

## **Psychometric construction of the psychological resilience scale for students of physical education faculties**

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### **Research problem and its importance**

Life is characterized by the abundance of changes and transformations that put pressure on the person, through which he resorts to adapting to them, including changing circumstances within the family, changing study conditions, changing working conditions, tension in social relations and the complexity of economic conditions.

University students join this stage of study and they are between late adolescence and early adulthood, and then the personality of the university student at this stage witnesses a set of physiological, psychological and emotional changes, in addition to the fact that he faces many difficulties and challenges to reach compatibility with the university environment through resolving identity conflict, self-realization and self-confidence.

Since students of faculties of physical education face great challenges and different and increasing pressures represented in the nature of study in these faculties, there are students who differ in their responses to these challenges and pressures, some of them suffer from anxiety that may lead them to their psychological suffering due to the stressful conditions they are going through, while addressing Others are students and strongly under these stressful conditions, as they strive with all their energies, capabilities and skills to

change the situations they are exposed to, and this is due to their strong desire to restore their psychological effectiveness and compatibility with society .

believes Abdul Hamid Ali (2001) that university youth are among the groups that face many obstacles, difficulties, pressures and psychological trauma, especially as they go through the university study stage, which is a critical stage and is considered one of the most difficult stages of life. In addition to that, university students have many aspirations and ambitions, which makes them more A desire for life and more suffering for its frustrations, as many

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studies have shown that a large percentage of university students deviate in

their behavior due to what they suffer from internal and external conflicts and frustrations about which they feel anxious about compatibility or lack thereof (21 : 440 )

Resilience is a dynamic process with a unique style that is multidimensional and characterized by the ability to psychological compatibility or good adaptation to all threats and pressures in all its forms, and the ability to restore effectiveness

and recover again from breakage and collapse (23:541)

Psychological Resilience also means: “the individual’s ability to successfully adapt to adversity” that confronts him, and to rise from his stumbling back “when exposed to problems, and dealing with them with strength and intelligence with her” (22:2).

Psychological resilience is defined as a pattern of positive adjustment to pressures, and is represented in the individual's ability to successfully adapt to adversity and risks to which he is exposed, and to transcend the stage of steadfastness and resilience in front of those adversities to use positive strategies to confront them. ( 17 : 256)

And Safaa Al-Aassar (2010) believes that resilience in its psychological aspect (resilience) is not: a trait that humans can adopt in the light of their possession of it as much as it is only a product or “outcome” of the interaction between environmental risk factors and personal protection factors (18: 25 ) .

Abdel-Raqib Al-Bhairi (2010: 3) believes that flexibility means competence: in the face of adversity, it includes academic, social, professional and self-efficacy in adults, and it is seen as a “process” that appears as a result of the dynamic interaction between the personality and the environment. (22:3)

Pearsons et al. (2016) also defined it as a dynamic system that enhances the ability to withstand or recover from major threats to an

individual's stability or development (65 :16)

Sharma (2015), added in his definition of psychological resilience that it includes the ability to restore balance after any failure, loss or shock, and it is one of the most important skills that an individual needs ( 68:82 )

Connor and Davidson (2003) defined psychological resilience as the ability to adapt to traumatic events, adversities, and stressful situations. They also emphasized that it is a continuous process through which the individual exhibits positive adaptive behavior in the face of adversity, trauma and sources of psychological stress. Connor and Davidson also indicated that Individuals with a high level of psychological resilience are characterized by several characteristics, including: commitment, secure attachment to others, clarity of personal and group goals, sense of self-efficacy, realistic sense of control, tolerance of negative influences, optimism and faith. (50:77 – 78)

Also, Wending (2012) defined it as a dynamic process through which the individual demonstrates positive adaptive behaviors while facing difficulties, problems and shocks. (70:133 )

The researcher believes that psychological resilience is that continuous process that the student undertakes to restore balance and effectiveness in facing the adversities that threaten inside the college and the home environment and to deal with them intelligently , The researcher also believes that these adversities or adversities can occur within the

faculties of physical education due to the inability of some students to properly perceive the changing situations, as these situations differ according to the study group, the different nature of the material practical or theoretical, and the different requirements and results of the study, and from here The researcher preferred to address this phenomenon by shedding light on the flexibility of students of physical education faculties in an attempt to build and standardize a measure of psychological resilience, through which she can identify their levels of psychological resilience.

#### **Research aims:**

The current research aims to build a measure of psychological resilience for students of physical education faculties .

#### **Research questions**

- What are the components of the psychological resilience scale for students of physical education faculties?
- What are the levels of psychological resilience of the students of the faculties of physical education in the research sample?

#### **Research procedures**

##### **Research Methodology**

The researcher used the descriptive method, as it is the appropriate method for the nature of this research.

##### **Research community and sample: -**

The research community includes students of the Faculty of Physical Education at Sadat City University for the academic year 2018/2019. The researcher has selected

a random sample of (300) male and female students from the four academic teams .

#### **Scale building steps : -**

In connection with psychological resilience, the researcher studied the various definitions that were mentioned by Arab or foreign references, as well as studies and research related to the study of psychological resilience, methods of measuring it, as well as the different effects of the low level of psychological resilience in the educational field in general and in the field of physical education in particular, as well as identifying the component axes For psychological flexibility, which benefited the researcher in identifying the components of the current scale and building a dialogue and phrases . The researcher has committed to several steps to reach a measure of psychological resilience for students of the Faculty of Physical Education, which are :

- 1-Determine the objectives of the scale.
- 2-Determining the components of the scale, defining a dialogue through the components of the previous scales, and making a table Its frequency distribution .
- 3-Presenting the definition of the axes to a group of students through an open questionnaire as a study An exploratory attempt to convert these definitions into phrases by the students
- 4-Drafting the axes phrases gleaned from the open questionnaire
- 5-Re-presenting the phrases as a whole to the students, adding to them on a separate sheet the definition of each

Axis in order to put the axis number in front of each phrase and its own .

Exclusion of high-difficulty phrases extracted from the re-presentation 6-

7-The scale was presented in dialogue and expressions to a group of arbitrators from professors of psychology Mental health, and sports psychology .

Calculating the scientific coefficients of the scale . 8-

First: Determining the objectives of the psychological resilience scale for students of physical education faculties. The researcher is trying to reach a tool through which we can know the psychological resilience of students of physical education faculties and its axes, and since students of faculties of physical education have a special nature in terms of the burden on them, whether in practical lectures or theoretical lectures, it was necessary for the scale to have the following points .

A- The scale must express in its basic structure that psychological resilience is an easy and positive state that carries with it positive attitudes or manifestations.

b- The scale should express the definition of psychological resilience as “the ability to positively interact with various circumstances and pressures, effectively confront situations affecting him and respond to them in a reasonable manner, and establish good relations on the basis of friendliness, love, or mutual respect and acceptance of others.

C- The scale should address the characteristics of students of physical education faculties, bearing in mind

that the conditions that The students of the faculties of physical education are exposed, in turn, to the students of other faculties.

D - The scale should be comprehensive in its handling of the most important and most likely aspects of psychological resilience Characterization of students of faculties of physical education out

Second: Determining the components of the scale through the components of the previous scales and making its frequency distribution table. In this regard, the researcher did the following:

1-A review of theoretical frameworks and a review of previous studies related to psychological resilience in the field of psychology in general and sports psychology in particular, including Arabic readings, the study of Muhammad Al-Khatib (2007) (28), the study of loyalty. Hasan (2008) (40), the study of Heba Sami (2009) (43), the study of Muhammad Othman (2010) (31), the study of Abdul Raqib Al-Behairi (2010) (22), The study of Sayed Al-Bahas (2011) (17), the study of the Shuwail and Nasr family (2012) (16), the study of Yahya Shaqoura (2012) (42), the study of Lamia Saadoun (2012) (26), the study of Hanan Al-Maliki (2012) (10) The study of Zainab Shawqi (2012) (14), the study of Ahmed Abu Bakr (2013) (1), the study of Helmy Farghali (2013) (9), the study of Bayan Safi (2014) (8), the study of Enas Gohar (2014) (6) , the study of Afaf Muais (2015) (23), the study of Muhammad Abu Nadi (2015) (33), the study of Muhammad al-Shamri (2016) (36), the

study of Muhammad al-Qoli (2016) (34), the study of Razan Ibrahim (2017) (11), the study of Barqeqa Muhammad (2017) (7), the study of Amani Saleh (2018) (5), the study of Mays Ajab (2018) (38), and from foreign readings the study of Weeks (2005) (71), the study of Freiburg and others (2005) (54), Sun (2007) (69), Nentchen (2008) (62) Ahangar (2010) (44) Fimbo (2010) (53), Onwicki (2010) (64), Ehrman et al (2012) (52), Maine et al. (2012) (60), Harry Pressed (2014) (55), Kay and Pidgin (2014) (57), Ricoh study L (2016) (66).

2- The researcher reviewed and analyzed many lists and measures of psychological resilience, including:

-Wagnild and Young's Positive Elasticity Scale (1993).

-Block and Kremen's Scale of Ego Resistance (1996).

- Connor & Davidson 2003 Psychological Resilience Scale(2003).

- The Positive Resilience Scale for Adolescents by Ushio, Kaneko, Njamen, Nakaya (2003).

- Sinclair, Alliston's Short Flexible Coping Scale (2004).

- The Positive Adult Resilience Scale, Friborg, Barlog, Martinusen, Rosenweig, Heigdahl (2005).

- The Ego Flexibility Scale, prepared by Block Kermen 1996, and translated by Al-Khatib and Al-Hilu (2007).

- The Positive Resilience Scale for Middle Ages, Ryan and Kultpiano (2009).

-Heba Sami's Psychological Resilience Scale (2009).

- The Positive Resilience Scale for Youth, prepared by: Muhammad Saad Hamed Othman (2010).

- Psychological Resilience Scale, prepared by Sami Fajjan (2010).

- A questionnaire of psychological resilience prepared by Yahya Shaqoura (2012), which has been used in more than ten studies as a study tool.

- The Egyptian version of the Psychological Resilience Scale, prepared by Mohamed Mohamed El-Sayed El-Qolly (2016).

- Psychological Resilience Scale, prepared by Nabila Akram Bukhari (2016).

- The Positive Resilience Scale by Marwan Neamat Ibrahim Wafi (2016).

- Psychological flexibility scale among university students, prepared by Lamia Qais Al-Zuhairi (2012).

- Psychological resilience scale among mentally gifted university students, prepared by Muhammad Mustafa Abdel Razek (2012).

- Positive resilience measure for working women, prepared by Walaa Awad Abu Zaid (2014).

- The Psychological Resilience Scale for University Youth, prepared by Al Shuwail and Nasr (2012).

- Psychological Resilience Scale, prepared by Muhammad Essam Abu Nadi (2015).

- Psychological Resilience Scale, prepared by Ashraf Hakim Fares (2018).

Through theoretical readings, studies, research, lists and measures of psychological resilience in the field of psychology, mental health and the field of sports psychology, the researcher has extracted many axes that can be among the most important axes of psychological resilience among students of physical education faculties in Table (1).

**Table (1)**  
**Frequency distribution of the extracted psychological resilience axes**

<b>serial</b>	<b>axis</b>	<b>Repetition</b>	<b>The ratio</b>
1	emotional resilience	17	89%
2	mental resilience	17	89%
3	social resilience	17	89%
4	support and social support	17	89%
5	personal and self-efficacy	17	89%
6	Social and family competence	17	89%
7	The religious and value structure	17	89%
8	behavioral resilience	5	26%
9	Adaptation	5	26%
10	clairvoyance	5	26%
11	equilibrium	4	21%
12	creativity	4	21%
13	positive receptivity	4	21%
14	Resistance to negative influences	4	21%
15	Altruism and optimism	4	21%
16	healthy relationship with self	4	21%
17	Confidence and Control Center	3	16%
18	toughness	3	16%
19	achievement direction	3	16%

According to above, The researcher chose the most frequent axes, which are "the emotional dimension (emotional resilience), the mental dimension (mental resilience), the social dimension (social resilience), support and social support, personal and self-efficacy, social and family competence, value and religious structure, then the researcher combined resilience between Social and social support in one axis, which is support and social support.

3-The researcher put the procedural definitions of the selected axes, which are:

a-The emotional dimension (emotional resilience) means "the individual's ability to identify and describe his

internal emotions and realize them accurately, and the ability to know how to respond to them, in addition to the ability to distinguish between the feelings of others in a way that allows fulfilling the requirements of stressful and new life situations."

b-The mental dimension (mental resilience), which means "the individual's ability to produce multiple alternative solutions to difficult situations, and to the ability to adapt information processing strategies to face new and unexpected circumstances." I stop the stressful and new life."

c-Shoring and social support, and it means "the ability of a person to return to his normal life after experiencing a

crisis or adversity, and for the person to feel care and help from those around him."

d-Personal and self-efficacy, which means "the ability of a person to deal with a particular situation based on the skills he possesses, the circumstances he faces, and his confidence in his abilities to complete a task or achieve a goal."

e-Social and family competence: It means "the ability to interact in an adaptive manner with society and the family through the possession of skills that are used to respond in specific social situations."

f-The value and religious structure means "the set of perceptions and beliefs that lead to preferential behavior and they are criteria that an individual possesses to choose from among the behavioral alternatives available to the individual in a given situation."

4-The researcher presented the definition of resilience, as well as the definitions of the selected axes to a sample of (100) male and female students, including (50) male and (50) female students, during the period from Saturday 6/4/2019 to Wednesday 10/4/2019, Through the open

questionnaire, they were asked to transform the definition of the axis into expressions as they feel, feel, understand or understand. Accessory No. (1)

5-The researcher counted the phrases of each axis separately, and the phrases of the first axis reached (15) ,and the phrases of the second axis were (15), and 15 phrases for the third axis, And the phrases of the fourth axis were (15) phrases, and the phrases of the fifth axis were (15) phrases, and 15 phrases for the sixth axis, then she reformulated them linguistically and grouped them into one list and in a specific order, then presented them again to the same students in addition to the definitions of the axes and asked them to put all A phrase in its own axis, from Saturday, 20/4/2019, until Wednesday, 24/4/2019 Accessory No. (2)

6-The researcher dumped the students' responses in order to analyze the vocabulary and phrases of the six axes in order to determine the difficulty and ease of the vocabulary, as well as to obtain the coefficients of discrimination and the tables (2), (3) illustrate this.

**Table (2)**

**Ease and difficulty coefficients for the expressions of the Psychological Resilience Scale for students of physical education faculties**

serial	Ease coefficient	Difficulty coefficient	serial	Ease coefficient	Difficulty coefficient	serial	Ease coefficient	Difficulty coefficient
1	0.34	0.66	31	0.92	0.08	61	0.74	0.26
2	0.96	0.04	32	0.90	0.10	62	0.78	0.22
3	0.90	0.10	33	0.92	0.08	63	0.26	0.74
4	0.92	0.08	34	0.96	0.04	64	0.32	0.68
5	0.88	0.22	35	0.20	0.80	65	0.76	0.24
6	0.84	0.16	36	0.78	0.22	66	0.24	0.76

**Follow Table (2)**  
**Ease and difficulty coefficients for the expressions of the Psychological Resilience Scale for students of physical education faculties**

serial	Ease coefficient	Difficulty coefficient	serial	Ease coefficient	Difficulty coefficient	serial	Ease coefficient	Difficulty coefficient
7	0.86	0.14	37	0.96	0.04	67	0.78	0.22
8	0.90	0.10	38	0.14	0.86	68	0.90	0.10
9	0.92	0.08	39	0.78	0.22	69	0.82	0.18
10	0.82	0.18	40	0.86	0.14	70	0.80	0.20
11	0.90	0.10	41	0.90	0.10	71	0.80	0.20
12	0.92	0.08	42	0.18	0.82	72	0.28	0.62
13	0.26	0.74	43	0.96	0.04	73	0.78	0.22
14	0.88	0.22	44	0.92	0.08	74	0.76	0.24
15	0.22	0.78	45	0.96	0.04	75	0.86	0.14
16	0.90	0.10	46	0.90	0.10	76	0.78	0.22
17	0.28	0.72	47	0.92	0.08	77	0.86	0.14
18	0.96	0.04	48	0.94	0.06	78	0.72	0.28
19	0.94	0.06	49	0.78	0.22	79	0.76	0.24
20	0.21	0.79	50	0.28	0.72	80	0.82	0.18
21	0.78	0.22	51	0.92	0.08	81	0.24	0.76
22	0.86	0.14	52	0.12	0.88	82	0.78	0.22
23	0.94	0.06	53	0.94	0.06	83	0.86	0.14
24	0.82	0.18	54	0.92	0.08	84	0.14	0.86
25	0.10	0.90	55	0.94	0.06	85	0.12	0.88
26	0.78	0.22	56	0.96	0.04	86	0.90	0.10
27	0.24	0.76	57	0.94	0.04	87	0.82	0.18
28	0.86	0.14	58	0.08	0.92	88	0.96	0.04
29	0.78	0.22	59	0.78	0.22	89	0.92	0.08
30	0.86	0.14	60	0.86	0.14	90	0.96	0.04

It is clear from Table (2) that the coefficient of ease has ranged between (0.72, 0.96) and the coefficient of difficulty has ranged between (0.04,

0.90). and To confirm the degree of descriptive validity, the research found a discrimination lab, and the following table is Table No. (3) that shows this.

**Table (3)**  
**Discrimination coefficient of stress scale expressions for wrestlers**

serial	Discrimination								
1	0.20	19	0.88	37	0.92	55	0.85	73	0.44
2	0.92	20	0.18	38	0.12	56	0.92	74	0.45
3	0.70	21	0.44	39	0.44	57	0.85	75	0.72
4	0.90	22	0.72	40	0.72	58	0.12	76	0.44
5	0.56	23	0.77	41	0.80	59	0.44	77	0.72
6	0.58	24	0.62	42	0.12	60	0.72	78	0.56
7	0.72	25	0.12	43	0.92	61	0.52	79	0.45
8	0.80	26	0.44	44	0.84	62	0.44	80	0.62
9	0.76	27	0.16	45	0.92	63	0.20	81	0.16
10	0.62	28	0.72	46	0.80	64	0.56	82	0.44
11	0.80	29	0.44	47	0.84	65	0.45	83	0.72
12	0.84	30	0.72	48	0.77	66	0.16	84	0.20

**Follow Table (3)**  
**Discrimination coefficient of stress scale expressions for wrestlers**

serial	Discrimination								
13	0.22	31	0.84	49	0.44	67	0.44	85	0.16
14	0.76	32	0.80	50	0.16	68	0.80	86	0.80
15	0.28	33	0.84	51	0.76	69	0.62	87	0.62
16	0.80	34	0.78	52	0.16	70	0.64	88	0.92
17	0.72	35	0.19	53	0.85	71	0.62	89	0.84
18	0.92	36	0.44	54	0.90	72	0.23	90	0.92

It is clear from Table No. (3) that the discrimination coefficient (variance) ranged between (0.12, 0.92) Therefore, the researcher excluded the phrases with high difficulties and low discrimination less than (0.30), which are phrases number (1, 13, 15, 20, 25, 27, 35, 38, 42, 50, 52, 58, 63., 66, 72, 81). , 84, 85), and through it the number of data on the scale was (72), representing the six axes.

Third: Presenting the scale with arguments and phrases to a group of arbitrators

1-The researcher presented the scale in its initial form to a group of (5) five Arbitrators from professors of psychology, mental health, and sports psychology in Egyptian universities, all of whom have a doctorate of philosophy and at least a professor or assistant professor degree. Each arbitrator had to give the valid statement a score between (5) and (10).

2-The researcher calculated the scores obtained by the statements after the approval of (100%) of the arbitrators

and obtaining no less than eight degrees out of ten, or 80%, and accordingly, the statements that met the previous conditions were selected in each of the six axes. Thus, the number of the scale's phrases reached (60) phrases represented by ten for each axis, which are the most valid phrases with the agreement of all arbitrators. Supplement (3), (4).

Fourth: Calculating the scientific coefficients of the scale:

The researcher found the scientific parameters of the scale on a sample of (200) male and female students from the Faculty of Physical Education, Sadat City University for the academic year (2018/2019), including (100) students from the four academic years, (100) female students from the four academic years during the period from Sunday, 5/5/2019 to Sunday, 20/6/2019, and the following table is Table No. (4) showing the numbers of members of the legalization sample , and a statistical description of their chronological age.

**Table (4)**

legalization sample	number	chronological age	
		medium	deviation
total sample	200	20.81	2.46
male sample	100	20.27	0.81
Female sample	100	21.12	1.18

It is clear from Table No. (4) that the average ages of the rationing sample members ranged between (20.27, 21.12) years and a standard deviation between (0.81, 2.46) years.

First: the veracity of the scale

The researcher verified the validity of the scale by finding descriptive validity as well as finding statistical validity.

A-Descriptive veracity, which the researcher verified by:

1-Apparent honesty: - This was explained to the researcher by finding the coefficient of ease and difficulty, Finding the discrimination coefficient, as it became clear that the discrimination sample was able to distinguish (75) phrases with ease percentages ranged between (0.86 - 0.96), which is explained by tables (2) (3), which It agrees with what Fouad Al-Bahi Al-Sayed said that apparent honesty indicates the appropriateness and appropriateness of the scale for the examinees and the degree of their understanding of its terms. (24:551).

2-veracity of the arbitrators: In this regard, the researcher presented the axes and phrases, which amounted to (72) phrases representing the psychological resilience of the students of the Faculty of Physical Education on a group consisting of (5) Arbitrators,

and through the evaluation criteria developed by the researcher, represented in the agreement of all arbitrators On the appropriateness of the phrase, as well as the phrase obtaining an importance rate of not less than (80%), and in light of the For the previous judges, (12) phrases were omitted, thus, the scale consisted of (60) phrases, with (10) phrases for each axis.

b-Statistical validity of the scale

The researcher found statistical validity by:

1-Validity of differentiation (peripheral comparison)

The researcher chose it, as the scale's ability to distinguish between those with high ability and those with low ability in a trait or characteristic is one of the indications that can indicate the validity of the scale. (41:303) , The researcher arranged the sample members in descending order in the categories of the total scores of the scale. The highest quartile and lowest quartile were found, arithmetic mean and standard deviation were calculated. Then, she calculated the difference between the two quartiles, and the following table shows Table No. (5) shows this.

**Table (5)**

**The validity of differentiation of the psychological resilience scale for students of the faculties of physical education**

Axes	spring top		lower spring		t value
	medium	deviation	medium	deviation	
emotional resilience	28.02	1.93	16.70	4.98	14.9
mental resilience	28.02	1.86	17.34	5.03	14.0
Support and social support	28.58	1.40	17.78	5.12	14.4

**Follow Table (5)**  
**The validity of differentiation of the psychological resilience scale for students of the faculties of physical education**

Axes	spring top		lower spring		t value
	medium	deviation	medium	deviation	
personal and self-efficacy	28.58	1.34	18.08	5.09	14.1
Social and family competence	29.22	1.13	18.44	5.11	14.6
The religious and value structure	29.12	1.30	18.36	5.14	14.3
overall score for the scale The	171.54	7.55	106.7	30.0	14.8

The validity of differentiation of the psychological resilience scale for students of the faculties of physical education, It is clear from Table (6) and Figure (1) that there are statistically significant differences at the level of significance of 0.05, and the values of the difference between the averages ranged between (14.09), (14.98), which are high differences, meaning that the scale has a high ability to distinguish between students

with a high degree in Psychological resilience and students with a low score in psychological resilience, and thus the scale is valid and measures what is set to be measured.

#### 2-Internal consistency

The researcher calculated the content validity or internal consistency by calculating the correlation coefficients between the degree of each of the six axes and the total score of the scale. Table (6) illustrates this.

**Table (6)**  
**Internal consistency coefficients between the axis score and the overall scale score**

axis	total sample	Significance level	male sample	Significance level	Female sample	Significance level
first	0.975	0.01	0.986	0.01	0.962	0.01
second	0.987	0.01	0.990	0.01	0.976	0.01
third	0.993	0.01	0.995	0.01	0.987	0.01
fourth	0.992	0.01	0.994	0.01	0.990	0.01
Fifth	0.987	0.01	0.991	0.01	0.984	0.01
Sixth	0.982	0.01	0.85	0.01	0.979	0.01

When  $n = 200$  tabular value of  $R$  at  $0.05 = 0.198$ , at  $0.01 = 2.61$  shape (2)

Internal consistency coefficients between the axis score and the overall scale score ,It is clear from Table No. (6) and Figure No. (2) that the calculated correlation values between the axis score and the total score of the scale are greater than the tabular ( $x$ )

value at the level of significance 0.01 and that the values of the correlation coefficients ranged between (0.976), (0.995), which Indicates that the scale is characterized by a high degree of consistency.

**Table (7)**  
**Internal consistency between phrase score , The axis score and the total degree of the scale**

serial	Axes	scale	serial	Axes	scale	serial	Axes	scale
1	0.813	0.800	21	0.753	0.744	41	0.764	0.743
2	0.821	0.811	22	0.768	0.738	42	0.774	0.765
3	0.841	0.832	23	0.780	0.774	43	0.805	0.782
4	0.807	0.805	24	0.762	0.754	44	0.778	0.776
5	0.825	0.821	25	0.820	0.777	45	0.777	0.773
6	0.705	0.701	26	0.754	0.749	46	0.793	0.774
7	0.842	0.837	27	0.774	0.891	47	0.736	0.719
8	0.802	0.784	28	0.768	0.756	48	0.728	0.722
9	0.791	0.790	29	0.795	0.782	49	0.785	0.772
10	0.797	0.788	30	0.748	0.739	50	0.795	0.789
11	0.802	0.801	31	0.801	0.768	51	0.832	0.814
12	0.792	0.776	32	0.763	0.743	52	0.767	0.751
13	0.818	0.789	33	0.756	0.739	53	0.774	0.761
14	0.792	0.786	34	0.768	0.747	54	0.813	0.805
15	0.789	0.747	35	0.806	0.784	55	0.807	0.801
16	0.793	0.782	36	0.769	0.747	56	0.856	0.817
17	0.750	0.746	37	0.823	0.798	57	0.868	0.859
18	0.784	0.763	38	0.766	0.760	58	0.821	0.819
19	0.815	0.799	39	0.758	0.755	59	0.845	0.827
20	0.789	0.765	40	0.760	0.747	60	0.826	0.817

When n = 200 tabular value of R at 0.05 = 0.138, at 0.01 = 0.181

When n = 100 tabular value of R at 0.05 = 0.195 , at 0.01 = 0.254

It is clear from Table (7) that the values of the correlation coefficients between all the phrases and axes are statistically significant at the level of significance 0.01 and the correlation values ranged between (0.868, 0.0.732). Significant 0.01 as the correlation coefficients ranged between (0.859, 0.713), which indicates the consistency of the expressions constituting the scale with both its axis and the total degree of the scale.

Second: Calculating the stability of the scale

The researchers calculated the stability of the scale by:

1-Test –Retest Method

Most of the empirical research indicated that the interval between taking the test in the first time, and then re-taking it for adults, the period should not exceed six months. (24:382).

Safwat Farag also points out that the retest method is one of the most important methods of calculating stability, and this method is done by testing a group of individuals on a scale and then retesting them again in

completely similar conditions for the first time, after a certain and specific period of time has passed, then calculating the correlation coefficients between The results of individuals in the two applications on the scale, and the correlation coefficient obtained by it expresses the degree of stability of the scale. ( 19 : 349).

Therefore, the researcher applied the scale to the rationing sample, then re-applied it on them with an interval of (45) days, and then calculated the correlation coefficients between the degrees of the two applications in each of the six axes degrees and the total score of the scale and tables from (8) to (9) explain it.

**Table (8)**

**Correlation coefficients between degrees of application and re-application for the total sample in the psychological resilience scale for students of the faculties of physical education**

Axes	test		Retest		R value
	medium	deviation	medium	deviation	
emotional resilience	23.59	5.36	23.43	5.12	0.993
mental resilience	23.95	5.12	23.73	4.91	0.991
Support and social support	24.32	5.13	24.04	4.90	0.991
personal and self-efficacy	24.38	5.0	24.11	4.76	0.990
Social and family competence	24.68	5.01	24.40	4.80	0.992
The religious and value structure	24.59	5.01	24.29	4.79	0.992
overall score for the scale The	145.5	30.2	144.0	28.9	0.994

When  $n = 200$  tabular value of  $R$  at  $0.05 = 0.138$ , at  $0.01 = 0.181$  Shape (3)

Correlation coefficients between degrees of application and re-application For the total sample in the psychological resilience scale for students of the faculties of physical education

It is clear from Table (8) and Figure (3) that there is a statistically significant correlation between the

scores of the students of the research sample in the first application and their scores in the re-application at a level of significance of 0.01 for the six axes and the total score of the scale. It is also clear that the correlation coefficients ranged between (0.990, 0.994), which are values High correlation coefficients.

**Table (9)**

**Correlation coefficients between degrees of application and re-application For groups of students in the psychological resilience scale for students of faculties of physical education.**

Axes	male sample	Female sample
emotional resilience	0.991	0.994
mental resilience	0.989	0.990
Support and social support	0.990	0.987

**Follow Table (9)**

**Correlation coefficients between degrees of application and re-application For groups of students in the psychological resilience scale for students of faculties of physical education.**

<b>Axes</b>	<b>male sample</b>	<b>Female sample</b>
personal and self-efficacy	0.992	0.990
Social and family competence	0.991	0.993
The religious and value structure	0.992	0.994
overall score for the scale The	0.993	0.991

When  $n = 100$  tabular value of  $R$  at  $0.05 = 0.195$ , at  $0.01 = 0.254$  It is clear

from Table (9) that there is a statistically significant correlation between the students' scores in the first application and their scores in re-application at the level of significance (0.01), as well as the existence of a statistically significant relationship between the students' scores in the first application and their scores in the re-application at the level of significance (0.01) for the six axes and the degree It is evident that the correlation coefficients between the students' scores ranged between (0.990, 0.993) and the correlation coefficients

between the scores of the students ranged between (0.987, 0.994), which are high correlation coefficients.

Then the researcher calculated the alienation coefficient for the six axes, as well as the total degree of the psychological resilience scale for students of the faculties of physical education by means of the "Kelly T. Kelly" equation, where the alienation coefficient aims to measure the opposite of what measures the correlation and the table (10) illustrates this.

**Table (10)**

**Alienation coefficient between the degrees of application and re-application in the measure of psychological resilience for students of faculties of physical education.**

<b>Axes</b>	<b>total sample</b>	<b>male sample</b>	<b>Female sample</b>
emotional resilience	0.12	0.13	0.11
mental resilience	0.13	0.15	0.14
Support and social support	0.13	0.14	0.16
personal and self-efficacy	0.14	0.12	0.13
Social and family competence	0.13	0.13	0.12
The religious and value structure	0.13	0.12	0.11
overall score for the scale The	0.11	0.12	0.13

It is clear from Table (10) that the values of alienation coefficients

ranged between (0.11), (0.16). They are very low alienation values, which

indicates high correlation between the application and re-application of the measure of psychological resilience among students of faculties of physical education, which shows the presence of a high degree of stability.

#### 2-Internal consistency:

The internal consistency coefficient is a correlation coefficient between each unit of the scale so this method is usually used to calculate stability on the one hand, and the validity of units in measuring what was set for

measurement on the other hand. (20: 57).

The researcher calculated the stability using the alpha equation and the Nanley method, as the alpha coefficient is the main formula for determining the stability coefficient based on internal consistency, which must be used on all new measurement methods. (35: 111)

The researcher used the following equation:

$$\text{coefficient Alf A} = \frac{\text{number of items} \times \text{mean correlation coefficient}}{1 + (\text{mean correlation coefficient} \times \text{number of items} - 1)}$$

And table (11) illustrates this.

**Table (11)**  
**Alpha coefficient to calculate the internal consistency of a scale**  
**Psychological resilience for students of physical education faculties**

serial	Axes	Alpha
1	emotional resilience	0.989
2	mental resilience	0.989
3	Support and social support	0.986
4	personal and self-efficacy	0.985
5	Social and family competence	0.987
6	The religious and value structure	0.999
7	overall score for the scale The	0.975

It is clear from Table (11) that the values of the alpha coefficient ranged between (0.985), (0.999) which indicates that the scale and total degree axes are characterized by a high degree of stability.

#### 3-Calculation of stability using the split-half method:

The researcher divided the scale expressions into two parts, odd phrases and even phrases, after she extracted the degrees of the first application. Then she found the correlation coefficients between the degrees of the two departments and obtained through them the reliability coefficient, and Table No. (12) illustrates this.

**Table (12)**  
**Correlation coefficient between individual phrases and phrases the pairwise measure of psychological resilience among students of faculties of physical education**

<b>Axes</b>	<b>total sample</b>	<b>male sample</b>	<b>Female sample</b>
emotional resilience	0.901	0.903	0.899
mental resilience	0.901	0.92	0.900
Support and social support	0.961	0.938	0.982
personal and self-efficacy	0.927	0.926	0.931
Social and family competence	0.948	0.967	0.921
The religious and value structure	0.938	0.955	0.962
overall score for the scale The	0.954	0.938	0.963

It is clear from Table (12) that there is a statistically significant correlation between the scores of individual phrases and the scores of paired phrases for the measure of psychological resilience among

students of the faculties of physical education with its different divisions.

-Levels of psychological resilience among students of the faculties of physical education, the research sample

**Table (13)**  
**Levels of psychological resilience among students of the faculties of physical education, the research sample**

<b>Axes</b>	<b>total sample</b>		<b>male sample</b>		<b>Female sample</b>	
	<b>M</b>	<b>S</b>	<b>M</b>	<b>S</b>	<b>M</b>	<b>S</b>
emotional resilience	23.59	5.36	25.1	4.21	22.1	5.9
mental resilience	23.95	5.12	25.04	4.1	22.6	5.7
Support and social support	24.32	5.13	25.06	4.1	23.0	5.7
personal and self-efficacy	24.38	5.00	25.5	4.0	23.2	5.6
Social and family competence	24.68	5.01	25.7	3.9	23.7	5.3
The religious and value structure	24.59	5.01	25.6	3.9	23.6	5.7
overall score for the scale The	145.5	30.2	152.9	23.9	138.0	33.9

It is clear from Table (13) that the average scores of the total sample of the research students that the level of psychological resilience of the students of the faculties of physical education is a good level, as the average of their psychological resilience is (145.5) and the standard deviation is (30.2), and

that the level of psychological resilience of the students of the faculties of physical education is a high level, as the The average of their psychological resilience is (152.9) and the standard deviation is (23.9), and the level of psychological resilience for female students of faculties of physical

education is medium, as the average of their psychological resilience is (138.0) and the standard deviation is (33.9).

#### Conclusions and Recommendations

First, the conclusions:

1-Through the results of the reference analysis and measures of Arab and foreign psychological resilience, previous studies and statistical analysis processes, the researcher concluded that the components of the psychological resilience scale for students of physical education faculties are six axes: (emotional resilience - mental flexibility - support and social support - personal and self-efficacy - social and family efficiency - The value and religious structure) and thus responding to the research question.

2-Through the results of Table No. (13) which shows the levels of psychological resilience for students of the faculties of physical education, the results of which were that the average scores of the total sample of the research students that the level of psychological resilience of the students of the faculties of physical education is a good level, as their average psychological resilience (145.5) and the standard deviation (30.2). ) And that the level of psychological resilience for students of faculties of physical education is a high level, as the average of their psychological resilience is (152.9) and the standard deviation is (23.9), and the level of psychological resilience of the students of the faculties of physical education is an average level, as the average of their psychological resilience is (138.0) and the standard deviation is (33.9). ) Thus, the answer to the second question,

which states: What are the levels of psychological resilience among students of the faculties of physical education, the research sample?

Secondly, recommendations:

1-Applying the scale to different samples of students in the faculties of physical education in order to be able to determine the extent of the spread of these feelings among students of the faculties of physical education.

2-Paying attention to the application of psychological tests when completing the selection and selection process for students in the stage of applying to colleges.

Scale application and correction instructions

First: Instructions for applying the scale

- Ensure that students understand the instructions for the scale.
- Ensure that students understand that the response on the scale is for the purpose of scientific research only.
- Students must realize that there is no right or wrong answer.
- Directing the students' attention not to leave any statement unanswered.
- Make sure to put a sign (×) in front of the phrase and under one of the three boxes.

Second: Scale correction

The measure of psychological resilience among students of physical education faculties is based on six main axes (emotional resilience - mental resilience - support and social support - personal and self-efficacy - social and family competence - value and religious structure), According to the results of the scientific transactions that were conducted, the scale included

in its final form (60) statements representing the six axes, with a rate of (10) phrases for each of the scale's axes. The researcher also used the triple scale (always - sometimes - never). Their scores were distributed according to the following order (3-2-1) for the positive statements and (1-2-3) for the negative statements, as the

increase in the degree reflects the high degree of the student in the axis and therefore in the scale, as well as the high level of psychological flexibility. And table (14) shows Phrase numbers for each axis according to their arrangement in the scale in its final form.

**Table (14)**

**Phrase numbers that make up axes of the psychological resilience scale among students of faculties of physical education.**

Axes	Phrase numbers
emotional resilience	1-7-13-19-25-31-37-43-49-55
mental resilience	2-8-14-20-26-32-38-44-50-56
Support and social support	3-9-15-21-27-33-39-45-51-57
personal and self-efficacy	4-10-16-22-28-34-40-46-52-58
Social and family competence	5-11-17-23-29-35-41-47-53-59
The religious and value structure	6-12-18-24-30-36-42-48-54-60

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