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Research Article

The Relationship Between Psychological Resilience And Computerized Exam Anxiety Among Students At Palestine Technical University – Kadoorie

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ABSTRACT

"This study aimed to identify psychological resilience and its relationship to computerized exam anxiety among students at Palestine Technical University – Kadoorie. The study sample consisted of 225 male and female students. To achieve the study's objectives, two questionnaires were constructed: one measuring psychological resilience and the other measuring anxiety related to computerized exams. The descriptive analytical method was used. The validity and reliability of the study tools were verified. The study found that the level of psychological resilience among students was moderate, and the level of computerized test anxiety was also moderate. The results indicated no statistically significant differences at the 0.05 significance level in the relationship between psychological resilience and computerized test anxiety based on gender or place of residence."

Key Word: Psychological Resilience, Computerized Exam Anxiety, PTUK

1. Introduction:

Paying attention to the learner's personality is a necessary requirement and the focus of what the educational process aims to achieve. We find that the goal of educational institutions is; Whether school education or university education, one of its most important goals is to refine the learner's personality in all its physical, mental, psychological, emotional, social, spiritual and cultural aspects. To keep pace with this interest, educational institutions must keep pace with scientific and technological progress and invest it optimally and employ it in the educational learning process. The process of evaluating education has also been imposed in many times, it is the same through the use of technological tools and means, especially when the number of students is large in a course, to hold computerized tests. These tests may constitute a source of concern in their use that requires the educational institution and all its components to take into account the repercussions of the use of technology in education and evaluation, which prompts it to enhance resilience Psychological among learners (Rutter, (1999); Biricik, (2022); Maiolino & Kuiper, (2016); Uyanık & Cevik, (2022)).

Arslantas et all (2021) believes that psychological resilience is one of the personality traits that has the ability to confront problems, crises, difficulties and challenges effectively, and maintain a degree of psychological balance in the practice of life and its requirements. Al-Rifai (2019) considers psychological resilience a positive topic that helps the individual manage his life despite what faces difficulties, challenges, and problems that threaten his psychological compatibility and harmony with life.

Sapmaz (2023) confirms that an individual's enjoyment of a level of psychological resilience means that he possesses stability and the ability to maintain calm and self-balance despite being exposed to worrying or stressful situations or difficult and stressful situations.

Psychological resilience, according to Kaya & Yagan (2022) is the individual's ability to maintain his positive psychological state, stability, emotional balance, and effective influence in stressful situations filled with anxiety and difficult circumstances.

Also, an individual who shows psychological resilience can develop adaptive abilities, strategies, and coping mechanisms that enable him to maintain psychological and emotional balance, calmness, the ability to concentrate while exposed to crises, and his ability to confront stressful and difficult situations that cause him stress and anxiety (Amjad, 2022; Ozaslan et all, 2022).

Brooks & Goldstien (2004) identified three components of psychological resilience: Empathy: This represents the individual's ability to deal and interact with the thoughts and feelings of those around him, which has a strong impact on their personal and professional lives. Communication: An individual who possesses effective communication skills; He has the ability to express his feelings and thoughts clearly, can deal with his problems, and he also has a degree of flexibility in practicing his daily life. Acceptance: It is one of the characteristics of an individual who has the ability to deal with life constructively, who is aware of his strengths and weaknesses, whose goals are realistic and who can express his feelings clearly.

It should be noted that the university student is most stressed and anxious by the tests he submits to evaluate his academic courses (Al Tayeb Hassan, 2022).

Palestinian higher education institutions consider computerized tests to be of great importance in the evaluation process in the educational process with the continuous technical development, especially in light of the rapid changes in the information revolution that the world is witnessing recently (Al-Sharif, 2021; Ulukan, 2020).

It has been noted that there is a lack of theoretical background on anxiety compared to what has been presented for resilience. It is important to include comprehensive theoretical details about anxiety to explain its origins, types, and impact on students' academic performance. This will help provide a more integrated view of the relationship between psychological resilience and computerized exam anxiety.

Anxiety is a psychological state characterized by feelings of fear, tension, and worry about the unknown or specific situations. Anxiety can significantly affect students' academic performance by reducing concentration and increasing distraction. There are several types of anxiety, such as social anxiety, test anxiety, and generalized anxiety.

Test anxiety is a specific type of anxiety directly related to students' performance in exams. This type of anxiety can lead to negative outcomes such as poor academic performance, avoidance behavior, and impact on mental and physical health. Computerized exams pose an additional challenge for some students, potentially increasing their anxiety levels due to the technical nature and timed conditions of these exams.

Research indicates an inverse relationship between anxiety and academic performance. Students with higher levels of anxiety tend to have lower academic performance. This can be attributed to factors such as reduced concentration, increased cognitive load, and avoidance of academic tasks. Addressing test anxiety through interventions can help improve students' academic outcomes and overall well-being.

By incorporating a detailed theoretical background on anxiety, the study will present a balanced view of both psychological resilience and test anxiety, thus enriching the understanding of their interplay and impact on students.

Higher education institutions seek to search for the best effective ways to bring about comprehensive and diverse changes in the ongoing evaluation process, which supplements the entire educational process with guidance and corrections to achieve the goals of education and reach the desired outcomes. to adopt effective strategies, methods, tools and means usually enhances the competitiveness among universities to provide the best. And keeping pace with technological developments and sustainable scientific progress (Lin, 2020).

Problem definition and research questions:

Learning and teaching witness a heavy reliance on technology and its various methods, means and tools, and with scientific progress and the importance of the knowledge economy in our present time and the developments that technology has brought about to life in general and to education in particular, as universities have resorted to its use, especially computerized tests(Rasheed, 2021).

As soon as the student thinks about the computerized exam, it puts him in a state of constant tension, anxiety, and confusion. Exam anxiety occurs before and during the exam and includes many symptoms, including: psychological and mood symptoms of tension, which leads to difficulty concentrating and remembering, in addition to the student's internal motivational symptoms represented by escaping and staying away from the exam situation, in addition to the symptoms. Physiological symptoms such as heart palpitations, difficulty breathing, and sweating. Some scientists confirm that there is a relatively high rate of test anxiety due to several reasons, some of which are internal and others external, Internal causes of anxiety include low self-esteem, overthinking, personal traits like neuroticism or introversion, and past negative experiences. External causes encompass academic pressures, high expectations from family or society, an unsupportive educational environment, and challenging living conditions. Understanding these factors helps in developing effective strategies to manage and reduce anxiety's negative impact. (Shi, 2012).

Study questions:

The first question: What is the degree of psychological deafness among the students of Palestine Technical University, Kadoorie, in Tulkarm Governorate?

The second question: Does the psychological resilience of students at Palestine Technical University Kadoorie differ according to (gender, years of study, university major?(
The third question: What is the degree of computer test anxiety among students at Palestine Technical University, Kadoorie, in Tulkarm Governorate?
The fourth question: Does the computerized test differ among the students of Palestine Technical University, Kadoorie, according to (gender, years of study, university major?)
Question five: What is the correlation between psychological resilience and computer-based test anxiety among students at Palestine Technical University, Kadoorie?

The importance of studying:

In the theoretical aspect, the study aids educators and faculty members in identifying psychological resilience skills and understanding computerized test anxiety. It enhances their ability to improve students' psychological resilience and helps educators increase awareness about enhancing resilience to face real-life challenges.
On the practical side, the study has significance in two main areas:
Education Supervisors and Teachers: They can utilize the study's findings to design courses and seminars aimed at reducing computerized test anxiety among students. This practical application helps in creating a conducive learning environment by alleviating stress related to assessments.
Student Development: By raising the level of psychological resilience among students, the study equips them with the ability to confront challenges and difficulties in both practical and theoretical aspects of life. This enhances their overall well-being and academic performance.
So, the ability being referred to here is the educators' ability to implement strategies to improve students' psychological resilience and reduce test anxiety, and students' ability to confront challenges and difficulties effectively..

Study hypotheses:

The first hypothesis: There are no statistically significant differences at the significance level ($\alpha = 0.05$) between the arithmetic averages of the psychological resilience scores among the students of Palestine Technical University, Kadoorie, due to the gender variable?

The second hypothesis: There are no statistically significant differences at the significance level ($\alpha = 0.05$) between the arithmetic averages of the psychological resilience scores among the students of Palestine Technical University, Kadoorie, due to the variable of years of study.

The third hypothesis: There are no statistically significant differences at the significance level ($\alpha = 0.05$) between the arithmetic averages of the psychological resilience scores among the students of Palestine Technical University, Kadoorie, due to the university specialization variable.

Fourth hypothesis: There are no statistically significant differences at the significance level ($\alpha = 0.05$) between the arithmetic averages of the computerized test anxiety scores among the students of Palestine Technical University, Kadoorie, due to the gender variable.

Fifth hypothesis: There are no statistically significant differences at the significance level ($\alpha = 0.05$) between the arithmetic averages of the computerized test anxiety scores among the students of Palestine Technical University Kadoorie due to the variable of years of study.

Sixth hypothesis: There are no statistically significant differences at the significance level ($\alpha = 0.05$) between the arithmetic averages of the computerized test anxiety scores among the students of Palestine Technical University, Kadoorie, due to the university specialization variable.

Study limitations:

Define the geographical, temporal, and thematic limits of the study clearly: "This study is limited to students at Palestine Technical University – Kadoorie during the 2023-2024 academic year."

Academic Terms

Psychological resilience: It means the ability and adaptation to face the challenges, difficulties, circumstances, psychological shocks, and social circumstances facing students (Masten & Cutuli, 2009).
It is known procedurally: the score obtained by the student in the psychological resilience questionnaire, which was prepared specifically for this study.

Computerized test anxiety: a psychological state and mental tension that may affect the student while taking the electronic exam in university laboratories (Al-Khaza, 2013).

It is defined procedurally: a mental process, confusion, confusion, and hesitation that may affect the student while taking the electronic exam, and it is measured by the score that the student obtains in the computerized test anxiety questionnaire, which was prepared specifically for this study.

Methodology

In order to achieve the objectives of the study, the researchers adopted the descriptive, correlational approach as an appropriate approach to conduct the current study, The correlational descriptive method is one of the research methods used to study the relationships between variables without attempting to control or manipulate them. This method aims to describe the current state of a particular phenomenon and determine the extent of the correlation between two or more variables(alawneh,2022).

Study Population:

The study population consisted of all students of Palestine Technical University Kadoorie in Tulkarm Governorate in the first semester of the 2021/2022 academic year, numbering (6180) male and female students.

The Study Sample:

The study sample consisted of both male and female students who were selected by the cluster method from the study population. A random sample representative of the study population was chosen using a confidence level of 95% and a confidence interval of 5%. The size of the study sample was 225. The sample size was calculated using the Stephen Thompson equation (Thompson, 2012). Table 1 shows the characteristics of the sample members.

Table 1: Characteristics of the Study Sample

Table (1)			
Variable	**Levels**	**Number**	**Percentage**
Gender	male	71	31.6
	feminine	154	68.4
	the total	**225**	**100.0**
The college	Engineering	97	43.1
	Economy	38	16.9
	the science	37	16.4
	Arts	21	9.3
	Agriculture	22	9.8
	Diploma	10	4.4
	the total	**225**	**100.0**
Academic level	first year	19	8.4
	Second Year	71	31.6
	third year	66	29.3
	Fourth year or more	69	30.7
	the total	**225**	**100.0**
Address	city	61	27.1
	camp	15	6.7
	village	149	66.2
	the total	**225**	**100.0**

Study Tool:

The researchers built the study tools after reviewing the educational literature and previous studies related to the objectives and subject of the study, which consisted of two tools: the first tool was a questionnaire to measure the level of psychological resilience, and the second tool was a questionnaire to measure the level of computerized test anxiety.

The First Tool: Psychological Resilience Questionnaire

The self-resilience questionnaire consisted of (18) paragraphs. The questionnaire consisted of five answer alternatives (always, often, sometimes, rarely, never). The student chooses what he deems appropriate.

The Second Tool: Computerized Test Anxiety Questionnaire:

The questionnaire consisted of (29) items, and the questionnaire consisted of five answer alternatives (always, often, sometimes, rarely, never). The student chooses what he deems appropriate.

Validity and reliability of the psychological resilience and anxiety questionnaire computerized test:

After preparing the questionnaire for psychological resilience and computerized test anxiety in its initial form, the validity of the tools was confirmed by presenting them to a group of experienced and specialized evaluators, numbering 10 male and female specialists. It was confirmed that the questionnaire measures what it was designed to measure. The reliability of the questionnaire was verified by calculating the reliability of the domains and the total degree of the reliability coefficient, according to the Cronbach alpha equation.

The reliability of the psychological resilience questionnaire was verified by calculating the reliability of the domains, and the total score of the psychological resilience reliability coefficient was 0.871. The reliability of the computerized test anxiety questionnaire was verified by calculating the reliability of the domains, and the total score of the reliability coefficient of the computerized test anxiety questionnaire was 0.959, according to the Cronbach alpha equation.

Table 2: Reliability Coefficients of the Sc

Table (2)		
the scale	number of items	Cornbrash's coefficient
Psychological resilience scale	18	.871
Computerized test anxiety scale	29	.959

Study Variables:

The current study included the following variables:

First: the independent variables

- Gender and its levels (male, female).
- Years of study and has four levels (first year, second year, third year, fourth year(
- Academic specialization has three levels (technological education, educational qualification, and media).

Second: Dependent Variables:

- Psychological resilience: This tool is measured by the score the student obtains from the psychological resilience questionnaire that was prepared specifically for this study.
- Computerized test anxiety: This tool is measured by the score that the student obtains from the computerized test anxiety questionnaire that was prepared specifically for this study.

Table (3) Correction key for interpreting study paragraphs

Table (3)					
Class	very low	Low	Medium	High	Too high
Arithmetic average period	Less than 1.8	1.8-2.59	2.6 - 3.39	3.4-4.19	4.2 and above

Presentation and discussion of results:

The first question: What is the degree of psychological resilience among the students of Palestine Technical University, Kadoorie, in Tulkarm Governorate?

To answer this question, arithmetic means and standard deviations were calculated for the ratings of Palestine Technical University students on the psychological resilience questionnaire, and the following table shows that.

Table 4: Arithmetic Means and Standard Deviations of the Ratings of Study Sample Members on the Psychological Resilience Questionnaire

Table (4)				
N	Items	arithmetic mean	standard deviation	score
9	Things happen according to God's will	4.89	.398	Too high
3	My faith in God helps me a lot in times of crisis	4.70	.666	Too high
10	I do what I can, regardless of the results	4.39	.806	Too high
5	My previous successes in overcoming crises make me more confident in facing new challenges	4.17	.872	high
8	I learn patience from my experiences with illness and misfortunes	4.04	.960	high
15	I prefer to take a leadership role in solving my problems	4.04	.981	high

17	I believe that I am a strong person who can solve his problems	4.02	.858	high
12	I do not give up easily, even if I am certain that what I am doing to solve the problem is useless	3.99	.904	high
2	I feel close to others and capable of making good and healthy relationships	3.72	.977	high
18	I can make unusual (difficult) decisions.	3.68	.957	high
4	I can handle any emergency that happens in my life	3.64	.797	high
11	I believe the goals I set in my life	3.58	.847	high
1	I can adapt to rapid life changes	3.51	.824	high
6	I see the bright side of the problems I face	3.48	1.074	high
16	When I fail, I don't get discouraged	3.44	1.059	high
14	I focus and think deeply when I am under stress	3.41	1.196	high
7	It strengthens me to cope with the stress caused by problems	3.36	1.064	Medium
13	I go to the right person to ask for help in my crises	3.32	1.234	Medium
	Total marks	3.85	.523	high

It is clear from the results of Table (4) that the degree of psychological resilience among the students of Palestine Technical University - Kadoorie was high with an arithmetic mean (3.85) and a standard deviation (0.523), and the paragraph “Things happen by God’s will” ranked first with an arithmetic mean (4.99) and a standard deviation Standard (0.398) and with a high degree, and the item “I go to the right person to ask for help in my crises” came in last place with an arithmetic mean (3.32) and a standard deviation (1.234) and with a moderate degree

The researchers attribute the current result to the challenging and harsh conditions experienced by university students in Palestinian society. Due to the occupation and its procedures, life in Palestine differs significantly from other countries, impacting all aspects of life, particularly education and employment. The occupation's measures disrupt public life and limit job opportunities, creating uncertainty among the youth. To overcome these challenges and achieve their goals and aspirations, university students need a high degree of resilience, the ability to endure hardships, and the capacity to find appropriate solutions to problems. This often involves adapting to circumstances and striving to overcome difficulties.

The university supports its students through various colleges and departments, such as Student Affairs, Development and Continuing Education, and the Creativity Center, which offer extracurricular events and activities. These resources help students strengthen their psychological resilience, enabling them to better cope with difficult and harsh conditions.

The second question: Does the psychological resilience of students at Palestine Technical University Kadoorie differ according to (gender, years of study, university major)?

To answer the current question, it was transformed into a number of hypotheses as follows:

The First Hypothesis: There Are No Statistically Significant Differences At The Significance Level (A = 0.05) Between The Arithmetic Averages Of The Psychological Resilience Scores Among The Students Of Palestine Technical University, Kadoorie, Due To The Gender Variable.

Table 5: Differences in Psychological Resilience Scores by Gender

Table (5)							
variable	Gender	N	SMA	SD	value (t)	f.d	Sig.
Psychological resilience among students at PTUK.	male	71	3.9515	.49628	1.917	223	.056
	female	154	3.8084	.53056			

It is clear from table.(5) The value of the level of significance is (.056), which is greater than (0.05). Therefore, we accept the null hypothesis and reject the alternative. Therefore, there are no statistically significant differences between the arithmetic averages for the degree of psychological resilience among the students of Palestine Technical University, Kadoorie, due to the gender variable.

The researchers attribute the current result to the fact that male and female students are exposed to the same difficult and harsh conditions, whether economic conditions, or road conditions due to occupation barriers, and other measures that pose difficulties and challenges for students without discrimination according to gender. The university also provides equal opportunities for its students to participate. In the

events, activities and empowerment courses for its students, in addition to all of that, the Palestinian family directs to strengthen the role of education in the lives of its children of both sexes, considering education as a future weapon for their children, in the face of the occupation's plans aimed at ignorance, and turning the Palestinian youth into workers whose want and need are exploited due to the absence. The clear horizon, the high unemployment rate and the lack of suitable and sufficient job opportunities for them. **The second**

hypothesis: There are no statistically significant differences at the significance level (α = 0.05) between the arithmetic averages of the psychological resilience scores among the students of Palestine Technical University, Kadoorie, due to the variable of years of study.

Table 6: Analysis of Variance (ANOVA) for Psychological Resilience Scores by Years of Study

Table (6)							
variable		Sum of squares	d.f	Mean Square	Value F	Sig	
Psychological resilience among students at PTUK.	SSTR	.688	3	.229	.837	.475	
	SSE	60.614	221	.274			
	SST	61.303	224				

It is clear from Table (6) that the value of the level of significance is (0.475) greater than (0.05), so we accept the null hypothesis and reject the alternative. Therefore, there are no statistical differences between the arithmetic averages for the degree of psychological resilience among the students of Palestine Technical University, Khadoori, due to the variable of years of study, and the researchers attribute, this result indicates that the university study stage, which is at the beginning of the youth stage, where students have the energy and passion to enter university while reaching a degree of maturity at the end of childhood, and the years of study are usually four years for a bachelor's degree, and at its highest levels it may reach five years in the College of Engineering. Students have equal opportunities at all levels of study to participate in university activities and events that help the student master and refine his personality and his ability to maintain a high degree of psychological resilience, which showed in the results of the study that there are no statistically significant differences in the variable of years of study.

The third hypothesis: There are no statistically significant differences at the significance level (α = 0.05) between the arithmetic averages of the psychological resilience scores among the students of Palestine Technical University, Kadoorie, due to the university specialization variable.

Table 7: Analysis of Variance (ANOVA) for Psychological Resilience Scores by University Specialization

Table (7)						
variable		Sum of squares	d.f	Mean Square	Value F	Sig
Psychological resilience among students at PTUK.	SSTR	3.056	5	.611	2.298	.046
	SSE	58.247	219	.266		
	SST	61.303	224			

It is clear from table (7) that the value of the level of significance is (.046), which is less than (0.05). Therefore, we reject the null hypothesis and accept the alternative. Therefore, there are statistical differences between the arithmetic averages for the degree of psychological resilience among the students of Palestine Technical University, Kadoorie, due to the variable of university specialization. To find out in favor of the differences, the researchers used the post hoc difference test (LSD), and its results appear in the following:

Table 8: Post Hoc Analysis (LSD) For Differences In Psychological Resilience Scores By University Specialization

Table (8)						
the college (I)	the college (J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Engineering	Economy	-.28721*	.09870	.004	-.4817	-.0927
	the science	-.12616	.09965	.207	-.3226	.0702
	Literature	.00240	.12413	.985	-.2422	.2470
	Agriculture	-.24880*	.12178	.042	-.4888	-.0088
	Diploma	-.14628	.17129	.394	-.4839	.1913
	the science	.16106	.11911	.178	-.0737	.3958
	Literature	.28961*	.14023	.040	.0132	.5660

Economy	Agriculture	.03841	.13816	.781	-.2339	.3107
	Diploma	.14094	.18329	.443	-.2203	.5022
the science	Literature	.12856	.14090	.363	-.1491	.4063
	Agriculture	-.12265	.13884	.378	-.3963	.1510
	Diploma	-.02012	.18381	.913	-.3824	.3421
Literature	Agriculture	-.25120	.15734	.112	-.5613	.0589
	Diploma	-.14868	.19815	.454	-.5392	.2418
Agriculture	Diploma	.10253	.19669	.603	-.2851	.4902

It is clear from table (8) that the differences are between the specializations of engineering and economics and engineering and agriculture and in favor of economics and agriculture, which means that students of the engineering major have less psychological resilience than the rest of the majors.

The researchers attribute the current result to the fact that the engineering major requires a high average in high school to enter the major. Most of the engineering students are from the scientific sciences branch, and this is an indication that the students of the Faculty of Engineering have a higher readiness as well as a desire to reach a more stable degree, which makes them psychologically resilient and requires a higher effort and more attempts to reach a high level compared to the students of the faculties of economics and agriculture, in addition to the fact that movement, there are many commercial shops and stores, as well as the Palestinians' high dependence on agriculture, which has made students in the faculties of economics and agriculture have a higher level of psychological resilience compared to those in the faculties of economics.

It is also clear that there are differences between the majors of economics and arts and in favor of economics. This means that students majoring in arts suffer from less psychological resilience than students of economics.

The researchers attribute this result to the fact that the challenges and difficulties for students of Arts are greater than those of other majors. This is because the acceptance rates of students in the Faculty of Arts are lower than in other colleges, with the presence of some sub-specializations that require higher rates in the Faculty of Arts, and employment opportunities are lower and competition is less. It is higher, which makes them have higher problems, difficulties and challenges in the Faculty of Arts compared to other faculties, including Economics.

Fourth hypothesis: There are no statistically significant differences at the significance level ($\alpha = 0.05$) between the arithmetic averages of the psychological resilience scores among the students of Palestine Technical University, Kadoorie, due to the variable of place of residence.

Table 9: Analysis of Variance (ANOVA) for Psychological Resilience Scores by Place of Residence

Table (9)						
Variable		Sum of squares	d.f	Mean Square	Value F	Sig
Psychological resilience among students at PTUK.	SSTR	.963	2	.481	1.771	.173
	SSE	60.340	222	.272		
	SST	61.303	224			

It is clear from table (9) that the value of the level of significance is (0.173), which is greater than (0.05). Therefore, we accept the null hypothesis and reject the alternative. Therefore, there are no statistical differences between the arithmetic averages for the degree of psychological resilience among the students of Palestine Technical University, Kadoorie, due to the variable of place of residence.

The researchers attribute this result to the fact that Palestinian society is homogeneous and its regional conditions are similar, whether in the village, city, or camp. The distances are not very far apart, which makes the conditions that the university student lives in similar in terms of the variable of place of residence. The university also provides equal opportunities for its students regardless of their place of residence, which makes the degree There are no statistically significant differences in psychological resilience depending on the variable of place of residence.

The third question: What is the degree of computer test anxiety among students at Palestine Technical University, Kadoorie, in Tulkarm Governorate?

Table 10: Computer Test Anxiety Scores Among Students at Palestine Technical University, Kadoorie

Table (10)				
N	Items	arithmetic mean	standard deviation	score
1	I worry about whether I will pass the material at the end of the semester.	4.16	1.133	high
15	I feel that I forget a lot of information during the exam that I remembered before it started	3.96	1.141	high
21	I feel anxious when the lecturer announces how much time is left until the exam ends	3.83	1.272	high
3	My heart rate increases when exams date approach	3.81	1.304	high
16	I wish I didn't feel so upset about the computerized exam	3.56	1.398	high
4	I feel very anxious when I get ready for bed because I think about what my performance will be on the computerized exam tomorrow	3.52	1.379	high
9	I feel confused and stressed if he asks me a question and I answer it wrong	3.45	1.312	high
24	I feel anxious while waiting to enter the computerized exam hall	3.45	1.298	high
14	I am afraid of failing in my performance if I know that the exam date is approaching	3.44	1.302	high
7	If I am absent from university due to illness, I feel that my performance of my duties will be lower than that of other students	3.44	1.407	high
22	I feel afraid while waiting for the computerized exam questions to open (begin).	3.44	1.318	high
23	I feel anxious during the computer-based exam that I do not have enough time to answer	3.42	1.406	high
25	I feel uncomfortable while students in the yard are talking about an upcoming exam	3.37	1.406	Medium
29	I always feel nervous and confused when preparing for the computerized final exam	3.32	1.413	Medium
28	I feel anxious as I prepare for the computer-based exam the day before it is due	3.22	1.306	Medium
6	When I am at home and think about tomorrow's computer-based exam, I feel afraid that I will give wrong answers	3.22	1.405	Medium
5	I feel more nervous when an exam is approaching than my fellow students	3.22	1.434	Medium
27	I feel stressed and confused as I prepare for my daily exam	3.17	1.343	Medium
12	After completing the computer-based exam, I feel nervous about my performance on it	3.14	1.391	Medium
20	My fear of failure hinders my performance and progress on the exam	3.06	1.453	Medium
13	I feel that my performance on the computer-based exam I took was bad no matter how much I studied and prepared for it	3.05	1.397	Medium
17	I feel that I will perform poorly while answering the computer-based exam	2.99	1.299	Medium
10	I feel afraid of every situation involving an exam, especially a computer-based exam	2.90	1.395	Medium
2	During my sleep, I dream a lot about exams, especially computerized ones	2.89	1.423	Medium
11	I feel very upset before taking the computerized exam	2.81	1.405	Medium
18	I am afraid that when I am on my way to university, the lecturer will give us a quiz	2.80	1.417	Medium
26	Sweat secretion increases on my hands or face during the computerized exam	2.65	1.378	Medium
19	I feel a severe headache before and during the exam, especially the computer-based exam	2.52	1.379	Low
8	I feel nauseous, shaky, or dizzy when I read an exam question in order to determine how much I have learned	2.40	1.330	Low
	Total marks	3.25	.926	Medium

Table (10) indicates that the overall degree of computerized test anxiety, with a mean of (3.25) and a standard deviation of (0.926), falls within the moderate range. Notably, the item "I worry about whether I will pass the educational subject at the end of the semester" received the highest agreement, indicating a high level of anxiety. Conversely, the item "I feel nauseous, trembling, or dizzy when I read an exam question in order to determine the extent of what I have learned" received the lowest agreement, indicating a low level of anxiety.

The researchers attribute this result to the inherent nature of exams, which are compulsory and integral to academic progression. As exams, including computerized ones, have become standard practice, students have gradually acclimated to them. Additionally, the widespread adoption of computerized tests, particularly during the Covid-19 pandemic, has familiarized students with this format, potentially reducing anxiety over time. Despite the familiarity, the study still reveals a moderate level of anxiety, suggesting that while students may be adapting to computerized tests, some residual anxiety persists.

The **fourth question: Does the computerized test differ among the students of Palestine Technical University, Kadoorie, according to (gender, years of study, university major?(**

Fifth hypothesis: There are no statistically significant differences at the significance level (α = 0.05) between the arithmetic averages of the computerized test anxiety scores among the students of Palestine Technical University, Kadoorie, due to the gender variable.

Table 11: Gender Differences in Computerized Test Anxiety Scores among Students at Palestine Technical University, Kadoorie

Table (11)							
variable	Gender	N	SMA	SD	value (t)	f.d	Sig.
The degree of computerized test anxiety among students at PTUK.	Male	71	2.9592	.96733	-3.253	223	.001
	female	154	3.3824	.87785			

It is evident from Table 11 that the level of significance (p-value: 0.001) is less than the predetermined value (α = 0.05), indicating statistically significant differences between the arithmetic means of computerized test anxiety scores among the students of Palestine Technical University, Kadoorie, based on gender. These differences favor females, suggesting that females experience higher levels of anxiety in computerized tests compared to males.

The researchers attribute these findings to the tendency of females towards perfectionism and a desire for excellence, which may elevate their levels of alertness and anxiety. Additionally, societal pressures, especially in male-dominated societies, could contribute to females' heightened anxiety levels as they strive to excel academically. However, it's crucial to approach these interpretations with caution as they may not fully capture the complex and multifaceted nature of test anxiety.

Sixth hypothesis: There are no statistically significant differences at the significance level (α = 0.05) between the arithmetic averages of the computerized test anxiety scores among the students of Palestine Technical University Kadoorie due to the variable of years of study.

Table 12: Analysis of Variance (ANOVA) for Computerized Test Anxiety Scores by Years of Study

Table (12)						
Variable		Sum of squares	d.f	Mean Square	Value F	Sig
The degree of computerized test anxiety among students at PTUK.	SSTR	3.612	3	1.204	1.411	.240
	SSE	188.500	221	.853		
	SST	192.112	224			

Seventh hypothesis: There are no statistically significant differences at the significance level (α = 0.05) between the arithmetic averages of the computerized test anxiety scores among the students of Palestine Technical University, Kadoorie, due to the university specialization variable.

The researchers attribute the current result to the fact that university students each have their own psychological conditions and degree of test anxiety according to their life circumstances and lifestyle, regardless of their academic level, whether they are in the first or last year of study or something in between. Their circumstances, their way of dealing with life, their emotional experiences, and their way of dealing with the test in general. The computerized test in particular is what controls the degree of anxiety, not the academic year to which it belongs

Seventh hypothesis: There are no statistically significant differences at the significance level (α = 0.05) between the arithmetic averages of the computerized test anxiety scores among the students of Palestine Technical University, Kadoorie, due to the university specialization variable.

Table 13: Analysis of Variance (ANOVA) for Computerized Test Anxiety Scores by University Specialization

Table (13)						
Variable		Sum of squares	d.f	Mean Square	Value F	Sig
The degree of computerized test anxiety among students at PTUK.	SSTR	5.896	5	1.179	1.387	.230
	SSE	186.216	219	.850		
	SST	192.112	224			

It is clear from table (13) that the value of the level of significance is 0.230, which is greater than (0.05). Therefore, we accept the null hypothesis and reject the alternative. Therefore, there are no statistical differences between the arithmetic averages of the computerized test anxiety scores among the students of Palestine Technical University (PTUK), due to the variable of university specialization.The researchers attribute this result to the fact that the test anxiety that afflicts the learner is due to his experiences of success and failure, and this is related to his personality and has nothing to do with his university major. If we assume that the learner himself changed his major for one reason or another, his anxiety will remain unless he is treated and his internal anxiety is dealt with.

The eighth hypothesis: There are no statistically significant differences at the significance level (α = 0.05) between the arithmetic means of the computerized test anxiety scores among the students of Palestine Technical University, (PTUK), due to the variable of place of residence.

Table 14: Analysis of Variance (ANOVA) for Computerized Test Anxiety Scores by Place of Residence

Table (14)						
Variable		Sum of squares	d.f	Mean Square	Value F	Sig
The degree of computerized test anxiety among students at PTUK.	SSTR	1.144	2	.572	.665	.515
	SSE	190.968	222	.860		
	SST	192.112	224			

It is clear from table (14) that the value of the level of significance is (.515), which is greater than (0.05). Therefore, we accept the null hypothesis and reject the alternative. Therefore, there are no statistical differences between the arithmetic averages of the computerized test anxiety scores among the students of Palestine Technical University, (PTUK), due to the housing variable.
The researchers attribute the current result to the fact that the learner, in his previous educational experiences and before coming to the university, has developed an anxiety emotion that is commensurate with his personality and life experiences. Then the student joins the university and comes from the place of residence in which he has lived since his childhood until now, especially since the previous period was a period Electronic tests: Due to (Covid-19), he developed emotional behavior, anxiety during the test. This emotional behavior was formed regardless of where he lived, and now he takes the computerized tests with his problematic emotions, especially anxiety, both state anxiety and trait anxiety.

Question five: What is the correlation between psychological resilience and computer-based test anxiety among students at Palestine Technical University, Kadoorie?

Table 15: Correlation Between Psychological Resilience and Computer-based Test Anxiety

Table (15)		
		computer-based test anxiety
psychological resilience	Correlation coefficient	-.027
	Significance level	.689
	the number	225

The table shows that the significance level of the correlation between psychological resilience and computerized test anxiety is (.689) higher than its value (0.05), which means that there is no correlation between psychological resilience and computerized test anxiety among the students of Palestine Technical University (PTUK), and the researchers attribute this result to the fact that The Palestinian university student faces great challenges and difficulties, such as the economic situation in which the Palestinian family

lives and its ability to provide for the needs of its children, especially university students, as well as the road conditions due to closures and the occupation's measures to place barriers and close areas. Such great challenges that the Palestinian university student tries to overcome and deal with make Computerized test anxiety is not a major challenge, in addition to the fact that a university student takes theoretical tests, his ability to face computerized test anxiety becomes less, as the student becomes able to deal with it with lower levels of anxiety, and this is what the results of the study showed that computerized test anxiety has no relationship with students' psychological resilience.

Conclusions:

The results of the current study showed the following:

- Overall, students at Palestine Technical University, Kadoorie, demonstrated a high level of psychological resilience.
- Significant differences were found in the levels of psychological resilience among students across different specializations, particularly between engineering and economics, as well as engineering and agriculture. Students in economics and agriculture exhibited higher psychological resilience compared to those in engineering.
- No statistical differences were observed in the levels of psychological resilience based on gender, years of study, or place of residence among students at Palestine Technical University, Kadoorie.
- The average level of computerized test anxiety was reported among students at Palestine Technical University, Kadoorie.
- Significant gender differences were noted in computerized test anxiety, with females exhibiting higher anxiety levels compared to males.
- No statistically significant differences were found in computerized test anxiety levels based on residence, university major, or years of study among students at Palestine Technical University, Kadoorie.
- No correlation was identified between psychological resilience and computer-based test anxiety among students at Palestine Technical University, Kadoorie.

Recommendations:

1. Design awareness and academic guidance programs within Palestinian universities among their students to enhance their psychological resilience and reduce computer-test anxiety.
2. Activating guidance and counseling services in Palestinian universities by designing a program specialized in identifying their academic, psychological and social needs.
3. Enhancing students' sense of psychological resilience through planning and holding many university activities such as seminars, dialogue programs, and social programs.
4. Conducting various studies on psychological resilience or computerized test anxiety, along with other variables, to explore the student's overall personality and determine their psychological, emotional, and educational needs.

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