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***The Level of Flexible Thinking in the Practice of Sport Activities and its Relationship to Promoting Mental Health among Students of the Department of Physical Education and Sport Sciences at Al-Noor University***

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***ABSTRACT***

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1- The level of flexible thinking in practicing sports activities among the students of the Department of Physical Education and Sport Sciences at Al-Noor University, and identifying the level of mental health promotion, and identifying the relationship between the level of flexible thinking in practicing sports activities and the level of mental health promotion.

The researcher used the descriptive method in the method of relational studies for its suitability and the nature of the research. The original research population of the study consisted of (270) students of the Department of Physical Education and Sport Sciences at Al-Noor University, with a percentage of (100%), and the study sample included (100) male and female students with a percentage of (37.30%), and the sample was randomly selected from the research community, and the researcher reached the following results: The students of the Department of Physical Education and Sport Sciences at Al-Noor University have a high level of flexible thinking in practicing sports activities, and a high level of mental health, and there is a significant correlation between the level of flexible thinking in practicing sports activities and the level of mental health.

The researcher came up with the most important recommendations, which are

1- Urging the faculty members of the Department of Physical Education and Sport Sciences at Al-Noor University to organize lectures and educational courses on the concept of flexible thinking in practicing sports activities and games and the concept of mental health for other faculties and departments of the university.

2- Conducting more studies related to these concepts, and preparing programs for students that would use the strategy of flexible thinking in sports activities and competitions, which in turn enhances the mental health of students.

3- Organizing various sports activities and training them to use flexible thinking during their sports activities.

4- Holding workshops and seminars by the Center for Continuing Education of Al-Noor University, by professors specialized in this field. practicing sports activities for students of the Department of Physical Education and Sport Sciences, colleges and other departments at the university.

1- Introducing the research:

1-2- Introduction and the importance of the research:

Our world today is witnessing a great and tremendous development in the field of modern technology and digital technology, and scientific development is the standard by which the development of countries is measured, which most of the countries of the world compete on today, and therefore the future role of physical education, sports and sports competitions is also the most important role in the countries of the world, due to the importance of sports and sports and physical activities with great effectiveness in physical growth, comfort of souls, behavior modification and development of sports talents. Strengthening the body in addition to forming and modifying the balanced personality that is within the relationship between (mind, soul, body, soul).

Therefore, the great role of education and sports should be expanded to include a larger leading role, and it should be oriented towards knowledge in a more comprehensive manner, and it should be concerned with the goals of the student and their needs for physical and sports activity and all sports activities, and the creation of a suitable psychological atmosphere for practicing these activities.

The university stage is considered one of the most important stages in the life of the university student, and it is a start towards the future to achieve the goals and ambitions that the student seeks to achieve, and it is one of the important purchases in the progress, advancement and progress of society, so they must be able to overcome the problems and pressures that hinder their journey and enable them to overcome them and keep pace with their journey through their flexible thinking or keep pace with it with flexibility and smoothness, and their social relationship and behaviors are important and acceptable to others.

(Afaneh, 2018, 3)

Flexible thinking is the intellectual openness and the ability to be transparent towards the topics at hand and the ability to progress and retreat, i.e. giving and taking during the conversation and not being intolerant of the individual's idea and taking into account the other opinion, and flexible thinking in general is the ability of the individual to move from one state of mind to another and from one path to another according to the requirements of the situation or activity that the individual is touching. Flexible thinking is one of the main components of creativity and excellence, and it is necessary to adapt to the developments and changes that occur in social life and to solve all the problems that the individual is exposed to, and it is a necessary skill for communication, negotiation and solving the problems that the individual faces.

(Abdulaziz, 2009, 159)

Flexible thinking in practicing sports activities is one of the qualities acquired from the environment in which individuals exist, and flexibility can be learned through the university, family, school, community and close colleagues.

(Saban, 2006, 130)

Sports and physical activities represent an important aspect of the formation of the student's personality, due to the types of interaction that he enjoys, which achieve for the individual many qualities related to the social, psychological, mental and physical aspects, in addition to health and physical fitness, in addition to developing his personal traits, and appreciating him, as well as helping him to get rid of some mental illnesses and reduce aggressive behavior, considering sports as a means of venting energy.

Universities represent one of the basic scientific pillars in society in our current era, and it is one of the basic components of the modern state by the role they play and play in the development of

individuals in full and comprehensive development. The university stage is one of the most important stages of the student's life, and it is a complete life in all its scientific, cultural, social and sports aspects, and the state has provided all the appropriate conditions for the educational process and the support of all sports and physical activities, and excellence in practicing sports and physical activities is no less important than academic excellence, as much as they have learned and excelled in their practice of sports and physical activities. (Al-Zubayani, 2002, 2)

An athlete or an individual who has good flexibility can overcome all the psychological and life problems and pressures that he faces, whether during the practice of sports activities or in social life, and this in turn works to enhance the mental, mental and physical health of the individual.

Sports activities play an important role in developing the personal aspects of students, as they help students to reveal their tendencies and activities, benefit from their abilities, and instill moral and social values, as well as work to build the student's personality socially and raise his cultural level, and sports and physical activities contribute to providing the opportunity for students to innovate and excel through their participation in all sports and physical activities at the university, which help students succeed and excel in proportion to their talents and physical abilities. (Al-Zubayani, 2002, 2)

Sports and physical activities have positive effects for students and all age stages, which improve the functional ability of all body parts, in addition to the health, psychological and social aspects of its practitioners, which helps the individual to adapt to the various situations he faces.

(Naji, 2016, 297)

Mental health is a trait characterized by relative stability, in which the individual enjoys adaptation to the soul and the environment, is emotionally stable, feels happy and satisfied, has the ability to achieve himself and transcends, and sets for himself a level of ambition that is consistent with his potential, abilities and desires.

(Al-Daheri, 2004, 27)

Sport and physical activities play a great and prominent role in achieving mental health and an important element in the formation of the student's mature personality and at the same time treats many psychological and behavioral disorders for the purpose of achieving mental health, and among these theories that have spoken in this regard is the theory of (Aristotle) who believes that play play like acting is an outlet for the venting of the emotions of the prisoner and that play helps a person to alleviate the anxiety he suffers from, which every person tries to get rid of in any way. (Al-Hajj Hassan, 2019, 47)

Also, practicing sports and physical activities raises the student on boldness, self-confidence, endurance, sincerity, and flexibility in thinking, and he lacks a sense of self, and thus sports and physical exercises are an effective factor in developing a positive emotional feeling.

The importance of mental health in the field of practicing sports and physical activities has increased, as it has become one of the most important factors in maintaining mental health, as the World Health Organization has defined health as a definition taken by all those working in the fields of mental health and public health, and the summary of this definition is (health is the state of physical, sports, psychological and social safety and sufficiency, and not just freedom from disease or disability). In this definition, we see that physical, psychological and social aspects are the basic components of the individual's enjoyment of mental health, and a health-conscious person is the ideal person who enjoys degrees and high levels of health represented by physical, mental,

psychological, social and health integration, and that practicing sports and physical activities works to prevent the most important modern diseases such as diabetes, heart disease, respiratory diseases, obesity, excess weight and postural deformities.

Sports and physical activities in particular have effective effects for different age stages, as they work to improve the functional ability of various body organs, in addition to the positive effects they add on the psychological and social aspects of their practitioners, which helps the individual to adapt to the various situations he faces, and that sports and physical activity plays an important role in improving the lifestyle, as it is a functional scientific material that helps the individual to prepare for a balanced and enjoyable life. Scientists also believe that practicing sports and physical activities in scientific ways positively affects the health of individuals.

(Naji, 2016, 297)

## 1-2. Research Problem

Talented and creative people in the field of sports and other fields are considered the human capital for the progress and renaissance of countries, so these countries do not hesitate to exert money and effort to provide all opportunities for talented and creative sports and athletes to discover and develop these talents and activate their role in representing their country in local and international sports forums.

Flexible thinking has a great role in alleviating the difficulties and problems of those who fall under the pressures of life, its consequences and challenges, and overcoming those problems and obstacles through the ability of students to face them in flexible and multiple ways, through which the individual can overcome those difficulties and obstacles, and since mediation and dealing with the desirable things in public life, whether it is in thinking, realizing things, making decisions, or understanding problems and solving them in a proper way, this mediation is considered one of the most important things in the world. One of the personal characteristics that all human beings may not possess as a result of certain educational living conditions, as people differ in their way of thinking, each looks at it from his own perspective, and there are those whose thinking is flexible and adapts to different circumstances, and there are those who are extreme in their thinking to dimensions that reach the point of being decisive in issues that do not leave room for discussion or dialogue with others.

Sport is a human right for everyone, and that the university student has its existence in itself, as it has feelings, needs, and demands like the rest of society, and it has the energy to enjoy life and contribute to the enjoyment of others, and based on the importance of sports and physical activities as one of the urgent necessary requirements for the university student's adaptation and achieving and meeting his personal needs and demands that may positively affect his acquisition of some social skills, and through the researcher's follow-up of the role of sports and physical activities. In Al-Noor University and the role of sports activities in promoting mental health and in all social skills and self-confidence in the university student, hence the problem of the current research highlights identifying the level of practicing sports and physical activities and its relationship with enhancing the level of mental health among the students of the Department of Physical Education and Sport Sciences at Al-Noor University. The problem of the current research is determined by answering the following questions:

1. Are there any statistically significant differences in the level of flexible thinking in practicing sports activities among the students of the Department of Physical Education and Sport Sciences at Al-Noor University?
2. Are there any statistically significant differences in the level of mental health among the students of the Department of Physical Education and Sport Sciences at Al-Noor University?

3. Is there a significant correlation between the level of flexible thinking in practicing sports activities and the level of mental health among the students of the Department of Physical Education and Sport Sciences at Al-Noor University?

### 1.3. The importance of the research

The importance of the current research stems from the importance of the category we are targeting, which is the category of students of the Department of Physical Education and Sport Sciences at Al-Noor University, which should receive a lot of attention by researchers and sports institutions in all its forms. The importance of the present research also lies in addressing the level of exercise and physical activity, and the level of mental health, which are two positive variables in sports psychology that should be taken into consideration.

### 1-4. Research Objectives

1- Identifying the level of flexible thinking in practicing sports activities among the students of the Department of Physical Education and Sport Sciences at Al-Noor University.

2- Identifying the level of mental health among the students of the Department of Physical Education and Sport Sciences of the universities of Nineveh Governorate.

3- Identifying the relationship between the level of flexible thinking in practicing sports activities and the level of mental health among the students of the Department of Physical Education and Sport Sciences at Al-Noor University.

### 1-5-Research Hypotheses

1.5.1. Students of the Department of Physical Education and Sport Sciences at Al-Noor University have a high level of flexible thinking in practicing sports activities.

1.5.2. Students of the Department of Physical Education and Sport Sciences at Al-Noor University enjoy a high level of mental health.

1.5.3. There is a significant correlation between the level of flexible thinking in practicing sports activities and the level of mental health among the students of the Department of Physical Education and Sport Sciences at Al-Noor University.

### 1.6. Research Areas

1.6.1: Human Field: Students of the Department of Physical Education and Sport Sciences at Al-Noor University.

1-6-2 Temporal Domain: For the period from ( 5/2/2025) to (27/5/2024)

1.6.3. Spatial Field: Sports halls and fields for the Department of Physical Education and Sport Sciences at Al-Noor University.

### 1.7. Defining the Terms

1.7.1 Flexible Thinking: Costa & Kallick, 2000: "It is the ability to use non-traditional methods in solving problems and facing challenges. (Costa & Kallick, 2000: 1)

1.7.2- Sport Activities: Defined by (Koka, 2015): " It is all the processes and activities that include building and developing the elements of physical fitness, learning techniques and tactics, and developing actual ability within a programmed and purposeful scientific curriculum for educational foundations with the aim of reaching the highest possible sports levels.

(Koka, 2015, 19)

1.7.3. Mental Health: Defined by Zahran (2001): "It is a relatively permanent state in which the individual is able to realize himself and exploit his abilities and possibilities to the shortest possible extent, and to face the demands of life, and his personality is integrated, normal, and of good character so that he lives in safety."

(Zahran, 2001, 9)

### 3.1. Research Methodology

The researcher used the descriptive method in the method of relational studies for its suitability and the nature of the research. The descriptive method depends on the study of reality or phenomenon as it exists in reality, and is concerned with describing it accurately, through a qualitative expression that describes the phenomenon and clarifies its characteristics, or a quantitative expression that gives a numerical description that shows the amount or magnitude of the phenomenon. (Abbas et al., 2009, 74)

### 3.2. Research Population and Sample

The original research population of the study consists of (270) students of the Department of Physical Education and Sport Sciences at Al-Noor University, with a percentage of (100%), and the research sample included (100) male and female students with a percentage of (37.3%), and the sample was randomly selected from the research population, and this statistic was taken from the Registration and Planning Division of Al-Noor University, and Table (1) shows the population and sample of the research and the number of students in each stage.

Table (1)

It shows the population and sample of the research and the percentages of the students of the Department of Physical Education and Sport Sciences at Al-Noor University.

Percent age	Research Sample	Percentage	Research Community (Number of Students)	Department	Stage of study	t
37,5	45	44,44	120	Physical Education and Sport Sciences	First	1
35,71	25	25,92	70		The second	2
12,5	15	14,81	40		The third	3
12,5	15	14,81	40		Fourth	4



100%	100	100%	270	Total
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### 2.3. Research Tools

In order to measure the two variables included in this research, namely the level of flexible thinking strategy in practicing sports activities, and the level of mental health , the researcher used the two scales prepared by (Al-Taie, 2023) as follows:-

- The scale consists of (40) paragraphs and the paragraphs (after correcting the scale) in the form of declarative phrases, each of which represents a situation that the student goes through, followed by five alternatives to the answer, which are (applies to me completely = 5, applies to me to a great degree = 4, applies to me to a moderate degree = 3, applies to me to a small degree = 2, does not apply to me at all = 1) and thus the maximum expected performance of the scale of the level of flexible thinking strategy is (200) The lowest expected performance is (40) and the hypothetical average of the scale is (120) points, while the mental health level scale consists of (40) paragraphs and the paragraphs are formulated in the form of declarative phrases, each of which represents a situation that students go through, followed by five alternatives to answer, (after correcting the scale), which are (applies to me completely = 5, applies to me to a great degree = 4, applies to me with an average score = 3, It applies to me with a small score = 2, it does not apply to me at all = 1), and thus the maximum expected performance of the mental health level scale is (200) and the minimum expected performance is (40) degrees, and the hypothetical average of the scale is (120) degrees, and the researcher has hidden the goal of the scale so that the respondent is not affected by it when answering, and the explicit naming of the personality scale may make the respondent falsify his answer (Cronbach, (1970, 40) or the individual responds in the socially desirable direction. (Al-Tamimi, 2011, 79) Respondents were also asked not to leave any paragraph unanswered and not to mention their names. The opposite of these scores applies if the paragraphs are negative. The answer is according to the alternative chosen by the student.

### 2.4. Exploratory Experiment

Bahi et al., 2002) refers to "the necessity of applying the test in a survey study to a sample of the research population to identify the suitability of the test in terms of wording and content to be applied to the research sample, as well as to determine the time required for the procedure". (Bahi et al., 2002, 199), and for the purpose of identifying the clarity of the paragraphs and the instructions of the scale, the scale was applied to a sample of (20) students who were randomly selected from the research community and from outside the research sample, and the instructions were clear and the paragraphs were clear.

### 2.5. Indicators of Validity of the Scale

The honesty of the scale is the most important characteristic of a good measure. An honest measure is the measure that fulfills the function for which it was created.

(Melhem, 2002, 266)

#### 2.5.1 Apparent honesty

A tool is honest if its appearance indicates this in terms of shape and in terms of the relationship of its paragraphs to the measured behavior, and if the contents and paragraphs of the instrument are identical to the trait it is measuring, it is more truthful. (Abbas et al., 2009, 262) This type of honesty was achieved in the two scales when the researcher presented his paragraphs to a group of experts in sports psychology, psychological and educational sciences, and psychometrics in physical education and sports sciences, numbering (19) in order to express their opinion through (deleting, adding or reformulating) in a way that suits the environment. The research community

as well as the validity of the alternatives, all experts have 100% approval of the two metrics used in the research.

#### 2.5.2. Stability of the scale

The stability coefficient provides many statistical indicators of the phenomenon studied, through which the accuracy of the scale used in the measurement can be judged. Consistency means that the measurement tools have a high degree of accuracy, mastery, and consistency in the data they provide us with about the behavior examined.(Chalabi, 2005, 113), and to calculate the stability of the scale, it was applied to a sample of (20) students, who were randomly selected from the students of the Department of Physical Education and Sport Sciences at Al-Noor University, and the stability of the two scales was extracted in the following way:

##### 2.5.2.1 Retest method

It is also known as stability and is based on the application of the scale to a group of people, and then the same scale is applied to the same group at a later date, followed by the calculation of the correlation coefficient between the scores of the group members on that scale in the two periods.

(Al-Nabhan, 2004, 238)

The time between the two applications is two to four weeks.(Al-Ajili, 2005, 121), so the scale was applied a second time to the same stability sample of (20) students after (17) days after the first application, and after the completion of the application according to the stability of the scale, by calculating the scores of this sample with its scores in the first application, and using the (Pearson) correlation coefficient between the scores of the two applications, so the correlation coefficient was (0.879).This value is a good indicator of the stability of their responses on the scale, as well as the description of the scale as an acceptable stability tool, as (Issawi, 1985) indicates that the stability if it is (0.70) or more is a good indicator of the stability of the scale. (Isaiah, 1985, 58)

#### 2.6. Final Application of Study Tools

The researcher applied the research tools in their final form to the main research sample consisting of (100) students from the Department of Physical Education and Sport Sciences at Al-Noor University on 25/5/2025 by giving the sample the research tools and clarifying the instructions on how to answer them, emphasizing the need to answer all paragraphs in proportion to the respondent, as well as the honesty and confidentiality of the answer, and that it will be used for scientific research purposes only.

#### 2.7. Statistical Methods

For the purposes of the present research, statistical methods were used, which were calculated using computer software (SPSS)

### 3. Presentation and discussion of the results

3-1- Presentation and discussion of the first objective: "Identify the level of flexible thinking in practicing sports activities among the students of the Department of Physical Education and Sport Sciences at Al-Noor University.After analyzing the responses of the players in the light of the alternatives of answering the paragraphs of the scale, it was found that the arithmetic mean (190.82) with a standard deviation of (17.76) degrees, and when compared with the hypothetical average of (120) degrees using the T-test for one sample, it turned out that the calculated T value (9.128) is greater than the tabular T value (2,000) at the significance level of (0.05) and with a degree of freedom (100).This means that there are statistically significant differences between the two averages and in favor of the arithmetic average, and this result indicates that the students of the Department of Physical Education and Sport Sciences at Al-Noor University have a high level of flexible thinking in practicing sports activities, and thus the first hypothesis of the research is fulfilled and Table (2) shows this.

Table (2)



The results of the T-test of the difference between the arithmetic mean and the hypothetical average of the level of flexible thinking in practicing sports activities for the students of the Department of Physical Education and Sport Sciences at Noor University.

Significance Level 0,05	T-value		Hypothetical Average	Standard deviation	Arithmetic Average	Variables	Sample
	Tabularity	Calculated					
Statistical Function	2,000	9,128	120	17,76	190,82	Flexible Thinking Level	100

### 3.2. Presentation and discussion of the second objective:

" Identifying the level of mental health among the students of the Department of Physical Education and Sport Sciences at Al-Noor University.

After analyzing the students' responses in the light of the alternatives to the paragraphs of the scale, it was found that the arithmetic average of (193.22) with a standard deviation of (17.06) degrees, and when compared with the hypothetical average of (120) points using the t-test of one sample, it turned out that the calculated t value (9,243) is greater than the tabular t-value (2,000) at the significance level of (0.05) and a degree of freedom (100). This means that there are statistically significant differences between the two averages and in favor of the arithmetic average, and this result indicates that the students of the Department of Physical Education and Sport Sciences have a high level of mental health, and thus the second hypothesis of the research is fulfilled and Table (2) shows this.

Table (3)

The results of the T-test for the difference between the arithmetic mean and the hypothetical average of the level of mental health among the students of the Department of Physical Education and Sport Sciences at Al-Noor University

Significance Level 0,05	T-value		Hypothetical Average	Standard deviation	Arithmetic Average	Variables	Sample
	Tabularity	Calculated					
Statistical Function	2,000	9,243	120	17,06	193,22	Level Mental Health	100

3-3- Presentation and discussion of the third objective: to identify the relationship between the level of flexible thinking in practicing sports activities and the level of mental health among the students of the Department of Physical Education and Sport Sciences at Al-Noor University.

The correlation coefficient between the two research variables was calculated using the Pearson correlation coefficient between the scores of the research sample in the level of flexible thinking in practicing sports activities and the level of mental health, and the results showed that the value of the calculated correlation coefficient is (0.472) at the significance level of (0.05) and with a degree of freedom (100), which is greater than the value of the tabular correlation coefficient (0.305), and this result indicates that there is a significant correlation between the two variables among the students of the faculties of physical education and sports sciences of the universities of Nineveh province, thus the third hypothesis of the research was approved, and Table (4) shows the value of the correlation coefficient between physical and sports education and between mental, physical and mental health.

Table (4)

Explains the relationship between the level of flexible thinking in practicing sports activities and the level of mental health among the students of the Department of Physical Education and Sport Sciences at Al-Noor University

Type of indication	Significance Level	Tabular correlation coefficient	Calculated correlation coefficient	Variables
A moral function	0,05	0,305	0,472	Flexible Thinking Level X Mental Health Level

#### 4. Conclusions, Recommendations and Suggestions

##### 4.1. Conclusions

1- Students of the Department of Physical Education and Sport Sciences at Al-Noor University have a high level of flexible thinking in practicing sports activities.

2- The students of the Department of Physical Education and Sport Sciences at Al-Noor University have a high level of mental health.

3- There is a significant correlation between the level of flexible thinking in practicing activities and the level of mental health among the students of the Department of Physical Education and Sport Sciences at Al-Noor University.

##### 4.2. Recommendations

The researcher came up with the most important recommendations, which are

1- Urging the faculty members of the Department of Physical Education and Sport Sciences at Al-Noor University to organize lectures and educational courses on the concept of flexible thinking in practicing sports activities and games and the concept of mental health for other faculties and departments of the university.

2- Conducting more studies related to these concepts, and preparing programs for students that would use the strategy of flexible thinking in sports activities and competitions, which in turn enhances the mental health of students.

3- Organizing various sports activities and training them to use flexible thinking during their sports activities.

4- Holding workshops and seminars by the Center for Continuing Education of Al-Noor University, by professors specialized in this field.

#### 4.3. Proposals

1. Conducting studies related to the concept of flexible thinking strategy in practicing sports activities with other variables such as (social support, psychological stress, psychological toughness, and motivation for sports achievement.

2- Preparing pilot programs in order to develop a strategy of flexible thinking in practicing sports activities for students of the Department of Physical Education and Sport Sciences, colleges and other departments at the university.

3- Conducting a similar study for students of all Iraqi universities, which would develop a strategy of flexible thinking in sports activities, which in turn promotes mental health.

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