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Research article

RELATIONS BETWEEN BURNOUT, JOB SATISFACTION AND QUALITY OF LIFE AMONG TEACHERS IN GENERAL AND SPECIAL SCHOOLS IN GREECE

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Abstract:

The present article examines levels of burnout, job satisfaction, quality of life and demographic factors (gender, age, marital status, working relationship, specialty, years of experience, educational status and education level) among general and special education teachers working in the regions of Thessaloniki, Kilkis and Giannitsa. The research sample consisted of 100 teachers work in special education 44% and general education 56%. Participants completed the Maslach Burnout Inventory (MBI), the Teacher Satisfaction Inventory (TSI), and the WHOQOL-BREF (World Health Organization Quality of Life – Short Version). According to the results, burnout levels were higher among teachers working in special education compared to teachers working in general education. Gender was also found to affect total burnout, with women demonstrating higher levels of burnout than men. Regarding work experience, the results showed that burnout rates were significantly higher among those with the least experience (1-5 years). In addition, women with the least work experience suffer more from burnout. Regarding the role of age, job satisfaction, and quality of life as predictors of burnout, the results show that the three factors combined create a significant predictor in all dimensions of burnout for general education teachers as well as for teachers working in special education.

Keywords: *teachers' burnout; special education; general education; job satisfaction; quality of life; multiple linear regression.*

Burnout is a common phenomenon among teachers and is closely related to their limited effectiveness. Teachers who strongly experience the phenomenon of burnout suffer from psychological and physical problems such as chronic fatigue, recurrent flu, infections, colds, and headaches (Cordes & Dougherty, 1993). It also negatively impacts overall well-being, leading to reduced job satisfaction (Brewer & Clippard, 2002), a higher likelihood of intending to quit (Maslach et al., 1997) They distance themselves from their students and are indifferent to their work (Geving, 2007). The factors that cause burnout as well as their effects on the health of teachers, have been the subject of many studies worldwide. (Vasilopoulos, 2012).

Maslach and Jackson (1981) argued that the burnout experienced by teachers is considered the most severe consequence of work stress at an international level. The initial stage of burnout is defined as emotional exhaustion. Next is depersonalization, which concerns the isolation of the teacher and removal from people they used to socialize with in their work environment. In a late stage, the reduction of personal achievement, such as the lack of self-confidence, is noted. Often, the daily life of the teachers is affected to the extent that they may decide to resign from their profession (Maslach et al., 2001). Many studies have shown that regardless of the type and level of education to which they belong, teachers are particularly vulnerable to intense occupational stress (Lambert et al., 2009). In Greece, the increased number of teachers who move to different school units, the increased number of fixed contract teachers, the high workload, the increased number of students in school classes, and the reduction of interpersonal relationships with colleagues contributed to the increase of burnout syndrome incidents (Spyromitros &Iordanidis, 2017). Therefore, teachers who are affected by burnout encounter difficulties in developing professionally as well as in maintaining their efficiency at high levels. Things are even more complicated for the special education teachers. According to Park and Shin (2020), special education teachers exhibited varied responses depending on the type of students' disabilities, behavior issues, and the severity of their challenges. It has been noted that this group of teachers are especially vulnerable due to low job satisfaction, low self-esteem, and high levels of stress (Emery & Vandenberg, 2010). Ghani et al. (2014) findings indicate that the main factors that lead to increased stress in teachers of special education are students' inappropriate behavior, the increased load of work, limited time and limited resources and interpersonal relationships, and, in general, low job satisfaction. Teachers in this field often face a unique set of stressors that can lead to burnout, decreased job satisfaction, and diminished quality of life (Fore et al., 2002)

Kokkinos and Davazoglou (2009), in a research conducted in Greece, concluded that the stress of special education teachers derives from managing difficult children, making their job very demanding with a high degree of responsibility. Similarly, the findings of Mohamed's (2015) research outline the fact that special education teachers present increased levels of anxiety which are positively associated with burnout. In addition, studies have shown that special education teachers are more likely to leave their job compared to general education teachers due to the

higher rates of burnout (Gersten et al., 2001; Stempien & Loeb, 2002). It has been estimated that 20% of special education teachers, compared to 13% of general education teachers, resigned from their positions (Boe et al., 1997). A study by Nikolova et al. (2021), conducted with teachers from special schools in Greece one year after the start of the pandemic, proves that the new learning environment does not significantly affect the emotional, cognitive, and behavioral state of the teachers. This is more traumatic for new teachers or those with little teaching experience. According to Mavrodiev (2020), mass social phenomena are related to synthetic changes in personal and social functioning and affect all members of society. Nikolova and Mancheva, (2022) found that high emotional intelligence helps teachers overcome professional stress and its negative consequences in the distance learning situation and realize a successful educational process. Finally, the role of the quality of life should be mentioned that has been examined only in general education teachers. It has been found that quality of life is an important aspect of one's physical and psychological health that is related to burnout. More specifically, low levels of quality of life associated with high levels of burnout (de Moraes et al., 2019). Generally, the research regarding burnout and the related factors in teachers working in special education and especially comparative studies including those two groups of teachers is very limited both internationally and nationally, in Greece. Based on that, the purpose of this study is to enrich that field by examining the role of job satisfaction and quality of life as predictors of burnout as well as the role of age and gender among teachers working in general and special education. Many researchers have tried to define the concept of burnout. The first one was Freudenberger (1975, p. 73), who defined burnout as "a state of exhaustion due to extreme (excessive) demands on energy, power and resources". Later, Pines and Kafry (1978) defined burnout as the lack of tolerance to work pressure, the feeling of oppression that can lead to collapse. According to Chermiss (1980), burnout refers to the negative changes at a personal level, that occur in demanding job. In addition, Shirom (1989) argues that burnout occurs in physical, emotional and cognitive level, as a result of continuous exhaustion of the individual due to chronic exposure to work stress. More recently, burnout is perceived as the result of lack of individual or organizational resources combined with its increased demands of workplace (Demerouti et al., 2003; Zaimova-Tsaneva & Hadjieva, 2018). The most widely used definition of burnout has been provided by Maslach (1982). Specifically, Maslach described burnout as a syndrome of physical, emotional and mental exhaustion, during which the employees stop being interested in their job, positive emotions become negative, they are not satisfied with their job and develop a negative image of themselves.

Job satisfaction refers to the attitude towards work (Muhammad et al., 2009). Weiss (2002) emphasizes that employees form their attitudes toward work based on their beliefs, behaviors, and emotions. Job satisfaction reflects employees' expectations from their work (Angayarkanni, 2021). Satisfied employees are more productive and deliver higher quality work contributing to the success of a business (Skaalvik, & Skaalvik, 2014). Angelova and Zaimova-Tsaneva (2019) claimed that professional work takes up a lot of time in a person's life, and it is undoubtedly essential for psychological well-being. People seek and crave positive emotions in the

workplace, as well as from work itself, from results, pay and relationships with colleagues and employers. Spector (1997) claimed that job satisfaction is related to the positive emotions of the employees towards their job. George & Jones (2008) added that it is not only the emotions and opinions about the job itself that affect the levels of satisfaction but also the opinions about those involved in their work environment, such as supervisors and colleagues. It has been found that the concept of job satisfaction is inextricably linked to career prospects development and results from the correlation of abilities and expectations individual with working conditions (Holland, 1996). Job satisfaction is of decisive importance in the workplace. Both the values, needs and attitudes of the employees, as well as the nature of the job, the working conditions and the people involved, affect the way they feel about their job, which in turn has consequences on their performance.

The WHO (2020) defined quality of life as the individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. In other words, the quality of one's life is affected by the physical and psychological condition of the individual, the personal beliefs, the social relationships as well as by environmental factors. Koulierakis et al. (2018), reported the following influential factors: income; socio-economical inequalities; work insecurity; environmental factors; educational, health and entertainment services; personal life beliefs; satisfaction with life; social support. Finally, according to the Conceptual Model of the Quality of life developed by Schalock et al. (2008), the quality of life consists of three dimensions: independence (personal development and self-determination); social participation (interpersonal relationships and rights); and well-being (emotional, physical and material).

Method

The main purpose of the study is to examine the relations between burnout, satisfaction with job and quality of life dimensions among special and general education teachers serving in regions of Thessaloniki, Kilkis and Giannitsa.The primary objectives of the study concern the examination of the interrelationship between burnout, job satisfaction and quality of life, as well as, the examination of the role of job satisfaction, quality of life and age as predictors of burnout in general and special education teachers. Additional objectives are: to examine differences between general and special education teachers in terms of the levels of burnout; to examine gender differences in terms of the levels of burnout; and to examine differences in burnout levels based on their experience.

Research hypotheses

Our research hypothesis is that there are differences in dimensions of burnout, job satisfaction, and quality of life among special and general education teachers that may be related to their demographic characteristics such as age, gender, professional experience, and/or marital status.

Research Procedure

The present study used self-reported questionnaires administered to the participants online through the Google-Forms questionnaire tool and by the presence of the researcher at schools. The electronic questionnaires were sent by e-mail to teachers serving in general and special

education schools in the regions of Thessaloniki, Kilkis and Giannitsa of Central Macedonia. Questionnaires were also posted in various online groups of general and special education teachers, on social websites online. The participants were informed through an 'Invitation to participate' form, about the purpose of the research and all the ethical issues of the research process, such as maintaining anonymity. The participants filled out one questionnaire, which included four parts. Part one was a demographics form. Part two was a burnout questionnaire. Part three was a job satisfaction questionnaire and part three was a quality of life questionnaire. The study was conducted between October and December 2023.

Sample

The sample of the research comes from teachers working in general and special education schools in the regions of Thessaloniki, Kilkis and Gianitsa. The sample consists of 100 teachers, 41 males and 59 females with work experience of at least one year. The mean age was 38.89 (SD= 9.24) ranging from 25 to 58. For their selection, convenience sampling was applied. In particular, the questionnaires were administered to teachers to whom the researcher had direct access to them either in person or via the Internet.

Research tools

Demographics

We measured demographics variables such as gender, age, marital status, working relationship, specialty, years of experience, educational status and education level.

Burnout Inventory

To assess the levels of burnout among teachers of general and special education, the modified version for the teachers of Maslach's Burnout Inventory (MBI) was used (Kokkinos, 2006). The inventory contains 22 items, divided into three dimensions: Emotional Exhaustion (EE), with 9 items, measures feelings of being emotionally overextended and exhausted by one's work. Depersonalization (DP), with 5 items, assesses an unfeeling and impersonal response toward recipients of one's care, teaching, or service (in this study, "recipients" was replaced with "students"). Personal Accomplishment (PA), with 8 items, evaluates feelings of competence and successful achievement in one's work with people. Responses are rated on a 7-point Likert scale, ranging from 0 (Never) to 6 (Every day). In this version, the word "recipient" of the original version has been replaced by the word 'student'. The validity of specific scale has been tested and confirmed by a number of researchers (Kandas, 1996; Kokkinos, 2006)

The Job Satisfaction questionnaire

That questionnaire was used because it has been standardized in the Greek population. The questionnaire consists of 20 statements in five dimensions of job satisfaction as follow: Principal Support (PS), Relationship with Colleagues (RC), Workload (WC), Networking (NW), and Resource Satisfaction (RS). Responses are recorded on a 5-point Likert scale, with options ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Golia (2014) standardized the questionnaire in the Greek population and examined the internal reliability of the measurement for each dimension separately and for all the dimensions in total.

The Quality of Life Questionnaire

The WHOQOL-BREF is a shorter version of the HOQOL-100, which includes 100 questions. This shortened version of the WHOQOL-100 includes 26 items and is divided into four key dimensions. Subscale Physical health (PH) assesses general physical well-being, including energy, mobility, and sleep (7 items). Subscale Mental health (MH) evaluates psychological well-being, including emotions, cognition, and self-esteem (6 items). Subscale Social relationships (SR) measures satisfaction with personal relationships and social support (3 items). Subscale Environmental factors (E) assesses external factors such as financial resources, safety, and access to health and social care (8 items). Additionally, two general questions address the overall quality of life and satisfaction with health. Responses are measured on a 5-point Likert scale, ranging from 1 (Very dissatisfied) to 5 (Very satisfied). The WHOQOL-BREF has been translated into many languages. In the Greek sample, it has been standardized by Ginieri – Coccossis et al., (2012). The Greek version of the questionnaire consists of 4 dimensions: physical health, mental health, social relationships and the environment. In total, 26 questions are included. Two of the questions are general and concern the quality of life and satisfaction form health. Cronbach's alpha coefficient was higher then 0.7, which indicate very high internal consistency emerged for all scales both separately and in total.

Ethics of research

This survey was conducted under the Helsinki Declaration. Participants were informed about the purpose of the study, and its scientific nature, and declared their adulthood and consent to participate anonymously and voluntarily.

Data Analysis

All statistical analyses were performed with the SPSS program, version 23. Descriptive statistics were used to summarize the sample's characteristics and the main variables of the study. Reliability analyses (Cronbach's alpha) were conducted to assess the internal consistency of each scale and subscale. Correlation and regression analyses were used to explore the relationships between burnout, job satisfaction, and quality of life.

Results

Distribution of the raw data according to all applied methods is normal (for details supplementary file, Table S1). Reliability assessment of the scales is high, and Cronbach's alpha coefficient is higher than 0.7 for all scales and subscales (Table S2). The sample includes 41 males and 59 females, indicating a higher proportion of female participants, who make up 59% of the total, compared to 41% male participants. The age distribution of the participants is categorized into four groups: 15 participants are between 20-30 years old, 34 participants are in the 31-40 age group, 35 participants are aged between 41-50, and 16 participants are 51 years or older. This shows that the majority of participants, 69%, are within the 31-50 age range. In terms of marital status, 23 participants are single, 59 are married, and 18 are in a relationship, with married participants representing the largest group at 59%. The employment status of the participants is split between 63 participants who have permanent contracts and 37 participants who are working with fixed-term contracts. This indicates that the majority of the participants, 63%, hold permanent employment. Regarding professional experience, 24 participants have 1-5

years of experience, 33 participants have 5-10 years of experience, and 43 participants have more than 10 years of professional experience. The largest group, representing 43%, consists of those with over 10 years of experience. In terms of educational qualifications, 19 participants hold a bachelor's degree, while the majority, 81 participants, hold a master's degree. Finally, participants are distributed across different teaching levels. In Primary General Education, there are 27 participants; in Primary Special Education, there are 23 participants; in Secondary General Education, there are 29 participants; and in Secondary Special Education, there are 21 participants. The distribution shows a relatively balanced representation across these teaching levels, with the largest group teaching in Secondary General Education, comprising 29 participants. Participants are predominantly female and married, with most ot them holding a master's degree, having permanent contracts, and significant teaching experience, with more than 10 years of service. The sample is well-distributed across age groups and teaching levels, providing a comprehensive demographic profile of the participants involved in the study (Table S3).

Table 2 presents the results of the Pearson correlation analysis between all subscales. The Pearson correlation values indicate the strength and direction of the relationships between these variables. A negative correlation indicates an inverse relationship, whereas a positive correlation suggests a direct relationship.

Table 2. Results of Pearson correlation analysis between the subscales of the applied methods

		EE	PA	D
PS	Pearson Correlation	-,61**	,65**	-,64**
	Sig. (2-tailed)	<.001	<.001	<.001
RC	Pearson Correlation	-,56**	,57**	-,41**
	Sig. (2-tailed)	<.001	<.001	<.001
NW	Pearson Correlation	,15	-,09	-,03
	Sig. (2-tailed)	,12	,34	,75
RS	Pearson Correlation	-,11	-,15	-,14
	Sig. (2-tailed)	,25	,12	,16
WC	Pearson Correlation	-,43**	,39**	-,36**
	Sig. (2-tailed)	<.001	<.001	<.001
PH	Pearson Correlation	-,37**	,28**	-,39**
	Sig. (2-tailed)	<.001	,004	<.001
MH	Pearson Correlation	-,26**	,26**	-,42**
	Sig. (2-tailed)	,008	,008	<.001
SR	Pearson Correlation	-,54**	,46**	-,50**
	Sig. (2-tailed)	<.001	<.001	<.001
E	Pearson Correlation	-,34**	,27**	-,41**
	Sig. (2-tailed)	<.001	,007	<.001

** Correlation is significant at the 0.01 level (2-tailed).

PS shows a significant negative correlation with EE ($r = -0.61$, $p < 0.001$) and D ($r = -0.64$, $p < 0.001$), and a positive correlation with PA ($r = 0.65$, $p < 0.001$). This indicates that higher levels of support from the principal are associated with lower emotional exhaustion and depersonalization, and greater feelings of personal accomplishment.

RC also reveals significant correlations. There is a negative correlation with EE ($r = -0.56$, $p < 0.001$) and D ($r = -0.41$, $p < 0.001$), and a positive correlation with PA ($r = 0.57$, $p < 0.001$). This suggests that better relationships with colleagues are linked to lower burnout and higher personal accomplishment.

NW, on the other hand, does not show significant correlations with any of the burnout dimensions. The correlations with EE ($r = 0.15$, $p = 0.12$), PA ($r = -0.09$, $p = 0.34$), and D ($r = -0.03$, $p = 0.75$) are weak and not statistically significant.

RS shows weak, non-significant correlations with burnout dimensions. The correlation with EE ($r = -0.11$, $p = 0.25$), PA ($r = -0.15$, $p = 0.12$), and D ($r = -0.14$, $p = 0.16$) are not statistically significant.

WC displays significant negative correlations with EE ($r = -0.43$, $p < 0.001$) and D ($r = -0.36$, $p < 0.001$), and a positive correlation with PA ($r = 0.39$, $p < 0.001$). This means that higher perceived workload is associated with higher emotional exhaustion and depersonalization, and lower personal accomplishment.

PH shows significant negative correlations with EE ($r = -0.37$, $p < 0.001$) and D ($r = -0.39$, $p < 0.001$), and a positive correlation with PA ($r = 0.28$, $p = 0.004$). This indicates that better physical health is linked to lower burnout and higher personal accomplishment.

MH is negatively correlated with EE ($r = -0.26$, $p = 0.008$) and D ($r = -0.42$, $p < 0.001$), and positively correlated with PA ($r = 0.26$, $p = 0.008$), showing that better mental health correlates with lower burnout and higher personal accomplishment.

SR has strong negative correlations with EE ($r = -0.54$, $p < 0.001$) and D ($r = -0.50$, $p < 0.001$), and a positive correlation with PA ($r = 0.46$, $p < 0.001$). This suggests that better social relationships are associated with lower burnout and higher personal accomplishment.

E also show significant negative correlations with EE ($r = -0.34$, $p < 0.001$) and D ($r = -0.41$, $p < 0.001$), and a positive correlation with PA ($r = 0.27$, $p = 0.007$), indicating that a better environment is linked to reduced burnout and increased personal accomplishment.

Table 3 presents the results of an independent samples t-test comparing gender differences across several subscales. The analysis includes data from 41 male and 59 female participants, evaluating their scores for all subscales.

Table 3. Gender differences between all subscales (Independent samples t-test)

Subscales	Gender	N	Mean	SD	t	df	p
EE	Males	41	9,39	7,20	-4,77	98	<,001
	Females	59	17,47	9,03			
PA	Males	41	15,75	5,00	-2,35	98	,020
	Females	59	18,50	6,19			

D	Males	41	3,87	2,98	-2,78	98	,00
	Females	59	5,98	4,15			
PS	Males	41	17,78	4,14	2,82	98	,00
	Females	59	15,52	3,77			
RC	Males	41	16,82	3,54	2,50	98	,014
	Females	59	14,94	3,77			
NW	Males	41	16,31	,93	-2,58	98	,011
	Females	59	17,13	1,87			
RS	Males	41	12,70	1,20	,25	98	,80
	Females	59	12,49	5,39			
WC	Males	41	8,34	3,42	,26	98	,79
	Females	59	8,20	1,73			
PH	Males	41	29,75	2,11	3,63	98	<,001
	Females	59	28,13	2,24			
MH	Males	41	23,34	2,62	1,23	98	,21
	Females	59	22,74	2,17			
SR	Males	41	11,46	1,77	2,81	98	,00
	Females	59	10,42	1,84			
E	Males	41	29,60	1,62	1,99	98	,04
	Females	59	28,62	2,83			

For the EE subscale, males had a mean score of 9.39 with a standard deviation of 7.20, while females scored significantly higher, with a mean of 17.47 and a standard deviation of 9.03. The t-value is -4.77 with a degrees of freedom (df) of 98, and the p-value is less than 0.001, indicating a significant difference between males and females in terms of emotional exhaustion, with females reporting higher levels.

On PA subscale, males had a mean of 15.75 (SD = 5.00), while females had a higher mean score of 18.50 (SD = 6.19). The t-value is -2.35, with a df of 98 and a p-value of 0.020, showing that females reported significantly higher personal accomplishment than males.

For the Depersonalization (D) subscale, males had a mean score of 3.87 (SD = 2.98), whereas females had a mean of 5.98 (SD = 4.15). The t-value is -2.78, with a df of 98, and the p-value is 0.00, indicating that females experience higher levels of depersonalization compared to males.

In terms of PS, males scored higher with a mean of 17.78 (SD = 4.14), while females had a mean of 15.52 (SD = 3.77). The t-value is 2.82 with a df of 98, and the p-value is 0.00, suggesting that males perceive significantly higher levels of support from the principal than females.

Regarding RC, males reported a mean of 16.82 (SD = 3.54), and females reported a mean of 14.94 (SD = 3.77). The t-value is 2.50, with a df of 98, and the p-value is 0.014, indicating that males perceive better relationships with colleagues than females.

For NW, males had a mean of 16.31 (SD = 0.93), while females scored higher with a mean of 17.13 (SD = 1.87). The t-value is -2.58, with a df of 98 and a p-value of 0.011, showing that females reported significantly higher levels of networking.

On the RS subscale, males and females showed similar results. Males had a mean of 12.70 (SD = 1.20), and females had a mean of 12.49 (SD = 5.39). The t-value is 0.25 with a df of 98, and the p-value is 0.80, indicating no significant difference between genders.

For Workload (WC), males had a mean of 8.34 (SD = 3.42), and females had a mean of 8.20 (SD = 1.73). The t-value is 0.26 with a df of 98, and the p-value is 0.79, showing no significant difference in perceived workload between males and females.

On PH subscale, males reported a mean of 29.75 (SD = 2.11), while females had a mean of 28.13 (SD = 2.24). The t-value is 3.63 with a df of 98, and the p-value is less than 0.001, indicating that males perceive better physical health compared to females.

For MH, males had a mean of 23.34 (SD = 2.62), while females had a mean of 22.74 (SD = 2.17). The t-value is 1.23 with a df of 98, and the p-value is 0.21, showing no significant difference between genders in mental health.

On the SR subscale, males reported a mean of 11.46 (SD = 1.77), while females had a mean of 10.42 (SD = 1.84). The t-value is 2.81 with a df of 98, and the p-value is 0.00, indicating that males report better social relationships than females.

Finally, for E, males had a mean of 29.60 (SD = 1.62), and females had a mean of 28.62 (SD = 2.83). The t-value is 1.99 with a df of 98, and the p-value is 0.04, indicating a significant difference, with males perceiving their environment more positively than females.

Table 4 presents the comparisons across various subscales between participants of different age groups, using One-Way ANOVA. The analysis covers four age groups: 20-30 years, 31-40 years, 41-50 years, and 51 years and above, with data provided for all measured subscales.

Table 4. Comparisons on the subscales between the examined persons of different age groups (One-Way ANOVA)

Table 4 Comparisons across various subscales between participants of different age groups, using One-Way ANOVA

Subscales	Age groups	N	Mean	SD	F	df	p
EE	20-30	15	19,53	11,44	3,23	3;98	0,02
	31-40	34	15,20	9,45			
	41-50	35	11,31	7,76			
	51 and above	16	13,12	7,22			
PA	20-30	15	19,60	6,09	2,61	3;98	0,05
	31-40	34	18,58	6,82			
	41-50	35	16,40	5,01			
	51 and above	16	14,87	4,03			
D	20-30	15	6,06	2,96	3,40	3;98	0,02
	31-40	34	6,38	4,67			
	41-50	35	4,28	3,48			
	51 and above	16	3,37	2,12			
PS	20-30	15	15,00	4,27	4,39	3;98	0,00
	31-40	34	15,11	4,68			
	41-50	35	17,37	3,37			
	51 and above	16	18,62	2,12			

RC	20-30	15	14,00	14,00	3,17	3;98	0,02
	31-40	34	15,17	15,17			
	41-50	35	16,02	16,02			
	51 and above	16	17,81	17,81			
NW	20-30	15	16,40	,82	1,66	3;98	0,18
	31-40	34	16,64	1,49			
	41-50	35	16,77	1,73			
	51 and above	16	17,56	1,93			
RS	20-30	15	14,73	10,38	1,93	3;98	0,13
	31-40	34	11,70	1,40			
	41-50	35	12,34	1,21			
	51 and above	16	12,93	1,28			
WC	20-30	15	2,43	,62	2,56	3;98	0,05
	31-40	34	2,91	,50			
	41-50	35	2,40	,40			
	51 and above	16	1,59	,39			
PH	20-30	15	28,40	1,88	4,74	3;98	0,00
	31-40	34	29,11	2,48			
	41-50	35	29,45	2,20			
	51 and above	16	27,06	1,80			
MH	20-30	15	22,66	11,44	3,10	3;98	0,03
	31-40	34	22,17	19,53			
	41-50	35	23,82	19,53			
	51 and above	16	23,18	19,53			
SR	20-30	15	10,26	2,34	2,23	3;98	0,08
	31-40	34	10,44	2,25			
	41-50	35	11,42	1,14			
	51 and above	16	11,00	1,59			
E	20-30	15	27,40	2,22	4,26	3;98	0,00
	31-40	34	28,88	2,67			
	41-50	35	29,94	1,86			
	51 and above	16	28,87	2,62			

For EE subscale, participants aged 20-30 reported the highest mean score of 19.53 (SD = 11.44), while those aged 41-50 had the lowest mean of 11.31 (SD = 7.76). The F-value is 3.23 with a df of 3,98, and the p-value is 0.02, indicating a significant difference in emotional exhaustion between the age groups.

On the PA subscale, participants aged 20-30 had the highest mean of 19.60 (SD = 6.09), while the 51 and above age group had the lowest mean of 14.87 (SD = 4.03). The F-value is 2.61 with a df of 3,98, and the p-value is 0.05, suggesting a borderline significant difference in personal accomplishment across age groups.

For D subscale, the 20-30 age group again reported the highest mean of 6.06 (SD = 2.96), while those aged 51 and above had the lowest mean of 3.37 (SD = 2.12). The F-value is 3.40 with a df of 3,98, and the p-value is 0.02, indicating significant differences in depersonalization between the age groups.

In terms of PS, participants aged 51 and above had the highest mean score of 18.62 (SD = 2.12), while those aged 20-30 had the lowest mean of 15.00 (SD = 4.27). The F-value is 4.39 with a df of 3,98, and the p-value is 0.00, indicating a significant difference in perceived principal support across the age groups.

For RC subscale, participants aged 51 and above reported the highest mean of 17.81 (SD = 3.77), while those aged 20-30 had the lowest mean of 14.00 (SD = 14.00). The F-value is 3.17 with a df of 3,98, and the p-value is 0.02, suggesting significant differences in perceived relationships with colleagues.

For RS, participants aged 20-30 reported the highest mean of 14.73 (SD = 10.38), while those aged 31-40 had the lowest mean of 11.70 (SD = 1.40). The F-value is 1.93 with a df of 3,98, and the p-value is 0.13, indicating no significant differences in resource satisfaction across age groups.

On WC subscale, participants aged 51 and above reported the lowest mean of 1.59 (SD = 0.39), while those aged 31-40 reported the highest mean of 2.91 (SD = 0.50). The F-value is 2.56 with a df of 3,98, and the p-value is 0.05, indicating a borderline significant difference in perceived workload between age groups.

For PH, participants aged 41-50 reported the highest mean of 29.45 (SD = 2.20), while those aged 51 and above had the lowest mean of 27.06 (SD = 1.80). The F-value is 4.74 with a df of 3,98, and the p-value is 0.00, showing a significant difference in perceived physical health across the age groups.

In terms of MH, participants aged 41-50 reported the highest mean of 23.82 (SD = 19.53), while those aged 31-40 had the lowest mean of 22.17 (SD = 19.53). The F-value is 3.10 with a df of 3,98, and the p-value is 0.03, indicating a significant difference in perceived mental health between the age groups.

Finally, for Environmental factors (E), participants aged 41-50 reported the highest mean of 29.94 (SD = 1.86), while those aged 20-30 had the lowest mean of 27.40 (SD = 2.22). The F-value is 4.26 with a df of 3,98, and the p-value is 0.00, indicating a significant difference in perceived environmental factors across the age groups.

No significant differences were found between age groups on the NW, RS, and SR scales.

In comparisons between participants of different marital statuses across several subscales we used One-Way ANOVA. The analysis examines three groups: single, married, and those in a relationship (Table S4). In terms of PA, single participants have a mean score of 19.39 (SD = 5.50), married participants have a mean of 16.15 (SD = 5.57), and those in a relationship have a mean of 18.83 (SD = 6.51). The F-value is 3.34 with a df of 2,97, and the p-value is 0.04, indicating a significant difference in personal accomplishment across marital statuses. In terms of NW, single participants have a mean score of 16.08 (SD = 1.27), married participants have a mean of 17.08 (SD = 1.76), and those in a relationship have a mean of 16.77 (SD = 1.11). The F-value is 3.36 with a df of 2,97, and the p-value is 0.03, indicating a significant difference in networking based on marital status.No significant differences in marital status were found between the age groups on the other scales.

Significant differences are found across work experience levels in the subscales of PA, PS, WC, and E (Table S5). On the PA subscale, participants with shortest work experience had the highest mean of 19.70 (SD = 6.22), while these above 10 years work experience had the lowest mean of 15.76 (SD = 4.86). The F-value is 3.79 with a df of 2.97, and the p-value is 0.02.

On the PS subscale, participants with shortest work experience had the lowest mean of 14.62 (SD = 3.96), while these above 10 years work experience had the highest mean of 17.81 (SD = 3.07). The F-value is 5.50 with a df of 2.97, and the p-value is 0.00. On the WC subscale, participants with shortest work experience had the lowest mean of 7.20 (SD = 2.62), while these with work experience 5-10 years had the highest mean of 8.93 (SD = 2.30). The F-value is 5.50 with a df of 3.37, and the p-value is 0.03. On the E subscale, participants with work experience above 10 years had the highest mean of 29.48 (SD = 2.29), while these with work experience 5-10 years had the lowest mean of 27.83 (SD = 2.85). The F-value is 4.03 with a df of 2.97, and the p-value is 0.02.

Table 5 presents comparisons between participants at different teaching levels (Primary General Education, Primary Special Education, Secondary General Education, and Secondary Special Education) across various subscales, using One-Way ANOVA.

Table 5. Comparisons on the subscales between the examined persons in different teaching levels (One-Way ANOVA)

Subscales	Teaching levels	N	Mean	SD	F	df	p
EE	Primary General Education	27	9,51	6,51	32,69	3; 96	<,001
	Primary Special Education	23	19,86	4,84			
	Secondary General Education	29	7,55	6,02			
	Secondary Special Education	21	23,00	8,70			
PA	Primary General Education	27	14,11	4,66	16,10	3; 96	<,001
	Primary Special Education	23	21,73	4,97			
	Secondary General Education	29	14,68	5,02			
	Secondary Special Education	21	20,52	4,76			
D	Primary General Education	27	3,40	3,31	22,31	3; 96	<,001
	Primary Special Education	23	8,47	3,21			
	Secondary General Education	29	2,62	2,76			
	Secondary Special Education	21	7,09	2,58			
PS	Primary General Education	27	18,00	3,68	7,10	3; 96	<,001
	Primary Special Education	23	13,86	3,74			
	Secondary General Education	29	17,82	3,32			
	Secondary Special Education	21	15,38	4,27			
RC	Primary General Education	27	17,18	3,53	9,45	3; 96	<,001
	Primary Special Education	23	13,95	3,64			
	Secondary General Education	29	17,41	3,24			
	Secondary Special Education	21	13,42	3,00			
NW	Primary General Education	27	16,59	1,50	1,47	3; 96	,22
	Primary Special Education	23	17,34	2,05			
	Secondary General Education	29	16,48	1,27			
	Secondary Special Education	21	16,90	1,51			
RS	Primary General Education	27	14,11	7,68	1,89	3; 96	,13
	Primary Special Education	23	11,43	1,44			
	Secondary General Education	29	12,27	1,36			
	Secondary Special Education	21	12,28	,95			
WC	Primary General Education	27	9,70	2,12	19,76	3; 96	<,001
	Primary Special Education	23	7,52	2,29			
	Secondary General Education	29	9,37	1,87			
	Secondary Special Education	21	5,66	1,82			
PH	Primary General Education	27	28,29	2,82	2,13	3; 96	,10
	Primary Special Education	23	28,43	1,85			
	Secondary General Education	29	29,68	2,40			

	Secondary Special Education	21	28,61	1,68			
MH	Primary General Education	27	23,00	2,92	1,19	3; 96	,31
	Primary Special Education	23	22,26	2,32			
	Secondary General Education	29	23,13	2,37			
	Secondary Special Education	21	23,57	1,39			
SR	Primary General Education	27	11,25	1,53	5,67	3; 96	,00
	Primary Special Education	23	10,43	1,64			
	Secondary General Education	29	11,62	1,47			
	Secondary Special Education	21	9,71	2,41			
E	Primary General Education	27	28,44	2,73	1,16	3; 96	,329
	Primary Special Education	23	29,17	2,53			
	Secondary General Education	29	29,62	2,24			
	Secondary Special Education	21	28,80	2,22			

Significant differences are found across work experience levels in the subscales of EE, PA, D, PS, RC, WC, and SR.

Regarding EE, the highest mean values are observed among teachers in Secondary Special Education (M=23.00, SD=8.70), and the lowest among teachers in Secondary General Education (M=7.55, SD=6.02). The F-value is 32.69 with a df of 3; 96, and the p-value is <,001.

On the PA subscale, the highest mean values are observed among teachers in Primary Special Education (M=21.73, SD=4.97), and the lowest among teachers in Primary General Education (M=14.11, SD=4.66). The F-value is 16.10 with a df of 3; 96, and the p-value is <,001.

On the D subscale, the highest mean values are observed among teachers in Primary Special Education (M=8.47, SD=3.21), and the lowest among teachers in Secondary General Education (M=2.62, SD=2.76). The F-value is 22.31 with a df of 3; 96, and the p-value is <,001.

On the PS subscale, the highest mean values are observed among teachers in Primary General Education (M=18.00, SD=3.68), and the lowest among teachers in Primary Special Education (M=13.R6, SD=3.73). The F-value is 7.10 with a df of 3; 96, and the p-value is <,001.

On the RC subscale, the highest mean values are observed among teachers in Secondary General Education (M=17.41, SD=3.24), and the lowest among teachers in Secondary Special Education (M=13.42, SD=3.00). The F-value is 9.45 with a df of 3; 96, and the p-value is <,001.

On the WC subscale, the highest mean values are observed among teachers in Primary General Education (M=9.70, SD=2.12), and the lowest among teachers in Secondary Special Education (M=5.66, SD=1.82). The F-value is 19.75 with a df of 3; 96, and the p-value is <,001.

On the SR subscale, the highest mean values are observed among teachers in Secondary General Education (M=11.62, SD=1.47), and the lowest among teachers in Secondary Special Education (M=9.71, SD=2.41). The F-value is 5.67 with a df of 3; 96, and the p-value is 0,00.

Discussion

The findings from this study provide insightful distinctions between general and special education teachers across various subscales, such as emotional exhaustion, personal accomplishment, depersonalization, and workload, and illustrate the particular challenges faced by each group. These results shed light on important aspects of the working conditions and personal experiences of teachers, reflecting the differential impact that teaching context has on

their well-being and professional outcomes. One of the most striking findings in this study is the significant difference in **Emotional Exhaustion (EE)** between general and special education teachers. Special education teachers reported significantly higher levels of emotional exhaustion compared to their general education counterparts. This is consistent with previous research suggesting that special education teachers face unique stressors, such as working with students who have more complex needs, behavioral issues, and severe disabilities, which can lead to higher levels of burnout (Park & Shin, 2020). The intense demands of special education, coupled with insufficient resources and support, may exacerbate feelings of exhaustion and ultimately contribute to burnout. Conversely, general education teachers, while still reporting some levels of emotional exhaustion, appeared to manage their workload more effectively, possibly due to fewer challenges related to student behavior and individualized attention demands.

In line with emotional exhaustion, the results also revealed a significant difference in **Depersonalization (D)** between the two groups, with special education teachers again reporting higher levels. Depersonalization refers to the emotional detachment and sense of indifference teachers may develop toward their students as a coping mechanism for dealing with chronic stress (Maslach & Jackson, 1981). The high levels of depersonalization among special education teachers may be attributed to the emotional toll of managing students with challenging behaviors, limited resources, and high expectations. This finding underscores the need for interventions that specifically target emotional resilience and mental health support for special education teachers, who may be at a greater risk of emotional detachment from their students due to sustained stress.

The significant differences in **Personal Accomplishment (PA)** between general and special education teachers present an interesting contrast. Despite experiencing higher levels of emotional exhaustion and depersonalization, special education teachers reported higher levels of personal accomplishment. This suggests that, while special education teachers may be more emotionally taxed, they still derive a strong sense of fulfillment and success from their work. The sense of personal accomplishment may stem from the deep, meaningful connections they develop with their students and the tangible improvements they observe in their students' progress over time. Special education teaching, while demanding, may offer unique rewards in terms of personal and professional satisfaction, as teachers often see the direct impact of their efforts on students with significant educational needs. This finding aligns with previous studies suggesting that, despite higher burnout levels, special education teachers often report strong intrinsic motivation and job satisfaction due to the meaningful nature of their work (Fore et al., 2002).

The disparities in **Principal Support (PS)** and **Relationship with Colleagues (RC)** between general and special education teachers also provide important insights. General education teachers reported higher levels of perceived support from their principals and better relationships with colleagues compared to special education teachers. This discrepancy may reflect a systemic issue within schools, where the unique challenges faced by special education teachers are not adequately acknowledged or supported by school leadership and peers. Special education teachers may feel isolated or disconnected from the broader teaching community, especially if

their specialized role is not fully integrated into the general education framework. Enhancing collaboration between general and special education teachers and ensuring that school leadership provides targeted support for the challenges faced by special education staff are critical steps in fostering a more inclusive and supportive working environment.

In terms of **Workload (WC)**, the findings suggest that general education teachers perceive a heavier workload compared to special education teachers, despite the latter group's higher levels of emotional exhaustion and depersonalization. This apparent contradiction may be explained by differences in the nature of the work. While general education teachers may face larger class sizes and more administrative duties, the challenges faced by special education teachers are often more intense on an emotional and psychological level. Special education teachers may spend more time dealing with individualized educational plans, behavioral interventions, and specialized instruction, which, although less quantifiable in terms of hours, can be far more draining on a personal level. Thus, while general education teachers may experience a higher volume of tasks, the intensity and complexity of the work in special education may lead to greater emotional fatigue.

Another notable finding is the significant difference in **Social Relationships (SR)** between the two groups, with general education teachers reporting stronger social connections than special education teachers. This may reflect the more isolated nature of special education teaching, where teachers often work in smaller teams or even alone in specialized settings. Strengthening the sense of community and support among special education teachers is crucial, as social isolation can exacerbate feelings of burnout and detachment. Schools should consider creating more opportunities for collaboration and peer support between general and special education teachers to foster a more inclusive and supportive environment for all staff.

Interestingly, there were no significant differences between general and special education teachers in terms of **Networking (NW)**, **Resource Satisfaction (RS)**, **Physical Health (PH)**, **Mental Health (MH)**, or **Environmental factors (E)**. This suggests that, while emotional and professional experiences may vary between the two groups, both face similar challenges in terms of access to resources, physical health, and the general environment in which they work. However, it is worth noting that resource satisfaction was lower in special education teachers, although not statistically significant, indicating that further attention should be given to ensuring that special education teachers have adequate resources to meet the demands of their roles.

In conclusion, the findings of this study highlight the unique challenges faced by special education teachers, particularly in terms of emotional exhaustion, depersonalization, and a lack of support from principals and colleagues. While special education teachers report higher levels of personal accomplishment, the emotional toll of their work suggests a need for targeted interventions aimed at reducing burnout and enhancing emotional resilience. School leadership should prioritize creating more supportive environments for special education teachers, fostering collaboration between general and special education staff, and ensuring that the emotional and psychological demands of special education are adequately addressed. By doing so, schools can

help mitigate the risk of burnout and improve the overall well-being of their teachers, which, in turn, can lead to better educational outcomes for students.

The feelings of emotional removal, withdrawal and detachment from work were low in all groups. In other words, the groups appear to differentiate mainly in terms of emotional exhaustion. Also, the groups that reported low levels of emotional burnout appeared to be more satisfied with their job and with a better quality of life compared to those that reported medium levels of emotional exhaustion. According to Emery and Vandenberg (2010), special education teachers are especially vulnerable due to low job satisfaction, low self-esteem and high levels of stress. Studies have also shown that the ages between 20 and 30 present higher levels of burnout (Kantas, 1996; Farber, 2000; Maslach et al., 2001) and that women show higher levels of "emotional fatigue", than their male colleagues (Maslach & Jackson, 1984; Hart & Heaver, 2013; Daniilidou, et al.,2018).

As far as the differences among groups in the levels of burnout are concerned, the results showed significant main effects for the type of school factor in total burnout. Specifically, the levels of burnout are higher in the teachers working to special education compared to the teachers working to the general education. Sex was also found to affect total burnout, with the females demonstrating higher levels of burnout compared to males. As far as work experience is concerned, the results showed that the levels of burnout are significantly higher for those with the smallest experience (1-5 years). Also, females with the smallest work experience were found to suffer more from burnout. Those findings agree with the majority of previous related studies (Schaufel & Enzman, 1998; Friedman & Farber, 1992; Hart & Heaver, 2013; Daniilidou, et al., 2018; Ozdemir, 2007).

In this study the interaction between type of school and gender was not significant. Kokkinos and Davazoglou (2009) compared burnout in general and special education teachers and found that the teachers of special education show greater emotional exhaustion and higher levels of depersonalization than general education teachers, indicating that their work is particularly demanding. In comparing the differences in burnout between general and special education teachers, Koliadis et al., (2003) found that the levels of burnout are higher in all three dimensions compared to the general education teachers.

Those working 1-5 years reported higher levels of emotional exhaustion and depersonalization compared to those working 5-10 and more than 10 years. Surveys have revealed that those whose teaching experience period is shorter had more burnout (Shreeve et al., 1986; Singer, 1993; George et al., 1995; Kilgore & Griffin, 1998). Küçüksüleymanoğlu (2011, p.3) found that teachers with 16-20 years of experience had the lowest burnout score. Shreeve et al. (1986) who also found that less experienced teachers report higher levels of burnout, argued that this could be due to the experience that they gain over the years. In other words, the more experienced they are the more able they to cope with the problems.

Limitations and future research suggestions

The use of e-survey as a data collection method has several disadvantages that are related to the representativeness of the sample, the possibility of sampling bias, absence of personal contact with the participants and lack of control (Stalikas, 2011). The lack of supervision of the process entails the risk that some questionnaires may be filled out casually and hastily by the people taking part in the survey. Another limitation of the study concerns the timing of the measurement of the burnout levels. The data collection took place during October and December, and probably the levels of burnout would have been higher if the study took place at the middle of the school year or towards the end. It would have been useful future studies to measure burnout levels at different times and make comparisons. There is the possibility that additional variables might have influenced the results. Such variables could be family problems; relationships with significant others; support they receive from their social surrounding; reasons for choosing that profession and especially special education, which is very demanding; personality traits; additional demographics such as marital status and many other factors that a quantitative approach cannot identify. Future studies should identify and control possible confounding variables in order to reach more accurate and valid conclusions.

Conclusion

We found significant differences varying by age, by teaching level, and by family status among teachers from the Greek population in the dimensions of burnout, job satisfaction, and quality of life. Our evidence, in the comparative context of general and special education, replicates a consistent line of findings in research on these phenomena in the teaching profession. Routine and expanded future research is needed on the interrelated phenomena of burnout, job satisfaction, and quality of life at different levels of work in educational systems.

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