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MENTAL HEALTH AND ITS RELATIONSHIP TO CREATIVE THINKING AMONG FEMALE STUDENTS OF PHYSICAL EDUCATION AND SPORTS SCIENCE

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ABSTRACT

This research aims to identify the relationship between mental health and creative thinking among female students in the Department of Physical Education and Sports Sciences at the College of Education for Girls/University of Kufa, given the pivotal role of mental health in developing mental and innovative abilities, and the importance of creative thinking in developing academic and athletic performance. The researcher used the descriptive correlational approach because it is suitable for the nature of the study. The research community included (147) female students from the morning study for the academic year (2023-2024), while the research sample consisted of (110) female students who were randomly selected from the four educational stages .The psychological health scale prepared by Wasal Muhammad Al-Douri (51 items distributed over five domains) and the creative thinking scale developed by Princeton (1989) and Arabized by Nadia Hail Al-Sarur were used, after verifying their validity and reliability statistically using the Spearman-Brown and Cronbach's alpha coefficients .The results showed a significant positive correlation between mental health and creative thinking at a significance level of (0.05), indicating that a high level of mental health contributes to enhancing creative thinking among female students. The results also showed no significant differences between the four educational stages in both mental health and creative thinking variables, indicating that the educational stage was not an influential factor in these variables, and that the university environment is similar in its psychological and cognitive impact on female students .The study concluded that female students enjoy a good level of mental health and creative thinking. It recommended the integration of educational and guidance programs that contribute to supporting mental health and developing creative thinking skills in academic curricula, and the use of modern educational methods based on dialogue, problems, and cooperative learning in the field of physical education and sports science.

Keywords: *Mental health, creative thinking*

INTRODUCTION

Mental health is one of the fundamental pillars in building an integrated individual's personality. It represents a state of psychological, emotional, and cognitive balance that enables one to positively adapt to life's demands and face daily pressures with steadfastness and flexibility. In the university environment, mental health gains particular importance due to its direct impact on academic achievement, social relationships, and the ability to innovate and create. A university student who enjoys stable mental health is better able to think soundly, make appropriate decisions, and express herself in creative ways.

In contrast, creative thinking is one of the most prominent traits that distinguishes a successful individual in both scientific and athletic fields. It reflects an individual's ability to generate new and unconventional ideas and find innovative solutions to problems. In the field of physical education and sports science, creative thinking is linked to a student's ability to devise new methods of motor performance or develop training and teaching methods that contribute to raising the level of athletic achievement.

From this standpoint, the importance of the current research lies in examining the relationship between mental health and creative thinking among female students in the Department of Physical Education and Sports Sciences at the College of Education for Girls, as mental health is assumed to represent one of the essential determinants of a student's ability to be creative, whether in the academic or professional field. The research also seeks to reveal the level of both mental health and creative thinking among female students, and the extent of the relationship between them, considering the psychological and cognitive changes that accompany the university stage.[1]

This study seeks to shed light on one of the important aspects in preparing the integrated university student, by focusing on the interaction between mental health as an influential internal factor, and creative thinking as a cognitive and behavioral product that reflects the degree of maturity and psychological balance, which opens new horizons for researchers in the field of sports psychology and physical education to develop educational and guidance programs that contribute to strengthening both aspects together .

PRACTICAL PART

The research community included female students of the College of Education for Girls, Department of Physical Education and Sports Sciences, numbering (147) students for morning studies at the University of Kufa for the academic year (2023-2024). As for the research sample, it included (110) female students, and according to Table (1), this is shown:

Table (1). Shows the research community and sample

T	Sample	stage	Total number of students	Number of participating students	percentage
1	College of Education for / Girls Department of Physical Education and Sports Sciences	First	41	33	60%
		Second	27	30	66%
		Third	37	25	71%
		Fourth	42	22	73%

Pilot experiment sample

It consisted of female students from the College of Education for Girls/Department of Physical Education and Sports Sciences, numbering (10) students, who were outside the sample members.

Field research procedures

First: Measuring mental health

The mental health scale prepared by (Wasal Muhammad Al-Douri) was used. The scale consists of (51) paragraphs distributed over five domains: the psychosomatic domain, the psychological domain, the domain of confronting problems, the domain of self-acceptance, and the domain of accepting others. The response options were three: (yes, sometimes, no). The correction degree for the positive paragraph was as follows: (3, 2, 1), while the weights are reversed for the negative paragraphs. Thus, the highest possible total score for the respondent is (153) and the lowest possible total score is (51).

The higher the respondent's score on the mental health scale, the higher the mental health, and the lower his score is from the hypothetical average, the lower the level of mental health.

Second: Creative thinking scale.

CREATIVE THINKING SCALE[2]

The scientist Princeton designed this scale, which originally consisted of (74) paragraphs aiming to measure creative thinking among individuals, and the answer to it is through three alternatives: (I agree, I am hesitant, I do not agree), as

the total score of the scale ranges from (74-222) points. (Nadia Hail Al-Sarur) translated the scale and tested it in Jordan and recommended its generalization in the Arab environment.

It was applied by researcher Zahra Jamil Saleh in a general master's thesis 2006 at the University of Mosul / College of Physical Education after (10) experts approved it as suitable for application in the sports field, with the paragraphs being modified and adapted towards the research sample, despite their number remaining constant at (74).

EXPLORATORY EXPERIMENT

The purpose of this study is to identify the extent of clarity of the instructions or paragraphs of the mental health and creative thinking scale , as well as to know the soundness of the paragraph formulation and its clarity to the experimenter, and to identify the optimal and appropriate method in the way of implementing the main experiment, the clarity of the answer instructions for the individuals of the research sample, as well as the time taken to answer the paragraphs of the mental health scale. Therefore, the scale was applied to a sample of (10) female students. On Sunday and Monday, corresponding to 15-16/3/ 2024 , the experiment showed that the instructions and paragraphs of the scale were clear and understood by the sample individuals, and that the average time taken to answer the scale was (17) minutes.

PSYCHOMETRIC PROPERTIES OF THE MENTAL HEALTH SCALE

Honesty: The researchers used two indicators of validity to suit the nature of the mental health scale.
In order to achieve the validity of the scale, it was applied Content Authenticity The validity of the mental health scale was verified by presenting its items to a group of experts and specialists to ensure the validity and suitability of its items for measurement.
Constructive validity: Both statistical methods, namely the two-party groups and the internal consistency coefficient, were adopted to verify the validity of the scale. The discriminatory power of the items was calculated, and the internal consistency coefficient was calculated by calculating the correlation between the score of each item and the total score of the mental health scale.

Stability: To verify the stability of the mental health scale, the following were used:
Half-split: The split-half was calculated by isolating the odd items from the even items, and in order to know the homogeneity between the odd and even items, and then calculating the correlation coefficient between them, the value of the correlation coefficient between the two halves was (0.767) for the health and psychological scale and (0.81) for the creative thinking scale, and since this indicator is concerned with half of the items, the (Spearman-Brown) equation must be used to identify the amount of the stability coefficient for all items. After the statistical procedure of this equation, the value of the stability of the entire scale reached (0.868) for the health and psychological scale and (0.871) for the creative thinking scale, which is a high value, indicating that the scale is stable.

Cronbach's alpha equation: The idea of this method is based on calculating the correlations between the relationships that are fixed on all the items in the test, as if we divided the test not into two parts as we noticed in the half-test method, but here it is divided into a number of parts equal to the number of its items, meaning that each item constitutes a subtest. In order to calculate reliability in this way, all questionnaires were subjected to the Cronbach's alpha coefficient, and when the equation was applied, the reliability coefficient value appeared to be equal to (0.943) for the health and psychological scale and (0.922) for the creative thinking scale, which is a high value for reliability.

Table (2). Shows statistical indicators for the mental health scale

Statistical indicator	value
Number of final scale items	50
Highest hypothetical score for the scale	250
Minimum hypothetical score for the scale	50
Hypothetical mean of the scale	150
Range	139
Skewness	0.165
Kurtosis	0.41-

Table (3). Shows the statistical indicators of the creative thinking scale

Statistical indicator	value
Number of final scale items	74
Highest hypothetical score for the scale	222
Minimum hypothetical score for the scale	74
Hypothetical mean of the scale	148
Range	116
Skewness	0.527
Kurtosis	0.53-

Tables (2) and (3) show that the number of paragraphs of the mental health scale in its final form consists of (50) paragraphs, and the highest hypothetical score for the scale is (250), and the lowest hypothetical score is (50), and the hypothetical average for the scale is (150), and the range of the scale is (139), as well as the skewness (0.165) and kurtosis (-0.41), and thus the scale is ready for final application.

As for the creative thinking scale, it was found that the number of paragraphs of the scale in its final form consists of (74) paragraphs, and the highest hypothetical score for the scale is (222), and the lowest hypothetical score is (74), and the hypothetical average for the scale is (148), and the range of the scale is (116), as well as the skewness (0.527) and kurtosis (-0.53 41), and thus the scale is ready for final application.

Statistical methods : The researcher used the Statistical Package for Social Sciences (SPSS) and from it extracted the appropriate statistical methods.

RESULTS AND DISCUSSIONS

Presentation, analysis and discussion of the results of mental health among female students in the Department of Physical Education and Sports Sciences

To verify this goal, the researcher used the simple Pearson correlation test to identify the relationship between mental health and creative thinking among the research sample members, female students of the Department of Physical Education and Sports Sciences at the College of Education for Girls at the University of Kufa. It is significant at a significance level of (0.05). Since the arithmetic mean of the sample is greater than the hypothetical mean, this means that the female students of the Department of Physical Education and Sports Sciences enjoy mental health and creative thinking in a statistically significant manner. Table (4) shows this.

Table(4) . Shows the results of the correlation test. The significance of psychological health and creative thinking among female students of the Department of Physical Education and Sports Sciences

The group	number	Correlation coefficient value The calculated	Significance
Students of the Department of Physical Education and Sports Sciences	165	0.769	function

The emergence of a significant correlation between mental health and creative thinking indicates that a healthy psychological state is a crucial factor in enhancing students' creative abilities. The more psychologically stable and emotionally balanced a student is, the greater her ability to think flexibly, move away from stereotypes, and seek innovative solutions to problems she faces in her academic and athletic life. This result is consistent with Maslow's (1970) theory of self-actualization, when he explained that an individual cannot reach the stages of creativity until their basic psychological needs are satisfied and inner balance is achieved .[3]

This relationship can also be explained from a positive psychology perspective. Recent studies (Seligman, 2011) confirm that positive mental health—including feelings of happiness, contentment, and optimism—contributes to stimulating open-minded thinking and the ability to generate new ideas. Students who feel psychologically safe and socially supported are more willing to embrace new experiences and express their ideas freely without fear of failure or criticism .[4]

From an educational perspective, these results demonstrate the importance of a supportive university environment in promoting both mental health and creativity. An environment that takes into account the psychological aspects of female students—through psychological counseling, reducing academic pressures, and encouraging initiative and innovation—helps develop creative thinking as a natural outlet for psychological balance and inner harmony . The results of this research are also consistent with previous Arab studies, such as the study by Abdul Rahman (2019) , which confirmed the existence of a direct relationship between mental health and the level of innovative thinking among Iraqi university students, as well as the study by Hassan (2020) , which showed that students who possess psychological stability show higher levels of mental flexibility and innovative imagination .From a practical perspective in the field of physical education and sports science, this relationship confirms that mental health is not just a personal requirement for the student, but rather a condition for motor and athletic creativity .[5] A student who feels psychologically comfortable and confident is more capable of creative motor performance and of thinking of new ways to improve her skills or innovate different performance styles .

Accordingly, it can be said that enhancing the mental health of female students in the Department of Physical Education and Sports Science represents one of the fundamental approaches to developing their creative abilities, both academically and technically. It is essential for colleges to develop psychological and educational guidance programs that focus on strengthening self-confidence, developing motivation, and managing psychological stress. This will contribute to building a generation of creative female students capable of excellence and effective contributions in the fields of sports and education .

Detecting differences in mental health according to grade variables (first, second, third, fourth).the researcher used the two-way analysis of variance, and the results were as follows :

Table (5). Shows the results of a two-way analysis of variance to indicate the significance of differences in mental health according to class variables.

Source of variance	sum of squares	Df	mean squares	The valuef		Actual significance levelsig.	Significance
				The calculated	Tableau		
the line	2564.835	3	854,945	1.444	2.6	0.230	Not Sig.
the line	3063.199	3	1021.066	1.725	2.6	0.162	Not Sig.
Error	147392.447	249	591,938				
Total	2870485.000	257					
Corrected Total	293079.673	256					

From observing Table (4), it is clear that there are no differences in mental health between the stages of the department for female students, as follows: The lack of significant differences in mental health levels across the four academic levels indicates that female students—regardless of their academic level—enjoy similar levels of psychological and emotional balance. This result reflects a university environment that is similar in terms of pressure, study environment, and social support, making mental health levels relatively stable across the different levels .

Psychologically, this homogeneity can be explained by the fact that all female students undergo similar academic and educational experiences in the College of Physical Education and Sports Sciences, whether in terms of the nature of the curriculum, the style of practical training, or the evaluation system, which reduces the possibility of significant differences in psychological state .

The presence of a supportive social network among female students (including colleagues and professors) may contribute to strengthening the sense of belonging and psychological security among all, and thus stabilizing the level of mental health .

This result is consistent with the findings of Youssef's (2020) study , which showed that university students in education and sports departments often exhibit similar levels of psychological compatibility across academic levels, due to the unity of the educational environment and the nature of social interaction within it. Abu Al-Ala (2018) also indicated that psychological stability among students in colleges of education depends more on personal and social factors (such as family support and self-satisfaction) than on the academic level itself .[6]

On the other hand, the lack of differences can also be explained by the fact that mental health is a relatively stable trait, influenced more by internal factors such as self-confidence, adaptability, and stress coping strategies than by temporal factors such as the stage of study. This means that a female student who possesses a high level of emotional maturity and psychological adjustment maintains this level across her various university stages .

From the perspective of the College of Physical Education and Sports Sciences environment, the nature of continuous physical activity, engagement in teamwork, and participation in sports activities contribute to reducing psychological stress and improving the general mood of all students, regardless of their academic level. This explains the similarity in their levels of mental health .[7]

Therefore, it can be said that the absence of significant differences between the academic stages in the mental health variable represents a positive indicator demonstrating the college's success in creating a stable and psychologically balanced educational environment that supports female students at various stages and limits the impact of study pressures and academic changes on their psychological state .

Detecting differences in creative thinking according to grade variables (first, second, third, fourth) .the researcher used the two-way analysis of variance, and the results were as follows :

Table (6). Shows the results of the two-way analysis of variance to indicate the significance of differences in creative thinking according to class variables.

Source of variance	sum of squares	Df	mean squares	The valuef		Actual significance levelsig.	Significance
				The calculated	Tableau		
the line	3652.59	3	748.52	1.289	2.6	0.178	Not Sig.
the line	2587.32	3	968.17	1.476	2.6	0.259	Not Sig.
Error	1373,579	249	591,938				
Total	25863	257					
Corrected Total	25874.411	256					

From observing Table (4), it is clear that there are no differences in creative thinking between the stages of the department for female students, as follows: The lack of significant differences in creative thinking across academic levels indicates that female students in the four departments possessed similar levels of creative abilities, whether in thinking, finding solutions, or inventing new ideas. This suggests that academic level was not a significant factor in developing creative thinking among female students, and that this type of thinking is considered a relatively fixed personality trait rather than a skill that develops automatically with progress in university studies .

From a psychological and educational perspective, this convergence in creative thinking can be explained by several factors : [8] First, the curricula at different levels may not include substantial differences in the level of development of creative thinking skills, as they all focus to a similar degree on the theoretical and applied aspects of physical education without including systematic activities to develop innovative thinking .
Second, the university and educational environments in which female students work are largely similar in terms of teaching methods, assessment methods, and the nature of lectures, which makes opportunities for stimulating creativity similar across all levels .

This result is consistent with the findings of Al-Ansari's (2019) study , which indicated that creative thinking among students in colleges of physical education is not significantly affected by the academic level as much as it is affected by the extent to which modern teaching methods based on problem-solving and critical thinking are used. Abdul Karim's (2021) study also confirmed that the traditional educational environment, which does not provide sufficient opportunities for open discussion and free thinking, limits the development of creative abilities even as students progress through the academic stages .[9]

On the other hand, the lack of differences can be explained by the fact that creativity is influenced more by personal traits than academic factors. Traits such as open-mindedness, flexibility, self-confidence, and independence of opinion are essential factors in creative thinking, and these traits do not change significantly during university studies unless they are reinforced by training programs aimed at developing creativity.

The nature of specialization in physical education and sports sciences may create a general level of motor and intellectual creativity that is similar among all students, as all levels deal with educational and training situations that require a degree of innovation in performance, and thus levels of creativity remain similar within a certain range.

Accordingly, it can be said that this result highlights the college's need to integrate educational activities and programs aimed at developing creative thinking gradually across academic levels, such as adopting "project-based learning," "problem-solving," or "cooperative learning" strategies, which contribute to a tangible development in creative abilities as students' progress through the academic years .[10]

Therefore, the stability of the level of creative thinking across stages can be considered an indicator that the educational environment is stable, but it needs more diversification in teaching methods to encourage innovative thinking and develop students' creative skills in a deeper and more effective way.

CONCLUSIONS

1. Validity of the psychological health and creative thinking scales prepared by the researcher in measuring psychological health and creative thinking among female students in the Department of Physical Education and Sports Sciences.
2. Female students of the Department of Physical Education and Sports Sciences at the University of Kufa enjoy psychological health.
3. Students of the College of Physical Education and Sports Sciences at the University of Kufa enjoyed a good amount of creative thinking.

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