Psychological resilience among civil protection officers

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Abstract

Psychological resilience is an important factor that allows individuals to deal with stress and adapt to difficult situations, which is especially true for civil protection officers who face dangerous and stressful situations as part of their jobs. Accordingly, the present study examined the level of psychological resilience among civil protection officers in the city of Aflou and its relationship to age and professional experience, as well as differences in resilience according to marital status and educational level. The research was conducted with a sample of civil protection officers in Aflou (N = 80). The study administered the psychological resilience scale to assess resilience levels and the relationship to demographic variables (age, experience, marital status, and educational level). The findings indicated that civil protection officers reported a high level of psychological resilience across all domains of resilience. In addition, there were no statistically significant relationships found between psychological resilience and age or experience. The results also indicated no significant differences in levels of resilience with regard to marital status or educational level.

Keywords: Psychological resilience, civil protection, age, experience, marital status.

1. Introduction

Psychological resilience is an inherent quality of life and its active core, serving as a defense mechanism against adversity and psychological pressure (Mlinac & Schwabenbauer, 2018). It enables individuals to display positive behavior when facing shocks, maintain control over their emotions, and interact effectively with their environment. In daily life, everyone encounters challenges and pressures that require a flexible response to preserve mental well-being when dealing with negative situations, whether internal or external. Adaptability to changing realities and the ability to cope with difficult circumstances reflect a person's capacity to recover from what may harm their mental health, such as breakdowns, anxiety, or depression (Masten, 2001).Thus, psychological resilience is a key factor in achieving success and happiness, as those who possess it can always find the best alternative to every problem they face.

Psychological resilience is considered one of the traits of well-adjusted behavior. A well-balanced person is one who can find alternatives, modify their behavior, and respond appropriately to changing circumstances (Fletcher & Sarkar, 2013). The American Psychological Association defines resilience as the process of positive adaptation and effective coping with adversity, trauma, misfortune, or the ordinary psychological

pressures that people face, such as family problems or relationship difficulties with others. Psychological resilience is a crucial factor in determining how individuals react to and handle stress (Southwick et al., 2014) . It is associated with a wide range of traits linked to the positive aspects and strengths of a person's mental state (Al-Azri, 2016; Fredrickson, 2001).

It is also a personal trait that allows individuals to adjust the way they express their sense of self-control in order to adapt to the environment in which they live. Psychological resilience is associated with a range of both positive and negative outcomes, as it is closely linked to psychological stress (Milad et al., 2019) .

In real life, it is impossible to imagine existence without troubles, difficulties, pressures, crises, or even disasters. This is where the importance of addressing the concept of resilience arises—defining its dimensions, determinants, and effects—as it represents a crucial human component that enables individuals to face life's stresses and crises, and to achieve a reasonable level of well-being and quality of life. Psychological resilience is particularly significant for people exposed to risks, such as those living in poverty, disaster or war zones, or those suffering from chronic health conditions, as it helps them cope effectively and live positively under such circumstances (Al-Khalifa, 2013, pp. 1-25).

Given that life is characterized by numerous changes and transformations that place pressure on individuals, people are often compelled to adapt to them. For example, changes in family circumstances, work conditions, stress, social relationships, economic difficulties, or health problems all create challenges that require a response. In

doing so, individuals adjust their behavior, and their ability to face life's difficulties and pressures varies according to their capacity for adaptation (Noui, 2016).

Life cannot be expected to be free of troubles and pressures; therefore, the concept of psychological resilience is of great importance, as it helps individuals confront life's stresses and crises. A person must possess stability, flexibility, and the ability to maintain calmness and inner composure when facing pressure or stressful situations, as well as the capacity for effective adaptation and positive coping with such challenges and shocks (Rutter, 2012) .

Psychological resilience is also defined as an essential element in achieving success and as the best alternative for solving the problems one encounters. Moreover, it is considered a dynamic process that helps transform negative life events and enhances an individual's ability to recover from what may harm their mental health (Luthar et al., 2000).

Since civil protection officers are the group most frequently in contact with injured individuals- due to their role in transporting them to hospitals-this exposure may create psychological pressures that require resilience to cope with. From this, several questions arise: To what extent is psychological resilience prevalent among civil protection officers in the city of Aflou, and how does it relate to age, professional experience, marital status, and educational level?

The Importance of the Study: This research serves as an initiative to examine the issue of the extent to which psychological resilience is prevalent among civil protection officers. It is one of the few studies that combine these variables, and the significance of the current research lies primarily in the nature of its

sample—civil protection personnel—and in exploring the degree of their psychological resilience. The topic of psychological resilience is considered one of the most important in the field of psychology, as it represents the individual's ability to adapt to changing life circumstances or stressful situations and events.

This study aims to achieve the following objectives:

- To verify whether there is a statistically significant correlation between psychological resilience and both age and professional experience.
- To determine whether there are statistically significant differences in psychological resilience among civil protection officers according to the variable of educational level.
- To determine whether there are statistically significant differences in psychological resilience among civil protection officers according to the variable of marital status.

2. Study Variables and Concepts

Among the key terms used in this study is psychological resilience. Below are the definitions of these terms:

Definition of Psychological Resilience: It is "the process of positive adaptation and effective coping with adversity, trauma, misfortune, or the ordinary psychological pressures that people face, such as family problems, relationship difficulties, serious health issues, work stress, or financial problems. Psychological resilience also refers to the ability to recover from the negative effects of such adversities, crises, or stressful events, to overcome them positively, and to continue living effectively and competently." (Abu Halawa, 2013).

Definition of Civil Protection Officers: They are state employees responsible for protecting people and property, preserving human lives, and safeguarding material resources.

Study Hypotheses:

- Psychological resilience, in its various dimensions, is prevalent among civil protection officers in the city of Aflou.

- There is a statistically significant correlation between the dimensions of psychological resilience and the variables of age and professional experience among civil protection officers in Aflou.

- There are statistically significant differences in the dimensions of psychological resilience according to the variables of marital status and educational level among civil protection officers.

Research Methodology:

The method used in this study is the descriptive method, through which we seek to examine psychological resilience in all its dimensions. The descriptive method is based on studying a phenomenon as it exists in reality and describing it accurately, both quantitatively and qualitatively. The qualitative aspect describes the phenomenon and clarifies its characteristics, while the quantitative aspect provides a numerical description that shows the extent, magnitude, and degree of the phenomenon.

Study Delimitations: This study included the following boundaries:

• Spatial boundaries: The field study on psychological resilience was conducted at the

Directorate of Civil Protection in the city of Aflou.

• Temporal boundaries: The topic was registered in March during the 2023–2024 academic year. The theoretical part lasted approximately three and a half months, followed by the fieldwork, which began on April 11, 2024.

• Human boundaries: A main sample consisting of 80 men from the Directorate of Civil Protection was selected, from which a pilot sample of 30 civil protection officers was chosen.

3. Study Sample

The study sample consisted of the following

3-1 The Pilot Sample: The pilot sample of the study consisted of 30 civil protection officers, selected randomly. The age range of the sample was between 19 and 60 years, with an average age of 37.03 years and a standard deviation of 11.81 years. Among them, 9 participants were single (30.00%) and 21 participants were married (70.00%). Regarding educational level, 4 participants had a middle school education (13.40%), 13 participants had a secondary school education (43.30%), and 13 participants had a university education (43.30%). Table (01) presents the characteristics of the pilot sample.

Table 1. shows the characteristics of the pilot sample.

Variable	Marital Status			Educational Level			Experience (Years)
	Single	Married	Divorced	Middle	Secondary	University	01–32
Number	09	21	00	04	13	13	
Percentage	30.00%	70.00%	00.00%	13.40%	43.30%	43.30%	

3-2 The Main Sample

The main sample for the study consisted of 80 civil protection officers selected exclusively. The age of all the participants in the sample ranged from 19 to 60 years (M = 33.64, SD = 9.91). Of the 80 participants, 35 were single (43.80%), 44 were married (55.00%), and 1 was divorced (1.20%). For education level; 10 participants had a middle school level (12.40%), 41 participants completed secondary school (51.30%) and 29 participants had a university level education (36.30%). The sample characteristics can be found in Table 2.

Table 2. shows the characteristics of the main sample

Variable	Marital Status			Educational Level			Experience (Years)
	Single	Married	Divorced	Middle	Secondary	University	19–60
Number	35	44	01	10	41	29	
Percentage	43.80%	55.00%	1.20%	12.40%	51.30%	36.30%	

3-3 Study Instrument

The instrument used in this study is the Psychological Resilience Scale (EHR) developed by Brien et al. (2008) and translated into Arabic by Wazi and Hammouda (2016) , The two researchers translated the scale from French into Arabic and then performed a back-translation from Arabic into French. The scale consists of 23 items, distributed across three dimensions, the first of which is self-efficacy, comprising 12 items, namely:

(Items 22, 18, 15, 14, 11, 10, 9, 7, 5, 4, 3, and 1) belong to the Self-Efficacy dimension; the Growth and Development dimension includes 5 items (23, 21, 20, 12, 8); and the Optimism dimension includes 6 items (19, 17, 16, 13, 6, 2).

Participants respond to the scale items by marking (x) next to one of five options: Never, Rarely, Sometimes, Often, Always. All items are scored on a five-point scale (1 to 5), except for items 7 and 9, which are reverse-scored from 5 to 1.

The level of psychological resilience in the self-efficacy dimension is considered low if it is less than 28 points, average if it ranges between 28 and 43 points, and high if it ranges between 44 and 60 points. In the growth and development dimension, the level of psychological resilience is low if it is less than 12 points, average if it ranges between 12 and 18 points, and high if it ranges between 19 and 25 points. In the optimism dimension, the level of psychological resilience is low if it is less than 13 points, average if it ranges between 13 and 21 points, and high if it ranges between 22 and 30 points. As for the overall score, the level of psychological resilience is low if it is less than 54 points, average if it ranges between 54 and 84

points, and high if it ranges between 85 and 115 points. The validity and reliability of the scale in the present study were calculated based on the following elements:

3-4 Psychometric Properties of the Psychological Resilience Scale

A. Validity: Validity was calculated using two methods:

• **Content Validity:** The internal consistency validity of the Psychological Resilience Scale was assessed by calculating the correlation between each item score and the total scale score, the correlation between each item and the dimension it belongs to, and the correlation between each dimension and the total scale score.

Tables **(03, 04, and 05)** present the results obtained from the statistical analysis of content validity.

Table 3. *Correlation Coefficient Between Each Item Score and the Total Score of the Psychological Resilience Scale*

Item No.	Correlation Coefficient	Significance Level	Item No.	Correlation Coefficient	Significance Level
01	0.49 **	0.0060	13	0.64 **	0.0001
02	0.56 **	0.0010	14	0.77 **	0.0001
03	0.45 **	0.0110	15	0.66 **	0.0001
04	0.45 **	0.0110	16	0.61 **	0.0001
05	0.77 **	0.0001	17	0.55 **	0.0020
06	0.63 **	0.0001	18	0.73 **	0.0001
07	0.28	0.1260	19	0.69 **	0.0001
08	0.42 *	0.0190	20	0.69 **	0.0001
09	0.45 **	0.0130	21	0.55 **	0.0010
10	0.73 **	0.0001	22	0.72 **	0.0001
11	0.73 **	0.0001	23	0.51 **	0.0040
12	0.71 **	0.0001			

Note:(**) Significant at the 0.01 level / (*) Significant at the 0.05 level.
It is clear from Table 3 that one (1) item is not significant, while twenty-two (22) items are significant at the (0.01) or (0.05) level. The correlation coefficients range between (0.42*–0.77**), which indicates the presence of internal

consistency coefficients. Therefore, the items are considered valid for measuring what they were designed to measure.

Table 4. shows the correlation coefficient of each item with the total score of the dimension to which it belongs in the Psychological Resilience Scale.

Dimension	Item No.	Correlation Coefficient	Significance Level	Dimension	Item No.	Correlation Coefficient	Significance Level
Self-efficacy	1	0.58 **	0.0010	Growth	8	0.60 **	0.0001

	3	0.55 **	0.0020		12	0.77 **	0.0001
	4	0.54 **	0.0020		20	0.78 **	0.0001
	5	0.83 **	0.0001		21	0.69 **	0.0001
	7	0.28	0.1320		23	0.52 **	0.0030
	9	0.45 **	0.0120		2	0.64 **	0.0001
	10	0.67 **	0.0001		6	0.67 **	0.0001
	11	0.75 **	0.0001		13	0.70 **	0.0001
	14	0.80 **	0.0001	Optimism	16	0.60 **	0.0001
	15	0.72 **	0.0001		17	0.66 **	0.0001
	18	0.68 **	0.0001		19	0.85 **	0.0001
	22	0.76 **	0.0001				

Note: (**) Significant at the 0.01 level / (*) Significant at the 0.05 level.

It is clear from **Table 4** that within the **self-efficacy** dimension, there is one non-significant item, while **11 items** are significant at the (0.01) or (0.05) significance level, with correlation coefficients ranging between (**0.45–0.83**). As for the **growth and development** dimension, all items are significant at the (0.01) level, with correlation coefficients ranging between (**0.52–0.78**). Similarly, in the **optimism** dimension, all items are significant at the (0.01) level, with correlation coefficients ranging between (**0.60–0.85**).

This indicates the presence of internal consistency coefficients, and therefore, the items can be considered valid for measuring what they were designed to assess.

Table 5. The correlation coefficient between each dimension score and the total score of the Psychological Resilience Scale.

Dimensions	Correlation Coefficient	Significance Level
Self-efficacy	0.94 **	0.0001
Growth and Development	0.86 **	0.0001
Optimism	0.89 **	0.0001

Note: (**) Significant at the 0.01 level / (*) Significant at the 0.05 level.

It is clear from **Table 5** that all dimensions of the Psychological Resilience Scale are significant at the 0.01 level, with correlation coefficients ranging between (0.86**–0.94**). This indicates a high level of internal consistency, and therefore, the items are considered valid for measuring what they were designed to assess. From the three tables (03, 04, and 05), it is evident that the scale is valid for its intended purpose.

• **Discriminant Validity (Extreme Group Validity):** Differences were calculated between the mean scores of the high and low groups using the *t-test* to determine the significance of differences between means. **Table 6** presents the results of the statistical analysis of discriminant validity.

Table 6. The differences between the mean scores of the high and low groups on the Psychological Resilience Scale and its dimensions.

Scale	Low Scores (N = 15)		High Scores (N = 15)		Degrees of Freedom	t-value	Significance Level
	Mean	Std. Dev.	Mean	Std. Dev.	28		
Self-efficacy	39.00	5.18	52.60	3.15		8.67**	0.0001
Growth and Development	17.27	2.15	22.80	1.78		7.66**	0.0001
Optimism	19.27	3.01	27.13	1.72		8.77**	0.0001
Total Score	76.80	9.46	101.27	6.53		8.24**	0.0001

Note: Significant at the 0.01 level (**) / Significant at the 0.05 level (*)

Table 6 demonstrates that all dimensions of psychological resilience and overall score had statistically significant differences at the 0.01 significance level between groups with high and low scores. The t values at (8.67, 7.66, 8.77, and 8.24) indicate that the measure is valid and can be thus used for the current study.

B. Reliability: The reliability coefficient of the Psychological Resilience Scale was calculated using **Cronbach's Alpha** and the **Guttman Split-Half method**. **Table 7** below presents the results of the statistical analysis for reliability.

Table 7. Cronbach's Alpha Coefficient and Guttman Split-Half Reliability for the Psychological Resilience Scale and Its Dimensions

Scale	Number of Items	Cronbach's Alpha Coefficient	Guttman Coefficient
Self-Efficacy	12	0.86	0.84
Growth and Development	05	0.66	0.43
Optimism	06	0.77	0.73
Total Score	23	0.91	0.92

Significant at 0.01 / Significant at 0.05

It is clear from Table 7 that the values of Cronbach's Alpha reliability coefficients for the dimensions of the Psychological Resilience Scale ranged between (0.66–0.86), while the total score reached (0.91). After length correction using the Guttman formula, the correlation coefficients for the dimensions ranged between (0.43–0.84), and the total score was (0.92). These high values indicate that the scale is reliable.

3-4 Study Procedures: This study was conducted according to the following steps:
- Shedding light on some theoretical frameworks and previous studies related to the study variables.
- Selecting the appropriate scale for conducting this research — the Psychological Resilience Scale by *Brien et al. (2008)*, translated by *Wazi and Hammouda (2016)*.
- Administering the pilot version of the study tools (Psychological Resilience Scale) to a pilot sample of (30) members of the Civil Protection personnel in the city of Aflou, to verify the validity and reliability of the scale.
- Administering the main version of the study tools (Psychological Resilience Scale) to a main sample of (80) members of the Civil Protection personnel in Aflou, Laghouat Province.

- Correcting the scales, organizing the data tables, extracting the results, interpreting, and discussing them.
- Formulating recommendations and suggestions in light of the findings obtained from the study.

3-4-1 Statistical Methods: The study relied on the **Statistical Package for the Social Sciences (SPSS), version 22**, and employed several statistical methods, including:
- **Pearson correlation coefficient**
- **t-test** for the significance of differences between means
- **Cronbach's Alpha** for reliability calculation
- **Guttman Split-Half formula**
- **Arithmetic mean, hypothetical mean, and standard deviation**
- **One-way ANOVA** to calculate differences

3-4-2 Presentation, Discussion, and Interpretation of the First Hypothesis

This hypothesis states: *"Psychological resilience, in its dimensions, is moderately present among Civil Protection personnel in the city of Aflou during COVID-19."*

To verify this hypothesis, the researchers calculated the **hypothetical mean** and **arithmetic mean** of the resilience scores of the personnel across its dimensions. **Table (08)** presents the results obtained from the statistical analysis.

Table 8. illustrates the extent of psychological resilience and its dimensions among the sample individuals.

Measures	Number of Items		Theoretical Mean	Calculated Mean	Standard Deviation	Level
Psychological Resilience	Self-Efficacy	12	28.43	46.30	07.47
	Growth and Development	5	12.18	20.00		High
	Optimism	6	13.21	23.70	
Total Score	23		54.84	90.00	13.69	

It is clear from Table 8 that the level of psychological resilience and its dimensions among the civil protection personnel in Aflou was high; therefore, this hypothesis was not confirmed.

This is due to the fact that the sample (civil protection personnel) possesses a similar level of psychological resilience regardless of age. The main reason is that they received the same training at the beginning of their professional careers, which enables them to face similar difficult conditions and pressures both during and outside work, thus developing the ability to adapt effectively to life.

3-4-3 Presentation, Discussion, and Interpretation of the Second Hypothesis Results:

This hypothesis states the following: There is a significant and statistically meaningful correlation between psychological resilience and its dimensions on one hand, and the variables of age and experience among civil protection personnel in the city of Aflou on the other.

To verify this hypothesis, the researchers calculated Pearson's correlation coefficient between the scores of psychological resilience and its dimensions and age. Table 9 presents the results obtained from the statistical analysis:

Table 9. Pearson's correlation coefficient between age and the scores of psychological resilience and its dimensions.

Variable	Self-Efficacy	Growth and Development	Optimism	Total Score	Sample	Level / Evaluation
Age	Correlation Coefficient	0.01	-0.06	-0.06	-0.02	80
	Significance Level (p)	0.881	0.556	0.554	0.804	
Experience	Correlation Coefficient	0.07	0.01	0.03	0.05	
	Significance Level (p)	0.494	0.934	0.781	0.631	

It is clear from Table 9 that there is no significant and statistically meaningful correlation between psychological resilience and either age or experience among the civil protection personnel in the city of Aflou; therefore, this hypothesis was not confirmed.

The reason for this is that civil protection personnel are exposed to the same experiences and challenges during their work, which makes their psychological resilience consistent regardless of age. The number of years of experience does not affect their psychological resilience—it remains the same (whether their experience is one year or

several years) because they all receive the same training, the same developmental programs, and the same retraining methods in each cohort.

3-5 Presentation, Discussion, and Interpretation of the Third Hypothesis Results:

This hypothesis states the following: There are statistically significant differences in psychological resilience and its dimensions according to marital status and educational level among civil protection personnel.

To verify this hypothesis, the researchers conducted a **t-test** to examine the significance of differences in psychological resilience scores and their dimensions. Table 10 presents the results obtained from the statistical analysis:

Table 10. The results of the F-test for examining differences in psychological security according to both marital status and educational level.

Variables	Sources of variance	Sum of squares	Degrees of freedom	Mean squares	F-value	Significance level
Marital status	**Psychological resilience**					
Self-efficacy	Between groups	53.651	2	26.826	0.47	0.624
	Within groups	4359.149	77	56.612		
	Total	4412.800	79			
Growth and development	Between groups	0.205	2	0.103	0.01	0.991
	Within groups	901.795	77	11.712		
	Total	902.000	79			
Optimism	Between groups	3.007	2	1.504	0.08	0.923
	Within groups	1439.793	77	18.699		
	Total	1442.800	79			
Total score	Between groups	65.455	2	32.727	0.17	0.843
	Within groups	14756.54	77	191.643		
	Total	14822.00	79			
Educational level	**Psychological resilience**					
Self-efficacy	Between groups	12.985	2	6.493	0.11	0.893
	Within groups	4399.815	77	57.140		
	Total	4412.800	79			
Growth and development	Between groups	0.801	2	0.400	0.03	0.966
	Within groups	901.199	77	11.704		
	Total	902.000	79			
Optimism	Between groups	19.260	2	9.630	0.52	0.596
	Within groups	1423.540	77	18.488		
	Total	1442.800	79			
Total score	Between groups	66.244	2	33.122	0.17	0.842
	Within groups	14755.75	77	191.633		
	Total	14822.00	79			

It is clear from Table 10 that there are no statistically significant differences in psychological resilience according to either marital status or educational level; therefore, this hypothesis was not confirmed.

The reason for this is that the sample members possess the same level of psychological resilience, which is a crucial factor in determining how individuals react and cope with stressful situations and difficulties encountered by civil protection personnel at work. The length of work experience does not affect their psychological resilience. Changes in educational level, differences in cultural background, and variations in marital status—such as the challenges faced by a married person with household responsibilities and child-rearing—do not impact their psychological resilience. The same applies to unmarried individuals, as they all

receive the same initial training. Thus, social factors and their variations do not influence their psychological resilience.

Conclusion

The present study aimed to reveal the extent of psychological resilience and its dimensions among civil protection personnel in the city of Aflou, as well as to examine the nature of the relationship between psychological resilience (and its dimensions) and both age and experience among the sample members. After analyzing, interpreting, and discussing the results of the hypotheses, the following conclusions were reached:

- Psychological resilience and its dimensions are highly prevalent among civil protection personnel in the city of Aflou.
- There is no significant and statistically meaningful correlation between psychological resilience (and its dimensions) and either age or experience among civil protection personnel in the city of Aflou.
- There are no statistically significant differences in psychological resilience (and its dimensions) among civil protection personnel in the city of Aflou according to marital status or educational level.

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