



## MENTAL PATTERNS ACCORDING TO THE AVEM TEST OF THE VIENNA SYSTEM AND ITS RELATIONSHIP TO THE PERFORMANCE OF SOME PHYSICAL ABILITIES OF FOOTBALL PLAYERS

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### **Abstract.**

The research included the introduction and the importance of the research: It addressed the importance of the physical aspect of football players, as well as the importance of identifying the variables that affect the physical aspect of football. The research problem was to identify the nature of the relationship between the mental pattern and the physical abilities of football players due to the lack of information about this relationship in the sources according to the researchers' knowledge. The aim of the research is to identify the nature of the relationship between the mental pattern and the physical abilities of football players.

**Keywords :** Mental styles - AVEM test - Vienna test system - Physical abilities - Football players

### **The research areas were:**

- 1- Human field / Football players in the Iraqi Premier League for the Middle and South Euphrates in football for the sports season (2023-2024)
- 2- Time field / 5/3/2024 to 27/6/2024
- 3- Spatial field / Sports Psychology Laboratory in the College of Physical Education and Sports Sciences - Al-Qadisiyah University, club stadiums within the research sample.

It also included the research methodology and its field procedures, as the researchers used the survey method and addressed the research sample, which is football players in the Iraqi Premier League for the Middle and South Euphrates in football for the sports season (2023-2024) and addressed the tools used in the research and the procedures for physical and mental tests within the Vienna test system and statistical methods.

Then the research results were presented and discussed, as the results were presented in the form of tables and then discussed. As for the research, it contained conclusions and recommendations, the most important of which were:

### **Conclusions:**

- 1- There is a difference in the relationship between mental patterns according to the Vienna system and the physical variables of football players



2- The best pattern for selecting football players is the S pattern  
Recommendations: The researchers recommend the following: -  
1- Adopting the results of this study in the selection process for football players  
2- Conducting similar studies on the psychological aspects of football players, which would help coaches achieve good results in training and matches.

### **Keywords:**

Mental patterns - AVEM test - Football players

### **1 - Introduction:**

The development in the field of sports psychology has begun to investigate all psychological and mental variables that can affect the athlete and the possibility of benefiting from them in achieving good results. Among the sports aspects that psychology seeks to benefit from are football players and how to benefit from them on the physical, tactical and skill levels as a result of the game enjoying speed and therefore requires football players to be highly attentive in dealing with the ball and the movements of players, whether a colleague or a competitor at the same time and that the performance be faster and not delay in making decisions, especially in cases where there is little space and bearing the pressures of the match. Among the topics that fall within the variables that sports psychology is interested in studying are mental patterns, which are concerned with dividing players according to their mental qualities and how to benefit from a type of patterns.

Hence the importance of the research lies in identifying the relationship between mental patterns according to the AVEM test and some physical abilities of football players.

### **2 - The purpose of the study:**

The purpose of the study is

- To identify the nature of the relationship between the mental pattern and the physical abilities of football players.

### **3 - Method and procedures:**

3 - 1 Sample:

Football players in the Iraqi Premier League for the Middle and South Euphrates Football for the sports season (2023-2024) numbering (124) players. As for the research sample, the entire research community was selected and the sample percentage for the original community was (100)%.

3-2 Study design:

The researchers used the descriptive approach using the survey method to suit the nature of the problem being studied.

3-3 Variables studied: The study included the variable

Mental style: (1:24)

Mental style refers to the way an individual organizes his thoughts and mental processes when processing information. Mental style includes how to think, reason, make decisions, and solve problems. People who have a specific mental style may tend to use certain mental strategies that fit this style when facing cognitive



or analytical challenges. Some mental styles may be directed towards analytical and logical thinking, while others may focus on creative or intuitive thinking.

3 – 4 Tests used

Vienna System of Mental Styles (AVEM)

Structure and content

Self-assessments are obtained on 11 dimensions that have a theoretical basis and have been confirmed through factor analysis: self-importance of work, work-related importance

Ambition, willingness to work to exhaustion, striving for perfection, ability to distance, tendency to give up (in the face of failure), proactive problem solving, inner calm and balance, experience of success at work, life satisfaction, experience of social support. In addition, the relationships between these dimensions are expressed in four patterns of behavior and work-related experience

These patterns are:

1. Pattern A: This pattern is known for its orientation towards high achievement and overwork. Individuals in this pattern are often ambitious, impulsive, and work excessively to achieve their goals. Its characteristics include, a strong drive for achievement, a willingness to withstand high pressures, lack of focus on rest and recreation, and vulnerability to stress and fatigue. Among the risks of this pattern is that this pattern can lead to long-term health problems such as chronic stress, or even burnout.

2. Type B: This type is characterized by the ability to balance work and personal life. Individuals who belong to this type have a strong drive, but they know when to stop and take a break to maintain their well-being. Its characteristics include a balanced drive towards achievement, the ability to manage time between work and personal life, a good degree of flexibility in dealing with pressures, and an awareness of the importance of rest and recreation. As for the benefits of this type, it helps maintain mental and physical health in the long term. 3. S-type: Description: Individuals in this type are characterized by a high ability to adapt to stress and maintain their mental and physical health. Its characteristics are a strong ability to adapt to difficult situations, effective strategies for managing stress, a positive attitude towards challenges, and maintaining a good balance between work and personal life. As for its benefits, this type is considered the most sustainable, as individuals can continue to perform well while maintaining their well-being in the long term. 4. G-type: Description: This type is considered the least effective type, as individuals who belong to it tend to become increasingly exhausted and stressed without being able to adapt effectively. Its characteristics are difficulty in dealing with pressure, high levels of tension and stress, a constant feeling of exhaustion, and a low ability to adapt to the requirements of work or sports. Its risks are that this type can lead to decreased performance and physical and psychological health problems.

How it works:

After the instruction phase, the items are displayed on the screen in sequence. The respondent enters his answers on a scale of five answer alternatives, ranging from "strongly agree" to "strongly disagree". It is possible to correct each item once and delete individual items. All unanswered items are displayed again at the end of the test.

Test forms

There is a standard form containing 66 items (6 for each dimension) and a short form containing 44 items (4 for each dimension).





## Recording

The results include a results table containing initial and standard scores for all eleven scales and an individual test file. In addition, the extent to which each individual's profile is similar to the four reference profiles (types) described above is determined by calculating the classification probabilities.

## Physical Characteristics Test:

### Identifying and Testing Physical Characteristics

Given the large number of essential characteristics and in order to limit these characteristics, the researchers prepared a special questionnaire to survey the opinions of experts and specialists in the field to identify the most important characteristics and test them.

### -5-1-4 Description of physical tests:

#### 1- 20m sprint test and 30m flying start (2: 263)

Objective of the test: - Measure the maximum transition speed

• Tools: - Stopwatch, three lines drawn on the ground, the distance between the first and twelfth lines is ten meters, and between the second and third lines is (20) meters.

Performance specifications: - The tester stands behind the first line, upon hearing the start signal, he runs until he crosses the third line, the tester's time is calculated starting from the second line until he reaches the third line (20) meters.

Recording: - The time taken for the tester to cover a distance of (20) meters (from the second line to the third line) is recorded.

### Test of the speed-characterized strength of the leg muscles (2: 220)

Test name: - Perform three consecutive jumps

Objective of the test: Measure the speed-characterized strength of the leg muscles.

Tools used: A flat place with a length of (12 m) and a width of (2.5 m) and not smooth, a measuring tape.

Test procedures: The player stands behind the starting line with the feet slightly apart, and from this position the player jumps three consecutive jumps by pushing the feet forcefully to the farthest distance

Test conditions:

- Jumping with both feet together, and landing with both feet together.
- Arm swing is allowed.

Recording: The distance from the starting line to the nearest mark left by the player is measured in meters or centimeters

### 3- Explosive power test. (3:90)

• Test name: Vertical jump from standing.

• Purpose of the test: Measure the explosive power of the leg muscles.

• Tools used: Measuring tape, hips, wall of suitable height.



Description of performance: The tester stands near the wall so that one of his shoulders faces the wall. The tester, from a standing position, raises his arms that are close to the wall high as in position (1) Figure (4) to make a mark on the wall at the maximum point the hand reaches, and the distance is then recorded by lowering his arm, then jumping up after bending the knee joint to make another mark with his hand on the wall at the maximum point his arm reaches, and the distance between the first and second marks is recorded as in position (3), provided that the push is done with both legs.

Recording method: The tester is given two attempts and the best is recorded.

The distance between the first mark that occurs as a result of the starting visa and the second mark that expresses the explosive power of the muscles of the lower extremities is measured in centimeters.

4- Running test between the signs for a distance of (7) meters (4:183)

Test objective: measuring agility.

Tools used: Stopwatch, (6) signs and a measuring tape.

Test description: The tester stands on the starting line and when the signal is given, the tester begins to run quickly between the signs back and forth.

Recording: The time is recorded in seconds and the closest 1/100 of a second that the tester took to go and return.

Recording: The shortest time is calculated and recorded to the closest (1%) second and each player is given two attempts.

3-6 Exploratory experiment:

The researchers conducted the exploratory experiment on a sample outside the research sample on 3/16/2024. The purpose of this experiment was to identify the difficulties and obstacles that the researcher might face in the main experiment, as well as the number of required assistant staff.

3-7 Main experiment:

The researchers conducted the main experiment on the research sample of (124) players on 3/22/2024-4/12/2024. The physical tests were conducted for each club on its field, while the AVEM test was conducted in the Sports Psychology Laboratory at the College of Physical Education and Sports Sciences - Al-Qadisiyah University. Each club had a test day after unifying the test conditions.

4 - Presentation, analysis and discussion of the results:

4-1 Presentation and analysis of sample specifications:

Kurtosis	Skew	Variance	Hypothetical mean	Lowest value	Highest value	Standard deviation	Arithmetic mean	Variables
-1.00	0.25	14.38	2.82	2.11	3.52	0.39	2.71	Transitional speed



-0.50	0.51	7.11	5.98	5.11	6.84	0.42	5.85	Speed strength
-0.08	-0.53	9.70	39.00	29.00	49.00	4.19	43.15	Agility
1.08	-0.71	5.77	8.86	7.43	10.29	0.53	9.20	Explosive power
0.02	0.25	12.31	0.48	0.37	0.59	0.06	0.48	A-type
-1.57	-0.34	3.75	0.59	0.56	0.62	0.02	0.60	B-type
-0.94	0.82	6.66	0.70	0.63	0.77	0.04	0.67	S-type
-1.47	0.26	8.80	0.88	0.77	0.98	0.07	0.85	G-type

From Table (1), it is clear that the arithmetic mean value of the transitional speed variable is 2.71 and the standard deviation is 0.39, the highest value is 2.52, the lowest value is 2.11, the hypothetical mean is 2.82, the difference value is 14.38, the skewness is 0.25, and the kurtosis is -1.00. As for the arithmetic mean value of the power variable characterized by speed, it is 5.85 and the standard deviation is 0.42, the highest value is 6.84, the lowest value is 5.11, the hypothetical mean is 5.98, the difference value is 7.11, the kurtosis is 0.51, and the kurtosis is -0.50. As for the arithmetic mean value of the agility variable, it is 43.15 and the standard deviation is 4.19, the highest value is 49, the lowest value is 29, the hypothetical mean is 39, the difference value is 9.7, the kurtosis is -0.53, and the kurtosis is -0.08. As for the arithmetic mean value, For the explosive power variable 9.2 and standard deviation 0.53 and the highest value was 10.29 and the lowest value was 7.43 and the hypothetical mean 8.86 the value of the difference was 5.77 and the skewness was -0.71 and the kurtosis was 1.08 while the value of the arithmetic mean for the variable type A was 0.48 and the standard deviation was 0.06 and the highest value was 0.59 and the lowest value was 0.37 and the hypothetical mean was 0.48 the value of the difference was 12.31 and the skewness was 0.25 and the kurtosis was 0.02 while the value of the arithmetic mean for the variable type B was 0.6 and the standard deviation was 0.02 and the highest value was 0.62 and the lowest value was 0.56 and the hypothetical mean was 0.59 the value of the difference was 3.75 and the skewness was -0.34 and the kurtosis was -1.57 while the value of the arithmetic mean for the variable type S was 0.67 and the deviation The standard deviation was 0.04, the highest value was 0.77, the lowest value was 0.63, the hypothetical mean was 0.7, the difference value was 6.66, the skewness was -0.82, and the kurtosis was -0.94. The arithmetic mean value of the G-type variable was 0.85, the standard deviation was 0.07, the highest value was 0.98, the lowest value was 0.77, the hypothetical mean was 0.88, the difference value was 8.8, the skewness was 0.26, and the kurtosis was -1.47.

#### 4-2 Presentation of the results of the correlation between the variables under study:

Type B	Type G	Type S	Type A	Explosive Power	Agility	Speed Power	Transitional Speed		Variables
.149	.308	.350	.370	.941**	.776**	.921**	1	correlation	Transitional Speed
.460	.118	.073	.057	.000	.000	.000		significance	





.047	.301	.514**	.334	.912**	.870**	1		correlation	Speed Power
.816	.128	.006	.089	.000	.000			significance	
-.038	.263	.527**	.230	.852**	1			correlation	Agility
.849	.186	.005	.249	.000				significance	
.029	.370	.476*	.267	1				correlation	Explosive Power
.887	.057	.012	.179					significance	
.472*	.121	.140	1					correlation	Type A
.013	.547	.487						significance	
-.198	.323	1						correlation	Type S
.323	.101							significance	
-.062	1							correlation	Type G
.760								significance	
1								correlation	Type B
								significance	

Table () shows that the S-type is associated with a significant relationship with each of the strength characterized by speed, agility, and explosive power, while the A, B, and G-types have a random relationship with the player's skill abilities. From this, we conclude that the S-type has the strongest significant relationship with physical abilities from the rest of the mental patterns. The reason for this, according to the researchers, is due to the nature and specifications of this pattern by comparing the mental patterns, as each pattern is characterized by the following: 1. Pattern A: This pattern is known for its orientation towards high achievement and overwork. Individuals in this pattern are often ambitious, impulsive, and work extra hard to achieve their goals. Its characteristics include a strong drive for achievement, a willingness to withstand high pressures, a lack of focus on rest and recreation, and a risk of stress and fatigue. This pattern can lead to long-term health problems such as chronic stress or even burnout. 2. Pattern B: This pattern is characterized by the ability to balance work and personal life. Individuals who belong to this style have a strong drive, but they know when to stop and take a break to maintain their well-being. Its characteristics include a balanced drive towards achievement, the ability to manage time between work and personal life, a good degree of flexibility in dealing with pressures, and an awareness of the importance of rest and recreation. As for the benefits of this style, it helps maintain mental and physical health in the long term. 3. S-type: Individuals in this type are characterized by a high ability to adapt to stress and maintain their mental and physical health. Its characteristics are a strong ability to adapt to difficult situations, effective strategies for managing stress, a positive attitude towards challenges, and maintaining a good balance between work and personal life. As for its benefits, this type is considered the most sustainable, as individuals can continue to perform well while maintaining their well-being in the long term. 4. G-type: Description: This type is considered the least effective type, as individuals who belong to it tend to become increasingly exhausted and stressed without being able



to adapt effectively. Its characteristics are difficulty in dealing with pressures, high levels of tension and stress, a constant feeling of fatigue, and a low ability to adapt to the requirements of work or sports. Its risks are that this type can lead to decreased performance and physical and psychological health problems. "Therefore, players within the S-type according to the above specifications are able to adapt to the pressures of training and match pressures, so they are in a good psychological state and thus can maintain their physical abilities well and continuously develop. According to the specifications of this type, they can continue to perform the skill continuously while maintaining the quality of performance. As a result of maintaining his physical abilities, this is confirmed by the sources, as the mental pattern plays a decisive role in the physical abilities of football players, as it directly affects physical endurance, energy management, recovery, motivation and discipline, and avoiding injury. As for physical endurance, "players who have a strong mental pattern can motivate themselves to continue to perform at a high level even in difficult circumstances. Self-motivation contributes to increasing physical endurance during the match. In the field of energy management, the mental pattern affects the player's ability to manage his energy effectively. Players who have the mental ability to control their rhythm and maintain a balanced energy level are able to perform physically sustainably throughout the match" (5:57) As for recovery, the mental pattern helps in managing stress. Players who have strong mental patterns can deal with physical stress better, which contributes to reducing the impact of stress on physical performance and psychological recovery. The mental pattern helps in improving the player's ability to recover after great physical effort. The ability to relax and regain psychological calm after the match speeds up the physical recovery process "(6:57) It also helps in motivating the football player "During matches, players who have a strong mental pattern can motivate themselves to continue to exert physical effort even when they feel tired or exhausted. It also helps in discipline for the football player, as the mental pattern affects the extent of the player's commitment to physical training programs. Players who have the mental ability to motivate and discipline are more committed to the exercises and physical activities necessary to maintain their fitness (7:83). The mental pattern also helps in avoiding injury through physical awareness, as the mental pattern enhances the player's ability to be aware of his body, which helps in avoiding movements that may lead to injuries. It also avoids injury through mental focus. Players who have high concentration can avoid injuries by avoiding risks and focusing on the correct movements (6:57). From the above, it is clear that the soccer player must be of the S type and that players must be selected on this basis to obtain good results in training and matches.

## 5 - Conclusions:

The researchers concluded the following: -

- 1 - There is a difference in the relationship between mental patterns according to the Vienna system and the physical variables of football players.
- 2 - The best pattern for selecting football players is the S pattern.

## 5 - 2 Recommendations: The researchers recommend the following: -

- 1 - Adopting the results of this study in the selection process for football players.
- 2 - Conducting similar studies on the psychological aspects of football players, which would help coaches achieve good results in training and matches.

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