THE RELATIONSHIP BETWEEN ACADEMIC BURNOUT AND PSYCHOLOGICAL RESILIENCE AMONG STUDENTS OF PSYCHOLOGY AND EDUCATIONAL SCIENCES AT THE UNIVERSITY OF EL OUED

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Abstract:
The present study aimed to examine the relationship between academic burnout and the level of psychological resilience among students of Psychology and Educational Sciences at the University of El Oued. The sample consisted of 100 male and female students from the Psychology and Educational Sciences programs at the University of El Oued, from second year, third year, and Master's levels. The study sample was selected using the stratified random sampling method. The Academic Burnout Scale used in this study was designed after reviewing the Learning Burnout Scale by Shamkhi Jabr Ahmed Jassim (2021). The study also used the Psychological Resilience Scale developed by Baraich Sara (2024). The descriptive correlational method was adopted. The study reached the following results:
• There is a significant and consistent negative linear relationship between academic burnout and psychological resilience (and its components) in this sample. As burnout increases, resilience tends to decrease. The strength of this linear association is generally small to medium.

Keywords: Academic Burnout, Psychological Resilience.

Introduction:
Achieving the highest possible level of psychological well-being for university students is a fundamental goal of the work of psychological specialists in psychological support centers, considering that mental health is the basis of academic adjustment and the student's overall well-being, as well as their ability to face increasing and complex life demands. All these factors indicate the need of university students for psychological assistance.

One of the most prominent psychological disorders that has recently emerged in the academic environment is academic burnout, which manifests as a lack of desire to participate in learning activities and extreme cognitive, emotional, and physical exhaustion resulting from academic tasks that exceed the student's ability to continue higher education and complete academic research. Symptoms of academic burnout include absenteeism from lectures, lack of seriousness in completing research assignments, boredom at university, and feelings of academic pressure. Academic pressures are among the most significant stressors faced by university students. (Badawi, Al-Abyad & Al-Ahmadi, 2023, p. 218)

Acceptance and Commitment Therapy (ACT), which represents the third wave of cognitive-behavioral therapy, aims to help students suffering from psychological disorders transition from a state of psychological rigidity to one of psychological flexibility to improve their academic adjustment and ability to cope positively with university challenges. Psychological resilience is an important positive psychological factor that helps individuals achieve psychological adjustment within their environment. It refers to the ability to accept others' ideas, coexist with them, show readiness for positive change, adapt effectively to stressful situations, and confront problems and difficulties with emotional stability and balance. (Khadoum, Zdadra & Deif, 2023, p. 26)

From this perspective, the importance of identifying the relationship between academic burnout and levels of psychological resilience among university students becomes evident, especially among

Psychology and Educational Sciences students who are expected, by virtue of their specialization, to acquire psychological adjustment skills.

The importance of this topic increases in light of the current university context, characterized by increasing academic demands and growing needs for psychological and social support. This requires designing effective academic psychological interventions aimed at preventing psychological burnout and enhancing students' psychological adjustment.

Based on this, the current study was conducted to determine the nature of the relationship between academic burnout and psychological resilience among students of Psychology and Educational Sciences at the University of El Oued, through the following components: research problem, research hypotheses, operational definitions of the study concepts, significance of the study, study objectives, pilot study, research method, study tools and their psychometric properties, and study results.

Research Problem:

The university stage is a transitional period from secondary education to social and professional life, during which various personal, academic, and social changes occur. In previous stages, the student relied on the teacher in the teaching learning process, whereas at the university level, the student becomes responsible for conducting scientific and field research, which requires cognitive skills, scientific thinking methods, and psychological and physical effort. This increases their sense of responsibility.

Many university students show an inability to keep up with the demands of university study, and they experience cognitive, behavioral, and physical exhaustion compared to their previous levels of academic performance. This is known as academic burnout.

Academic burnout also has several other manifestations, including severe physical exhaustion, anxiety, depression, boredom, inability to concentrate, absenteeism from classes, and social withdrawal. These symptoms lead to poor adjustment between academic and personal life, which negatively affects academic achievement and cumulative grade averages.

Academic burnout, which has become widespread among university students today, is a syndrome characterized by emotional, physical, and cognitive exhaustion and disengagement from studying as a result of pressing academic demands, leading to decreased academic competence. (Enas Fathi Kamel Ahmed Nasr, 2023, p. 512)

Psychological studies have examined academic burnout among university students in light of several variables, such as:

Isa and others (2021): "Academic Burnout Among University Students During the COVID-19 Pandemic in Light of Psychological Resilience and Achievement Goal Orientations."

Al-Jarrah and Al-Rabee' (2020): "Academic Passion and Its Relationship to Academic Burnout Among Yarmouk University Students."

This highlights the necessity of researching the psychological factors related to academic burnout among university students. Academic burnout is related to the student's weakened ability to adjust in academic situations. According to Acceptance and Commitment Therapy (ACT), academic burnout results from the student's fusion with painful thoughts and emotions, which makes them unable to perform academically.

Psychological resilience is a primary goal of ACT and refers to a person's ability to recover, adapt, and use emotional regulation and problem-solving skills without exhibiting helplessness in facing difficulties. (Shaqoura, 2012, p. 09)

Psychological resilience enables the student to achieve healthy psychological adjustment and to confront adversities, shocks, or psychological pressures that exceed the individual's capacity to cope during university life. (Baraich, 2023, p. 19)

From this standpoint, the present study aims to reveal the nature of the correlational relationship between academic burnout and psychological resilience among students of Psychology and Educational Sciences at the University of El Oued, by answering the following main question:

Is there a correlational relationship between academic burnout and the level of psychological resilience among students of Psychology and Educational Sciences at the University of El Oued?
This general question branches into the following sub questions:

Research Hypotheses:
-There is a correlational relationship between academic burnout and the level of psychological resilience among students of Psychology and Educational Sciences at the University of El Oued.

Sub-Hypotheses:
-There is a correlational relationship between academic burnout and the level of hardiness among students of Psychology and Educational Sciences at the University of El Oued.
-There is a correlational relationship between academic burnout and the level of optimism among students of Psychology and Educational Sciences at the University of El Oued.
-There is a correlational relationship between academic burnout and the level of multiple resources among students of Psychology and Educational Sciences at the University of El Oued.
-There is a correlational relationship between students with high academic burnout and the level of purpose among students of Psychology and Educational Sciences at the University of El Oued.

Significance of the Study:
Given the importance of this topic in the academic path of university students and its relevance as an issue observed in the academic environment, the subject was addressed scientifically since university education is the foundation of an individual's success in future professional and personal life. Students, who represent the elite of society, cannot successfully continue their higher education and scientific research while suffering from psychological burnout. Therefore, it was necessary to identify levels of academic burnout and their relationship with psychological resilience among students.

Objectives:
-To identify the relationship between academic burnout and the level of psychological resilience among students of Psychology and Educational Sciences at the University of El Oued.
-To identify the relationship between academic burnout and the level of hardiness.
-To identify the relationship between high and low academic burnout and the level of optimism.
-To identify the relationship between high and low academic burnout and the level of multiple resources.
-To identify the relationship between high and low academic burnout and the level of purpose.

Key Concepts of the Study:
-**Operational definition of psychological resilience:** the extent to which the university student is able to deal with academic topics, situations, and events through the use of hardiness, optimism, multiple resources, and purpose.
-**Operational definition of academic burnout:** the university student's feeling of emotional, cognitive, and physical exhaustion and lack of participation in academic activities, as measured by the Academic Burnout Questionnaire designed for the current study.

Method Used:
The descriptive correlational method was used in the present study to identify the nature of the relationship between academic burnout and the level of psychological resilience among students of Psychology and Educational Sciences at the University of El Oued, and to identify the relationship between academic burnout and the dimensions of psychological resilience.

Pilot Study:
The pilot study was conducted during March 2025 in the Department of Psychology and Educational Sciences at the University of El Oued.
The objectives of the current pilot study are as follows:
-To explore the various aspects of the study topic and identify its dimensions in order to formulate it precisely and effectively.
-To identify the target population of the present study and determine its characteristics.

-To define the sample and the method of selecting it.

-To accurately determine the tools and techniques of scientific research.

-To define and refine the hypotheses accurately.

-To identify the conditions that may arise during the application process and attempt to avoid or control them. (Khaddoum, Zdadra, Deif, 2023, p. 85)

Main Study and Procedures:

-Sample:

The study sample was selected from the population consisting of students of Psychology and Educational Sciences at the University of El Oued, including second-year, third-year, and Master's students. The stratified random sampling method was used, as it is the most suitable for accurately representing the population. The study population includes the following specializations:

• Second year Psychology.

• Second year Educational Sciences.

• Third year School Psychology.

• Third year Clinical Psychology.

• Third year Organizational and Work Psychology.

• Third year Special Education.

• Third year Educational Psychology.

• First year Master Clinical Psychology.

• First year Master Counseling and Guidance.

• First year Master Special Education.

A simple random sample of 10 students from each specialization was selected, bringing the total sample size to 100 students.

-Data Collection Tools:

-Academic Burnout Questionnaire:

Due to the lack of available tools measuring academic burnout, an Academic Burnout Questionnaire was designed based on the Learning Burnout Questionnaire by Shamkhi Jabr Ahmed Jassim (2021). The Academic Burnout Questionnaire consists of four dimensions:

• Emotional exhaustion.

• Cognitive exhaustion.

• Physical exhaustion.

• Negative attitude toward academic activitie.s

All items were formulated negatively. Scores were assigned as follows:

5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree.

High scores indicate high academic burnout, while low scores indicate low academic burnout.

The dimensions include the following items:

• First dimension: Physical exhaustion → Items 1, 2, 3, 4, 5.

• Second dimension: Cognitive exhaustion → Items 6–15.

• Third dimension: Emotional exhaustion → Items 16–19.

• Fourth dimension: Lack of participation in activities → Items 20–34.

Psychological Resilience Questionnaire:

-The Psychological Resilience Questionnaire by Singhyu and Nan (2010) used in the study of Baraich Sara (2024) was adopted. It consists of four dimensions:

• Hardiness

• Optimism

• Multiple resources

• Purpose or goal

All items were formulated positively. Scores were assigned as follows:

5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree.

High scores indicate higher psychological resilience, while low scores indicate lower psychological resilience.

The dimensions include the following items:

- First dimension: Hardiness → Items 1, 2, 3, 4, 5, 6, 7
- Second dimension: Optimism → Items 8, 9, 10, 11, 12, 13, 14
- Third dimension: Multiple Resources → Items 15, 16, 17, 18, 19, 20
- Fourth dimension: Purpose or Goal → Items 21, 22, 23, 24, 25

Psychometric Properties of the Study Tools:

Internal Consistency Analysis of the Academic Burnout Questionnaire (34 items)

1. Overall Cronbach's Alpha value:

The overall Cronbach's Alpha coefficient for all 34 items of the questionnaire was 0.915.

Table 1. Cronbach's Alpha for the Academic Burnout Questionnaire

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	Number of Items
,915	,914	34

These values are considered excellent (George & Mallery, 2003; Nunnally, 1978). An alpha value greater than 0.90 indicates a very high degree of internal consistency and reliability for the scale as a whole. This means that the 34 items of the questionnaire are homogeneous and largely measure the same underlying construct (academic burnout) consistently among the sample on which it was administered (N=100).

2. Item–Total Correlation Statistics:

The corrected item–total correlation shows, in Table 2, the extent to which each item correlates with the total score of the questionnaire (after excluding the item's own score). Low values (usually less than 0.30) may indicate that the item does not align well with the rest of the scale items.

Table 2. Item–Total Correlation Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item–Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
a_phy1	101,08	507,872	,234	,339	,916
a_phy2	100,83	511,132	,210	,323	,916
a_phy3	101,35	508,129	,211	,432	,916
a_phy4	101,99	499,384	,348	,402	,915
a_phy5	101,94	492,905	,463	,455	,913
a_cog6	101,39	492,463	,507	,500	,912
a_cog7	101,21	505,764	,285	,404	,915
a_cog8	101,29	498,673	,403	,524	,914
a_cog9	101,00	505,172	,296	,563	,915
a_cog10	101,59	486,972	,567	,637	,912
a_cog11	102,12	488,187	,570	,604	,912
a_cog12	101,50	495,586	,405	,500	,914
a_cog13	101,25	489,684	,536	,676	,912
a_cog14	101,64	489,061	,537	,617	,912
a_cog15	101,84	488,439	,571	,623	,912

a_act16	102,51	495,626	,402	,573	,914
a_act17	101,79	494,794	,393	,706	,914
a_act18	102,00	488,343	,480	,689	,913
a_act19	102,24	480,346	,638	,620	,910
a_act20	101,85	499,725	,383	,599	,914
a_act21	101,24	487,356	,595	,639	,911
a_act22	101,78	485,547	,594	,727	,911
a_act23	102,51	487,545	,545	,642	,912
a_emo24	101,46	494,170	,410	,413	,914
a_emo25	101,95	488,270	,572	,614	,912
a_emo26	101,72	489,416	,509	,511	,912
a_emo27	102,30	491,263	,535	,646	,912
a_emo28	101,88	486,672	,562	,505	,912
a_emo29	102,20	487,253	,576	,637	,911
a_emo30	102,08	487,408	,508	,662	,912
a_emo31	102,39	496,220	,428	,539	,913
a_emo32	102,51	497,727	,406	,602	,914
a_emo33	102,50	483,586	,589	,697	,911
a_emo34	102,44	481,542	,612	,699	,911

Most items show acceptable to very strong correlations (greater than 0.30), with many exceeding 0.40, 0.50, and even 0.60, which reinforces the high internal consistency.

Some items have relatively weaker correlations:

- a_phy1 (0.234).
- a_phy2 (0.210).
- a_phy3 (0.211).
- a_cog7 (0.285) – close to the acceptable threshold.
- a_cog9 (0.296) – very close to the acceptable threshold.

The first three items of the physical dimension (a_phy1, a_phy2, a_phy3) show the weakest correlations with the total score.

Cronbach's Alpha if Item Deleted: This column shows how the overall Alpha value would change if a particular item were deleted. If this value is much higher than the overall Alpha (0.915), it may be useful to consider removing the item to improve reliability.

Deleting items a_phy1, a_phy2, or a_phy3 would raise Alpha only slightly to 0.916. This confirms our earlier observation that these items contribute the least to the internal consistency of the overall scale. However, since the overall Alpha value is already very high, removing them would not make a substantial difference.

For the remaining items, deleting any of them would either not change Alpha or would reduce it (for example, deleting a_act19 would lower Alpha to 0.910), indicating the importance of these items in maintaining scale reliability.

3. Descriptive Statistics of the Scale Items:

The results of the summary statistics for the items show that the mean of all 34 scale items is (3.09) with a standard deviation of (0.48), where the means ranged between the minimum (2.38) and the maximum (4.06), with a range of (1.68). These values indicate that participants' responses tended to cluster around the midpoint of the rating scale used, with moderate variability between the items.

Table 3. Summary Statistics for the Items

Number of Items	Variance	Maximum/ Minimum	Range	Maximum	Minimum	Mean	Statistical Indicator
34	0.232	1.706	1.680	4.060	2.380	3.085	Item Means
34	0.017	-12.501	0.767	0.710	-0.057	0.238	Inter-item Correlations

Regarding the inter-item correlations, the mean correlation coefficient between the items reached (0.24), which indicates a weak to moderate positive correlation. This value is considered acceptable in multidimensional psychological scales, as it suggests that the items are sufficiently related to measure the same construct (academic burnout). The correlation values ranged between the minimum (-0.06) and the maximum (0.71), with a range of (0.77), reflecting considerable variation in the strength of relationships among different items.

4. Summary:

The Academic Burnout Questionnaire (in its full form consisting of 34 items) has an excellent reliability level ($\alpha = 0.915$), indicating very high consistency in measuring the overall construct in this sample.

Despite this excellent overall reliability, it is noted that the first three items related to the physical dimension (a_phy1, a_phy2, a_phy3) show relatively weaker correlations with the rest of the scale items. This may indicate that they do not integrate as strongly with the other dimensions (cognitive, emotional, disengagement) in measuring the overall construct of academic burnout, or that their wording is less strongly related to the general concept compared to the other items.

Internal Consistency Analysis of the Psychological Resilience Questionnaire (25 Items)

1. Overall Cronbach's Alpha Value:

The Cronbach's Alpha coefficient for all 25 items of the questionnaire reached 0.877.

Number of Items	Cronbach's Alpha Based on Standardized Items	Cronbach's Alpha
25	0.88	0.88

This value is considered very good. It means that the items of the psychological resilience questionnaire are homogeneous and measure the core construct (psychological resilience) consistently within the sample ($N = 100$). Although it is slightly lower than the Alpha value of the first questionnaire, it still represents strong reliability suitable for research use.

2. Item–Total Correlation Statistics:

Most items show strong and appropriate correlations (greater than 0.30) with the total psychological resilience score. Many correlations exceed 0.40 and 0.50, which supports the good internal consistency of the scale.

There are two items that show noticeably weaker correlations:

- b_opt10 (0.269) – below the acceptable threshold (0.30).
- b_opt11 (0.237) – below the acceptable threshold (0.30).

Both belong to the optimism dimension (b_opt). This indicates that these two items may not align well with the rest of the scale in measuring psychological resilience, or they may assess an aspect of optimism that is less strongly related to general resilience as measured by the other items.

Cronbach's Alpha if Item Deleted	Squared Multiple Correlation	Corrected Item–Total Correlation	Scale Variance if Item Deleted	Scale Mean if Item Deleted	Item
0.87	0.36	0.37	157.38	95.05	b_res1
0.88	0.42	0.33	159.10	95.10	b_res2
0.87	0.49	0.55	150.60	95.73	b_res3
0.87	0.56	0.48	153.31	95.39	b_res4
0.87	0.45	0.45	155.02	95.22	b_res5
0.88	0.40	0.33	155.99	95.56	b_res6
0.87	0.57	0.53	152.15	95.44	b_res7
0.87	0.51	0.56	151.45	95.69	b_opt8
0.88	0.40	0.38	153.03	96.04	b_opt9
0.88	0.29	0.27	156.92	96.25	b_opt10
0.88	0.21	0.24	156.73	95.68	b_opt11
0.87	0.58	0.51	152.58	95.50	b_opt12
0.87	0.31	0.40	155.10	95.65	b_opt13
0.88	0.33	0.32	154.93	96.06	b_opt14
0.88	0.43	0.33	159.60	95.46	b_source15
0.87	0.52	0.51	153.28	95.35	b_source16
0.87	0.33	0.38	154.53	95.56	b_source17
0.87	0.62	0.62	151.47	95.31	b_source18
0.87	0.59	0.56	150.48	95.51	b_source19
0.87	0.46	0.50	151.22	95.50	b_source20
0.87	0.65	0.54	153.80	95.23	b_goal21
0.87	0.51	0.56	149.13	95.62	b_goal22
0.87	0.64	0.57	152.81	95.32	b_goal23
0.87	0.51	0.46	153.26	95.47	b_goal24
0.87	0.52	0.50	155.77	95.31	b_goal25

Deleting item b_opt10 would increase Alpha very slightly to 0.878.
Deleting item b_opt11 would increase Alpha slightly to 0.880.
This confirms that these two items contribute the least to the internal consistency of the overall scale. Removing b_opt11 would yield the highest possible Alpha value, but the improvement (0.003) is very small and does not necessarily justify deleting the item, especially since the original value (0.877) is already good.
Deleting any other item would reduce Alpha (for example, deleting b_source18 would lower Alpha to 0.868), which confirms the importance of those items for maintaining scale reliability.

3. Analysis of Item Means:
The statistical analysis of the item means of the psychological resilience questionnaire (consisting of 25 items) shows that the mean of all items is (3.98), which is relatively high on a 5-point scale. The item means ranged between the minimum (3.25) and the maximum (4.45), forming a range of (1.20). This indicates moderate variability in participants' responses across different items of the scale. The maximum-to-minimum ratio reached (1.37), and the variance of the means was (0.08) values that indicate a relatively homogeneous distribution of the means.

Number	Standard Deviation	Mean	Item
100	0.88	4.45	b_res1
100	0.78	4.40	b_res2
100	1.07	3.77	b_res3
100	1.00	4.11	b_res4
100	0.93	4.28	b_res5
100	1.09	3.94	b_res6
100	1.00	4.06	b_res7
100	1.00	3.81	b_opt8
100	1.23	3.46	b_opt9
100	1.18	3.25	b_opt10
100	1.31	3.82	b_opt11
100	1.01	4.00	b_opt12
100	1.01	3.85	b_opt13
100	1.23	3.44	b_opt14
100	0.74	4.04	b_source15
100	0.96	4.15	b_source16
100	1.10	3.94	b_source17
100	0.92	4.19	b_source18
100	1.06	3.99	b_source19
100	1.12	4.00	b_source20
100	0.87	4.27	b_goal21
100	1.16	3.88	b_goal22
100	0.89	4.18	b_goal23
100	1.04	4.03	b_goal24
100	0.79	4.19	b_goal25

4. Analysis of Inter-item Correlations:

The mean inter-item correlation reached (0.23), which represents a weak to moderate positive correlation. This is appropriate for a multidimensional scale that measures a complex trait such as psychological resilience. The correlation coefficients ranged between the minimum (-0.08) and the maximum (0.62), forming a relatively wide range of (0.70). The negative maximum-to-minimum ratio (-8.20) indicates the presence of negative correlations among some items, which can be expected in a scale that encompasses different dimensions of psychological resilience.

Number of Items	Variance	Maximum/ Minimum Ratio	Range	Maximum	Minimum	Mean	Indicator
25	0.08	1.37	1.20	4.45	3.25	3.98	Item Means
25	0.02	-8.20	0.70	0.62	-0.08	0.23	Inter-item Correlations

5. Summary:

The Psychological Resilience Questionnaire (in its full form of 25 items) demonstrates very good reliability ($\alpha = 0.877$), indicating that it is a dependable tool for measuring psychological resilience in this sample.

It is noted that the items b_opt10 and b_opt11 (from the optimism dimension) show weak correlations with the rest of the scale items, and they are the only candidates whose deletion would lead to a very slight improvement in the Alpha value.

The generally high item means may indicate a response bias toward positive evaluations, or they may genuinely reflect high levels of psychological resilience among the study sample. The mean inter-item correlation (0.23) is appropriate for a multidimensional scale, where correlations are typically high within the same dimension and lower across different dimensions.

Internal Consistency Analysis of the Hardiness Dimension (b_res).

1. Cronbach's Alpha for the Dimension:

The Cronbach's Alpha coefficient for the seven items of the Hardiness dimension (b_res1 to b_res7) reached 0.727.

This value falls within the acceptable range. It indicates that the seven items of the Hardiness dimension possess a reasonable degree of internal consistency and measure the specific construct (hardiness) with an acceptable level of coherence. Cronbach's Alpha values for sub-dimensions are often lower than those of the full scale, especially when the number of items is relatively small (7 items here), so this value is acceptable for research use.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,727	,729	7

2. Corrected Item–Total Correlation Statistics for the Dimension:

All corrected item–total correlation values exceed the acceptable minimum threshold (0.30). The values range from 0.365 (b_res6) to 0.522 (b_res7). This indicates that each of the seven items contributes positively to measuring the construct of hardiness and is consistent with the other items within the same dimension. The items with the strongest correlations are b_res7 (0.522), b_res3 (0.504), and b_res1 (0.495).

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
b_res1	24,56	13,542	,495	,263	,684
b_res2	24,61	14,725	,367	,177	,711
b_res3	25,24	12,548	,504	,318	,678
b_res4	24,90	13,303	,439	,296	,695
b_res5	24,73	13,916	,393	,175	,706
b_res6	25,07	13,419	,365	,249	,716
b_res7	24,95	12,775	,522	,321	,674

The Cronbach's Alpha value when deleting any of the seven items is lower than the overall Alpha value for the dimension (0.727). For example, if the strongest item b_res7 is deleted, Alpha decreases to 0.674. If the weakest item in terms of correlation, b_res6, is deleted, Alpha decreases to 0.716 (the smallest drop).

This confirms that all seven items are necessary and beneficial for maintaining the internal consistency of the Hardiness dimension. No item improves reliability if removed; rather, the opposite is true.

Conclusion:

The Hardiness dimension (b_res) of the Psychological Resilience Questionnaire demonstrates acceptable internal consistency ($\alpha = 0.727$).

All seven items contribute positively to the reliability of the dimension, and none of them is weak or a candidate for deletion based on these results.

The score for this dimension (derived from the sum or mean of the seven items) can be considered reliably acceptable for use in subsequent statistical analyses (such as descriptive statistics or difference testing).

Internal Consistency Analysis of the Optimism Dimension (b_opt):

1. Cronbach's Alpha for the Dimension:

The Cronbach's Alpha coefficient for the seven items of the Optimism dimension (b_opt8 to b_opt14) reached 0.617.

This value falls within the relatively weak range. It is below the commonly accepted minimum threshold for reliability in most research contexts (0.70). This low value indicates that the items of this dimension may not be measuring the same construct (optimism) with sufficient consistency or coherence in this sample. There may be weak internal consistency among the seven items.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,617	,627	7

2. Corrected Item–Total Correlation Statistics for the Dimension:

Several items show borderline correlations with the total score of the dimension:

- b_opt11 (0.245): low value.
- b_opt14 (0.292): below 0.30.
- b_opt10 (0.295): below 0.30.

The other items (b_opt8, b_opt9, b_opt12, b_opt13) show acceptable correlations (above 0.30).

The weak correlations of these items (b_opt11, b_opt14, b_opt10) with the rest of the dimension contribute significantly to the low overall Cronbach's Alpha value for this dimension. This is consistent with the earlier reliability analysis of the full psychological resilience scale, in which items b_opt10 and b_opt11 were also identified as the weakest at the overall scale level.

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
b_opt8	21,82	14,917	,461	,259	,542
b_opt9	22,17	14,304	,392	,203	,557
b_opt10	22,38	15,389	,295	,110	,592
b_opt11	21,81	15,246	,245	,073	,613
b_opt12	21,63	15,953	,315	,192	,585
b_opt13	21,78	15,648	,354	,180	,574
b_opt14	22,19	15,166	,292	,171	,594

An interesting observation here is that deleting any of the seven items even those with the weakest correlations (b_opt11, b_opt10, b_opt14) would actually reduce the Cronbach's Alpha value for the dimension (the Alpha would become 0.613, 0.592, and 0.594 respectively when these items are deleted).

Despite the weak correlations of some items, it appears that each item still contributes a small but unique portion of shared variance, such that removing any of them reduces the overall internal consistency (which is already weak) rather than improving it. This suggests that the reliability issue in this dimension cannot be solved simply by deleting one or two items; the issue may be deeper, possibly related to the conceptual coherence of what these seven items collectively measure or the suitability of the wording of some items.

Conclusion:

The Optimism dimension (b_opt) shows moderate internal consistency, largely due to the presence of several items (b_opt11, b_opt10, b_opt14) with low correlations with the rest of the dimension. Reliability cannot be improved by removing any single item.

Internal Consistency Analysis of the Multi-Source Dimension (b_source)

1. Cronbach's Alpha for the Dimension:

The Cronbach's Alpha coefficient for the six items of the Multi-Source dimension (b_source15 to b_source20) reached 0.738.

This value also falls within the acceptable range. It is higher than the minimum threshold of 0.70, indicating that the items of this dimension possess an acceptable level of internal consistency. The six items measure the concept of "multi-source resilience" in a reasonably consistent manner within the sample.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,738	,742	6

2. Corrected Item–Total Correlation Statistics for the Dimension:

All corrected item-total correlation values exceed the acceptable minimum threshold (0.30). The values range from 0.351 (b_source15) to 0.653 (b_source18). The strongest item in terms of correlation is b_source18, followed by b_source16 and b_source20. The weakest items are b_source15 and b_source17, though both remain within the acceptable range.

Each of the six items contributes positively to measuring the construct of multi-source resilience and is consistent with the other items within the same dimension.

Item-Total Statistics					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
b_source 15	20,27	12,886	,351	,152	,732
b_source 16	20,16	10,964	,537	,420	,684

b_source 17	20,37	11,326	,372	,157	,734
b_source 18	20,12	10,551	,653	,497	,653
b_source 19	20,32	11,088	,436	,262	,713
b_source 20	20,31	10,216	,534	,336	,683

The Cronbach's Alpha value when deleting any of the six items is lower than the overall Alpha value for the dimension (0.738). The largest decrease occurs when deleting the strongest item, b_source18 (Alpha drops to 0.653). Even deleting the weakest items (b_source15 and b_source17) causes a slight reduction in Alpha. This again confirms that all six items are important for maintaining the internal consistency of the Multi-Source dimension, and there is no justification for removing any of them based on these results.

Conclusion:

The Multi-Source dimension (b_source) of the Psychological Resilience Questionnaire shows acceptable internal consistency ($\alpha = 0.738$). All six items contribute positively to the reliability of the dimension, with acceptable or good correlations with the total dimension score.

The score for this dimension (derived from the six items) can be used with reasonable confidence in subsequent statistical analyses.

Internal Consistency Analysis of the Purpose/Goal Dimension (b_goal)

1. Cronbach's Alpha for the Dimension:

The Cronbach's Alpha coefficient for the five items of the Purpose/Goal dimension (b_goal21 to b_goal25) reached 0.783.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,783	,792	5

This value falls within the acceptable range and is very close to the "good" threshold, which typically begins at 0.80. This represents a good level of reliability, especially considering the small number of items (only 5 items). This indicates that the items of this dimension have a good degree of internal consistency and measure the construct of purpose/goal in a consistent and reliable manner within the sample. This is the highest reliability coefficient obtained so far among all dimensions of the Psychological Resilience Questionnaire.

2. Corrected Item–Total Correlation Statistics for the Dimension:

All corrected item–total correlation values for the dimension are high and very good, with all of them exceeding 0.44. The values range between 0.448 (b_goal24) and 0.677 (b_goal21).

Each of the five items is strongly correlated with the rest of the dimension and contributes significantly to measuring the construct of purpose/goal. The item b_goal21 shows the strongest correlation, but even the weakest item (b_goal24) still demonstrates a good level of correlation.

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
b_goal21	16,28	8,163	,677	,474	,707
b_goal22	16,67	7,294	,588	,371	,737
b_goal23	16,37	8,336	,617	,458	,725
b_goal24	16,52	8,515	,448	,241	,782
b_goal25	16,36	9,223	,516	,304	,758

The Cronbach's Alpha value when deleting any of the five items is lower than the overall Alpha value for the dimension (0.783). The largest decrease occurs when deleting the strongest item, b_goal21 (Alpha drops to 0.707). Even deleting the weakest item in terms of correlation, b_goal24, leads to a very slight decrease in Alpha (to 0.782).

This strongly confirms that all five items are necessary and beneficial for maintaining the good internal consistency of the Purpose/Goal dimension. There is no justification for deleting any item.

Conclusion:

The Purpose/Goal dimension (b_goal) of the Psychological Resilience Questionnaire demonstrates good and acceptable internal consistency ($\alpha = 0.783$), the highest among all dimensions analyzed so far (compared with 0.727 for Hardiness, 0.65 for Optimism, and 0.738 for Multi-Source). All five items strongly contribute to the reliability of the dimension and show very good correlations with the total dimension score.

The score for this dimension can be used confidently in subsequent statistical analyses.

Summary of Reliability for the Psychological Resilience Questionnaire and Its Dimensions:

• Overall scale: $\alpha = 0.877$ (Very good).
• Hardiness (b_res): $\alpha = 0.727$ (Acceptable).
• Optimism (b_opt): $\alpha = 0.65$ (Moderate).
• Multi-Source (b_source): $\alpha = 0.738$ (Acceptable).
• Purpose/Goal (b_goal): $\alpha = 0.783$ (Acceptable, approaching good).

Descriptive Statistics and Normality Test for the Total Academic Burnout Score (a)

The mean is 104.89 (standard deviation = 22.847). The median is 107.50. The median is slightly higher than the mean, which may suggest a slight negative skew (despite the slightly positive skewness coefficient). Overall, the distribution appears close to symmetric.

Range: Scores ranged from 54 to 170 (theoretical range: 34–170). This indicates very large variability in total academic burnout scores.

Skewness: Slightly positive (0.116).

Kurtosis: Slightly negative (-0.216).

Both are statistically non-significant.

Standard Error	Value	Statistic	Variable
2.285	104.89	Mean	a (Total)
		95% Confidence Interval for Mean	
	100.36	Minimum	
	109.42	Maximum	

	104.66	5% Trimmed Mean	
	107.50	Median	
	521.998	Variance	
	22.847	Standard Deviation	
	54	Minimum Value	
	170	Maximum Value	
	116	Range	
	32	Interquartile Range	
0.241	0.116	Skewness	
0.478	-0.216	Kurtosis	

Histogram

Mean = 104,89
Std. Dev. = 22,847
N = 100
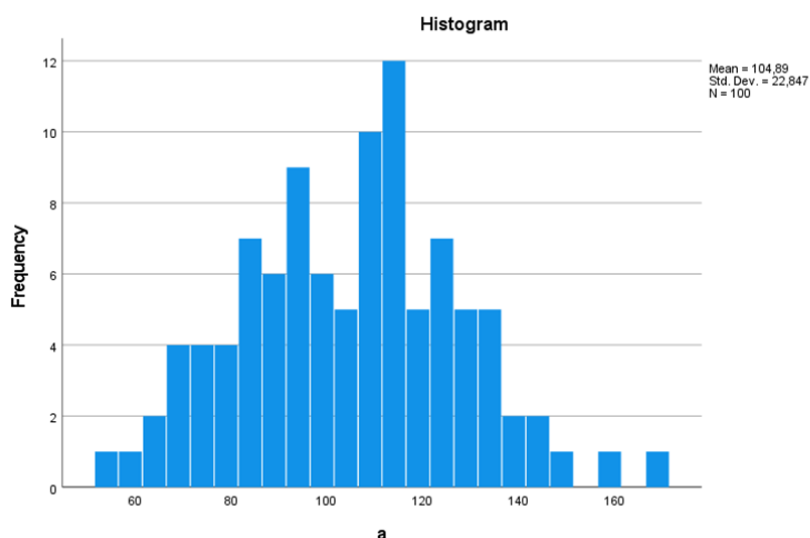
Normality Test (Shapiro–Wilk):

The significance value (Sig.) = 0.908. This value is much greater than 0.05.

We fail to reject the assumption of normality.

The total academic burnout score can be assumed to follow a normal distribution.

		Shapiro–Wilk			Kolmogorov–Smirnov	Variable
Significance	df	Statistic	Significance	Df	Statistic	
0.908	100	0.993	0.200	100	0.058	**a (Total)**

Normal Q-Q Plot of a
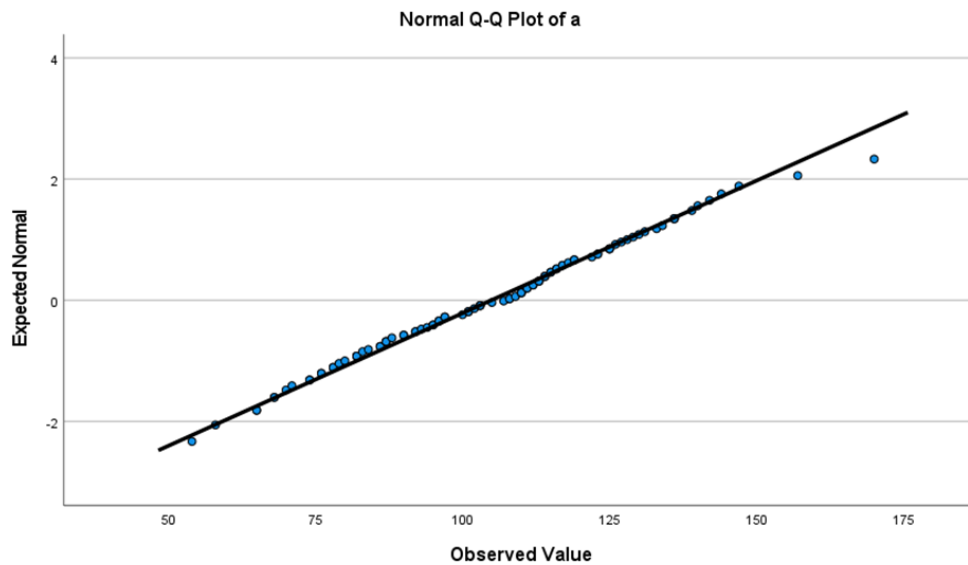
Summary:

The mean scores of the academic burnout dimensions (physical, cognitive, disengagement) and the total score generally fall within medium to slightly above-medium levels (when compared to the theoretical midpoint of the scales). The emotional dimension shows a mean slightly below the midpoint. Clear variability appears across all dimensions.

Normality tests (Shapiro–Wilk) showed that the emotional dimension (a_emo-tot) does not follow a normal distribution (Sig. = 0.015). Meanwhile, the other dimensions (physical, cognitive, disengagement) and the total academic burnout score (a) can be considered normally distributed (Sig. > 0.05).

Descriptive Statistics and Normality Test for the Total Psychological Resilience Score (b)

The mean is 99.50 (standard deviation = 12.893). The median is 102.00. The mean is lower than the median.

Range: Scores ranged from 62 to 123 (theoretical range: 25–125), covering a large portion of the possible range.

Distribution Shape:

• Skewness: negative and statistically significant (Skewness = -0.958, standardized value ≈ -3.97)

→ indicates concentration of scores toward the high end, with a left-side tail.

• Kurtosis: positive and approaching significance (Kurtosis = 0.851, standardized value ≈ 1.78)

→ indicates a slightly peaked distribution.

Standard Error	Value	Statistic	Variable
1.289	99.50	Mean	b (Total)
		95% Confidence Interval for Mean	
	96.94	Minimum	
	102.06	Maximum	
	100.21	5% Trimmed Mean	
	102.00	Median	
	166.232	Variance	
	12.893	Standard Deviation	
	62	Minimum Value	
	123	Maximum Value	
	61	Range	
	11	Interquartile Range	

| 0.241 | -0.958 | Skewness | |
| 0.478 | 0.851 | Kurtosis | |

Histogram

Mean = 99,5
Std. Dev. = 12,893
N = 100
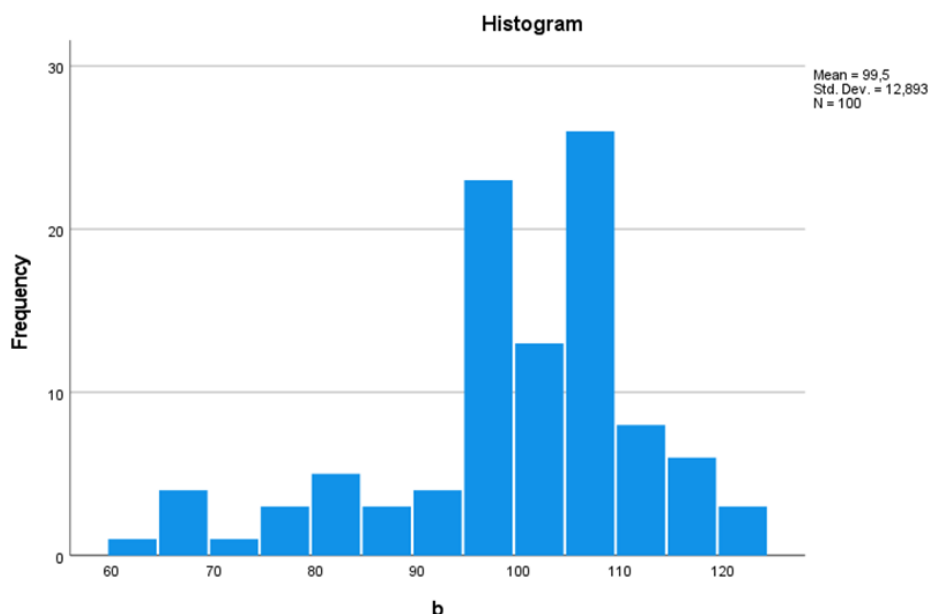
• Normality Test (Shapiro–Wilk):

The significance value (Sig.) = 0.000. This value is smaller than 0.05.

We reject the assumption of normality.

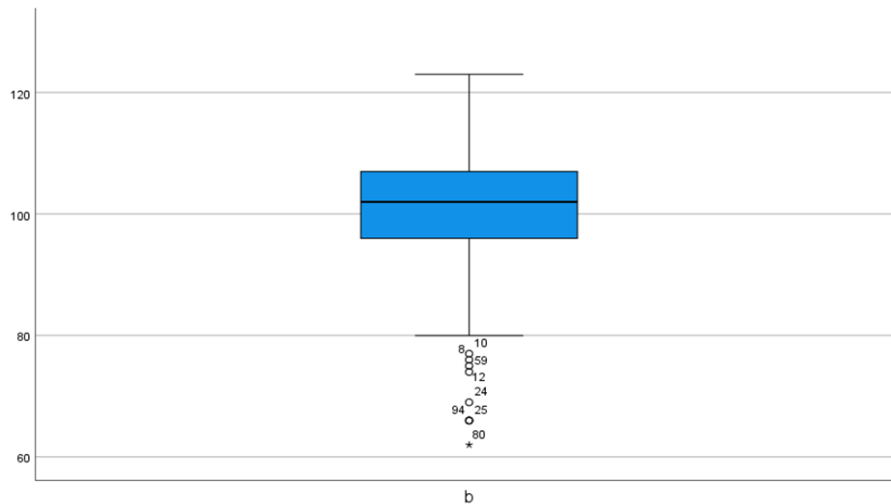The total psychological resilience score does not follow a normal distribution.

		Shapiro–Wilk			Kolmogorov–Smirnov	Variable
Significance	df	Statistic	Significance	df	Statistic	
0.000	100	0.928	0.000	100	0.154	b (Total)

Normal Q-Q Plot of b
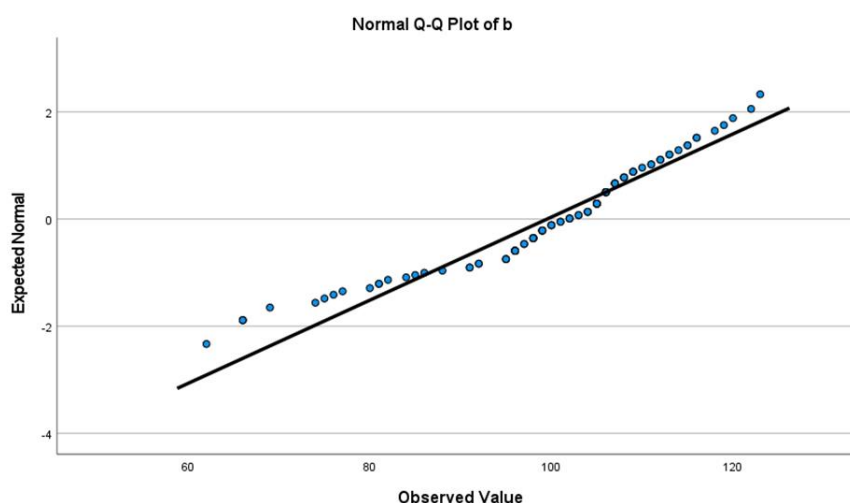
Based on the boxplot of the total score of the Psychological Resilience Questionnaire (b), eight noticeably low outliers are observed compared to the rest of the sample distribution. These outliers appear for participants numbered 8, 10, 59, 12, 24, 94, 25, and 80 (the last one marked with an asterisk indicating an extreme outlier). These participants scored approximately between 62 and 77 points,

which lie far outside the typical score range of the distribution, which is primarily between 95 and 105 points.

These outliers indicate a subgroup of participants with exceptionally low levels of total psychological resilience. It is also observed that most of these participant numbers recur across the boxplots of the sub-dimensions, suggesting a consistent pattern of low psychological resilience across different dimensions for these individuals.

Summary:

The mean scores of the psychological resilience dimensions and the total resilience score are relatively high in this sample, indicating a general tendency toward good levels of psychological resilience.

Most psychological resilience variables do not follow a normal distribution at a statistically significant level. The only exception is the Optimism dimension (b_opt-tot).

The non-normally distributed variables (Hardiness, Multi-Source, Purpose/Goal, and the total resilience score) show statistically significant negative skewness (a concentration of scores at the high end), and some exhibit significant positive kurtosis (a slightly peaked distribution).

Statistical Methodology Used in the Study:

In analyzing the relationship between academic burnout and psychological resilience, the present study adopted an integrated statistical approach.

The sample was divided according to academic burnout levels using two methods:
• A binary split based on the median value
• A tertiary split using the distribution tertiles (tertiles)

Given the results of the normality tests, which showed variation in the distribution characteristics of several dimensions, a Spearman's rho correlation analysis was conducted to determine the direction and strength of the relationships between the study variables.

This diversity in statistical techniques was applied within a triangulation framework, enhancing the validity of the study and ensuring more accurate conclusions.

Overall, the findings strongly support the existence of an inverse relationship between academic burnout and psychological resilience:

the higher the levels of psychological resilience across its dimensions, the lower the academic burnout.

The study also included Pearson correlation analyses to examine the relationships between pairs of continuous variables.

Understanding the Analysis:

• **Objective:** To examine the nature and strength of the linear correlation between the total academic burnout score (variable a) and each dimension of psychological resilience (b_res-tot, b_opt-tot, b_source-tot, b_goal-tot) in addition to the total psychological resilience score (b).

• **Variables:**

o First variable: Total academic burnout (a).

o Second variables: Hardiness (b_res-tot), Optimism (b_opt-tot), Multi-Source (b_source-tot), Purpose/Goal (b_goal-tot), and the total resilience score (b).

• **Methodology:** Pearson correlation coefficients (r) were calculated between academic burnout and each of the psychological resilience variables.

Results Interpretation:

1. Interpretation of the Correlations:

| 95% Confidence Interval (Lower–Upper)	Number of Cases (N)	Significance (Sig.)	Pearson Correlation (r)	Dependent Variable
[-0.420 – -0.050]	100	0.014	-0.245	**b_res-tot**
[-0.428 – -0.060]	100	0.011	-0.254	**b_opt-tot**
[-0.469 – -0.111]	100	0.002	-0.302	**b_source-tot**
[-0.395 – -0.020]	100	0.030	-0.217	**b_goal-tot**
[-0.482 – -0.127]	100	0.001	-0.317	**(Total) b**

• **Burnout (a) vs. Hardiness (b_res-tot):**

- r = -0.245 (strength of correlation: small to moderate).
- Direction: Negative/inverse (higher burnout is associated with lower hardiness).
- Significance: Sig. = 0.014 (< 0.05). The correlation is statistically significant.
- 95% Confidence Interval: [-0.420, -0.050] (does not include zero, confirming significance).
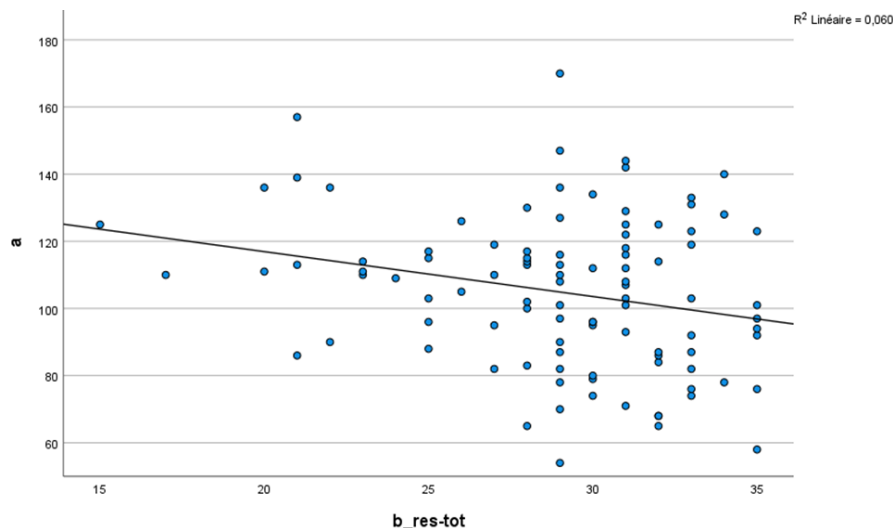
• **Burnout (a) vs. Optimism (b_opt-tot):**

- r = -0.254 (strength of correlation: small to moderate).
- **Direction:** Negative/inverse (higher burnout is associated with lower optimism).
- **Significance:** Sig. = 0.011 (< 0.05). The correlation is statistically significant.
- 95% Confidence Interval: [-0.428, -0.060] (does not include zero).
- **Note:** Caution is advised due to the weaker reliability of the optimism dimension.
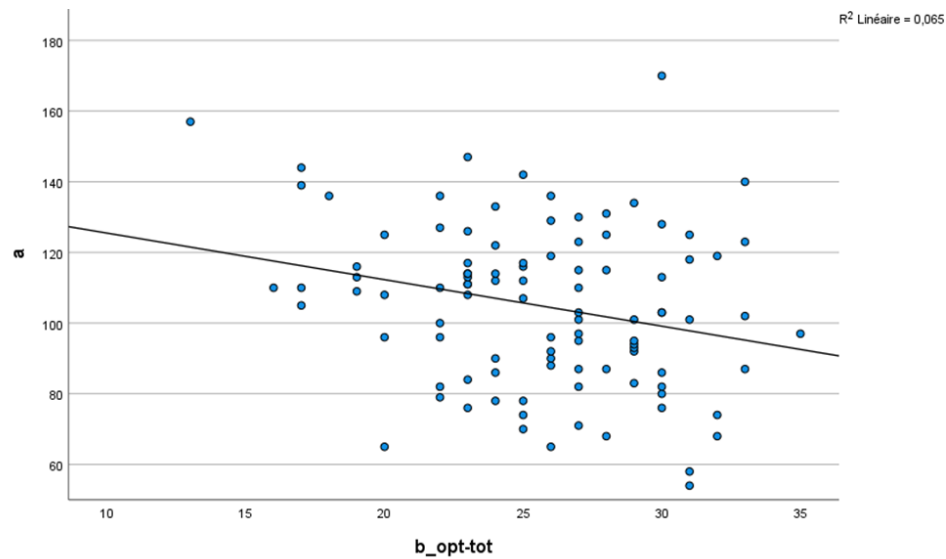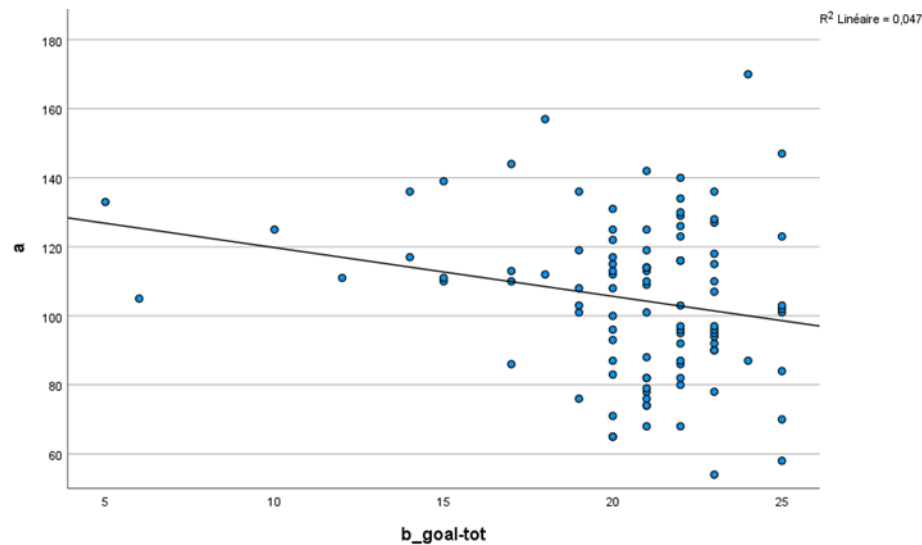
•**Burnout (a) vs. Multi-Source (b_source-tot) :**
- r = -0.302 (correlation strength: moderate).
- Direction: Negative/inverse (higher burnout is associated with lower use of multiple sources).
- Significance: Sig. = 0.002 (< 0.05). The correlation is statistically significant.
- 95% Confidence Interval: [-0.469, -0.111] (does not include zero).
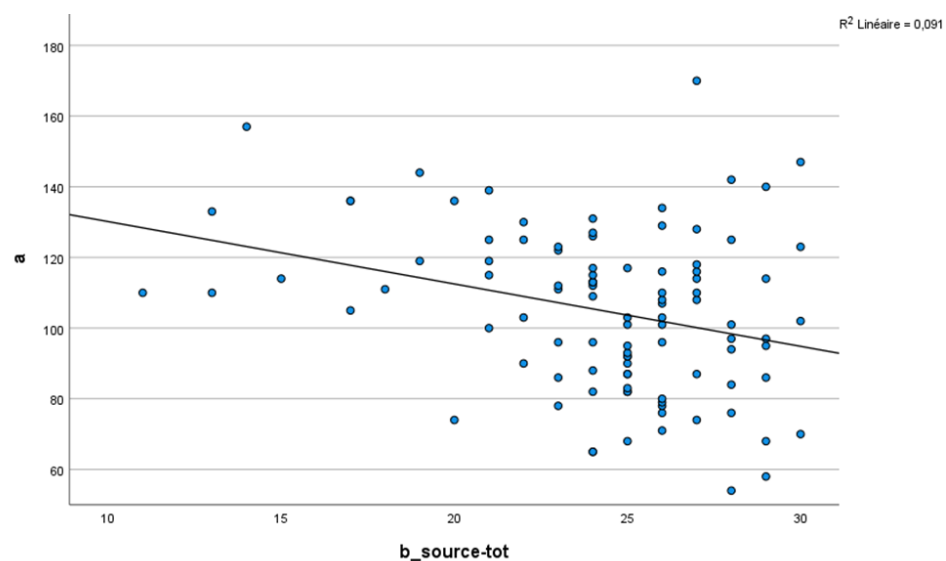
• **Burnout (a) vs. Purpose/Goal (b_goal-tot):**
- r = -0.217 (correlation strength: small).
- Direction: Negative/inverse (higher burnout is associated with lower sense of purpose/goal).
- Significance: Sig. = 0.030 (< 0.05). The correlation is statistically significant.
- 95% Confidence Interval: [-0.395, -0.020] (does not include zero).

• **Burnout (a) vs. Total Resilience (b):**
- r = -0.317 (correlation strength: moderate).
- Direction: Negative/inverse (higher burnout is associated with lower overall psychological resilience).
- Significance: Sig. = 0.001 (< 0.05). The correlation is statistically significant.
- 95% Confidence Interval: [-0.482, -0.127] (does not include zero).

Conclusion:

• The results of the Pearson correlation analysis revealed statistically significant negative (inverse) correlations between the total academic burnout score (a) and all measured aspects of psychological resilience: Hardiness, Optimism, Multi-Source, Purpose/Goal, and the total resilience score (b).

• This consistently confirms that higher levels of academic burnout are associated with lower levels of psychological resilience among students in this sample.

• Strength of correlation: The correlations generally fell within the small to moderate range. The strongest linear associations were observed between burnout and Multi-Source (r = -0.302) and Total Resilience (r = -0.317), both indicating moderate effects. Correlations with Hardiness (r = -0.245), Optimism (r = -0.254), and Purpose/Goal (r = -0.217) were statistically significant but smaller in magnitude (small to moderate).

• The results clearly indicate an inverse relationship between burnout and resilience. The correlation analysis provides a quantitative estimate of the strength of this linear relationship across the entire score range.

• **Shared variance (R-squared):** By squaring the correlation coefficient (r²), the proportion of shared variance can be estimated.

– For total resilience (r = -0.317), r² ≈ 0.10, meaning that about 10% of the variance in total resilience can be linearly explained by variance in burnout scores (and vice versa).

– Across the resilience dimensions, the shared variance ranges from approximately 4.7% (Purpose/Goal) to 9.1% (Multi-Source).

• **Final conclusion:** There is a consistent, statistically significant negative linear relationship between academic burnout and psychological resilience (including all its components) in this sample. As burnout increases, resilience tends to decrease. Overall, the strength of this linear association is generally small to moderate.

The overall picture is clear and highlights an important relationship between academic burnout and psychological resilience.

Summary of Findings and Statistical Analyses

1. Quality of Measurement Instruments (Reliability):

• The Academic Burnout Questionnaire (scale "a") demonstrated excellent reliability (Cronbach's Alpha = 0.915), making it a strong instrument for measuring burnout in the sample.

• The Psychological Resilience Questionnaire (scale "b") showed good overall reliability (Cronbach's Alpha = 0.90).

– Subscales such as Hardiness, Multi-Source, and Purpose/Goal displayed acceptable to good reliability.

– The Optimism subscale had moderate reliability (Alpha = 0.65), requiring cautious interpretation.

2. Sample Description (Descriptive Statistics and Normality Tests):

• The sample showed moderate levels of academic burnout overall.

• Conversely, the sample exhibited relatively high levels of psychological resilience across its dimensions.

• Regarding distribution:

– Most burnout scores (except the emotional dimension) followed a normal distribution.

– Most resilience scores (except optimism) did not follow normal distribution and showed negative skewness (scores concentrated at the high end), indicating that many participants have high resilience levels.

3. Core Relationship: Academic Burnout & Psychological Resilience:

• Strong inverse relationship: All analyses (Pearson correlation) confirmed a statistically significant negative correlation between academic burnout and psychological resilience.

• Detailed interpretation:

– Lower burnout levels were associated with higher psychological resilience, both in overall resilience and across subscales.

– Effect sizes ranged from small to moderate.

– The strongest correlations were found with total resilience and multi-source resilience ($r \approx -0.3$).

– Academic burnout explained approximately 10% of the variance in overall resilience.

4. Key Insights and Main Conclusions:

1. Resilience as a key correlate of burnout:

The consistent inverse relationship across all analyses strongly suggests that academic burnout and psychological resilience are closely interconnected in this sample. High burnout is accompanied by low resilience, and vice versa.

2. Trait distribution:

The accumulation of resilience scores at the high end (negative skewness) indicates that most participants possess relatively high resilience, though a minority shows low resilience and may be at greater risk of burnout.

5. Limitations and Future Directions:

The correlational nature of the study and the group comparison design do not allow for establishing direct causal relationships between burnout and resilience.

Conclusion:

These analyses provide strong, consistent evidence for a significant negative relationship between academic burnout and psychological resilience among the studied sample. Students reporting lower burnout tend to show significantly higher resilience, particularly in the hardiness dimension.

The findings underscore the importance of exploring and strengthening factors that enhance resilience as potential strategies to prevent or reduce academic burnout in university settings.

General Interpretation of the Findings:

The inverse correlation between academic burnout and psychological resilience among psychology and education students at El Oued University can be interpreted as follows:

Students suffering from psychological burnout tend to lack sufficient resilience. Therefore, they may need to reduce their burnout by developing their psychological resilience, for example through Acceptance and Commitment Therapy (ACT) sessions. Such interventions help students overcome burnout by addressing psychological rigidity, reducing fusion with painful thoughts and emotions, and improving their ability to accept difficult academic situations.

Additionally, unclear personal values often observed among highly burnt-out students can deepen psychological fusion and emotional suffering, leading to higher academic burnout and lower resilience.

General Discussion of the Findings:

The results of the current study are consistent with many previous field studies, including:

• **Ahmad Nasr, Abu Al-Nour & Hassanien Helil (2023):**
- Academic Burnout and Its Relationship to Cognitive Distortions among University Students.
- Their results showed a positive, statistically significant relationship between cognitive distortions and academic burnout at the 0.01 level. Cognitive distortions explained 13.4% of the variance in academic burnout.

• **Al-Shehri (2020):**
- Academic Burnout and Its Relationship to Academic Well-Being among Secondary School Students.

Main finding: A negative, statistically significant relationship between academic burnout and academic well-being at the 0.01 level.

• **Al-Jarrah & Al-Rabee (2020):**
- Academic Passion and Its Relationship to Academic Burnout among Yarmouk University Students.

Main finding: A negative relationship between academic passion and academic burnout.

If you want, I can help you write:

✓ the discussion chapter,

✓ the conclusion,

✓ the recommendations,

✓ or the general framework of the thesis in academic format.

General Conclusion of the Results:

This study aimed to examine the relationship between the study variables, and the results of the correlation analyses showed a clear, consistent, and statistically significant inverse relationship between academic burnout and psychological resilience. In general, the higher the levels of psychological resilience among students, the lower their levels of academic burnout, and vice versa. When comparing students with low levels of academic burnout to those with high levels, it was found that the first group had significantly higher levels of total psychological resilience and all its measured dimensions (hardiness, optimism, multi-source, and purpose/goal).

The correlation analyses confirmed this inverse relationship, as statistically significant negative correlations were found between the total academic burnout score and both total psychological resilience and its dimensions, with correlation strengths ranging from small to moderate.

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