



Skill performance for team games in terms of fluid intelligence among students of the Faculty of Physical Education and Sports Science - University of Babylon

Asst. Prof. Dr. Raad Abdul Amir Finjan *

¹ College of Physical Education and Sports Sciences, University of Babylon, Iraq

* **Corresponding author, Email:** Phy.raad.finjan@uobabylon.edu.iq

Research submission date: 24/10/2024

Publication date: 15/01/2025

Abstract

Physical education and sports science abound in many theoretical and applied sciences and individual and group games, and one of the most important theoretical sciences is sports psychology, which is concerned with researching psychological aspects and associated with sports activity in its various fields and levels as well as looking at the psychological characteristics and features of the athlete, which constitute the self-basis of sports activity in order to develop it and try to find Scientific solutions to its various applied problems. For the purpose of achieving the athlete's goals, aspirations and aspirations, there must be proper care in the process of preparing mathematically students, and knowledge of intelligence, its characteristics and dimensions in general, and fluid intelligence in particular for the student can contribute to developing his abilities and considering him a valuable member because he is the basis of society and its leaders. Since the university stage is a stage of preparation for students from all mental and professional aspects, the progress of nations depends mainly on the dynamic and energetic university students who represent future leaders. Therefore, the university student, including students of colleges of physical education, is in urgent need of their enjoyment of the features and skills of fluid intelligence in addition to their mental, physical, and skill capabilities, and thus the integration of students' personality from the cognitive and intellectual aspects so that they are able to face different educational situations and problems.

Keywords:

Skill Performance, Team Games, Fluid Intelligence.

<https://doi.org/10.58305/ejsst.v15i55.552>

Email:

This is an open access article.



1. Introduction to the research and its importance

One of the most important types of intelligence that attracted the attention of researchers is liquid intelligence, which represents an important type of intelligence that requires study and research and work to develop it to raise the academic achievement of students, and that the academic achievement and access to the best levels depends on the capabilities and capabilities of students that they possess and one of the most important types of mental capabilities It is intelligence, from which all students' thinking abilities are derived.

Therefore, the fluid intelligence that the student possesses is one of the necessary and basic elements that play a prominent and significant role in terms of its impact on the skill level of team games.

And the Research problem the subject of intelligence represents an important center in the lives of individuals, for its great role in facing the problems faced by individuals and working to find solutions to these problems by using all their mental capabilities, and the fact that the university life period is a transitional period for the university student in general and the student of the College of Physical Education and Sports Science in particular Because the latter needs physical and mental capabilities and capabilities that enable him to perform mathematical skills, which need mental and physical compatibility and mobility and performance capabilities that enable him to perform optimally and succeed in reaching good levels of performance.

Through the researchers 'view, it was noted that there is a lack of studies on intelligence in general and liquid intelligence in particular, so the researchers wanted to go into this field and learn about the role of intelligence and its effect on skill performance among students of the College of Physical Education and Sports Science.

Research Objectives

The current research aims to:

1. Knowing the skill level of team games and fluid intelligence among students of the Faculty of Physical Education and Sports Science - University of Babylon.
2. Knowing the nature of the relationship between the skillful performance of team games and fluid intelligence among students of the Faculty of Physical Education and Sports Science - University of Babylon.

3. Predicting the skillful performance of team sports among students of the Faculty of Physical Education and Sports Science University of Babylon through fluid intelligence.

Research hypothesis

Researchers assume the following

There is a significant relationship between the skillful performance of team games and fluid intelligence among students of the Faculty of Physical Education and Sports Science.

Research fields

The human domain: Students of the Faculty of Physical Education and Sports Science - University of Babylon for the academic year 2022-2023.

Timeline: From 3/10/2022 to 5/28/2023.

Sphere: The classrooms and sports stadiums of the Faculty of Physical Education and Sports Science - University of Babylon.

Terms used in the research

1. Skill Performance: It is the level of the student and his mastery of the motor sports skills that are included in the game, and it is also the ideal image of artistic performance and the effective way to implement a specific dynamic task.
2. Liquid Intelligence: It is the person's ability to think logically and solve problems in different situations regardless of the knowledge previously acquired, as this type of intelligence includes the ability to recognize different patterns and relationships to identify problems and infer solutions to them.

2. Research methodology and field procedures

2-1 Research Methodology

The researchers used the descriptive method with the survey method and the correlations of its relevance and the nature of the present research.

2-2 Research community and its sample

The research community included the students of the Faculty of Physical Education and Sports Science University of Babylon, who are (456) students, knowing that the students were excluded from the current research and the number (58) students, for reasons related to physical and skill differences related to performance.

The mother of the research sample included (348) students from the four academic levels, and they were chosen by the stratified random method, which represented (76.31%) of the total research community.

2-3 Tools, devices and means for collecting information

In order to solve the research problem and achieve its goals, the researcher used the following tools and assistive devices:

2-4 .Research tools and devices

- Electronic calculator, made Japanese, Sony.
- Lap top Dell Vostro/1015.
- Personal Calculator.
- Casio electronic stopwatch.

2-4-1 Data collection methods

- Note.
- The questionnaire.
- Test and measurement.
- Personal interviews.

2-4-2 field research procedures

2-4-3 Students' Average Skill Performance

Students 'final grades were relied on from practical tests for the academic year preceding the research.

2-4-4 Procedures for preparing the liquid intelligence test In the present research

The researchers relied on Raymond Cattle test (the third level) for adults, because the age of the sample falls to this level.

Description of the test:

1. The test consists of four axes and each axis has a group of questions and a specific time.
2. Sequence test: The test consists of (12) questions and the answer time is (4) minutes.
3. The discrimination classification test: It consists of (14) questions and the answer time is (3) minutes.
4. 4Matrix test: It consists of (12) questions and the answer time is (4) minutes.
5. Placement test: The test consists of (8) questions and the answer time (3) minutes.
6. Correction of the test: The test consisting of (46) paragraphs is corrected, and each (5) paragraph has alternatives, and one grade is given if the answer is correct and (zero) if the answer is wrong.

After that, the researchers presented the test to the experts and specialists in order to know the validity of the test, and the test was accepted based on the results obtained from the experts' approval and as shown in Table (1).

Table (1)

Show the validity of the fluid intelligence test and the calculated Ca2 value

Val.	Value of C	UP.	P	No. Experts.	Scale
P	6	zero	6	6	SLT

The value of the tabular value = 3,84 at the degree of freedom 1 and the significance level = 0.05

2-4-5 The scientific characteristics of the scale

First: Honesty

This type of honesty was achieved when the scale was presented to (6) experts and specialists previously mentioned in the field of sports psychology and educational psychology, then questionnaires were collected, data is emptied and statistical work performed, as it was found that the scale was valid in its content, because the value of (Chi-square) And the value (8.33) is higher than the tabular value of (3.84), thus achieving the apparent validity of the scale.

Second: Stability

The alpha-kronbach equation was used, and it was found that the rate of the internal correlation coefficients between the vertebrae and the number of vertebrae determines the vakronbach coefficient (1) It appeared that the value of the persistence coefficient equals (0.886) which is a high indicator of stability of the scale.

2-5 Final application of the liquid intelligence test

The researchers applied the liquid intelligence test used on the individuals of the research sample of (348) students who represent students of the College of Physical Education and Sports Science University of Babylon, in the period between 13/1/2023 until 8/2/2023 and under the conditions and instructions for the test after The researcher collects the data of the individuals in the research sample and dumped the results and arranged them in special tables for the purpose of conducting statistical analysis for them.

2-6 Statistical Methods

The spss was relied upon to find the following statistical means: (Arithmetic mean, standard deviation, Spearman-Brown equation, Pearson correlation coefficient, Fakronbach coefficient, Chi-square test for good match, torsion, multiple correlation).

3. Presenting, analyzing and discussing the results

After completing the procedures for applying the liquid intelligence test to the individuals of the research sample, the researchers collected the test booklet and emptied its data for the purpose of completing the achievement of the remaining study goals by analyzing the results obtained from the members of the research sample.

3-1The students' level of skill and fluid intelligence

To achieve the second goal of the study, which is (knowledge of the level of skill performance of team games and fluid intelligence among students of the Faculty of Physical Education and Sports Science University of Babylon) the researcher extracted the arithmetic mean, the standard deviation, the mean, the standard error, and the coefficient of all the variables of the research, and the purpose of extracting statistical estimates was knowledge The level of

performance of the members of the research sample in the researched variables, and the purpose of extracting the standard error for statistical indicators is to "identify the suitability of the sample size for statistical analysis and its representation of the researched community" (3), and since the research requirements require that the And from these standardized unit units, the researcher converted them to modified standard degrees, from which statistical estimates were extracted. Table (2) shows that.

Table (2)

It shows estimates of mean, standard deviation, median, standard error, and warp for skill performance for team games and fluid intelligence for the research sample.

N o.	Research Ed variables	S. S	Mean		S.D		M		T		L	
			K	R	K	R	K	R	K	R	K	R
1	Skill performa nce rate	34 8	52.0 05	52. 02	4.9 03	4.9 0	49. 99	49. 9	0.4 03	3.8 03	0.3 7	0.3 7
2	Liquid intellige nce test	34 8	47.9 68	47. 09	6.8 69	6.9 9	44. 00	43. 3	0.6 16	0.9 16	0.1 14	0.1 14

What is shown in Table (2) are the clear differences in the relevant parameters of the researched variables. And the matter did not stop there, but differences emerged when standard deviations were established.

The same situation appears in the difference and variation in the median values between the variables discussed, as for the main purpose of extracting the value of the standard error (Q-O-) was to ensure the credibility of the size of the sample elected in its representation of the studied community, where the ratio of the standard error is inversely proportional to Sample volume.

The matter did not stop at this point, as the researcher intentionally extracted the values of the torsion coefficient of the researched variables, in order to know the distribution of the sample and whether the distribution is the same, meaning that its values are zero, this in turn indicates the suitability of the

researched variables to the level of the sample individuals in terms of the degree of difficulty.

3-1-1 Students' levels in the Liquid Intelligence test

Through the process of applying the final test (liquid intelligence) to the basic research sample, statistical estimates were calculated (arithmetic mean and standard deviations of their responses to the aforementioned test), and to ensure the significance of the mean of the calculated average of their responses, the researchers used the Z-test for one sample to find the significance of the differences Between the calculated average and the theoretical mean for the variable (fluid intelligence).

After performing the statistical treatment, the results showed that the mean of the sample items scores from the college students in the liquid intelligence test reached (47,0968) and a standard deviation of (6,86) while the mean hypothesis was (41,5) and by using the z-test (z. test) for one sample to see the differences between the two averages, it was found that the calculated z-value reached (1.95) which is less than the tabular value of (1.96) at the level of significance (0.05), and this means acceptance of the null hypothesis that confirms the absence of Significant differences between the mean values calculated from the sample and the hypothetical mean, which means that the students' levels in the fluid intelligence test were Medium.

3-2 Interconnection Matrix (correlation between search variables).

The researchers sought to extract the values of the correlation coefficient (Pearson) to achieve the third goal which is (to identify the nature of the relationship between the skill performance of team games and fluid intelligence among students of the Faculty of Physical Education and Sports Science - University of Babylon).

So he developed a matrix representing the connections between the skillful performance of team games and fluid intelligence, and Table 3 shows that.

Table (3)

Shows the interconnections for each of the indicators sought

P	L.d	Val.t	Var.	S
M	0.05	0.778	<u>PT</u> GS	814

From the above table, we find that the correlation is direct and of significant significance at the level of significance (0.05).

3-2-1 Relationship of skill performance to fluid intelligence among students of the Faculty of Physical Education and Sports Science

In order to know the significance of the coefficients of the correlation of the skill performance of the individuals in the research sample with the fluid intelligence, the highlight of the table (4) will be highlighted.

Table (4)

It shows the relationship of students 'skill performance with fluid intelligence

Correlation coefficient	Coefficient of determination	Modulus of alienation	The confidence ratio of the correlation coefficient	Value of F	Significance level	Statistical significance
0.280	0.079	0.959	4.1	7.770	0.007	Moral

From the previous table, we notice that the relationship of the skill performance rate with fluid intelligence, at which the correlation coefficients reached (0.280), and from them the amount of confidence in these coefficients came with a value of (4.1), which is an acceptable value or ratio because such a relationship is statistically significant and clearly significant.

3-3 Skill performance in terms of fluid intelligence

From what was stated in Table (4), it becomes clear to us that the relationship is of significant significance between skill rate and fluid intelligence.

In order to devise linear equations, an advanced statistical method must be used, in particular, which means the form of the relationship between the research variables called (regression), and through statistical treatment by this means, the results came as indicated in tables (4,3). To clarify it in detail, we follow the following context:

3-3-1 Quantitative estimation of the average skill performance in terms of fluid intelligence

Table (5)

The values for the regression coefficients of the regression of the average skill performance are shown in terms of liquid intelligence

Researched variables	Coefficients (constants)		Correlation coefficient	The nature of the link	Contribution rate
	The nature of The laboratories	Parameter value			
Skill performance rate With Liquid intelligence	C (A)	47.580	0.280	E	7.48
	C (A)	0.114			

From the above table, the researcher can devise an equation based on the aforementioned transactions, where the contribution rate reached (7.84), and the prediction equation for the contributing variable is- :

Skill performance rate $47,580 + 0,114 \times$ The value of liquid intelligence is standard for example- :

Assuming that the value of the mean for the fluid intelligence variable, is the same arithmetic mean for the student in a skill, and applied in the previous equation:

$$\text{Skill performance rate} = 47,580 + 0,114 \times 47,968$$

Skill performance rate (53,048), which is an estimated value, close to the median value of the skill performance rate, which is (52,02).

3-4 Discuss the results

Through an analysis of the research results, it was found that there is a clear correlation between the skill performance of team games and fluid intelligence among students of the Faculty of Physical Education and Sports Science at the University of Babylon, and the results can be explained as follows:

1. That students possessed the intelligence of the questioner confirms what the world brought forth by Kattel, in that individuals at this stage of development have increased fluid intelligence, and thus the current results are consistent with Kateel's theory.
2. Fluid intelligence has an important and significant role in students' learning of skill performance, because fluid intelligence focuses on the student's higher and deep mental skills. (4(
3. This is consistent with what was stated in theoretical studies where "fluid intelligence is in the factors that determine success in skill performance. How much that liquid intelligence leads to learning skill performance for games through its ability to analyze, interpret, and develop logically the skill performance which is a problem with A college student is a sportsman, who should use all of his mental abilities to learn to perform and solve this problem, which includes his ability to succeed and learn. Perform the appropriate behavior in the appropriate position. Since both variables related to success and personal growth. Vloda skill is linked to expectations of positive and fluid intelligence is linked to realism.
4. The results also came that it is possible to deduce the skillful performance of students through their fluid intelligence, since liquid intelligence is responsible for the direct process of inferring the conclusions of the problems and solving them in new unfamiliar situations.

4 Conclusions and recommendations

4-1 Conclusions

In light of the results reached by the researcher using statistical means, the following conclusions were drawn:

1. The students 'levels of fluid intelligence were average for students of the Faculty of Physical Education and Sports Science - University of Babylon.

2. There is a relationship between fluid intelligence and the skillful performance of team games among students of the Faculty of Physical Education and Sports Science - University of Babylon.
3. The skill performance rate for team games can be predicted in terms of the fluid intelligence of students of the Faculty of Physical Education and Sports Science - University of Babylon.

4-2 Recommendations

Researchers recommend the following:

1. The need to use special training programs in developing fluid intelligence for students of the Faculty of Physical Education and Sports Science - University of Babylon.
2. Adopting the predictive equation of liquid intelligence in estimating the degree of the skillful performance rate of students, for the purpose of knowing the extent of the contribution of liquid intelligence to the rate of skillful performance of students of the Faculty of Physical Education and Sports Science.
3. The necessity of conducting similar studies on the skill performance of individual games and devising a predictive equation for individual games.

References

1. Boyer, what research suggest about teaching thinking skills in costa, developing minds for teaching, 2001.
2. Wilson, Valerie; education from teaching thinking skill report library
3. Mohamed Al-Wattar, Sports and its Applications, Alexandria, Al-Noor Printing, 2018.
4. Al-Tamimi, Ali, The performance of the most basic skills, in terms of emotional intelligence, unpublished Master Thesis, 2012.
5. Muhammad Al-Amin, Performing basic skills in basketball in terms of educational values, published research, Asr Journal, Issue 4, 2018.
6. Cliffs, E. (1981): Education and Psychological Measurement and Evolution, (Sixth Edition) Prentic Hill, Inc.U.S.A.
7. Gregoire, J. (2001): what factors underline the aging effects on WAIS-R and WAIS 111 subtest? International Journal of Testing, 1.