

THE EFFECT OF BIORHYTHM IN PHYSICAL CYCLE ON SOME MENTAL AND MOTOR ABILITIES AND TECHNICAL GYMNASTICS SKILLS AMONG STUDENTS

Dr. Kadhim Issa Kadhim

Kadhim.kadhim@uobasrah.edu.iq

Dr. Zaki Nasser Shaaban

Basra University / College of Physical Education and Sports Sciences

zeki.shaban@uobasrah.edu.iq

Abstract

The importance of dealing with the topic came with a descriptive study that explains the levels that can be achieved at the level of technical performance of the aforementioned skills in light of the biological rhythm in its physical cycle. The study aimed to identify the differences in the values of mental and motor capabilities according to the biological rhythm of its physical cycle (the day of the summit, the day of landing to the bottom), to identify the differences in the values of technical performance of the three skills under research according to the biological rhythm in its physical session (the day of the summit, day of landing to the bottom.), The most important conclusions were the presence of statistically significant differences for the stages of the vital rhythm in its physical cycle, in the values of mental and motor capabilities according to the biological rhythm in its physical cycle (the day of the summit, the day of landing to the bottom), and the researchers concluded that the most important recommendations, observing the biological rhythm in its physical session in Distributing the size of the educational unit so that the size is large during the positive stage and relatively few during the negative stage.

Key words : biorhythm in physical cycle ; mental and motor abilities ; gymnastics skills .

1 - Definition of Research:

1-1 Introduction to research and importance:

Today the world is witnessing progress in all areas of different life and life becomes more difficult day after day, and the research increases in all areas that work to serve the human being, and this progress has affected sports activity, the



development of sports training and the diversity of its methods may have a great role in achieving a specific sporting achievement, but it is, but it is Many people with a good training situation may fail, and this is due to some different phenomena, including the biological rhythm.

Many coaches have touched that their players are achieving distinguished results in specific periods and these results decrease in other periods despite the similarity of the circumstances surrounding these players, these indicators prompted specialists to determine the truth of this phenomenon and conclude that there are waves that differ according to the activity, and thus the gathering Physical, emotional, mental and intuitive activity is not achieved in one period for the different periods of these courses (and that these courses take place in different periods and a stage of a specific session can coincide with another stage) (, (Khune : 2002) 'the body's monthly rhythms curves are determined according to the number of days consisting of each course Among its various sessions, and each of these curves represent two positive and negative areas," and since the vital rhythm affects the vitality of the individual and that the process of accessing good performance requires the conceitedness of all efforts and the completion of all human and material requirements and taking into account all means that affect the progress of the educational process and prepare athletes Whatever simple, the gymnasium lesson is important in the colleges of physical education and sports science because of its great impact on the student's mental, physical and motion m N, during his learning of a large number of basic skills and various devices, so interest in its learning must be recommended, as it needs to exert more effort and practice and from the foregoing we can use the vital rhythm courses in determining the periods of learning some of the skills The light of the activities of the vital rhythm and during its various stages, and therefore highlights the importance of dealing with the topic with a professional study that explains the levels that can be achieved for the motor, mental and skill capabilities in the study of gynecology in the vicinity of the vital rhythm.

1- 2 Research problem:

The monthly biological rhythm curves are determined according to the number of days that make up each of its various sessions, and each of these curves represent two positive areas and the other negative, and many studies have dealt with the subject of the biological rhythm in this respect, the positive and negative area, and since the vital rhythm affects the vitality of the individual, Therefore, the



research problem emerges through the researchers' question about the level of motor, mental, and skillful capabilities of the individual in the light of the biological rhythm in his physical session, as the day of analogy represents the individual's extremist rhythms in terms of summit or bottom for the curve, so the researchers chose to reveal this through a sample representing the students of the stage The second in the College of Physical Education and Sports Sciences .

1-3: Research objectives:

- 1-Learn about the differences in some mental capabilities according to the biological rhythm in its physical cycle (the day of the summit, the day of landing to the bottom).
- 2- Learn about the differences in some motor capabilities according to the biological rhythm in its physical cycle (the day of the summit, the day of landing to the bottom).
- 3- Learn about the differences in some of the skills of gynecology according to the biological rhythm in its physical cycle (the day of the summit, the day of landing to the bottom)

1-4 Research hypotheses:

- 1- There are statistically significant differences in some mental capabilities according to the vital rhythm of its physical cycle (the day of the summit, the day of landing to the bottom).
- 2- There are statistically significant differences in some kinetic capabilities according to the vital rhythm of its physical cycle (the day of the summit, the day of landing to the bottom).
- 3- There are statistically significant differences in some gymnasium skills according to the vital rhythm of its physical circulation (the day of the summit, the day of landing to the bottom).

1-5 Research fields:

- 1-5-1 The Human field : A sample of the second stage students in the Faculty of Physical Education and Sports Science / Basra University
- 1-5-2 Spatial Area: gymnastics Hall in the Faculty of Physical Education and Sports Sciences, Basra University.
- 1-5-3 Time for the period from: 1/10/2021 TO 15/3/2022.



2 - Research approach and field procedures:

2-1 Research curriculum:

The researchers used the descriptive approach to fit the nature of the research.

2-2 Sample OF Research:

The research community was chosen in the intentional way and was represented by students of the second stage in the Faculty of Physical Education and Sports Sciences/ Basra University for the academic year (2021 - 2022), who numbered (210) students, as the vocabulary of the artistic subject of artistic subject adopted in the research within the curriculum for this stage, as for the research sample, as for the research sample It was determined in the selection of twenty (20) students, and they were chosen in the intentional way, as they are fluent in the three skills, and for the purpose of avoiding factors that affect the results of the experiment in terms of differences in length, bloc, and temporal age, the researchers used to use the difference factor, as it appeared that the values of the difference factor ranges between (2.993-11.884) It is acceptable, as the value of the difference factor whenever it approaches (1) is homogeneous high and if it exceeds (30) it means that the sample is heterogeneous (Wadih Yassin & Hassan Mohamed; 1999), which indicates that the variables of length, mass and age are distributed Naturally, as shown in Table (1).

Table (1) It Shows the Homogeneity of the Research Sample

Verbal	Measurement unite	Mean	Std. Deviation	The difference Labs
Length	Cm	175.871	4.456	2.534
Body mass	Kg	69.035	4.639	6.720
Training years	Year	21.878	0.550	2.514

2-3 Means of collection of information and data:

Arab and foreign sources and the Internet, personal interviews, tests and measure Used in the computer.

2-4 measurements and Tests used in Research:

2-4-1 Measurements of Attention Test: (51:5)

2-4-2 Flexibility test

A seat is used in this test without a back, which is proven by the ruler on one of its edges in a vertical position on the ground, provided that the gradual is on the



surface of the seat. Imam below to try to reach the fingers of the hands to the deepest possible distance

2-4-3 Mental perception Test

The researchers used the scale of the mental perception designed by (Martnez: 1993) and Arabized by (Osama Kamel Ratib) and applied by the researchers, who aims to identify the level of mental perception of the player, as the scale consists of four sports situations, which are as follows:

First: Practice alone, secondly: Practice with others, third: Watching the colleague, fourth: Performance in the competition

That Each position consists of (4) paragraphs, and thus the scale becomes consisting of (16) paragraphs, and the player answers the vertebrae of the scale.

NO	Not found	Un clear	Middle	Clear	Very Clear
1	1	2	3	4	5
2	1	2	3	4	5
3	1	2	3	4	5
4	1	2	3	4	5

2-4-4 Skill Test:

The researchers conducted a skill test for the research sample personnel, as the test included the performance of the research sample of the skills under study, as the jury consisting of (5) rulers by viewing and stored on a CD disk, and the evaluation process is carried out with the highest degree and less A degree and the average of the three grades is extracted, which is the student's degree.

2-5 Exploratory Experience:

The exploratory experience of the skill performance of the skill of jumping was conducted on the jumping table and the skill of diving on the rug of ground movements and the skill of landing on the throat device at ten o'clock in the morning on Tuesday 12/10/2021, on a sample consisting of 5 students without the main research sample And that the purpose of conducting the exploratory experience is the following:

- 1- Knowing the time taken to perform the tests.
- 2- Ensure the validity of the tools used in the main experience.
- 3- Learn the extent of understanding and understanding of students of the vocabulary of tests.

4- Identify the difficulties and negatives facing the researchers when conducting tests for the purpose of overcoming them.

2-6 The Main Experience:

The researchers used a special program to extract the biological rhythm using the most important course of its session, which concerns the athletes, which is the physical course after entering the student's special information, which is his date of birth in the day, month and year. Basra, who numbered (20) students, for the period from 12/19/2021 to 1/23/2022, as a student has a vital rhythm that differs from the other. The skill tests (within the positive rhythm) and (within the negative rhythm) have been performed. The skills were photographed. Search video to convert it into DVD tablets to display it to the two.

2-7 Statistical Means:

The statistical data obtained by the researchers was processed by using the statistical bag (SPSS 23).

3- - Presenting, Analyzing and Discussing Results:

3-1 Presentation of all research variables tests depending on the biological rhythm in its physical session (the day of the summit-the day of the bottom) and its analysis:

Table (2) It Shows the calculations, standard deviations, calculated (T) values and statistical significance of the results of all research tests according to the vital rhythm of its physical circulation (the day of the summit - the day of the bottom)

NO	Verbal	Measurement	The day of the summit		the day of the bottom		T Collected Value	Sig
			Mean	Std. Deviation	Mean	Std. Deviation		
1	Agility	Degree	16.307	0.797	17.884	0.178	8.64	0.000
2	Flexibility	cm	4.0	0.707	2.250	0.500	9.04	0.000
3	the focus	Degree	85.13	7.03	75.13	5.48	5.02	0.000
4	Mental perception	Degree	66	4.48	60.500	0.13	0.05	0.000
5	Dive	Degree	8.500	0.612	7.611	0.697	4.29	0.000
6	The jumping Conquest	Degree	8.722	0.444	7.333	0.500	9.29	0.000
7	Decline Join	Degree	8.389	0.333	7.278	0.389	9.70	0.000



It appears from the results shown in Table (2) that the value of (T) calculated in (fitness, flexibility, focus, mental perception, diving, jumping, relegation, reinforcement) reached a row (8.64, 9.04, 5.02, 0.05, 4.29, 9.29,, 9.70) The attached (P-Value) value appeared smaller than the level of significance (0.05), which indicates there is moral differences between the two periods (the day of the summit- the day of the bottom) and for the benefit of the day of the summit

3-2 Discussion Results:

The Results in Table (3) showed the presence of moral differences between the two periods (the day of the summit and the day of the bottom) and for the benefit of the day of the summit, as the student or learner in the first half of the physical course that represents (11.5) days is the first day, that is, the phase (the positive) is all vital systems He has in its maximum state and the individual is ready to endure and actively work for a longer period of time, either in the second half of the physical cycle that represents (11.5) days the following, i.e. (negative phase), the individual here feels in most cases a decrease in his vital and student activity or the learner is vulnerable Because of the low level because the learner or student members 'response to the nervous center does not respond, and if it responds, it will be difficult and the movement will be combined without setting specific requirements. This is consistent with Ray (Elham Ismail, 2000), "that the first half of the physical cycle can be likened to a battery that gives energy, but in the second half of the physical cycle, it appears and the battery was In need of recharge (Elham Ismail Shalaby : 2000), in addition, the" increase in the vital activity of the player in the physical cycle in its positive phase is accompanied by an increase" in the activity of the nervous system and thus increasing the effectiveness of muscle contractions that generate and regulate the motor skill, but in the negative phase of the course Physical, we note the decline in all functional activities as a result of the decrease in their vital rhythm and thus weakens the nerve impulses that affect the muscle fibers as a result of inhibiting the central nervous system, which is affected by the hormone system and affects the work of this device, as sports activity causes fundamental changes in the fuel needed for the metabolism in order to maintain the increase The resulting in the muscular contraction as a result of physical exertion, as this "nervous system provides enough glucose and this is due to special hormones that create energy during physical activity" (Bahaa Al -Din Salama:1998), the researchers attribute that the difference in the basic day of birth of the research sample, as the



difference of this leads The differences in the percentage of the physical rhythm curve, which coincides with being one of the members of the sample at the top of the physical cycle while the other is the middle and perhaps in the area The bottom of the result of the difference in the curve and separation in other curves (emotional and mental). This may have affected the results, and it appeared in the appearance it is, or perhaps we find two types of.

4- Conclusions and Recommendations:

4-1 conclusions

- 1- The existence of statistically significant differences in mental abilities according to the biological rhythm in its physical cycle (the day of the summit, the day of landing to the bottom).
- 2- The presence of statistically significant differences in the motor capabilities according to the biological rhythm in its physical cycle (the day of the summit, the day of landing to the bottom).
- 3- The presence of statistically significant differences in some of the skills of gymnasium according to the biological rhythm in its physical cycle (the day of the summit, the day of landing to the bottom).

4.2. Recommendations

- 1- The researchers recommend increasing studies on the theory of biological rhythm through the most important course of its courses, which is the physical course, especially what is related to the educational aspect.
- 2- Taking into account the biological rhythm in its physical circulation in the distribution of the size of the educational unit so that the size is large in the positive stages and relatively few in the negative stage

References

- 1- Elham Ismail Shalaby:, (2000) , General Basics in Public Health and Health Education for athletes, Cairo, College of Physical Education for Girls, ,AD, pp. 188-189.
- 2- Bahaa Al -Din Salama, (1998) , Sports and motor performance, 1st floor, Cairo, Dar Al -Fikr Al -Arabi, p. 206.
- 3- International Arbitration Law,(2013) , Translated by Saleh Jaafar Nour, 13th edition, , p. 88.



- 4-Muhammad Sobhi Hassanein, (1995), Measurement and Evaluation in Dream and Sports Education, Part One, Dar Al -Fikr Al -Arabi, Cairo, 1995.
- 5- Wadih Yassin & Hassan Mohamed(1999), Statistical applications and computer uses in physical education research, Mosul, Dar Al -Kutub for Printing and Publishing, , pp. 160-161.
- 6- Khune ,(2002) , Motor learning between principle and application, Baghdad, Al -Sarh Al -Sakhras Office, p. 141.
- 7- Hussein, G. L., Hasan, A. J., & Al-Jadaan, D. A. N. (2022). THE EFFECT OF THE SWOM STRATEGY ON LEARNING SOME ARTISTIC GYMNASTICS SKILLS FOR STUDENTS. ResearchJet Journal of Analysis and Inventions, 3(04), 108-123.
- 8 - Hasan, A. J., Hussein, G. L., & Al-Jadaan, D. A. N. (2022). THE EFFECT OF KARPLUS STRATEGY ON LEARNING SOME BASIC SKILLS IN ARTISTIC GYMNASTICS FOR STUDENTS. ResearchJet Journal of Analysis and Inventions, 3(04), 64-80.
- 9 - Kassem, D. A. S. N. W. (1818). Jawad.(2015). The relationship of the inertia torque of the kicked parts of the finer performance of the scoring skill of football for the halls. Journal of Physical Education Studies and Research, 43, 401-412.
- 10 - Neamah, D. A. S. (1818). Comparative study of varying distances of approximate running on some biomechanical variables to accurately perform the aiming skill by jumping forward in hand. Journal of Physical Education Studies and Research, 44, 46-70.
- 11 - Shatnawi, M. M., Al-Jadaan, D. A. N., Ahmad, M. A., & Al-Saeedin, M. S. (2021). ANALYTICAL STUDY OF SOME BIOMECHANICAL VARIABLES FOR THE ACCURACY OF THE PERFORMANCE OF THE CORRECTION SKILL BY JUMPING FORWARD WITH A HAND BALL. Turkish Journal of Physiotherapy and Rehabilitation, 32(3).
- 12- Dhurgham A. Neamah Al-Jadaan, Hayder Odda Zeghair ,kadhim Habeeb Abbas, Saeed Hussein Hasan (2021). An analytical study of the levels of psychological compatibility in premier-class handball players. Turkish Journal of Physiotherapy and Rehabilitation, 32(3), 16641- 16632
- 13 - Al-Jadaan, A. N (2021) .AN ANALYTICAL STUDY OF THE LEVELS OF PSYCHOLOGICAL COMPATIBILITY IN PREMIER-CLASS HANDBALL PLAYERS. Turkish Journal of Physiotherapy and Rehabilitation, 32, 3.
- 14 - AJ Hasan, GL Hussein, MH Abdullah, DAN Al-Jadaan (2022). THE IMPACT OF THE COGNITIVE APPRENTICESHIP STRATEGY IN LEARNING SOME TECHNICAL



- GEMS'SKILLS FOR STUDENTS .ResearchJet Journal of Analysis and Inventions,3(4) , 145-159, <https://doi.org/10.17605/OSF.IO/S8HV3>
- 15 - Dhurgham A. Neamah Al-Jadaan , Imad Adel Ali (2020) . Design and rationing of a test to measure the accuracy of the cornering skill by jumping from a corner and some biomechanical variables after performing the physical effort in , International Journal of Psychosocial Rehabilitation , 24(9), 4541-4548
- 16 - GL Hussein, AJ Hasan, MH Fadel, DAN Al-Jadaan (2022) . THE EFFECT OF BABY'S STRATEGY ON LEARNING SOME SKILLS IN THE ARTISTIC GYMNASTICS OF THE CUBS. ResearchJet Journal of Analysis and Inventions, 3(4) , 145-159, <https://doi.org/10.17605/OSF.IO/MHXWS>
- 17- Aljadaan, D. A. S. N (2018). THE AMOUNT OF MOVEMENT QUANTITY DECREASE AND ITS EFFECT ON THE OUTPUT ACCURACY AND STRENGTH TO THE SKILL OF REMOTE AIMING BY JUMPING FOR HANDBALL. ACADEMIA E STUDI ECONOMICI DIN BUCURESTI Departmentul de Educatie Fizica si Sport ,Vol (22) , 67 - 73
- 18 - Neamah, D. A., & Mustafa, U. S(2018). TEST PROROSAL TO EVALUATE SPECIFIC ENDURANCE AND THE AMOUNT MOTION FOR HANDBALL PLAYERS. ACADEMIA E STUDI ECONOMICI DIN BUCURESTI Departmentul de Educatie Fizica si Sport , Vol (22) , 56-66
- 19 - AJ Hasan, GL Hussein, MH Abdullah, DAN Al-Jadaan (2022). THE IMPACT OF THE COGNITIVE APPRENTICESHIP STRATEGY IN LEARNING SOME TECHNICAL GEMS'SKILLS FOR STUDENTS .ResearchJet Journal of Analysis and Inventions,3(4) , 145-159, <https://doi.org/10.17605/OSF.IO/S8HV3>
- 20 - Dhurgham A. Neamah Al-Jadaan , Imad Adel Ali (2020) . Design and rationing of a test to measure the accuracy of the cornering skill by jumping from a corner and some biomechanical variables after performing the physical effort in , International Journal of Psychosocial Rehabilitation , 24(9), 4541-4548
- 21 - GL Hussein, AJ Hasan, MH Fadel, DAN Al-Jadaan (2022) . THE EFFECT OF BABY'S STRATEGY ON LEARNING SOME SKILLS IN THE ARTISTIC GYMNASTICS OF THE CUBS. ResearchJet Journal of Analysis and Inventions, 3(4) , 145-159, <https://doi.org/10.17605/OSF.IO/MHXWS>