate clubs under 19 years of age during the 2025–2026 sports season. The sample was divided into pilot, development, and standardization samples according to the requirements for constructing psychological scales. The researchers adopted scientific procedures in developing the scale, including defining its domains, formulating the items, presenting them to experts, and verifying the psychometric properties of the scale through validity, reliability, internal consistency, discriminatory power, and objectivity, as well as extracting scores and normative criteria. The results showed that the scale items had a good ability to discriminate between players, and the scale possessed appropriate levels of validity, reliability, and internal consistency, confirming its suitability for use in measuring attentional shifting among young football players. Furthermore, the standardization procedures contributed to developing scientific criteria for interpreting raw scores and converting them into scores. Standardized scales were used, and the scores revealed variations in attentional shifting levels among the sample, reflecting individual differences. The standardized tables proved effective in objectively classifying players into different levels. The researchers concluded that the scale is a suitable and reliable scientific tool for assessing attentional shifting in young players and can be utilized in sports evaluation and selection processes, as well as in designing future training and research programs.

Keywords: Attentional shifting, scale development, scale standardization, psychometrics, football, young players.

1. Introduction

Football is a team sport that has witnessed remarkable development in all its technical, physical, and mental components, especially in the early age groups, which are considered the cornerstone in building future generations of athletes. Today, sports are viewed as a national asset and an indicator of progress and advancement, given their immense popularity and the largest fan base in the world. Therefore, the search for the minute details related to achieving results and securing victory has become imperative. Consequently, experts and researchers are racing to discover the most important sciences related to performance development.

Recent studies in psychology indicate the science of sports and kinesiology indicates that athletic performance, especially in team sports, relies heavily on perceptual and cognitive processes, as these processes change according to the flow of the game. A player must maintain their intelligence to quickly and successfully execute the skill under pressure (Mahdi et al., 2019; Oleiwi et al., 2021). The importance of these processes increases in high-pressure, rapidly changing situations. In high-pressure environments, the player is constrained and needs to execute the skill very quickly. There is not enough time to be distracted by multiple stimuli; therefore, the player must focus on the most important stimulus, which may be decisive in the situation or for the success of the skill. The player is constantly exposed to situations that require them to quickly shift their focus from one goal to another. Another, or from one position to another, such as shifting from observing the ball to observing the opponent, or from thinking about passing to making a decision to shoot. This skill varies from player to player depending on their mental ability to process situations. This shift in focus is known as "attentional shifting," a complex mental skill affected by many factors, including experience, age, training level, and psychological pressure. Younger players are more influenced by making

certain momentary decisions, and the psychological factor is very influential, especially when playing a match abroad. Training has a better positive effect on young players because they are not constantly exposed to different situations that require speed in executing performance requirements, unlike older players. Football is a team sport that requires players to combine physical, technical, mental, and psychological abilities simultaneously, especially in fast-paced situations and under pressure from opponents. During these pressured situations, players must quickly shift their attention between multiple visual and kinetic stimuli and then execute the skill with high precision. The low goal-scoring rate among Iraqi teams, and indeed across the board, is due to several factors, with psychological factors being among the most influential. Furthermore, many coaches do not consider the cognitive aspect when evaluating player performance, leading to the neglect of important mental training that can contribute to improved results, particularly under pressure. This has resulted in a clear and obvious disparity between players, especially in certain areas. The high pressure on their ability to focus their attention on the most important stimulus, characterized by extremely rapid response to the nature and demands of the game, aligns with their ability to shift their attention from one situation to another, whether to change direction or decision while playing. Controlling attentional shifting requires continuous training, indicating a deficiency in training mental abilities under pressure. This prompted the researchers to identify the degree of attentional shifting among the research sample by developing and standardizing an attentional shifting scale to measure this phenomenon.

The current research aims to develop and standardize an attentional shifting scale for under-19 football players in Baghdad Governorate clubs and to identify the level of attentional shifting among these players.

Method and Tools

The researchers used the descriptive approach as it was suitable for the nature of the research. The research population was defined as young players under 19 years of age from football clubs in Baghdad Governorate for the 2025-2026 season. The total research population was (275) players from 11 clubs, as shown in Table (1). The sample was divided into a development sample and a standardization sample. The researchers considered the pilot study sample, the development sample, and the standardization sample, as shown in Table (2).

Table (1) shows the Baghdad clubs and their number

No.	Club	Number
1	Al-Zawraa	25
2	Air Force Club	25
3	Al-Shorta	25
4	Al-Ittisalal	25
5	Al-Karkh	25
6	Amanat Baghdad	25
7	Al-Kahrabaa	25
8	Al-Sinaa	25
9	Naft Baghdad	25
10	Al-Husseini	25
11	Al-Talaba	25

Table (2) shows the design of the research sample.

Name	Number	Percentage
Research Population	275	100%
Pilot Study Sample	25	9%
Construction sample	125	45.4%
Standardization Sample	100	36.3%
Excluded Players	25	9%

First: Defining the objective of the attentional shift scale

Defining the objective of the scale is a fundamental and pivotal step in the process of building it, as the objective should be clear, understandable, and consistent with the nature of the scale and its characteristics, which vary according to the different objectives. The objective constitutes the primary pillar upon which researchers rely in preparing the scale. This necessitates its connection to the importance of the phenomenon under study, the reasons for addressing it, and the researchers' orientations and interests. Furthermore, the objective must be clear and measurable to ensure its effectiveness and accuracy in serving the research purposes (Majid, 2014, p. 33).

Second: Defining the theoretical framework of the phenomenon to be measured:

(5) domains of the Attentional Shift Scale were presented to (21) experts and specialists in the field of football psychology, in order to identify, modify, or add suitable domains, determine their validity, and provide any feedback. After analyzing the responses using the percentage agreement of expert opinions, the final analysis resulted in the acceptance of all domains that had an acceptance rate greater than 80%, as shown in Table (3). The researchers adopted the percentage of expert agreement, which is (80%), as a criterion for accepting and retaining domains in the scale. This percentage is widely used in psychological and educational research, as Abu Allam indicated that a domain is considered acceptable when the agreement of the judges reaches 80% or more within the judging procedures and content validity (Abu Allam, 2006, p. 512). In light of this, pattern theory indicates that "the attentional shift process does not occur randomly." Rather, it is according to specific patterns that are affected by the nature of the task, the level of experience, and the speed of perceptual processing. Attention moves between visual, auditory, and kinetic stimuli according to what the situation requires, and aims to achieve a balance between narrow (specific) and broad (comprehensive) attention (Robert M. Nideffer, 1976).

Definition of the Fields:

- 1- Shifting from Broad External Attention to Narrow Internal Attention: This refers to the athlete's ability to observe the surrounding environment and make a decision based on a comprehensive view of the field, then quickly narrow their focus to a single external stimulus or a specific one (Ratib, 2007).
- 2- Shifting from External Attention to Internal Attention: This is the athlete's ability to flexibly shift their focus from external stimuli present in the performance environment, such as movement, teammates, opponents, and the ball, to focusing their attention on internal mental processes such as analyzing the situation, recalling past experiences, and choosing the appropriate decision (Ratib, 2007).
- 3- Shifting from Internal Attention to External Attention: This is the athlete's ability to flexibly shift their focus from processing internal stimuli including thoughts, plans, self-categorization, and the sensation of movement to directing their attention toward external stimuli relevant to the performance. This facilitates a rapid response and appropriate decision-making according to the demands of the competitive situation. (Allawi, 2002)
- 4- Rapid Shifting Between Multiple Stimuli: The athlete's ability to quickly and accurately shift attention between a number of simultaneous and sequential stimuli relevant to performance, such as the movement of the ball, teammates, opponents, and coach signals, while maintaining efficient information processing and selecting the appropriate response without distraction or performance delay. (Robert M. Nideffer, 1976, p. 344)
- 5- Attentional Shifting under Physical and Psychological Pressure: The athlete's ability to quickly and effectively shift attention between internal and external stimuli while maintaining performance accuracy despite the effects of physical fatigue and psychological pressures resulting from competition. (Allawi, 2002)

Table (3) shows the domain name, percentage of experts, and significance.

No.	Domain	Agree	Disagree	Agreement (%)	Decision
1	Shifting from Broad External Attention to Narrow Internal Attention	20	0	100%	Accepted
2	Shifting from External Attention to Internal Attention	20	0	100%	Accepted
3	Shifting from Internal Attention to External Attention	19	1	95%	Accepted

4	Rapid Shifting Between Multiple Stimuli	19	1	95%	Accepted
5	Attentional Shifting Under Physical and Psychological Pressure	17	3	85%	Accepted

Third: Preparing the Scale Items

After identifying the five study domains and obtaining an acceptable percentage from experts, the researchers formulated items related to each domain based on the theoretical and cognitive framework of the study, in consultation with supervisors, and after reviewing several relevant sources. A set of items was formulated to reflect the actual experiences of the research sample, resulting in a final total of (62) items distributed across the five domains: Domain 1 (12) items, Domain 2 (13) items, Domain 3 (14) items, Domain 4 (12) items, and Domain 5 (11) items. These items were carefully designed to cover all dimensions of each domain, while ensuring clarity of wording and ease of understanding for the participants. Each item is evaluated using the following five alternatives: (Applies completely to me, Applies to me, Applies sometimes to me, Does not apply to me, Does not apply completely to me).

Fourth: Determining Item Validity

After the researchers prepared (62) items, distributed across five axes within the Attentional Shift Scale, with five response alternatives for each item, it was necessary to verify the validity of the items. To assess the validity of these items in measuring the targeted phenomenon, the researchers presented the scale to a group of experts specializing in sports psychology on Wednesday, February 5, 2026. They asked these experts to provide their scientific opinions on the validity of the items from several perspectives, including the validity of the axes, their definitions, the validity of the concept, the validity of the items and their five alternatives, and any scientific observations they deemed useful to enhance the quality of the research. Regarding the scale's correction, the researchers opted for a five-point Likert scale due to its suitability to the nature of the study and its procedural requirements. A special scoring key was developed, assigning the following alternatives: (Applies completely to me, Applies to me, Sometimes Applies to me, does not Applies to me, Does not Applies Completely to me). The scale was presented to (20) experts and specialists (Appendix No. 1) to review the scale items, assess their suitability and validity, and provide necessary scientific feedback, including modifying or deleting any unsuitable items. Using percentages, the researchers adopted an 80% agreement rate among the experts as the criterion for item acceptance. Abu Allam indicated that the items would be considered acceptable. When the arbitrators' agreement reached 80% or more within the arbitration proceedings, and the content was deemed valid (Abu Allam, 2006, p. 512), it was found that (52) items were valid out of (62) items prepared, distributed evenly across the five axes of the scale, as shown in Table (3-4).

Table (4) shows the domain name, item, percentage of experts, and significance.

No.	Item	Agree	Disagree	Agreement (%)	Decision
Domain 1: Shifting from Broad External Attention to Narrow Internal Attention					
1	When I possess the ball in a crowded area, I can quickly narrow my attention to the best teammate for a pass.	17	3	85%	Accepted
2	During a fast attack, I shift my attention from scanning the entire field to focusing precisely on the opponent's goal.	15	5	75%	Not Accepted
3	When I hear the coach's instructions during play, I immediately focus on carrying out the required task without distraction.	15	5	75%	Not Accepted
4	I maintain the accuracy of my performance when I narrow my attentional focus in high-pressure situations.	16	4	80%	Accepted
5	During physical challenges, I focus only on the ball while ignoring surrounding distractions.	17	3	85%	Accepted
6	While advancing with the ball, I reduce distractions and focus on the nearest exploitable space.	16	4	80%	Accepted

7	Under time pressure, I narrow my attention to the most appropriate decision at the last moment.	16	4	80%	Accepted
8	In decisive attacking situations, I focus on the movement of one teammate despite many movements around me.	16	4	80%	Accepted
9	During set pieces, I shift my attention from organizing players to tracking only the ball at the moment of execution.	16	4	80%	Accepted
10	Inside the penalty area, I narrow my focus to the ball despite player congestion.	16	4	80%	Accepted
11	Under intense opponent pressure, I quickly focus my attention on the safest passing lane.	17	3	85%	Accepted
12	I can ignore irrelevant stimuli and focus on the most important stimulus during play.	16	4	80%	Accepted
Domain 2: Shifting from External Attention to Internal Attention					
No.	Item	Agree	Disagree	Agreement (%)	Decision
1	After making a mistake during play, I quickly regain my concentration without affecting my next performance.	19	1	95%	Accepted
2	In decisive situations, I control my internal thoughts and redirect my attention to the game.	14	6	70%	Not Accepted
3	I balance external stimuli and my internal thoughts according to the technical situation.	16	4	80%	Accepted
4	When the opponent's pressure increases, I quickly review my decision mentally and then execute it confidently.	16	4	80%	Accepted
5	After a difficult playing situation, I quickly rely on my thoughts to regain composure.	16	4	80%	Accepted
6	When game pressure increases, I focus on the mental instructions I give myself.	17	3	85%	Accepted
7	After losing possession, I immediately redirect my attention to tactical preparation for the next situation.	18	2	90%	Accepted
8	In a highly stimulating crowd atmosphere, I shift my attention to controlling my emotions and blocking out distractions.	16	4	80%	Accepted
9	When the course of the match changes, I mentally reorganize my role within the team.	18	2	90%	Accepted
10	After a successful or unsuccessful play, I mentally move on without losing concentration.	16	4	80%	Accepted
11	I can shift from monitoring my opponent to focusing on my mental game plan to help the team.	18	2	90%	Accepted
12	In critical situations, I quickly reorganize my mental priorities.	15	5	75%	Not Accepted
13	After a negative situation during play, I quickly reorganize my thoughts to regain balance.	18	2	90%	Accepted
Domain 3: Shifting from Internal Attention to External Attention					
No.	Item	Agree	Disagree	Agreement (%)	Decision

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1	After reflecting on a previous decision, I immediately redirect my attention to the movements of the ball and my teammates.	16	4	80%	Accepted
2	When I feel nervous, I can refocus on the events of the game around me.	16	4	80%	Accepted
3	I do not allow my thoughts to prevent me from reading my opponent's movements.	15	5	75%	Not Accepted
4	I do not allow my mental evaluation to distract me from following the game.	16	4	80%	Accepted
5	When I feel frustrated, I quickly redirect my attention to the flow of play.	17	3	85%	Accepted
6	I focus on my current performance without dwelling on previous mistakes.	15	5	75%	Not Accepted
7	I immediately regain my attention to the game after hearing the referee's whistle.	15	5	75%	Not Accepted
8	I can clearly follow the game after play resumes following an injury stoppage.	15	5	75%	Not Accepted
9	I can stop overthinking and focus on the current demands of the game.	16	4	80%	Accepted
10	My internal thoughts do not persist for long during play.	19	1	95%	Accepted
11	After mentally evaluating my performance, I continue playing with a high level of concentration.	16	4	80%	Accepted
12	When my mind becomes distracted, I quickly redirect my attention to the position of the ball.	19	1	95%	Accepted
13	After making a mistake, I immediately focus on the next external game situation.	15	5	75%	Not Accepted
14	After making a tactical decision, I focus on dealing with the game situation on the field.	19	1	95%	Accepted
Domain 4: Rapid Shifting Between Multiple Stimuli					
No.	Item	Agree	Disagree	Agreement (%)	Decision
1	I quickly shift between tracking the ball, my teammates' movements, and my opponents' positions during high-pressure play.	17	3	85%	Accepted
2	I can quickly change my focus when unexpected changes occur during play.	16	4	80%	Accepted
3	Under pressure, I identify the most important stimulus at the right moment.	16	4	80%	Accepted
4	I shift my attention between the ball and the goal without losing performance accuracy.	16	4	80%	Accepted
5	I shift my attention among multiple teammates to choose the best passing option.	18	2	90%	Accepted
6	I shift my focus from defense to attack immediately after regaining possession.	19	1	95%	Accepted
7	I can simultaneously monitor the movements of both my opponent and the ball.	18	2	90%	Accepted
8	During a fast attack, I shift my attention among space, the ball, teammates, and opponents.	16	4	80%	Accepted

9	I maintain my concentration despite multiple stimuli in high-pressure playing situations.	19	1	95%	Accepted
10	I maintain quick and accurate decision-making despite numerous surrounding stimuli.	18	2	90%	Accepted
11	I effectively identify the most relevant stimulus when facing multiple high-pressure situations.	16	4	80%	Accepted
12	I continue tracking the ball and my teammates despite intense opponent pressure.	19	1	95%	Accepted
Domain 5: Attentional Shifting Under Physical and Psychological Pressure					
No.	Item	Agree	Disagree	Agreement (%)	Decision
1	I maintain my ability to shift my attention according to the demands of play during the final minutes of the match.	17	3	85%	Accepted
2	When playing in a noisy crowd atmosphere, I maintain the flexibility of my attentional shifting.	17	3	85%	Accepted
3	Under psychological pressure, I immediately identify and focus on the most important stimulus.	17	3	85%	Accepted
4	Physical fatigue does not affect my ability to shift my attention.	16	4	80%	Accepted
5	During high-intensity running, I effectively shift my attention between defense and attack.	17	3	85%	Accepted
6	Under time pressure, I change my focus without losing performance accuracy.	16	4	80%	Accepted
7	I maintain the flexibility of my attentional shifting despite muscular fatigue.	16	4	80%	Accepted
8	I can shift my attention from feelings of fatigue to focusing on the flow of play.	16	4	80%	Accepted
9	Despite the intensity of play, I effectively distribute my attention to the most important stimuli.	15	5	75%	Not Accepted
10	I do not lose my concentration during repeated physical challenges.	17	3	85%	Accepted
11	I maintain quick and accurate decision-making despite fatigue and pressure.	16	4	80%	Accepted

To determine the discriminatory power of the items on the Attentional Shifting Scale, the extreme groups method was used. This method compares the scores of the highest-achieving group with those of the lowest-achieving group on the scale. After the questionnaires for the development sample (125 players) were corrected, the total scores were arranged in descending order from highest to lowest. To identify the two extreme groups, 27% of the highest scores were selected to represent the upper group, and 27% of the lowest scores to represent the lower group. This ratio is commonly used in psychological and educational research because it provides a suitable distinction between the two groups. After identifying the two extreme groups, each consisting of 34 players, the researchers used the independent samples t-test to determine the significance of the differences between the mean scores of the upper and lower groups for each item on the scale. This procedure is an accurate indicator of the item's strength and its ability to distinguish between players with high and low levels of attentional shifting. The results showed that all items had statistically significant discriminatory power at the 0.05 level, indicating their effectiveness in measuring the psychological dimension. The target, as shown in Table (5).

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Table (5). Means, Standard Deviations, Calculated t-Values, and Statistical Significance for the
Upper and Lower Groups on the Attentional Shifting Scale

Item No.	Upper 27%		Lower 27%		Calculated t-value	Sig.	Item Discrimination
	Mean	SD	Mean	SD			
1	4.5000	0.50752	1.1765	0.38695	30.36	0.000	Discriminating
2	4.6471	0.48507	1.3235	0.47486	28.54	0.000	Discriminating
3	4.6765	0.47486	1.3824	0.49327	28.05	0.000	Discriminating
4	2.6176	1.32607	2.5000	1.13485	0.393	0.696	Non- discriminating
5	4.6765	0.47486	1.0588	0.23883	39.686	0.000	Discriminating
6	4.7941	0.41043	1.2941	0.46250	33.005	0.000	Discriminating
7	4.7647	0.43056	1.1765	0.38695	36.143	0.000	Discriminating
8	4.7941	0.41043	1.2059	0.41043	36.047	0.000	Discriminating
9	4.8529	0.35949	1.2647	0.44781	36.435	0.000	Discriminating
10	4.6765	0.47486	1.2059	0.41043	32.242	0.000	Discriminating
11	4.5294	0.50664	1.1471	0.35949	31.748	0.000	Discriminating
12	4.5588	0.50399	1.2647	0.44781	28.490	0.000	Discriminating
13	4.6765	0.47486	1.2059	0.41043	32.242	0.000	Discriminating
14	4.7059	0.46250	1.4412	0.50399	27.829	0.000	Discriminating
15	2.5294	1.05127	2.3529	1.04105	0.695	0.489	Non- discriminating
16	4.8529	0.35949	1.1471	0.35949	42.504	0.000	Discriminating
17	4.5882	0.49955	1.2353	0.43056	29.645	0.000	Discriminating
18	4.5000	0.50752	1.2059	0.41043	29.428	0.000	Discriminating
19	4.5882	0.49955	1.2059	0.41043	30.505	0.000	Discriminating
20	4.5294	0.50664	1.2941	0.46250	27.500	0.000	Discriminating
21	1.8529	0.43571	1.7647	0.98654	0.477	0.635	Non- discriminating
22	4.6471	0.48507	1.4118	0.49955	27.093	0.000	Discriminating
23	4.5882	0.49955	1.2353	0.43056	29.645	0.000	Discriminating
24	4.7941	0.41043	1.2941	0.46250	33.005	0.000	Discriminating
25	4.6176	0.49327	1.3824	0.49327	27.043	0.000	Discriminating
26	2.0294	0.83431	1.9118	1.08342	0.502	0.618	Non- discriminating
27	4.7059	0.46250	1.3529	0.48507	29.171	0.000	Discriminating
28	4.4706	0.50664	1.2647	0.44781	27.646	0.000	Discriminating
29	4.5588	0.50399	1.2353	0.43056	29.236	0.000	Discriminating
30	4.7941	0.41043	1.2941	0.46250	33.005	0.000	Discriminating
31	4.6765	0.47486	1.3824	0.49327	28.053	0.000	Discriminating
32	4.6471	0.48507	1.2059	0.41043	31.579	0.000	Discriminating
33	4.8824	0.32703	1.2647	0.44781	38.041	0.000	Discriminating
34	4.6765	0.47486	1.0882	0.28790	37.677	0.000	Discriminating
35	4.7647	0.43056	1.2941	0.46250	32.026	0.000	Discriminating
36	2.3529	1.22802	2.0000	1.18065	1.208	0.231	Non- discriminating
37	4.7647	0.43056	1.2059	0.41043	34.886	0.000	Discriminating

38	4.5294	0.50664	1.3824	0.49327	25.951	0.000	Discriminating
39	4.6471	0.48507	1.3235	0.47486	28.549	0.000	Discriminating
40	4.7941	0.41043	1.3235	0.47486	32.242	0.000	Discriminating
41	4.7941	0.41043	1.1176	0.32703	40.850	0.000	Discriminating
42	2.6176	1.15509	2.4118	1.18367	0.726	0.470	Non-discriminating
43	4.5882	0.49955	1.3235	0.47486	27.620	0.000	Discriminating
44	4.9118	0.28790	1.3235	0.47486	37.677	0.000	Discriminating
45	2.0588	1.07142	1.7353	1.28650	1.127	0.264	Non-discriminating
46	4.7647	0.55371	1.2059	0.47860	28.353	0.000	Discriminating
47	4.6471	0.64584	1.3529	0.69117	20.305	0.000	Discriminating
48	4.7941	0.41043	1.2941	0.62906	27.171	0.000	Discriminating
49	2.7647	1.45766	2.1471	1.57888	1.676	0.098	Non-discriminating
50	4.3235	0.97610	1.0294	0.17150	19.381	0.000	Discriminating
51	3.8235	1.21781	2.1176	0.80772	6.807	0.000	Discriminating
52	3.3824	1.27955	1.6471	0.81212	6.677	0.000	Discriminating

From observing Table (5), it is clear that a number of non-discriminating items were excluded, while the items that met the specified conditions were retained, as determined by the statistical significance of the calculated t-value. The error level was less than (0.05) at a degree of freedom of (52) and an error level of (0.05). With this procedure, the scale remains composed of (44) items with a total score ranging from (44-220). To establish internal consistency in the items of the Attentional Shifting Scale, an item must be valid if it obtains a significant correlation coefficient between itself and the dimension, and between itself and the scale as a whole, and vice versa. Items with a low correlation coefficient are removed. The development of the scale necessitates verifying that each item under investigation is homogeneous in terms of the correlation between the weight of each item and the weight of each dimension, and between the weight of each item and the total scale score. This ensures that the items follow the same pattern as the scale, since the dimensions in this scale are separate, and each dimension has its own specific items. Therefore, the researchers verified the construct validity of the scale on the statistical analysis sample of (100) players and extracted the scores from Its image was applied when conducting the discriminatory ability test, and to avoid measurement errors resulting from repeated application, especially since the scale is a paper-and-pencil scale as mentioned, this consistency was verified by finding these relationships through statistical processing using the simple correlation coefficient (person). This method is considered one of the most accurate means relied upon when finding the internal consistency of scale items, as shown in Table (6)

A: The relationship between the item score and the total scale score

Table (6) shows the correlation coefficient between the item score and the total score of the attentional shift scale

Item No.	Correlation Coefficient	Sig.	Statistical Significance	Item No.	Correlation Coefficient	Sig.	Statistical Significance
1	0.767	0.000	Significant	2	0.726	0.000	Significant
3	0.789	0.000	Significant	4	—	—	—
5	0.682	0.000	Significant	6	0.687	0.000	Significant
7	0.729	0.000	Significant	8	0.754	0.000	Significant
9	0.741	0.000	Significant	10	0.749	0.000	Significant
11	0.718	0.000	Significant	12	0.736	0.000	Significant
13	0.738	0.000	Significant	14	0.729	0.000	Significant
15	—	—	—	16	0.717	0.000	Significant
17	0.760	0.000	Significant	18	0.731	0.000	Significant

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19	0.738	0.000	Significant	20	0.704	0.000	Significant
21	—	—	—	22	0.709	0.000	Significant
23	0.658	0.000	Significant	24	0.670	0.000	Significant
25	0.726	0.000	Significant	26	—	—	—
27	0.772	0.000	Significant	28	0.629	0.000	Significant
29	0.679	0.000	Significant	30	0.758	0.000	Significant
31	0.718	0.000	Significant	32	0.781	0.000	Significant
33	0.745	0.000	Significant	34	0.710	0.000	Significant
35	0.763	0.000	Significant	36	—	—	—
37	0.767	0.000	Significant	38	0.698	0.000	Significant
39	0.701	0.000	Significant	40	0.748	0.000	Significant
41	0.744	0.000	Significant	42	—	—	—
43	0.682	0.000	Significant	44	0.681	0.000	Significant
45	—	—	—	46	0.462	0.000	Significant
47	0.405	0.000	Significant	48	0.496	0.000	Significant
49	—	—	—	50	0.556	0.000	Significant
51	0.534	0.000	Significant	52	0.414	0.000	Significant

B- Relationship between Item Score and Total Domain Score:

The researchers calculated the correlation between the score of each item and the total score for each of the five domains using Pearson's correlation coefficient. This was done to verify the consistency of the items within each domain, and it was found that all items were statistically significant at a significance level of 0.05. Table (7) illustrates this.

Table (7) shows the correlation of the items with their respective domains.

Shifting from Broad External Attention to Narrow Internal Attention				Shifting from External Attention to Internal Attention			
Item No.	Correlation Coefficient	Sig.	Statistical Significance	Item No.	Correlation Coefficient	Sig.	Statistical Significance
1	.774**	0.000	Sig	12	.752**	0.000	Sig
2	.735**	0.000	Sig	13	.770**	0.000	Sig
3	.783**	0.000	Sig	14	.754**	0.000	Sig
5	.721**	0.000	Sig	16	.728**	0.000	Sig
6	.747**	0.000	Sig	17	.800**	0.000	Sig
7	.773**	0.000	Sig	18	.775**	0.000	Sig
8	.771**	0.000	Sig	19	.767**	0.000	Sig
9	.781**	0.000	Sig	20	.745**	0.000	Sig
10	.762**	0.000	Sig	22	.760**	0.000	Sig
11	.740**	0.000	Sig				
Shifting from Internal Attention to External Attention				Rapid Shifting Between Multiple Stimuli			
23	.697**	0.000	Sig	31	.747**	0.000	Sig
24	.694**	0.000	Sig	32	.818**	0.000	Sig
25	.761**	0.000	Sig	33	.778**	0.000	Sig
27	.805**	0.000	Sig	34	.742**	0.000	Sig
28	.697**	0.000	Sig	35	.792**	0.000	Sig
29	.730**	0.000	Sig	37	.774**	0.000	Sig

30	.796**	0.000	Sig	38	.725**	0.000	Sig
				38	.721**	0.000	Sig
				40	.779**	0.000	Sig
				41	.744**	0.000	Sig
Attentional Shifting Under Physical and Psychological Pressure							
43	.671**	0.000	Sig				
44	.678**	0.000	Sig				
46	.545**	0.000	Sig				
47	.539**	0.000	Sig				
48	.580**	0.000	Sig				
50	.629**	0.000	Sig				
51	.634**	0.000	Sig				
52	.478**	0.000	Sig				

C. Correlation between Scale Domains and Total Scale Score:

The correlation between the domains indicates that the scale adequately measures the primary characteristic it seeks to assess. Correlation coefficients were calculated between the scores of each of the five domains and the total scale score using Pearson's correlation coefficient. The correlation coefficients between the domains were found to be appropriate, consistent, and statistically significant at the 0.05 level, as illustrated in Table 8.

Table (8) shows the correlation coefficients between the domains and the total scale score.

No.	Domain	Correlation Coefficient	Sig.	Statistical Significance
1	Shifting from Broad External Attention to Narrow Internal Attention	.967**	0.000	Significant
2	Shifting from External Attention to Internal Attention	.958**	0.000	Significant
3	Shifting from Internal Attention to External Attention	.945**	0.000	Significant
4	Rapid Shifting Between Multiple Stimuli	.968**	0.000	Significant
5	Attentional Shifting Under Physical and Psychological Pressure	.885**	0.000	Significant

Reliability

Reliability is a crucial property of any scale. Although metrologists consider validity more important than reliability because a valid scale is necessarily a reliable one, reliability is an indispensable property in psychological scales. Furthermore, a scale should measure something specific; therefore, its reliability coefficient must be calculated in addition to verifying its validity (Al-Qamish, 2000, p. 114). To verify the scale's reliability, researchers employed two methods:

1- Split-Half:

When the split-half method was applied to the Attentional Shift Scale, the correlation coefficient was found to be (0.958), representing the correlation of half the items. Researchers then calculated the Spearman-Brown coefficient, which reached a value of (0.979). This value indicates a high level of reliability for the scale. Table (9) illustrates this.

Table (9) shows the split-half with correction for the Attentional Shift Scale.

No.	Variable	Reliability Before Correction	Reliability After Correction (Spearman–Brown)
1	Attentional Shifting Scale	0.958	0.979

2- Cronbach's Alpha Coefficient:

This is a statistical method used to measure the reliability of a scale by assessing the degree of internal consistency between its items. It indicates the extent to which the items agree in measuring the same trait or dimension. The higher the alpha value, the higher the scale's reliability and its ability to provide stable and dependable results upon re-administration (Cronbach, 1951, p. 297). The scale's reliability coefficient was found to be 0.876, indicating a high level of reliability. Table (10) shows this.

Table (10) shows the Cronbach's alpha coefficient for the Attention Shift Scale.

No.	Variable	Cronbach's Alpha Coefficient
1	Attentional Shifting Scale	0.876

Objectivity

This scale is highly objective, as its instructions and items are clearly and directly formulated to prevent differing interpretations among test-takers or administrators. Furthermore, the scoring method relies on specific and fixed numerical scores, unaffected by personal opinions or subjective assessments, ensuring that the test-taker's results depend solely on their actual answers. Thus, the scale fulfills the requirement of objectivity through clear instructions, consistent administration and scoring procedures, and its independence from external factors.

Final Version of the Attentional Shift Scale

After completing the scale's development and verifying its psychometric properties, the final version of the scale consisted of (41) items, without excluding any items (see Appendix No. 8). All items demonstrated suitability through statistical analysis, and these items were adopted to measure attentional shift among Iraqi youth league players.

Results:

A standardization experiment for the Attentional Shifting Scale was conducted on a representative sample of players from the Iraqi Youth League (under 19 years old), comprising 100 players from the Al-Kahraba, Al-Sinaat, Al-Naft, and Al-Hussein clubs. These clubs were selected using stratified random sampling to determine the scale's standard scores and norms.

The standardization experiment commenced on Tuesday, February 24, 2026, and continued until Tuesday, March 3, 2026. The total sample size was 100 players from the Iraqi Youth League, aiming to obtain accurate and objective data that would form the scientific basis for the standardization process and the derivation of the standard scores.

Standard Scores for Attentional Shifting among Iraqi Youth League Players

The raw scores were converted to standard scores to ensure greater objectivity and comparability between individuals. The standard score is calculated by subtracting the group's average score from the individual's raw score and then dividing the result by the group's standard deviation. The T-score is calculated by multiplying the Z-score by 10 and then adding 50. This method helps convert negative values to positive values, facilitating the interpretation and comparison of results.

Table (10) shows the descriptive indicators for the standardization sample of 100 players, including the arithmetic mean, standard deviation, and skewness coefficient, which reflects the nature of the score distribution, as well as the lowest and highest crude scores. Table (11) shows the sample scores after conversion to standard and T-scores, which contributes to a more accurate identification of individual differences.

Table (10) shows the descriptive statistics for the standardization sample of the Attentional Shifting Scale.

Raw Scores	Mean	Standard Deviation	Skewness Coefficient	Minimum	Maximum
Values	119.9900	46.01701	-0.005	41	195

Table (11) Standardized G-scores and adjusted (T-scores) corresponding to the raw scores in the Attentional Shifting Scale

No.	Raw Score	Standard Z-Score	Standard T-Score (Adjusted)	No.	Raw Score	Standard Z-Score	Standard T-Score (Adjusted)
1	195	1.63005	66.3	51	116	-0.08671	49.13
2	194	1.60832	66.08	52	114	-0.13017	48.7
3	193	1.58659	65.87	53	113	-0.1519	48.48
4	192	1.56486	65.65	54	112	-0.17363	48.26
5	191	1.54312	65.43	55	111	-0.19536	48.05
6	190	1.52139	65.21	56	110	-0.21709	47.83
7	187	1.4562	64.56	57	109	-0.23882	47.61
8	186	1.43447	64.34	58	106	-0.30402	46.96
9	185	1.41274	64.13	59	105	-0.32575	46.74
10	184	1.39101	63.91	60	104	-0.34748	46.53
11	183	1.36928	63.69	61	102	-0.39094	46.09
12	182	1.34755	63.48	62	100	-0.4344	45.66
13	181	1.32581	63.26	63	99	-0.45614	45.44
14	180	1.30408	63.04	64	98	-0.47787	45.22
15	177	1.23889	62.39	65	97	-0.4996	45
16	176	1.21716	62.17	66	96	-0.52133	44.79
17	175	1.19543	61.95	67	94	-0.56479	44.35
18	174	1.1737	61.74	68	93	-0.58652	44.13
19	170	1.08677	60.87	69	92	-0.60825	43.92
20	169	1.06504	60.65	70	90	-0.65172	43.48
21	168	1.04331	60.43	71	89	-0.67345	43.27
22	167	1.02158	60.22	72	87	-0.71691	42.83
23	164	0.95639	59.56	73	84	-0.7821	42.18
24	163	0.93465	59.35	74	83	-0.80383	41.96
25	162	0.91292	59.13	75	82	-0.82556	41.74
26	160	0.86946	58.69	76	79	-0.89076	41.09
27	158	0.826	58.26	77	78	-0.91249	40.88
28	157	0.80427	58.04	78	77	-0.93422	40.66
29	155	0.76081	57.61	79	76	-0.95595	40.44
30	154	0.73907	57.39	80	75	-0.97768	40.22
31	153	0.71734	57.17	81	74	-0.99941	40.01
32	151	0.67388	56.74	82	72	-1.04288	39.57
33	148	0.60869	56.09	83	69	-1.10807	38.92
34	145	0.54349	55.43	84	67	-1.15153	38.48
35	143	0.50003	55	85	66	-1.17326	38.27
36	142	0.4783	54.78	86	61	-1.28192	37.18
37	141	0.45657	54.57	87	59	-1.32538	36.75

Development and Standardization of an Attentional Shifting Scale for Under-19 Football Players

38	140	0.43484	54.35	88	58	-1.34711	36.53
39	139	0.41311	54.13	89	57	-1.36884	36.31
40	138	0.39138	53.91	90	56	-1.39057	36.09
41	137	0.36965	53.7	91	55	-1.4123	35.88
42	136	0.34791	53.48	92	53	-1.45577	35.44
43	133	0.28272	52.83	93	52	-1.4775	35.23
44	132	0.26099	52.61	94	51	-1.49923	35.01
45	129	0.1958	51.96	95	50	-1.52096	34.79
46	126	0.1306	51.31	96	49	-1.54269	34.57
47	125	0.10887	51.09	97	48	-1.56442	34.36
48	124	0.08714	50.87	98	47	-1.58615	34.14
49	123	0.06541	50.65	99	45	-1.62961	33.7
50	121	0.02195	50.22	100	41	-1.71654	32.83

Standard Levels for the Attentional Shifting Scale

The levels of the Attentional Shifting Scale were determined using the range-based class length method, a common approach for interpreting raw scores on psychological and educational scales. This was done by calculating the class length using the following equation: (highest score – lowest score) ÷ number of levels. Since the highest score on the scale was 205 and the lowest score was 41, the range was 164.

After determining the number of levels to be six, the class length was 27. Based on this, the boundaries of each level were defined, and the players' scores were classified within them. The distribution results showed that 16 players were at the very high level, 16 at the high level, and 17 at the above-average level. There were 17 players at the below-average level, 17 at the low level, and 17 at the very low level, resulting in a total sample size of 100 players. Table (12) illustrates this.

Table (12) shows the standard levels for the attentional shift scale.

Level	Raw Score	Z-Score Range	Adjusted T-Score Range	Number of Players	Percentage
Very High	176 and above	1.21716 and above	62.17 and above	16	16%
High	149–175	0.628–1.195	56.28–61.95	16	16%
Average	122–148	0.043–0.608	50.43–56.09	17	17%
Below Average	95–121	-0.543–0.021	44.56–50.22	17	17%
Low	68–94	-1.129–0.564	38.70–44.35	17	17%
Very Low	41–67	-1.716–1.151	32.83–38.48	17	17%
Total	100	—	—	100	100%

The results of standardizing the attentional shift scale showed that the sample members were distributed across a range of standard levels. This indicates that the scale has a good ability to differentiate between players based on their varying levels of attentional shifting. This range of scores is an indicator of the success of the scale's development and standardization procedures. The goal of the standards is not simply to obtain high or low scores, but rather to provide a scientific reference point for interpreting the raw score and converting it into a standardized score that reflects the player's relative position compared to the population from which the standards were derived.

Standardized scores are of great importance in psychological and sports measurement because they allow for objective comparison between individuals, regardless of their raw scores. A raw score alone does not provide accurate meaning unless interpreted in light of the distribution of scores within the population. Therefore, converting raw scores into standardized scores has contributed to determining performance levels more objectively. It has become possible to classify players into different levels that reflect their actual ability to shift attention, which helps coaches and researchers diagnose each player's level and develop appropriate training programs for their improvement. Furthermore, the adoption of standardized scores in this research enhances the practical value of the scale, as its results become usable in sports evaluation and selection processes, monitoring player development across different age groups, and enabling comparisons between

players or teams on a standardized scientific basis. This distinguishes standardized scales from non-standardized measurement tools that merely present raw scores without providing a reference framework to clarify their meaning.

The emergence of varying standardized levels among the sample members is explained by natural individual differences in the players' cognitive and attentional abilities. A player's ability to quickly switch between stimuli is influenced by several factors, including training experience, cognitive maturity level, years of practice, the nature of training programs they have undergone, and their ability to process information and maintain control under pressure and competition. Therefore, the variation in standardized scores reflects these individual differences and does not represent a weakness in the scale; rather, it confirms its sensitivity in detecting these differences. The results also indicate that the distribution of players across different standard levels reflects the suitability of the scale items for the research sample. Had the scores been concentrated at a single level or within a narrow range, the scale would have been unable to differentiate between players. Conversely, the spread of scores across the standard levels demonstrates that the scale items covered various levels of attentional shifting, thus enhancing its construct validity and its ability to accurately measure the targeted trait.

From a practical standpoint, the standard tables developed by the researchers represent a valuable resource for evaluating young players. Coaches or psychologists can convert a player's raw score into a standard level that clarifies whether they fall within the high, average, or low range. This allows for more accurate and objective evaluation and training program design, moving away from subjective assessments or impressionistic judgments. These results confirm that the establishment of standards was not a mere formal statistical procedure, but rather the stage that gives the scale its practical value. Any psychological or educational scale cannot achieve its objectives unless it has standards derived from a population similar to the one on which it will be applied. Therefore, the standards developed in this research provide a scientific basis for interpreting the scale's results and using it in future studies. They also allow for updating and re-standardizing the scale as the application population expands or the characteristics of the players change, thus maintaining the accuracy of the measurement and its relevance to the evolving realities of sports.

Conclusions:

- 1- The scale items demonstrated a good ability to differentiate between players with high and low levels of attentional shifting, confirming the items' suitability for measuring the targeted trait.
- 2- The scale possessed appropriate levels of validity, reliability, and internal consistency, making it a reliable scientific measurement tool for assessing attentional shifting in young players.
- 3- The standardization procedures contributed to providing scientific criteria that allow for the interpretation of raw scores and their conversion into standardized scores and levels with practical significance.
- 4- The standardized scores showed variation in levels of attentional shifting among the participants, reflecting natural individual differences in this cognitive ability among the players.
- 4- The standardized tables proved effective in classifying players into different levels, which facilitates objective diagnosis of each player's level by coaches and researchers.
- 5- The scale can be used to identify players with high or low levels of attentional shifting early on, thus contributing to tailoring training and psychological programs to their specific needs.

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