

# AN ANALYTICAL STUDY OF THE BODILY-KINETIC INTELLIGENCE OF EXCELLENT CLASS HANDBALL PLAYERS

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## Abstract

Intelligence is of great importance and is evident in all areas of life, including the sports field. Like other societies and institutions, the right individual is placed in the right place. This requires identifying the mental potential of the handball player in accordance with the requirements of the role played by the handball player. The nature of handball requires a leader who has several qualities, including physical, psychological, scientific, and educational, in addition to the physical and motor intelligence that he is required to have in his work, especially when staying with a hero, and whose ability is likely to do what is best for his group, which is the test of their superiority, and the matter is not limited to cognitive capabilities, but goes beyond that to include non-cognitive capabilities, represented by skills that have a major role in the success of work

This is what makes us find intelligence, which is considered mental energy or mental return, or is the characteristic that accompanies the mind that works with the activity, understanding, depth, and speed of a leader's behavior. To the researchers' knowledge, there is no measure of field intelligence in the sports field. The researchers hope, through this study, to reach results that have positive implications for... Different aspects in the sports field

The research aimed to build and apply a measure of bodily-motor intelligence among excellent class handball players

Finding standards and levels of field intelligence and identifying it among handball players, excellent class. Building and applying a measure of bodily-motor intelligence among handball players, excellent class. Finding standards and levels of field intelligence and identifying it among soccer players

Handball Premier Division included a number of club players participating in the Premier Division Handball League, numbering (176) players, representing (73.33%) of the research community.

The most important conclusions were that the player who has a high level of bodily-kinetic intelligence is reflected in his performance in matches and training and is more positive, unlike the player who has a low level of bodily-kinetic intelligence.

**Keywords:** Intelligence: Bodily-kinesthetic intelligence: standards and levels for field intelligence.

## Introduction

There is no doubt that there are skills that individuals share, yet there are skills in which they differ as well, and the level of variation in their possession is an important indicator of the

success of some and the failure of others. Among these skills are what is clearly visible, and some of them are not apparent because they are linked to the secrets of the human soul.

It is known that bodily-kinesthetic intelligence is one of the important mental abilities that helps the handball player retrieve the information he needs for quick action, as it contributes to drawing up his immediate plans that are compatible with the changing situations he faces during training or competition, in which he needs more detailed mental models of the details. Since bodily-kinetic intelligence is related to the player's ability to perceive the relationship, as well as his awareness of what is required of them, this increases his ability to visually spatially visualize things, which helps him make plans. Employing bodily-kinetic intelligence is a correct method that works to support the correct path.

Handball players differ in their responses to different alerts and situations depending on individual differences. A situation that includes a challenge to a handball player may be a threat to another leader, which is why he encourages the former to deal with this situation and tries to solve the problem he was exposed to. He sees in it an opportunity to enhance and appreciate himself and increase his sense of self-confidence and the confidence of the members of his group. Here, the role of bodily-motor intelligence is prominent in these situations. There are sporting practices that require a degree of intelligence, but in varying degrees, and which may take place in one well-known format

As well as the quality of participation in terms of age group, gender difference, and group efficiency. The more direct the competition, the more handball players need a higher degree of intelligence to outperform their competitors, while maintaining the aspect of fun, pleasure, and awareness of the place in which they will reside. Therefore, handball players must have a higher degree of intelligence. It is appropriate for different situations

### **The objective of the study**

1-Constructing and applying a measure of bodily-motor intelligence among excellent class handball players

2-Finding standards and levels of field intelligence and identifying it among excellent handball players

3- Identifying the reality of physical-motor intelligence among excellent class handball players

### **Methods and structure of the study**

Experimental approach to the problem

The descriptive approach was used in the style of correlative relations, as it is the most appropriate method to solve the research problem

Participants

The objectives that the two researchers set for their research and the procedures they use will determine the nature of the sample that will be chosen (1:41). Therefore, the research population was determined in a deliberate manner from all the players of the premier handball clubs, who number (240) players representing (15) teams for the season 2032-2024. The sample was divided into two parts, the first for the procedures for constructing the bodily-kinesthetic intelligence scale and the second for the purpose of applying the scale as follows:

First: The sample for constructing the Bodily-Kinesthetic Intelligence Scale: It included a number of club players participating in the Premier Handball League, numbering (176) players, where their percentage reached (73.33%) of the research community.

Second: Application sample: It included (64) players from premium handball clubs, where their percentage reached (26.66%) of the research community.

### **Scale construction procedures**

It is “a set of basic steps that can be followed when constructing a test or scale and how to link the scale units to measure the overall aspects of a skill, trait, characteristic, or ability” (10:320), as the researchers sought to build a measure of bodily-motor intelligence in a manner consistent with the scientific foundations that the topic of their research began from it.

### **Scientific transactions for the scale**

To confirm the soundness and scientificity of constructing the scale and to reveal its adequacy, its items must be analyzed. Here, basic and important conditions must be present to ensure this, and the most important of these conditions is its excellence of honesty and consistency. This is confirmed by David F., who points out that “test designers must evaluate the evidence of the stability and validity of their tools” (8: 538).

### **First: apparent honesty:**

This validity is calculated after presenting it to a number of experts in the field that the test measures. If the experts decide that this test measures the behavior that it was designed to measure, then the researchers can rely on the experts' understanding (14:13). This type of validity was achieved when the two researchers presented the scale to a group of experts to confirm its validity and estimate the extent to which each item measures the components of each field. Thus, the areas and items that obtained the approval of the experts were accepted and the inaccurate paragraphs were deleted.

### **Second: construct validity.**

It is considered one of the most suitable types of validity for constructing scales. It is called the validity of the concept or the validity of the hypothesis formation because it depends on experimental verification of the extent to which the scores of the items match the characteristic or concept to be measured. What is meant by the extent of measurement of the scale is the analysis of the scale scores based on the construction of the characteristic to be measured in light of a specific concept (4: 43). The two researchers verified the construct validity of the research scale through indicators that are:

The style of the two extreme groups

The researchers arrived at the mechanism by distinguishing the items in the scale, and this was verified when the discriminatory power of the items was calculated using the two extreme groups method and using the t-test. We find that the distinctive items were extracted and the non-distinctive items were excluded.

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**Internal consistency coefficient:**

It is the ability of the scale to track the individual's actual performance in the field of the characteristic to be measured. It is known in constructing scales that the greater the correlation coefficient of the item with the total, the greater its inclusion in the scale increases the probability of obtaining a more homogeneous scale (17:125). This type of validity is achieved through the use of Simple correlation law (Pearson).

**Consistency**

Reliability is one of the basic elements in preparing tests and relying on their results. It means "the stability of the results when the test is re-administered to individuals and the preservation of the true variance of the test" (5:77). That is, the test or measure that is characterized by stability is the one that gives the same results if it is repeated to the same individuals. In the same circumstances (15:22)

There are several methods through which the reliability coefficient can be extracted, and the researchers chose two methods among them:

**First: the halve division method**

The items of the scale were divided into two halves, so that the number of items in each half was (20), and the sequence of the items was divided into odd and even, and then the correlation coefficient between the total scores of the two halves was extracted using the Pearson method from the raw values, and the correlation coefficient between the two halves was (0.887), but these values represent a reliability coefficient of half Therefore, the reliability coefficient must be modified and corrected until we obtain the reliability coefficient of the test as a whole. Accordingly, the researchers used the Spearman-Brown equation to correct the correlation coefficient, and after correction, the reliability coefficient became (0.94), which is a high reliability coefficient that can be relied upon to estimate the reliability of the test.

**Objectivity.**

Objectivity is that the test is not affected by changing arbitrators and that the test gives the same results regardless of the meaning of the test evaluation. This means excluding subjective judgment, as the more objectivity in arbitration, the less subjectivity (13:202).

**Final application of the scale**

After completing all requirements for designing the scale and its procedures, the scale became ready for application (Appendix 1) and consists of (67) items. The two researchers applied the scale in its final form to the application sample, which numbered (64) players on (11/13/2023) and after analyzing the responses. Research sample: Data was collected in a special form, as each player had his own score.

**Analyses**

The statistical program (spss) version 22 was used and extracted

**Results**

Presenting, analyzing and discussing the results of the level of bodily-motor intelligence for excellent class handball players.

Table (1) shows the distribution of players according to the levels of the bodily-kinesthetic intelligence scale

The ratio	the number	Levels	Raw grade	Standard score
24.074	13	excellent	340-298	70-80
22.222	12	very good	297-253	60-70
16.666	9	good	252-208	50-60
20.370	11	middle	207-162	40-50
11.111	6	acceptable	161-117	30-40
5.556	3	weak	116-68	20-30

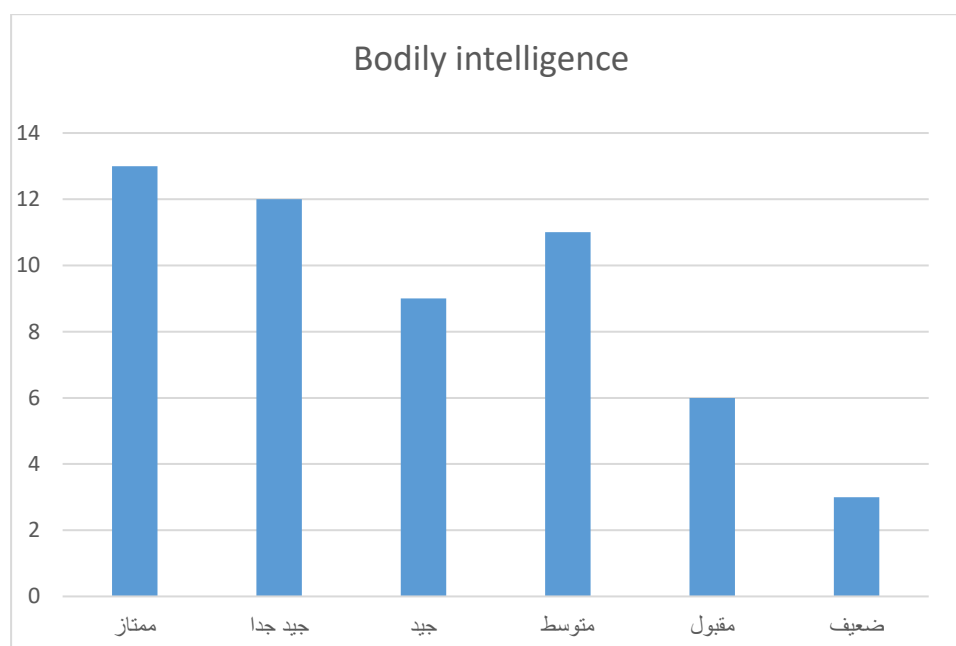


Figure (1) shows the levels of the bodily-kinesthetic intelligence scale

It appears from the table above that the application sample was distributed into six levels in the bodily-motor intelligence scale, namely (excellent, very good, good, average, acceptable, and poor), where (13) players obtained the excellent level, i.e. (24.074%), and (12) players obtained the excellent level. At the very good level, that is, with a percentage of (22.222%), 9 players obtained a good level, with a percentage of (16.666%), 11 players obtained an average level, with a percentage of (20.370%), and 6 players obtained an acceptable level, with a percentage of (11.111%). The level is weak (3) players, with a percentage of (5.556%)

Table (1) shows the levels of physical-motor intelligence among excellent handball players. They were divided into several levels: (excellent), (very good), (good), (average),



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(acceptable), and (weak). This indicates There is a discrepancy in the levels of bodily-motor intelligence of excellent-class handball players

The researchers attribute that the fact that a number of players in the Iraqi Premier Handball League scored excellent and very good on the Bodily-Motor Intelligence scale is an indication that some club players have a high percentage of Bodily-Motor Intelligence, and this result is considered normal and a positive indicator for players who excel in this trait.

The researchers attribute this to the fact that the players represent the best players in the Iraqi Premier League handball clubs, and by virtue of their intelligence, their physical and skill level, and the years of experience they have in dealing effectively with the environment surrounding them, as studies confirm that people with bodily-kinesthetic intelligence have the ability to recognize large-scale spatial images. And processing it, and this is consistent with the results we obtained from the players' possession of bodily-kinesthetic intelligence

It appeared that the level of the players was distributed between the good and excellent level, and thus one of the objectives of the research was achieved to identify the level of bodily-kinetic intelligence of the players in the research sample. The two researchers believe that the physical-kinetic intelligence in the game of handball requires continuous training that is compatible with the situations that the players are exposed to during the matches because Handball is one of the group games that is characterized by a direct competitive nature between players on the field, which makes them constantly exposed to difficult situations while playing.

Matches. Thus, we notice that most coaches try to implement the situations that occur during matches in the training units because this puts the player in a competitive situation similar to playing situations. The player faces difficult situations and defeat and is prepared for the changes that happen to the team and bears the responsibility assigned to him. As Kamel Abboud Hussein points out, he must The player will have the ability to face defeat and failure in competitions and training, and will have a positive feeling about the changes taking place in the team, and will have a feeling of sporting responsibility, not to distance himself from oneself, family, friends, and society, and to remain with the duties and responsibilities imposed by this connection (7:36).

The researchers attribute that the reason why a number of the application sample obtained the level (good and average) in the physical-motor intelligence scale is that the players adhered to the coach's instructions to a large extent, but the nature of the game puts the player under high psychological and physical pressure, so the player always needs to apply the instructions of the training staff well, as well as Using individual, group, and real-time feedback during the training units to absorb the required exercises and apply them well during matches to achieve compatibility, accuracy, and motor coordination, which reflects positively on the level of physical-motor intelligence and the level of skill performance of the players, thus bringing about improvement and development among the players, and the average level achieved by a number of players.

It is an average indicator that needs to be raised for fear of the level falling to less than that and thus negatively affecting the player and the team, as the positive aspect and cultural awareness must be activated and the coach, management and psychotherapist must work to

enhance the positive aspects of the team, and as confirmed by (Raisan Khuraibet and Nahida Resan Sukkar) that creating Cooperative relationships between the players and their coach lead to them acquiring a good moral value represented by avoiding nervous reactions and creating a state of cooperation and rapport between the players based on mutual respect and cooperation. It has a profound impact on the athlete's psychology, which naturally affects the team's physical, skill and tactical level (2:58)

The researchers attribute the achievement of a number of players at an (acceptable and weak) level in the physical-motor intelligence scale to several reasons, including those related to the player himself and others related to the surrounding environment. The player may be suffering from psychological or physical problems, and thus it is negatively reflected on the player's performance and his dealings with others, which leads to... To a decrease in the level of performance of that player, and these problems may be related to the surrounding environment, whether it is the coach, the administration, the audience, or among the players, and this leads to a decline or decline in the level of the player's performance. Therefore, the handball player needs attention in all aspects due to the nature of this competitive game.

The researchers noticed the lack of support, whether material or moral, which directly affects some handball players, because support, especially financial support, has a major role in the player's commitment and trying to provide the best possible level, whether in training or competitions. The researchers also noted that there is a lack or near absence. Psychological guidance for the team is provided by people specialized in psychology. This role may be limited to the coach, the assistant coach, or a person from the administration who does not specialize in psychological guidance. Sometimes some experienced players on the team are used to provide some psychological guidance to the rest of the players. Studies indicate the importance of psychological preparation, in addition to physical, skill and tactical preparation. These problems of the player, whether related to the surrounding environment or personal problems, have a role in influencing the player's level and may affect the level of the player's bodily-motor intelligence, because bodily-motor intelligence, even if it is innate, needs to be developed mentally, physically, and psychologically. The researchers noted that most clubs It depends on young players. The researchers believe that these players need psychological preparation in addition to skill, physical and tactical preparation. The player must be encouraged and considered the main element in the team's success.

As pointed out by (Mohamed Hassan Allawi and others), the psychological aspect of the players and the team as a whole is considered one of the most important aspects that affect the level of players and teams at high levels, in which the players and the team fall under many psychological pressures that negatively affect their technical levels. Therefore, the player must be prepared psychologically in terms of psychological dependence, bearing the pressures of competitions, avoiding feelings of anxiety that may affect his level, and increasing motivation (11:41)

## **CONCLUSIONS**

1-The research sample was distributed into several levels of the bodily-motor intelligence scale (excellent - very good - good - average - weak).

2- A player who has a high level of bodily-kinetic intelligence will have a more positive impact on his performance in matches and training, unlike a player who has a low level of bodily-kinetic intelligence.

### Accessories

Never applies to me	Rarely applies to me	Sometimes applies to me	Often applies to me	Always me	Paragraphs	
					I feel that my body is flexible and not tense while performing	1
					I can move my body in different directions with high efficiency	2
					I can perform difficult motor skills with great flexibility	3
					I can bend and extend the joints of the body easily and quickly	4
					My body's flexibility increases after a high warm-up	5
					I do not find it difficult to make a decisive decision when faced with multiple options	6
					I can learn a new skill with a high degree of accuracy	7
					I feel that I excel at performing movements and skills that require great flexibility	8
					The flexibility of my body helps me avoid injury	9
					I can give a quick reaction to a specific sports situation	10
					I can overcome the opponent by relying on the flexibility of my body	11
					Training helps me increase and maintain flexibility	12
					The flexibility of my body helps me balance my body while performing some skills	13
					The encouragement of my coach and colleagues motivates me to perform skills that require high flexibility My motor skills improve with practice	14 15
					I perform motor skills with great fluency	16
					I feel that I have a big role in the team's achievements	17
					The psychological and social atmosphere is necessary to achieve goals	18
					I don't make fun of a player who makes a mistake	19
					I have my own plans for my sporting future	20
					I perform motor skills with great fluency	21
					I feel that I do not have sufficient ability to control psychological stress	22
					I encourage my teammates to train, play and achieve the best results	23
					I work to calm others in tense situations during training and competitions	24



					I can control my emotions and control them in difficult and complex situations in the match	25
					I know the strengths and weaknesses of my personality	26
					I admit my mistakes in front of others	27
					I change my thoughts as soon as evidence to the contrary appears	28
					I do not apply routine procedures in training	29
					I respect my colleagues, especially the experienced ones	30
					I make the choices I face in training opportunities to learn	31
					I strive to be distinguished within the team I play for	32
					I respect the coach and players of the opposing team	33
					I do not accept audience criticism during competitions	34
					I feel that my body's capabilities do not let me down	35
					I can try sports skills with all parts of my body	36
					I can handle the pressure during the match	37
					I adapt to the match conditions quickly	38
					I can find quick solutions to different situations that I face during the match	39
					The coach helps me make the right decision	40
					I make appropriate plans for expected problems	41
					For me, I find a solution for any problem that occurs during the match	42
					I can develop several solutions to overcome the competitor	43
					I challenge the difficult situations I encounter during the match	44
					I feel better when I continue training	45
					The coach has a major role in overcoming difficult situations during the match	46
					I help my colleagues solve their problems	47
					I quickly get rid of psychological stress after a loss	48
					The audience's encouragement helps me give my best performance	49

					The audience's encouragement helps me give my best performance	50
					Management has an important role in helping the team achieve the best results	51
					I can overcome frustrating and sad situations and control my temper	52
					I can estimate the time required to perform some motor skills	53
					I have a sense and attention to where my opponent is	54
					I can reach the desired location at the right time during the match	55
					I pay attention to my teammates' movements during the match	56
					I can estimate the throw distance of the ball while playing	57
					I have the ability to control the force necessary to perform some motor skills	58
					I focus on the opponent's movements during play	59
					I have the skill necessary to change my body position when I fall to avoid injury	60
					My body's muscles help me perform motor skills	61
					I focus a lot on linking and coordination exercises between movement and senses	62
					I can change my movement directions quickly and accurately	63
					I can pass the ball to my teammates in the right place	64
					I have the ability to make the right offensive decision and shoot the ball	65
					I can deceive the opponent during the offensive performance	66
					Overcome the goalkeeper's movement and anticipation during a 7 meter throw	67
					I excel at performing physical movements and skills that require speed	68

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