

Work Stress and Professional Burnout in Greek Police Officers



Christos Kostas¹, Dimitris D. Vlastos^{1,2} and Paraskevi Theofilou^{2,3,*}

¹Department of Psychology, SCG - Scientific College of Greece, Athens, Greece

²SCG Lab of Experimental and Applied Psychology, SCG - Scientific College of Greece, Athens, Greece

³Hellenic Open University, School of Social Sciences, Patra, Greece

Abstract:

Background: The purpose of the study was to explore the views of Greek police officers on the factors that may cause occupational stress and contribute to the development of burnout.

Methods: The study was conducted during the months of February to May 2023 and the sample of the study consisted of 101 active police officers working in various departments and regions of Greece. The research instrument was a questionnaire consisting of four parts (demographic data, two job stress scales and a burnout scale).

Results: The results of the study show that Greek police officers have moderate levels of occupational stress, while it was found that they are not particularly affected by burnout syndrome. It was also shown that their demographic characteristics affect their job stress and burnout. More specifically, it was found that occupational stress among male police officers was lower than among female police officers. Complementarily, this study indicated that police officers did not show a higher mean level on the dimensions of emotional exhaustion and depersonalization but a higher mean level on the dimension of personal achievement.

Conclusion: Therefore, from the overall results, the police officers involved in our study do not seem to be particularly affected by burnout syndrome. It is worth mentioning that the good prevention practices suggested in the study's discussion on managing occupational stress will contribute to the improvement of the police profession in Greece and further reduce the levels of occupational stress and burnout.

Keywords: Occupational stress, Burnout, Active Greek police officers, Antoniou Police Stress Inventory (APSI), Questionnaire, Mental illnesses.

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*Address correspondence to this author at the SCG Lab of Experimental and Applied Psychology, SCG - Scientific College of Greece, Athens, Greece and Hellenic Open University, School of Social Sciences, Patra, Greece; E-mail: pardrothe@gmail.com

Cite as: Kostas C, Vlastos D, Theofilou P. Work Stress and Professional Burnout in Greek Police Officers. Open Psychol J, 2024; 17: e18743501288683. <http://dx.doi.org/10.2174/0118743501288683240206102924>



Received: October 21, 2023
Revised: January 19, 2024
Accepted: January 23, 2024
Published: February 13, 2024



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1. INTRODUCTION

All people spend a large part of their lives observing themselves, often experiencing dilemmas and internal conflicts and developing internal dialogues in trying to find solutions to their problems. Furthermore, because of this ability, humans can take a critical position about their

thoughts, feelings and actions. The management of situations that exert psychological pressure on police officers, such as night work, demanding working hours, difficult and demanding working conditions, relationships with superiors and colleagues, professional mobility as well as the reduction of financial benefits due to the economic crisis. The police profession can be charac-

terized as a “high-intensity profession” where role conflicts often occur both with other professions and among police officers [1]. Police officers are a vulnerable social group predisposed to stress-related mental illnesses [2].

2. LITERATURE REVIEW

Antoniou [3] investigated the antecedents of job stress and the level of stress felt in the police workplace among 512 Greek police officers who completed the Antoniou Police Stress Inventory (APSI) in order to determine differences in the perception of work-related stressors among police officers. The study revealed that the content of occupational stressors among Greek police officers varies according to gender and stress level. Perceptions of the stressor content of the specific problems studied differed between men and women, with women reporting significantly higher stress on 21 work and organizational issues. Perceptions of the stressor content of the specific problems investigated differed between higher-ranked and lower-ranked officers, with higher-ranked officers reporting higher levels of stress overall. The study found that the work-related problems of female police officers, as well as those of higher and lower ranks, were specific in nature. Female police officers were more concerned about career opportunities, issues related to their roles and responsibilities, and work and family issues. Research by the US National Academy of Sciences focuses on the high level of stress faced by police officers in the performance of their duties. The study reports that this constant stress can have negative effects on police officers' health, including high blood pressure, diabetes, heart disease and diseases of the nervous system. It also provides recommendations for managing police stress and improving police officer health [4]. Likewise, a study conducted by the US National Academy of Sciences states that police officers are exposed to constant stress due to the high level of performance of their duties and the dangers they face every day [4]. The *Journal of Occupational Health Psychology* reports that stress is directly linked to poor health and performance of police officers [5] and focuses on the close link between stress and police health and performance. The authors of the study found that high levels of stress in police officers are associated with reduced job performance, increased risk of accidents and errors, as well as antisocial behavior and inadequate response to emergency situations. In addition, it has been found that the use of stress management practices, such as physical exercise and reducing job demands, can improve the performance and health of police officers [5]. Yet another study published in the *Journal of Traumatic Stress* focuses on the occupational injuries faced by police officers in the performance of their duties and their association with stress. The study found that police officers who had been exposed to incidents of domestic violence, workplace violence or other occupational traumas had higher levels of stress. In addition, it was found that police officers trained in stress management had fewer symptoms of depression and anxiety compared to those who had not received such

training [6]. Another article published in the *Journal of Police and Criminal Psychology* states that training in stress management strategies can help police officers cope with stress-related health problems [7]. Another study examined the correlation between the psychological well-being of police officers and the use of violence against others. The study found that police officers with higher levels of anxiety and depression were more likely to use violence against others. In addition, it has been found that the use of stress management practices can help reduce the use of violence against third parties by police officers [8].

In addition, some research has shown that excessive use of force by police officers may be linked to anxiety, depression, and stress on the job [9]. The physique required to perform their duties can cause injuries and long-term health effects [5]. Although researchers have yet to answer all the questions on this topic, research to date has shown that stress is a major issue affecting the psychological as well as physical health of police officers. These investigations confirm the need for further study and development of stress management training programs and practices for police officers.

Research shows that the demographic characteristics of police officers (gender, age, marital status, level of education and previous experience) seem to play an important role as factors in the development of burnout. Hawkins [10], McCarty [11] and Purvanova and Muros [12] have shown that, compared to male police officers, female police officers have lower levels of burnout on the dimensions of depersonalization and personal achievement and higher levels of professional burnout in the dimension of emotional exhaustion. Antoniou [3] found that women emphasize that higher levels of emotional exhaustion in police officers are associated with the occurrence of depressive symptoms. The police profession has attracted and continues to attract the interest of several researchers dealing with burnout syndrome. This is due to the fact that, as mentioned, the profession is considered highly demanding and stressful [13]. The global research community has established that burnout in the police profession is at a fairly high level, with serious mental and behavioral consequences [14]. The researchers also identified categories of factors they believe are most likely to lead to police burnout. Specifically, the factors related to the organizational structure of the police, relations with colleagues, the specificity of the profession and the social perception of the profession are associated with the occurrence of professional burnout of police officers [15].

Alexopoulos *et al.* [16] identified the organizational structure of the Greek police, specifically the relationship of police officers with their superiors and the possibilities of development at work, as well as the specificities of a profession that is constantly exposed to risks, society's image of the profession and unstructured working hours as factors that contribute to the occurrence of police burnout. As a result, they conclude that issues related to the organization of the service have a greater impact on police burnout. Furthermore, according to this research,

the burnout experienced by police officers varies between individuals, as its appearance can be influenced by individual personality characteristics, the demands and expectations of the job and the self, as and the techniques for effective management of stressful situations. According to Martussen, Richardsen and Burke [17], police officers must possess specific skills in order to meet the particular demands of their job. On the other hand, if they lack specific skills, they are more likely to be affected by burnout. Bakker and Heuven [18] and Kop *et al.* [19] report that they consider the burnout syndrome experienced by police officers as a very serious problem for them, because it can increase the dangerousness of the police profession and reduce the sense of security that citizens feel. In addition, a study by Pikoulas *et al.* [20] on the burnout of Greek police officers concluded that the lower the rank of the police officers and the older they are, the lower the rate of burnout compared to their colleagues. In addition, women and single police officers show higher percentages in the dimension of emotional exhaustion, regardless of their gender. Finally, police officers in field service experience higher rates of burnout compared to police officers in office positions. In their study, Queirós *et al.* [13] concluded that factors inextricably linked to the occurrence of police burnout are workload, reduced support from police management, fear due to dangerous situations experienced by police officers, reduced financial resources, negative community attitudes and reduced education and training. According to Antoniou [3], burnout syndrome appears to occur more frequently in workers belonging to younger age groups. However, different results were reached by Aguayo *et al.* [21], who observed no correlation between burnout in police officers and their age group.

3. AIM OF THE STUDY

The purpose of this research is to investigate the levels of stress and burnout in active police officers as well as the correlation between them. In addition, the effect of socio-demographic and work factors on the levels of stress and burnout will be investigated. Taking into account the above purposes, research questions related to the following arise: 1) Does occupational stress and burnout

differ among police officers in relation to their demographic profile? 2) What is the relationship between stress and burnout? The following research hypotheses emerge from the above research questions: The main hypothesis is that there will be a positive correlation between stress and all factors of burnout. Another hypothesis is that there will be an effect of socio-demographic and work factors.

4. METHODS

4.1. Research Design

To conduct this study, we use a quantitative sampling methodology. This methodology is considered appropriate because the aim of the study is to investigate whether there is a correlation between the variables under study. The population of the study was considered to be active police officers in Greece. The use of convenience sampling was considered the most appropriate sampling strategy. According to Creswell [22], in convenience sampling, to conduct a study, researchers use a sample of people who have indicated their willingness to participate in the study and are members of a larger group with characteristics consistent with the study. Although this sampling is not fully representative of the population and is considered non-probability sampling, the data are still considered useful for drawing conclusions. The research sample consisted of 101 active police officers working in various services and regions of Greece, and 101 fully completed questionnaires were collected. Regarding the demographic characteristics of the sample, the following observations are made: (79.2%) of the participants were male (N=80), and (20.8%) were female (N=21). (17.8%) of the participants belonged to the age group 18-24 (N=18), (50.5%) belonged to the age group 25-34, (N=51), (28.7%) belonged to the age group 35-44 (N=29) while (3%) belonged to the age group 45-54, (N=3). (30.7%) of the participants had 1-5 years of service, (N=31), (15.8%) had 6-10 years of service, (N=16), (27.7%) had years of service 11-15, (N=28), (14.9%) had years of service 16-20, (N=15) and (10.9%) had years of service 21+, (N=11). The above data regarding the demographic characteristics of the sample are also presented in the following table (Table 1).

Table 1. Demographic profile of the research sample (n=101).

-	Variables	N	%
Gender	Male	80	79,2
	Female	21	20,8
Age	18-24	18	17,8
	25-34	51	50,5
	35-44	29	28,7
	45-54	3	3
Years of service	1-5	31	30,7
	6-10	16	15,8
	11-15	28	27,7
	16-20	15	14,9
	21+	11	10,9

4.2. Questionnaires

The research questionnaire consists of 3 parts. The first part includes 1 question about a demographic of the police officers who will participate in the survey, and that is if they are active police officers. This question is an independent variable of the analysis. In the above question, there will be two answer options *i.e.*, YES OR NO. The participant will be able to participate in the survey if he answers the question positively, while if he answers negatively, he will not be able to continue the survey. Then, there are three questionnaires about demographic characteristics, namely gender, years of service, and age. To measure stress among police officers, (a) the Police Operational Stress Questionnaire (PSQ-OP), which measures stress related to the functioning of the department in which the participant works, and (b) the Questionnaire police organizational stress questionnaire (PSQ-ORG) [23]. Each questionnaire includes 20 situations regarding stress at work in the last 6 months, and the answers are measured on the following seven-point Likert scale: - No stress = 1 - Very little stress = 2 - A little stress = 3 - Moderate anxiety = 4 - Enough stress = 5 - Too much stress = 6 - Too much stress = 7. A total score is calculated for each questionnaire that takes values from 1 to 7, with increasing values indicating more anxiety. The total score is obtained by summing the responses to the 20 situations and dividing by 20. The two anxiety questionnaires were translated into Greek by the process of reverse translation by 2 persons who had adequate knowledge of the Greek and English languages. The Cronbach's alpha internal consistency coefficient was 0.957 for the stress questionnaire regarding the operation of the service and 0.942 for the stress questionnaire regarding the service organization, which indicates the excellent reliability of the questionnaires. In the second part of the questionnaire, the MBI Occupational Burnout questionnaire [24] is listed as it was adapted to the data of the Greek population by Antoniou, Polychroni & Walters [25]. The specific tool includes 16 questions in the form of statements that are recorded on a 7-point Likert scale (0 = never, 6 = every day). It measures three dimensions of burnout: emotional exhaustion, job efficacy, and depersonalization. Questions 8, 9, 13, 14, and 15 refer to depersonalization, questions 5, 7, 10, 11, 12, 16, to personal achievements and the rest to emotional exhaustion (1,2,3,4,6). In this research, Cronbach's alpha reliability index for all 16 items is satisfactory (0.836), while for each dimension, it is as follows: emotional exhaustion (0.895), professional effectiveness (0.916) and depersonalization (0.798). The Cronbach's alpha internal consistency coefficient was 0.879 for the depersonalization factor, 0.853 for the personal achievements factor, and 0.917 for the emotional exhaustion factor. According to Ouzounis and Nakakis [26], research instruments show high reliability if Cronbach's alpha index is above 0.7, so we observed that all the scales of the questionnaire showed a high-reliability index. From the values of Cronbach's alpha index, we can conclude that the different parts of the questionnaire are internally consistent and

that the responses of the sample are valid and reliable. The above data concerning the Cronbach's alpha coefficient of internal consistency of the above questionnaires are also presented in the following table (Table 2).

Table 2. Cronbach's alpha internal consistency coefficient of the questionnaires.

Scale	Cronbach Alpha
PSQ-OP	0,942
PSQ-ORG	0,957
DEPERSONALIZATION	0,879
PERSONAL ACHIEVEMENTS	0,853
EMOTIONAL EXHAUSTION	0,917

4.3. Ethics

No issue was raised that raised ethical issues. Participants received an informed consent form containing the purpose of the study, information about the confidentiality and privacy of the information, as well as their rights in the study, such as withdrawing consent and participation at any time. A careful assessment was made as to whether this was an ethically acceptable study. The research participant was not at risk. The researcher was responsible for following the rules of ethics throughout the research. The researcher made a clear and fair agreement with the research participants prior to their participation, which clarified the obligations and duties of each party. There was no deception of the participants. The researcher respected the individual's freedom to refuse to participate or withdraw from the study at any time. The researcher protected the participants from physical and mental harm and risks that might arise from the research process. After the data collection was completed, the researcher informed the participants about the nature of the study and attempted to remove any misunderstandings that may have arisen. There were no cases where the research procedures led to undesired consequences for the participants, and the researcher was obliged to identify and correct them, including the long-term consequences. All information collected in relation to the participants during the research remained confidential.

5. RESULTS

This chapter proceeds with the statistical analysis of the research data obtained from the research tool in order to draw conclusions from the study. As already mentioned, statistical analysis is performed using the statistical program jamovi. First, a check is made to see if our variables follow a normal distribution. This check is carried out using the Shapiro-Wilk research tool. The following table presents the results of this test: variables with values greater than 0.05 ($p > 0.05$) follow a normal distribution, while variables with values less than 0.05 ($p < 0.05$) follow a non-normal distribution. Table 3 below shows the variables PSO-P, depersonalization, personal achievements, and emotional exhaustion follow a non-normal distribution, while the variable PSO-ORG follows a normal distribution (Table 3).

Table 3. Testing for normality of distribution of variables.

-	N	Shapiro Wilk p
PSQ-OP	101	0,05
PSQ-ORG	101	0,125
DEPERSONALIZATION	101	0,001
PERSONAL ACHIEVEMENTS	101	<,001
EMOTIONAL EXHAUSTION	101	<,001

Table 4. Dispersion and central tendency of variables.

-	N	Min.	Max.	Mean	St. Deviation	Median
PSQ-OP	101	27	140	76,9	25,5	79
PSQ-ORG	101	26	140	80,8	28,4	82
Depersonalization	101	5	35	22,0	8,80	23
Personal Achievements	101	8	42	32,3	7,99	35
Emotional Exhaustion	101	7	35	21,8	8,27	23

Statistical analysis was then performed to determine the mean, standard deviation, minimum and maximum value for all study variables. These results will be used in the analysis of the research project, which will be carried out using descriptive statistics. Therefore, we observe that the operational stress of the police (PSQ-OP), which measures the stress related to the operation of the department in which the participant works, presents a mean (Mean=76.9) and standard deviation (St. dev. = 25.5). In contrast, the Police Organizational Stress Questionnaire (PSQ-ORG) presents a mean (Mean=80.8) and standard deviation (St. dev.= 28.4). The means and standard deviations of the participants' burnout dimensions are initially for depersonalization (Mean = 22.0) and (St. Dev. = 8.80), for personal achievement (Mean = 32.3) and (St. Dev. = 7.99) and for emotional exhaustion (Mean = 21.8) and (St. Dev = 8.27). The above results, as well as the maximum, minimum values and median values are also shown in the following table (Table 4).

It was also investigated whether there was an effect of socio-demographic elements in terms of PSQ-OP, PSQ-ORG, depersonalization, personal achievements, and emotional exhaustion. First, the effect of gender on all factors was examined. Therefore, regarding the PSQ-OP, we used the research tool Mann-Whitney U, and we concluded that $p=0.115$, therefore, we did not have a statistically significant result.

Furthermore, for gender compared to PSQ-ORG, we used the research tool independent simple t-test and it was observed that there is a statistically significant result since $p=0.046$. Looking at the gender averages of the participants regarding the PSQ-ORG, we can see that female police officers show a higher average (Mean=91.7) than male police officers (Mean=77.9). We therefore conclude that female police officers present higher levels of PSQ-ORG than males.

Also, gender, compared to the depersonalization factor

through the Mann-Whitney U research tool, appeared to have no statistically significant effect since $p=0.361$.

Gender, compared to personal achievements through the Mann-Whitney U research tool, showed a statistically significant result since $p=0.024$. Looking at the averages of the genders of the participants regarding personal achievements, we can see that female police officers show a higher average (Mean=35.6) than male police officers (Mean=31.4). We conclude, therefore, that female police officers present higher levels of the personal achievement factor than males.

As for emotional exhaustion related to gender through the Mann-Whitney U research tool, there appeared to be a statistically significant effect since $p= 0.022$. Looking at the averages of the participants' genders regarding emotional exhaustion, we can see that female police officers show a higher average (Mean=25.0) than male police officers (Mean=20.8). We therefore conclude that female police officers show higher levels of emotional exhaustion compared to male police officers.

Then, with the Kruskal-Wallis research tool, the age of the participants was also studied in relation to PSQ-OP, depersonalization, personal achievements and emotional exhaustion. The results shown in the table below did not show a statistically significant result since $p>0.05$. The Anova used for participant age on the PSQ-ORG showed similar results. Even in this case, we did not have a statistically significant result since $p=0.104$. (see Table 5).

Finally, the last component of the participants, that is, duration of working experience, was studied using the Kruskal-Wallis research instrument on PSQ-OP, depersonalization, personal achievements and emotional exhaustion. The results shown in the table below did not show a statistically significant result since $p>0.05$. The Anova used for participant age on the PSQ-ORG showed similar results. Even in this case, we did not have a statistically significant result since $p=0.092$. (see Table 6).

Table 5. PSQ-OP scale, depersonalization, personal achievement, emotional exhaustion, and age.

-	p
PSQ-OP	0,220
PSQ-Org	0,104
depersonalization	0,480
personal achievements	0,613
emotional exhaustion	0,172

Table 6. PSQ-OP, PSQ-Org, depersonalization, personal achievement, emotional exhaustion, and years of service panel.

-	p
PSQ-OP	0,164
PSQ-Org	0,052
depersonalization	0,116
personal achievements	0,229
emotional exhaustion	0,092

At this point, the correlations between the five factors PSQ-OP, PSQ-Org, depersonalization, personal achievements and emotional exhaustion are presented, which constitute the last research hypothesis. First of all, it should be mentioned that the Spearman Rho research tool was used. During the statistical analysis, the following research findings emerged: PSQ-org and PSQ-OP have a very significant statistical result since $p < 0.01$ and a very strong, positive correlation since $r = 0.828$. PSQ-Org with depersonalization has a very significant statistical result since $p < 0.01$ and a strong positive correlation since $r = 0.716$. PSQ-Org with emotional exhaustion has a very significant statistical result since $p < 0.01$ and a strong positive correlation since $r = 0.716$. PSQ-OP with depersonalization has a very significant statistical result since $p < 0.01$ and a very strong positive correlation since $r = 0.676$. PSQ-OP with emotional exhaustion has a very significant statistical result since $p < 0.01$ and a very strong positive correlation since $r = 0.840$. Depersonalization with emotional exhaustion has a very significant statistical effect since $p < 0.01$ and a strong positive correlation since $r = 0.716$. Personal achievements were not shown to have statistically significant effects on any of the remaining variables.

6. DISCUSSION

One of the main aims of the research was to investigate the contribution of socio-demographic characteristics to the differentiation between burnout and occupational stress experienced by police officers. Therefore, with regard to the research question, whether the occupational stress and burnout of police officers differ according to their demographic profile, the results of the survey, as well as the results of the research hypotheses related to this question, show that the levels of occupational stress and burnout of the participating police officers are differentiated. The research findings of Antoniou [3] and Nisar and Rasheed [27] agree. It was also found that there were no statistically significant

results for years of service compared to stress and burnout. Years of service and levels of occupational stress are logically related, as is the experience of managing stressful and difficult situations in the workplace, and the expectations of police officers in their profession vary according to years of service. However, the results show that seniority does not affect the level of professional stress of police officers nor the burnout factors because probably the largest percentage of participants had minimal to moderate numerical years of service. These results also agree with the findings of Maran *et al.* [28]. Regarding the hypothesis that male police officers have lower stress compared to female police officers, the statistical analysis showed that the occupational stress of the participating police officers is correlated with gender. More specifically, it was found that occupational stress among male police officers was lower than among female police officers. We had similar results in the case of personal achievements and emotional exhaustion. Our specific findings seem to agree with those of Kop *et al.* [19]. Regarding the examination of age in relation to stress and burnout, it was found that there is no correlation between the age group of police officers who participated in the research compared to stress and burnout syndrome. The results of this research agree with those of Purvanova and Muros [12] and Aguayo *et al.* [21]. In conclusion, the socio-demographic profile of police officers can influence their level of work stress and the extent to which they are affected by burnout. From the results of various researches such as those of Odedokun [29], it was found that police officers did not show a higher mean level on the dimensions of emotional exhaustion and depersonalization but a higher mean on the dimension of personal achievement. The relationship between gender and stress/allostatic load was also indicated by Simandan [30, 31].

Therefore, considering Maslach *et al.* [32], who reported that lower mean scores on the emotional

exhaustion and depersonalization scales were associated with lower levels of burnout, the police officers in our study did not appear to be particularly affected by burnout. Based on the above and combined with the results of the specific research, we observe that our participants did not show high levels of anxiety. Regarding the factors of depersonalization and emotional exhaustion, we distinguish from the results of the research that the stress levels of the participating police officers are positively correlated with the dimension of emotional exhaustion. Therefore, we can think that a high degree of work stress leads to burnout syndrome. Moreover, a similar positive correlation was found between depersonalization and emotional exhaustion, suggesting that high scores on one factor led to the other and vice versa. The above findings of our research are consistent with those of Padyab *et al.* [33]. Finally, it is worth mentioning that in this particular research, personal achievements were not a significant correlation factor with any of the other factors, a result that contradicts the findings of Padyab *et al.* [33-38].

CONCLUSION

As pointed out in the literature review of this study, abroad, where a large number of researches have been conducted on occupational stress and burnout in the police profession, show that this phenomenon is current, it would be good to mention some methods regarding the management and their reduction. It is very important to be aware of the fact that stressful life events are related to the disease risk. Biron *et al.* state that good practices for the effective management of occupational stress are prevention programs. In particular, they have thoroughly analyzed the prevention programs that can be applied to various professions affected by occupational stress. The programs include a number of strategies that can contribute to the effective management of occupational stress. Some of these strategies are the correct identification of stressors, psychological preparation for stressful periods, adequate free time for rest and relaxation, separation of personal and professional life, allowing sufficient time for reflection and self-evaluation, frequent breaks during stressful periods, meditation and rewarding ourselves. Regarding the management of occupational stress in police officers, good practices that the state can implement and contribute to the reduction and development of occupational stress in police officers are increased financial rewards and improved planning of work schedules.

There are weaknesses in the present paper, and it is useful to mention therefore, the reader understands the shortcomings that exist. Starting from the theoretical part, the most important problem we faced was the lack of material. In particular, we could not find a sufficient number of Greek-language sources dealing with this topic, nor a wide range of material concerning Greece. As a result, we were forced to look for sources for the theoretical part of the subject in foreign language databases and foreign-related publications published in

the English language. In practice, this meant that a considerable amount of material had to be gathered, first translated and then checked. This work was extremely difficult and time-consuming. Therefore, if there were shortcomings in the theoretical part, we recognize that this was due to a lack of resources and time. Moreover, this specific study is one of the few that have been conducted in Greece regarding professional stress and burnout in the workplace. Another limitation of the present study is the socio-cultural characteristics of the participating police officers, as the research sample consisted of police officers from different parts of Greece. A limitation was also the limited time available to conduct this study, as well as the particular circumstances under which the research was conducted. More specifically, there was no direct face-to-face contact with the participants, only communication *via* e-mail. This lack of communication between the researcher and the research sample, as well as the non-physical presence of the researcher when completing the research instrument, are considered to make it difficult to complete the research instrument, mainly due to questions from the participants in terms of correct completion, as well as due to the hasty completion of the research tool by a percentage of the sample, possibly resulting in incorrect conclusions of the respective research. Finally, a limitation of the present study was the minimal demographic data we had for the participants, which may not create safe conclusions as to the causes of occupational stress and burnout because there may be other determining factors that were not measured in the present study, such as personality traits and psychological factors. It is clear that an abundance of larger studies with a larger sample are needed to address as much error as possible and draw more reliable conclusions. It is also important to investigate other factors which can affect stress and burnout in future studies.

In conclusion, we hope that this study will show that police officers are a group at high risk for occupational stress and that the results will help to develop targeted coping actions that will be instrumental in reducing occupational stress, such as ensuring adequate rest periods to avoid burnout, reducing the number of shifts, ensuring adequate and modern safety equipment, reducing red tape and support and encouragement from supervisors.

LIST OF ABBREVIATION

- PSQ-OP = Police Operational Stress Questionnaire
 PSQ-Org = Questionnaire police organizational stress questionnaire

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Ethical Approval was given by the ethics committee of the SCG COLLEGE (number TER2023249).

HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All procedures

performed in studies involving human participants were in accordance with the ethical standards of institutional and/or research committee and with the 1975 Declaration of Helsinki, as revised in 2013.

CONSENT FOR PUBLICATION

Participants received an informed consent form containing the purpose of the study, information about the confidentiality and privacy of the information, as well as their rights in the study, such as withdrawing consent and participation at any time.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIAL

All the data and supporting information are provided within the article.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest financial or otherwise.

ACKNOWLEDGEMENTS

Declared none.

REFERENCES

- [1] Burke RJ, Ed. *Stress in Policing: Sources, consequences and interventions*. (1st ed.), Routledge 2016.
<http://dx.doi.org/10.4324/9781315611075>
- [2] Garbarino S, Cuomo G, Chiorri C, Magnavita N. Association of work-related stress with mental health problems in a special police force unit. *BMJ Open* 2013; 3(7): e002791.
<http://dx.doi.org/10.1136/bmjopen-2013-002791> PMID: 23872288
- [3] Antoniou AS. Occupation-specific precursors of stress among greek police officers: The roles of rank and gender. *Int J Police Sci Manag* 2009; 11(3): 334-44.
<http://dx.doi.org/10.1350/ijps.2009.11.3.136>
- [4] National Academy of Sciences. 2019 Risk of being killed by police use of force in the United States by age, race-ethnicity, and sex - PMC (nih.gov)
- [5] Violanti JM, Charles LE, McCanlies E, et al. Police stressors and health: A state-of-the-art review. *Policing* 2017; 40(4): 642-56.
<http://dx.doi.org/10.1108/PIJPSM-06-2016-0097> PMID: 30846905
- [6] Arnetz BB, Arble E, Backman L, Lynch A, Lublin A. Assessment of a prevention program for work-related stress among urban police officers. *Int Arch Occup Environ Health* 2013; 86(1): 79-88.
<http://dx.doi.org/10.1007/s00420-012-0748-6> PMID: 22366986
- [7] Singo C, Shilubane HN. How do police officers cope with stress? a qualitative study. *J Police Crim Psychol* 2022; 37(4): 984-92.
<http://dx.doi.org/10.1177/14733250231214512>
- [8] Eikenberry J, Mancini M, Linhorst DM, Schafer JA, Brown J. Stress and trauma among police officers: Implications for social work research and practice. *Qual Soc Work: Res Pract* 2023; 14733250231214512.
<http://dx.doi.org/10.1177/14733250231214512>
- [9] Allison P, Mnatsakanova A, McCanlies E, et al. Police stress and depressive symptoms: Role of coping and hardiness. *Policing* 2019; 43(2): 247-61.
<http://dx.doi.org/10.1108/PIJPSM-04-2019-0055> PMID: 32714068
- [10] Hawkins HC. Police officer burnout: A partial replication of maslach's burnout inventory. *Police Q* 2001; 4(3): 343-60.
<http://dx.doi.org/10.1177/109861101129197888>
- [11] McCarty WP, Skogan WG. Job-related burnout among civilian and sworn police personnel. *Police Q* 2013; 16(1): 66-84.
<http://dx.doi.org/10.1177/1098611112457357>
- [12] Purvanova RK, Muros JP. Gender differences in burnout: A meta-analysis. *J Vocat Behav* 2010; 77(2): 168-85.
<http://dx.doi.org/10.1016/j.jvb.2010.04.006>
- [13] Queirós CM, Kaiseler M, Silva AL. Burnout as predictor of aggressivity among police officers. *EJPS* 2013; 1(2): 110-34.
<http://dx.doi.org/10.5553/EJPS/2034760X2013001002003>
- [14] Blum LN. *Force under pressure: How cops live and why they die*. New York: Lantern Books 2000.
- [15] Correia I, Romão Â, Almeida AE, Ramos S. Protecting police officers against burnout: Overcoming a fragmented research field. *J Police Crim Psychol* 2023; 38(3): 622-38.
<http://dx.doi.org/10.1007/s11896-023-09584-4> PMID: 37359946
- [16] Alexopoulos EC, Palatsidi V, Tigani X, Darviri C. Exploring stress levels, job satisfaction, and quality of life in a sample of police officers in Greece. *Saf Health Work* 2014; 5(4): 210-5.
<http://dx.doi.org/10.1016/j.shaw.2014.07.004> PMID: 25516814
- [17] Martinussen M, Richardsen AM, Burke RJ. Job demands, job resources, and burnout among police officers. *J Crim Justice* 2007; 35(3): 239-49.
<http://dx.doi.org/10.1016/j.jcrimjus.2007.03.001>
- [18] Bakker AB, Heuven E. Emotional dissonance, burnout, and in-role performance among nurses and police officers. *Int J Stress Manag* 2006; 13(4): 423-40.
<http://dx.doi.org/10.1037/1072-5245.13.4.423>
- [19] Kop N, Euwema M, Schaufeli W. Burnout, job stress and violent behaviour among Dutch police officers. *Work Stress* 1999; 13(4): 326-40.
<http://dx.doi.org/10.1080/02678379950019789>
- [20] Pikoulas G, Charila D, Elias T. The protective role of self-esteem on burnout and depression symptoms among police officers: A path analysis approach. *Int J Police Sci Manag* 2022; 24(3): 313-24.
<http://dx.doi.org/10.1177/14613557221089569>
- [21] Aguayo R, Vargas C, Cañadas GR, De la Fuente EI. Are socio-demographic factors associated to burnout syndrome in police officers? a correlational meta-analysis. *Anales de Psicología* 2017; 33(2): 383-92.
- [22] Creswell J. *Research in Education: Design, Conduct and Evaluation of Quantitative and Qualitative Research* (Translated by Kouvarakou, N) Ion (Year of Publication of the Original 2005). Athens 2016.
- [23] McCreary DR, Thompson MM. Development of two reliable and valid measures of stressors in policing: The operational and organizational police stress questionnaires. *Int J Stress Manag* 2006; 13(4): 494-518.
<http://dx.doi.org/10.1037/1072-5245.13.4.494>
- [24] Maslach C, Jackson SE. *Maslach burnout inventory manual*. (2nd ed.), Palo Alto, CA: Consulting Psychologists Press 1986.
- [25] Antoniou A-S, Polychroni F, Walters B. Sources of stress and professional burnout of teachers of special educational needs in Greece. *International Special Education Congress (ISEC 2000)*. UK, Manchester. 2000.24-28 July.;
- [26] Ouzouni Ch. Konstantinos nakakis validity and reliability of measurement instruments in quantitative studies. *OSILEFTIKI* 2011; 50(2): 231-9.
- [27] Rasheed MI, Nisar SK. Stress and performance: Investigating relationship between occupational stress, career satisfaction, and job performance of police employees. *J Public Aff* 2019; 20: e1986.
- [28] Acquadro Maran D, Varetto A, Zedda M, Ieraci V. Occupational stress, anxiety and coping strategies in police officers. *Occup Med* 2015; 65(6): 466-73.
<http://dx.doi.org/10.1093/occmed/kqv060> PMID: 26048331
- [29] Adekunle O. Differential influence of demographic factors on job burnout among police officers in Ibadan, Oyo State. *Mediterr J Soc Sci* 2015; 6(3 S1): 520.
- [30] Simandan D. Social capital, population health, and the gendered

- statistics of cardiovascular and all-cause mortality. *SSM Popul Health* 2021; 16: 100971.
<http://dx.doi.org/10.1016/j.ssmph.2021.100971> PMID: 34988279
- [31] Simandan D. On how much one can take: Relocating exploitation and exclusion within the broader framework of allostatic load theory. *Health Place* 2010; 16(6): 1291-3.
<http://dx.doi.org/10.1016/j.healthplace.2010.08.009> PMID: 20813575
- [32] Maslach C, Jackson SE, Leiter MP. *Maslach Burnout Inventory Manual*. (3rd ed.), Mountain View, CA: CPP, Inc. 1996.
- [33] Padyab M, Backetman-Erlanson S, Brulin C. Burnout, coping, stress of conscience and psychosocial work environment among patrolling police officers. *J Police Crim Psychol* 2016; 31(4): 229-37.
<http://dx.doi.org/10.1007/s11896-015-9189-y>
- [34] Cohen S, Murphy MLM, Prather AA. Ten surprising facts about stressful life events and disease risk. *Annu Rev Psychol* 2019; 70(1): 577-97.
<http://dx.doi.org/10.1146/annurev-psych-010418-102857> PMID: 29949726
- [35] Biron C, Karanika-Murray M, Cooper C, Eds. *Improving organizational interventions for stress and well-being: Addressing process and context*. Routledge/Taylor & Francis Group 2012.
- [36] Abdollahi MK. Understanding police stress research. *J Forensic Psychol Pract* 2002; 2(2): 1-24.
http://dx.doi.org/10.1300/J158v02n02_01
- [37] Simandan D. Rethinking the health consequences of social class and social mobility. *Soc Sci Med* 2018; 200: 258-61.
<http://dx.doi.org/10.1016/j.socscimed.2017.11.037> PMID: 29301638
- [38] Simandan D. Being surprised and surprising ourselves: A geography of personal and social change. *Prog Hum Geogr* 2020; 44(1): 99-118.
<http://dx.doi.org/10.1177/0309132518810431> PMID: 32655206