

Physical-kinetic intelligence and its relationship to the skills of handling and shooting in basketball U15

Received date: 16/07/2022 Accepted date:12/09/2022 Published date:18/09/2022

Houria Rehaili ¹ Adel Bezziou ²

¹ University of Biskra, Mohamed Khider Algeria, Email : houria.rhaili@univ-biskra.dz

² University of Biskra, Mohamed Khider Algeria, Email : adel.bezziou@univ-biskra.dz

Abstract:

The study of the current research aimed to identify the relationship between physical-kinesthetic intelligence and the skill of handling and shooting in basketball, and assuming there is a significant correlation relationship in the level of physical-kinesthetic intelligence and the skill of handling and shooting in basketball on a sample of players active in the Annaba regional association Where the researcher adopted the descriptive approach to choosing the research community, and the sample consisting of (35) players from three teams was chosen randomly and by lottery method.

Keywords: bodily kinetic intelligence; handling and shooting; basketball.

Correspondent author : Houria rehaili, Email: houria.rhaili@univ-biskra.dz

1. INTRODUCTION

Physical-kinetic

The scientific progress that we see today in various fields of life is the result of experiences, experiments and research through which many results were inferred and obtained to serve all humanity. Hand to identify new in the processes of acquiring and developing skills, capabilities and techniques, and to achieve the best good results by following all that is new and depositive in sports sciences.

Mental abilities are receiving increasing interest among psychologists in general and those who focus their attention in particular on sports and athletes. Psychologists have begun to focus their energy on mental, intellectual and psychological abilities in all sports. And low performance among athletes, as this progress is linked to improving the level of capabilities and then interest in developing and mobilizing all the elements and ingredients for success in the player or athlete, and this comes through identifying the broad capabilities of many athletes in organizing themselves in sports competitions.

And intelligence comes at the forefront of mental abilities, which must be given great care by workers in the sports field, because it has great importance and relationship to training programs and relations between players and their performance, and intelligence is one of the important variables in learning sports motor skills, especially in team games that require focus and attention. Quick and different situations that require the nature and situations of playing the game.

Here comes the importance of the research because it is related to one of the types of intelligence that has a great role in

solving the problems facing players in team games through the use of physical-kinetic intelligence for players and helping them learn and practice sports activity by paying attention to mental abilities and their reflection on the practical side, so the research problem It comes due to the lack of interest in the cognitive aspects and mental processes, especially intelligence, and its use in the practical side of the players, and the lack of intelligence tests for players while learning and performing basic skills in the game of basketball, especially the skill of handling and shooting. It is a problem worthy of research, so the researcher decided to study this topic to reach solutions that benefit workers in the sports field.

The problem:

Physical-kinesthetic intelligence is one of these types. It has become one of the most important topics facing researchers in education and psychology. It is worth mentioning that this topic is not limited to its theoretical, psychological or philosophical educational value, but rather because it has a relationship, results, and importance in other fields such as sports fields, especially competitive ones. .

And bodily-kinetic intelligence is one of the most important abilities that the athlete needs in general in various sports competitions, whether collective or individual, as the researchers pointed out that bodily-kinesthetic intelligence is one of the types of intelligence that is important in sports activity, as it is the ability of the individual to use his natural senses to move his body in a way. Effective in various conditions. (Howardner Gardner, 2005, p. 1)

Since the bodily-kinesthetic intelligence is one of these abilities, it may be related to the process of learning some skills in basketball, or the extent to which the player can use these skills and employ them during the competition, and from it we ask the following question: Is there a relationship between the bodily-kinesthetic intelligence and the skills of handling and shooting in Basketball for basketball players U15?

Partial questions:

- ☐ Is there a relationship Statistically significant between the bodily-kinetic intelligence and the handling skill of basketball players U15?
- ☐ Is there a relationship Statistically significant between physical kinetic intelligence and the shooting skill of basketball players U15?

General hypothesis:

- ☐ There is a relationship Statistically significant between physical kinetic intelligence and the skills of handling and shooting in basketball U15.

Partial Hypotheses:

- ☐ There is a relationship Statistically significant between the physical kinetic intelligence and the handling skill of basketball players U15.
- ☐ There is a relationship Statistically significant between the bodily-kinetic intelligence and the shooting skill of basketball players U15.

research aims :

- ☐ Knowing the relationship between bodily-kinesthetic intelligence and the skills of handling and shooting.

□ Knowing the level of physical and kinetic intelligence of the players participating in the Annaba Regional League (under study).

research importance :

□ Shedding light on the bodily-kinetic intelligence in the competitive aspect and paying attention to it as it is one of the mental abilities needed in various sports, as it suffers from marginalization and lack of interest.

□ Raising the level of performance of the players participating in the regional league by knowing the nature of the relationship between physical-kinetic intelligence and the skills of handling and shooting in basketball.

□ Relying on the physical-kinetic intelligence as an indicator of selection for the players participating in any regional association.

Definition of terms and concepts:

Intelligence:

There is no definitive definition of intelligence; Its definition varies according to the criteria by which intelligence is measured, but there is no doubt that intelligence is closely related to the mind and mental abilities, such as the ability to mentally adapt to new life circumstances. (Hala Farouk Abdel Hafez, 2011, p. 20)

Procedural definition: It is dealing with the various processes carried out by the individual in order to solve the problems facing him in an optimal way.

kinesthetic intelligence:

Bodily-kinesthetic intelligence is one of the important types of multiple intelligence theory in physical education,

which requires the use of the body or parts of it to solve problems “This type of intelligence refers to the individual’s ability to use his body parts to express his thoughts.” (Hala Farouk Abdel Hafez, 2011, p. 23)

It is the ability to use the body or parts of it, such as the hand, fingers, or arms to solve a problem, make something, perform a production process, do some work, express ideas and feelings through movements, and that learners who enjoy this intelligence excel in physical activities, and in coordination between visual and motor. And they have great tendencies to move and touch things, and the ability to exercise or practice the arts of dance and acting, and the owners of this intelligence have superior physical kinetic abilities. (Thouqan Obeidat, 2008, pp. 1-3)

Procedural definition: It is one of the mental abilities that any coach must subject the players to in order to increase his ability to coordinate, adapt and focus in the match.

Motor skill:

Motor skill is also defined as “the individual’s ability to reach a result by performing a motor duty with the greatest degree of mastery while expending the least amount of energy in the least possible time.” (Muhammad Hassan Allawi, 1994, p. 110)

Handling and shooting skills in basketball:

They are the abilities that the basketball player needs during the competition, and it is one of the skill requirements for the player that includes all the basic skills of the game, whether with or without the ball, and it means the necessary and purposeful moves that the player makes in order to reach the best, and in our research these skills are represented in (handling and shooting) .

Previous studies:

Gagaa Tawfiq's study entitled: "The relationship of physical kinetic intelligence with the performance of some offensive skills in handball," where the study aimed to know the extent of the contribution of physical kinetic intelligence to the performance of some offensive skills in handball. The researcher used the descriptive correlative approach to suit the nature of the study. On a sample of (20) handball players under 17 years old (JSBM) active in the amateur section, the researcher concluded that there is a statistically significant relationship between the study variables (physical kinetic intelligence and a set of offensive skills in soccer). The researcher recommends the need to apply the types of measures of intelligence (whether emotional, emotional, strategic) or physical-kinesthetic intelligence because of its great importance in identifying the internal behavior of the player, and employing similar studies in relation to measures of intelligence in various aspects, and the need to pay attention to the intelligence variable The physical kinetic and its development (Gagaa Tawfiq, 2021, pp. 184-191)

Ruwaïda Thamer Najm study, the relationship of physical-kinesthetic intelligence with the skill of the tambourine in basketball among female students of the College of Physical Education and Sports Science for Girls. The hypotheses were as follows: There is no significant correlation in the level of physical-kinesthetic intelligence, there is no significant correlation between physical-kinetic intelligence and the skill of tatting with basketball on a sample of students of the second stage of the College of Physical Education and Sports Sciences for Girls for a period from 04/14/2016 until 5/5/2016, where the

researcher adopted the descriptive approach to choose the research community. The researcher determined the research community for the students of the second stage of the College of Physical Education and Sports Science for Girls. The sample consisting of 17 students from Division (A) was selected by random method, by lottery for one of the divisions (second stage). There are (38) female students divided into two divisions, A - B. The researcher concluded that there is a strong correlation between the level of physical-kinesthetic intelligence and the high and low pitch in basketball. (Ruwaida Thamer Najm, 2017)

General comment on previous studies:

The previous studies were benefited from in the theoretical aspect through the research plan, as well as quoting some of the elements that we could not obtain from the original reference to it. I also benefited from them in the field aspect by choosing the appropriate approach and statistical methods for our current study because they are studies that carry a variable of the study variables.

In this element, we reviewed what we were able to obtain from previous studies, because they are related to the subject of the study. These studies have varied in their objectives, hypotheses and questions, in addition to the variation in the tools used and the statistical methods used, as well as the difference in their results, and this is all through our review and previous studies, it became clear what follows:

- The objectives of the two studies varied and varied, and this diversity can be limited according to the type of studies and research.
- The previous two studies sampled some of them from both genders (males and females) in basketball, and this applies to the

previously mentioned studies, and this is consistent with the current study sample in gender (males).

- The previous two studies varied in their use of scales, some of them used more than one scale and some used one scale, and this is what applies with the current study.
- Multiple use of statistical methods used in data processing, due to the different nature of the topic and assumptions.
- The current study agrees with the previous two studies in dealing with the bodily-kinesthetic intelligence variable, but the latter differed in the sample.
- The current study agrees with the previous two studies in the study method, which is the descriptive method.
- The current study agrees with the two studies in the study tool (the physical-kinesthetic intelligence scale and the skills variable) as a data collection tool.
- Previous studies were taken advantage of in terms of statistical methods used in data analysis and interpretation, in terms of literary theory, and in terms of problem building.

2. Search procedures:

2.1 Research Methodology and Field Procedures

Research Methodology: The researcher adopted the descriptive approach to reach the objectives of the research and verify its hypotheses and to suit the nature and problem of the research. (Ali Fayek Hussein, 2012, p. 197)

The descriptive approach, on the other hand, is a way of describing the studied phenomenon and depicting it quantitatively by collecting audited information about the

problem, classifying it, analyzing it and subjecting it to the study. (Kamal Ait Mansour and Rabah Taher, 2003, p. 18)

research community :

It is the original group that is taken from the sample, and this group may be: schools, teams, residents, or any other units. The statistical community is called all things that have characteristics or attributes that can be observed, measured, and statistically analyzed. Therefore, the researcher adopted in this research that The research community is for basketball players in the Annaba Regional League, and they number (70 players).

The study sample, its characteristics and how to choose it:

The sample is defined as “the study community from which field data are collected, and it is considered part of the whole in the sense that a group of community members is taken to be representative of the community for the study to be conducted.” (Rasheed Zarwati, 2002, p. 91)

The sample consisting of (35) players out of 70 active in the Annaba Regional Basketball Association was randomly selected using a lottery method after some players were excluded due to several injuries.

Exams under study:

1. The physical-kinetic intelligence scale in Appendix (01) was applied in the private basketball hall.
2. Skill tests: the chest handling test, and the forward jump shooting test Annex (02).

Tools and devices used:

In order for the researcher to reach a solution to the research problem, special and appropriate devices and tools must be available to ensure the success of the research (legal basketballs -

signs - stopwatch - physical intelligence scale - kinesthetic - auxiliary work team)

Field Research Procedures:

The researcher used the physical-kinesthetic intelligence scale, as well as the skill tests under study.

kinesthetic intelligence scale:

Tool description:

The physical-kinetic intelligence scale of Khawla Ibrahim and Rafeeq Nabil. The researchers presented this scale to three arbitrators for the questionnaire for the purpose of judging it. This scale includes 19 phrases so that the players answer them and it consists of a three-tiered scale:

always apply to me; sometimes apply to me; It never applies to me

According to a three-step key, as follows:

It always applies to me 3 degrees.

Sometimes 2 degrees apply to me.

Never apply to me 1 degree.

Correction method:

The scores determined by the examinee are summed for all the expressions of the scale so that the highest score that the laboratory can obtain in the kinematic scale is 57 and the lowest score is 19

Scientific conditions for scale:

Objectivity, stability and honesty are the most important conditions for the safety of the measuring instrument, and they are related to each other, and in this Corton says, honesty is a manifestation of stability. (Mohammed Al-Tayeb, 1999, p. 292).

Stability: There are a number of statistical methods that are used to measure the stability of the study tool, most of which depend on calculating the alpha-Cronbach equation to ensure the stability of the study tool, as we obtained the value shown in the table.

Table 1. represents the stability of the kinetic body intelligence scale

The scale	The sample	Cronbach's alpha
Somatokinetic intelligence scale	35	0.792

Validity: In order to ensure the validity of the scale, we calculated the subjective validity of the scale by calculating the square root of the reliability coefficient.

The results obtained were as follows: The result of the validity of the physical-kinetic intelligence scale was 0.889, and therefore the scale enjoyed both self-veracity and stability, suitable for achieving the objectives of the study and applying it to the study sample.

Determine the skills in question:

The skill tests (chest handling, dribbling, shooting) that were identified from scientific sources were presented to the experts to show their validity, and after unloading, the skills that got less than 50% were excluded.

Experts (05) professors from the University of Souk Ahras and Biskra.

Table 2. represents the stability of the kinetic body intelligence scale

Skills	The exams	Repetitions	Percentages
Shooting	Aiming, then moving to a semicircle (15 shots)	05	100%

	Shoot from the bottom of the basket (30 seconds).	00	00%
	Shooting by jumping from the side at a distance of 6 m.	00	00%
Dribbling	Dribbling by changing direction between 4 chairs at a distance of 19m back and forth.	00	00%
	From the high start dribbling by changing the direction between 7 chairs at a distance of 15 m back and forth.	00	00%
	From high start dribbling by changing direction a distance of 13.50 m back and forth.	05	100%
Pectoral handling	10 wall manipulations with maximum speed and minimum time.	05	100%
	Handling the ball and receiving it towards overlapping circles on the wall with a distance of 3 m	00	00%

Test description:

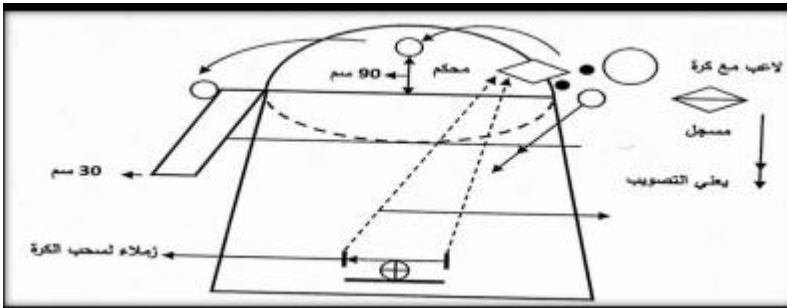
Aiming test:

Test name: Aiming by jumping forward and then moving in a semicircle.

The purpose of the test: To measure the skill of shooting from jumping.



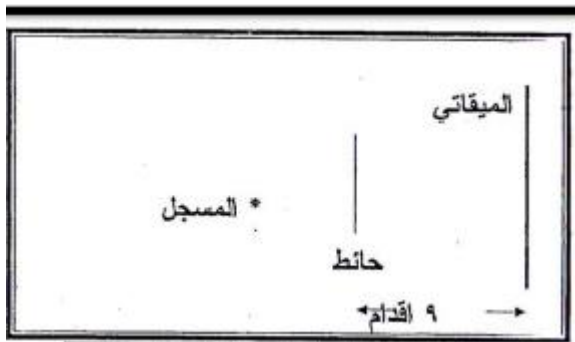
Tools needed: basketball court, tape measure, basketball 2, net, pen.



Chest handling test:

Purpose of the test: To measure thoracic handling velocity.

Tools needed: Flat and smooth terrain, stopwatch, basketball.



Statistical methods used:

The researcher used the SPSS statistical package.

- arithmetic mean,
- standard deviation,
- Pearson correlation coefficient,
- Cronbach's alpha coefficient.

Presentation, analysis and discussion of the results:

Presentation, analysis and discussion of the results related to the first hypothesis:

Table 3 The relationship between bodily-kinesthetic intelligence and pectoral handling skill

The study sample	kinesthetic intelligence scale		Chest handling test		Pearson coefficient	Indication
35 players	SMA	Standard Deviation	SMA	Standard Deviation	0.832	Statistical function
	66.321	7.589	12.457	3.268		

Analysis:

It is clear from the table the relationship between the physical kinetic intelligence and the skill of thoracic handling for the research sample, as the arithmetic mean of the total scores of the thoracic handling test was 12.457 with a standard deviation of 3.268, while the arithmetic mean of the scores of the answers of the same players on the scale of physical kinetic intelligence was 66.321 with a standard deviation of 7.589 as It is clear to us that the calculated R value of the relationship between the bodily-kinesthetic intelligence and the thoracic handling skill has reached 0.832.

Discuss the results related to the first partial hypothesis:

Through the obtained results, it was found that there is a correlation between bodily-kinesthetic intelligence and handling skill, as the researcher considers that these results are logical

because they are compatible with several studies. It is the experience and competence in one's use of one's body as a whole to express thoughts and feelings, as in the case of an athlete, and the ability to use one's hands to produce and transform things. Presentation, analysis and discussion of the results related to the second hypothesis:

Table 4: The relationship between bodily-kinesthetic intelligence and shooting skill.

The study sample	kinesthetic intelligence scale		shooting test		Pearson coefficient	Indication
35 players	SMA	Standard Deviation	SMA	Standard Deviation	0.778	Statistical function
	66.321	7.589	17.954	4.741		

Analysis:

It is clear from the table the relationship between the physical kinetic intelligence and the skill of shooting for the research sample, as the arithmetic mean of the total scores of the shooting test reached 17.954 with a standard deviation of 4.741, while the arithmetic mean of the scores of the answers of the same players on the scale of physical kinetic intelligence was 66.321 with a standard deviation of 7.589, as it becomes clear to us The calculated R value of the relationship between the bodily-kinesthetic intelligence and the shooting skill amounted to 0.778. It appears to us that the correlation is direct between the bodily-kinesthetic intelligence and the shooting skill, and this value is

considered statistically significant at the level of significance of 0.05.

Discussing the results related to the second partial hypothesis:

Through the obtained results, it was found that there is a correlation between the bodily kinetic intelligence and the skill of shooting, as the researcher believes that these results are logical due to their compatibility with several studies and explain these results based on several reasons. Intelligence is the ability to solve the problems that the player faces during performance. There are several problems that he may face, including some pressure during the competition, in addition to the psychological state he is going through, as they are all problems that the physical-kinesthetic intelligence contributes to finding appropriate solutions to while performing the offensive skills.

Conclusion :

Physical-kinetic intelligence is of great importance for the player, as it shows the extent of the relationship between mental abilities and their reflection on physical-motor activities, and thus progress in the level and access to mastery is linked to the extent of interest in it. Skillful performance in any sport and this is what the study showed.

The current problem, which is still under observation, is the lack of attention to such mental abilities, "physical kinetic intelligence" from coaches of competitive teams, knowing that attention to these mental abilities will lead to the success of the training session in teams with the discovery and development of players with a high level of this intelligence at the age of early

and work to involve them in the important activities to reach them to the highest levels and achieve the best results.

Recommendations and suggestions:

- Reliance on bodily-kinetic intelligence as an important indicator of athletic performance during selection and evaluation.
- Work to integrate a training program for the development of bodily-kinesthetic intelligence into the training sessions.
- Doing many studies on bodily kinetic intelligence of all kinds and its relationship to various variables of sports activities.
- Paying attention to measuring the physical and kinetic intelligence when selecting players, as it is an indicator of the skill side of the player, especially the basic skills.
- Relying on the kinesthetic intelligence scale as a formative evaluation form during the lessons to follow up the extent of the development of kinesthetic intelligence.

List of references:

1. Thouqan Obeidat. (2008). Intelligences detection methods, intelligence profile.
2. Rachid Zerwati. (2002). Trainings in the methodology of scientific research in the social sciences. Dar Houma, Algeria: 1st floor.
3. Ruwaida Thamer Najm. (2017). The relationship of physical-kinetic intelligence with the skill of the tataba basketball for female students of the College of Physical Education and Sports Science for Girls. Contemporary Sports Magazine, Glory 16, Issue 4.
4. Ali Fayek Hussein. (2012). The effect of an educational curriculum with various strategies in learning some offensive skills in basketball, Master's thesis. Al-Mustansiriya University, Iraq.

5. Gagaa' Tawfiq. (2021). The relationship of physical-kinetic intelligence with the performance of some offensive skills in handball. Journal of Society and Sports, Volume 4, Issue 2, El Wadi University, 184-191.
6. Kamal Ait Mansour and Rabah Taher. (2003). Methodology for preparing a scientific research. Dar Al-Huda, Algeria.
7. Mohamed El-Tayeb. (1999). Statistics in education and psychology. Modern University Office, Alexandria: 1st floor.
8. Muhammad Hassan Allawi. (1994). The science of athletic training. Cairo, Egypt: 13th Edition.
9. Hala Farouk Abdel Hafez. (2011). The effect of a teaching strategy according to the theory of multiple intelligences on the achievement of fourth preparatory students in Islamic education, a master's thesis.
10. Howardner Gardner. (2005). The relationship of intelligence to exercise performance.

List of supplements:

N°	Ferries	N	Always	Sometimes
1	I can focus my thoughts and pay attention to all the movements of my colleagues			
2	My skill performance is better when I am in front of my teammates			
3	I am the best at performing movements and physical skills that require attention			
4	I can keep my body balanced while performing some skills			
5	I come up with my thoughts when I'm practicing a manual skill			



6 I have skills that require precision
in doing things

7 I can do delicate works with my
hands, such as pottery, decoration
and sculpture

8 I can perform different skills in
good coordination

9 I skillfully use my hands to do
things like magic tricks

10 Invent new highly innovative
moves

11 I can use my body parts
simultaneously when required

12 I have skill in using gestures and
hand movements accurately

13 I learn fast when I get a machine
instead of listening to someone
teach me

14 I can express my opinions using
body movements and facial
expressions

15 I can easily acquire a new sports
game

16 The best ideas come to my mind
while doing body movements

17 I use all or part of my body
movements to imitate some of my
colleagues efficiently

18 I can change my movement
directions quickly and accurately

19 When I tell stories, I pass with
signs
