

RESEARCH ARTICLE

Exploring the Associations Between Demographic Characteristics and Teachers' Occupational Stress and Coping

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The purpose of the study was to investigate demographic factors influencing sources of stress and coping strategies in pre-primary, primary and secondary school teachers. A total of 1447 school teachers participated in this study. They completed the following scales: "Ways of Coping Questionnaire", "Teachers' Professional Stress Questionnaire" and demographic data. Teachers reported moderate to high levels of occupational stress. Teachers' school level, gender and years of teaching/working experience were examined in relation to occupational stress and coping (using multivariate analysis of variance). Results demonstrate that gender, school level and years of teaching experience appear to have an impact on teachers' sources of stress. Findings of the study also revealed gender differences in the coping strategies utilized by teachers as well as differences across school level and years of teaching experience. Results of the study are discussed.

Keywords: occupational stress; coping strategies; teachers

Over the past 30 years researchers have been interested in finding out about stressors and coping strategies in the teaching profession (Friedman, 2006) as addressing teacher stress in classroom remains a significant challenge in education (Flook, Goldberg, Pingel, Bonus, & Davidson, 2013). In the stress and coping literature stress phenomena are seen from an environmental (environmental experiences, demands, stressors or events), psychological (subjective evaluations of the stressfulness of a situation) and biological (behavioral or biological responses to stressors or approaches) perspective (Cohen, Kessler, & Gordon, 1995). In this study teacher stress, which was defined as the experience by a teacher of unpleasant emotions such as tension, frustration, anxiety, anger and depression resulting from aspects of his or her work as a teacher (Kyriacou, 1998), as well as coping strategies, are seen from the transactional stress theory perspective (Lazarus & Folkman, 1984). The theory approached coping as a "process" which was well defines by Lazarus (1993).

Several studies had been undertaken to examine the prevalence, level and major sources of work stress among school teachers in different countries (Abel & Sewell, 1999; Boyle, Borg, Falzon, & Baglioni, 1995; Milczarek, Schneider, & González, 2009; Tang, Au, Schwarzer, Schmitz, 2001; Shkemi, Melonashi, & Fanaj, 2015). These studies demonstrate that the teaching profession is evaluated as stressful and that teachers face a myriad of demands daily, such as high workload and time pressure, problems with students, staff conflicts, maintaining discipline, adapting to changes, etc. (Antoniou, Polychroni, & Vlachaki, 2006; Austin, Shah, & Muncer, 2005; Shonfeld, 2001; Youngusband, 2000).

However, the magnitude of teacher stress varies according to the criteria used from study to study. While these demands and stressors have consistently appeared in the teacher stress literature for over 30 years (Kyriacou, 2001; Ryan, Embse, Pendergast, Saeki, Segool, & Schwing, 2017), working conditions for teachers have also become more difficult in recent years in several significant ways (Esteve, 2000; Ladd, 2009).

In many European countries, such as Greece, the status of teachers has declined in recent years mainly as a result of austerity measures imposed on and by governments. There has also been a growing emphasis on accountability policies, often at the expense of teachers' autonomy, and teachers' increasingly feel under pressure (Hargreaves, 2009). This coupled with the imposition of appraisal/evaluation of the educational-teaching work, the recent massive educational and financial reforms and the consequences of the economic crisis can be characterized by certain features that are inherently stressful. Evidence suggests that prolonged occupational stress can lead to physical, mental and emotional ill-health (Kelso, French, & Fernandez, 2005). Furthermore, high levels of occupational stress are also associated with job dissatisfaction, absenteeism and work turnover (Billingsley & Cross, 1992; Ryan et al., 2017).

The effects of teacher stress are mediated by coping, which is modified by social support and personality (Holahan & Moos, 1986). Coping, which has been seen as a powerful mediator of the emotional outcome of a stressful encounter, is the effort used to manage psychological stress (Lazarus, 1999). The process-oriented model defines coping as "the person's constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding to a person's resources" (Lazarus, 1993). In this model the process (a person's actual behavior in the situation), contextual (environmental context and the person's appraisal) and effort nature are emphasized (Lazarus, 1993).

Coping is the main determinant in the process from stressful events to adaptational outcomes. Coping and approaches to reducing stress may be either direct (e.g. changing the source of stress), or indirect (e.g. changing the way one thinks about) and either active (e.g. taking some action to change oneself or the situation) or inactive (e.g. avoiding or denying the source of stress by engaging in sport activities, relaxation techniques etc.) (Kelso, French, & Fernandez, 2005; Lazarus & Folkman, 1984). If personal resources and the external resources an individual can access to meet job demands are perceived to be equal to the task, then the job may seem simply challenging. But, if the demands are perceived to be overwhelming and exceeding an individual's capabilities or the resources available, they become stressors triggering mental and physical stress.

In early studies, attention has been given to the coping strategies used by teachers. Coping can be defined as the process of using specific strategies to deal with a stressful situation. These strategies fell into two main categories: dealing with the problem (problem focused coping) and regulating emotions (emotion focused coping) (Lazarus & Folkman, 1984). Problem focused (Lazarus & Folkman, 1984) or task oriented coping (Endler & Parker, 1990) consists of efforts to change the circumstances of an adaptational encounter by changing the environment or oneself. Emotion focused or emotion oriented coping has been conceptualized as attempting to withdraw from a stressful event without dealing directly with the problem. Emotion focused coping involves cognitive activities which alter the way the situation is interpreted (Bakker & Berenbaum, 2007; Lazarus, 1999). According to Lazarus and Folkman (1984) process-oriented theory and method of the ways of coping checklist, avoidance or wishful thinking are emotion focused or defensive coping strategies, whereas confrontive coping, problem solving or seeking social support are problem-solving coping strategies. The coping form used depends on whether one thinks something can be done to

change harmful or threatening conditions. If the situation is seen to be changeable or controllable, problem-focused strategies dominate. When the individual perceives that little can be done, the emphasis may be on emotion-focused coping (Lazarus, 1999). However, using only one response to coping is usually insufficient; a variety of stress management techniques may be required (Austin, Shah, & Muncer, 2005; Chinaveh, Islak, & Sallen, 2010; Rumbuld, Fletcher, & Daniels, 2012) according to the situations and to personality characteristics (e.g. hardiness, sense of coherence).

Recently, attention was drawn to teachers' stress and coping strategies in Greece. The vast majority of the literature refers to teachers from elementary and secondary education (Antoniou et al., 2006; Koustelios & Tsigilis, 2005; Tsigilis, Zournatzi, & Koustelios, 2011) with the main focus being the sources and the levels of stress (Koustelios & Kousteliou, 1998; Papastyliannou, 1997). The limited available studies regarding the levels of occupational stress of Greek teachers have indicated that Greek teachers experience considerably high levels of stress (Antoniou et al., 2006; Kantas, 2001), which in conjunction with maladaptive coping strategies can lead to high burnout levels (Kamtsios & Lolis, 2016).

Consistent with theory and the implications of previous research, the main purpose of this study, which is part of an ongoing research project, was to investigate demographic factors influencing teachers' sources of stress and coping strategies. In doing so, the study examined stressors and coping strategies in a large sample of pre-primary, elementary and secondary education teachers, in relation to demographic characteristics such as gender, school level and years of teaching experience. Study's research hypothesis was that teachers' gender, school level and experience would have an effect on teachers' stressors and coping strategies.

METHOD

Data Collection

An electronic/web-survey was created and emailed to the respondents. They were asked to visit a web-site (clicking an e-mailed link), and respond to the questionnaires by checking answers. The questionnaires were anonymous and the participating teachers were informed about the aim and the structure of the study in the first appearing page.

Participants

Initially, schools were randomly selected from ten geographic regions of Greece, using a cluster randomized trial. These schools were randomly ordered and sequentially invited to participate. One hundred schools were approached to achieve the recruitment of 75 schools. After baseline measurements, 1815 teachers were invited to participate. Finally 1447 teachers from 75 pre-primary, elementary, middle and secondary schools completed the questionnaires. The sample consisted of 64.8% females (N=939) and 35.1% males (N=508). The response rate was 79%. The demographic characteristics of the sample are presented in Table 1.

TABLE 1
Demographic Characteristics of the Sample

Demographic characteristics	N	%
Gender		
Male	508	35.11
Female	939	64.89
Age		
>30 years old	121	8.36
31-45 years old	667	46.10
46+ years old	412	45.54
Type of school		
Pre-primary	124	8.57
Elementary school	686	47.41
Middle & secondary school	637	44.02
Years in teaching profession		
>10 years	467	32.27
11-20 years	568	39.26
21+ years	412	28.47
Number of schools of the ten Geographical regions of Greece		
Attica	252	17.41
Crete	128	8.84
Epirus	123	8.51
Thrace	127	8.77
Thessaloniki	220	15.22
Western Macedonia	127	8.77
Eastern Macedonia	145	10.02
Peloponnese	126	8.7
Ionian Islands	89	6.15
Cyclades	110	7.61

Measures

Participants completed the following scales:

Demographic Questionnaire. Initially, participants were asked to fill in detailed demographical questions regarding gender, age, years of teaching experience (the total number of years a person has been working in teaching) (Edmonson & Thompson, 2002) and school level.

Ways of Coping Questionnaire. Coping was measured by the modified version of the "Ways of Coping Questionnaire" (Lazarus & Folkman, 1984), as adapted to the Greek population (Karademas, 1998; Karademas, Karveli, & Argyropoulou, 2007). This questionnaire assesses thoughts and actions individuals use to cope with stressful encounters of everyday living. The Greek version of the questionnaire consisted of 38 questions covering a broad range of cognitive and behavioral strategies in order to deal with a stressful situation. Participants were asked to rate items across a four point Likert-type scale (0 = does not apply/not used, 3 = used a great deal). Participants (teachers) were asked to assess how frequently they used each item regarding the difficulties they met the last month in the school

environment. The overall scale consists of five subscales. These subscales are: (1) Confrontive coping: describes aggressive efforts to alter the situation and suggests some degree of hostility and risk-taking. (e.g. I expressed anger to the person(s) who caused the problem), (2) Problem solving: describes efforts to create positive meaning by focusing on personal growth (e.g. I found two or three solutions for the problem), (3) avoidance/denial: describes behavioral efforts to escape or avoid the problem (e.g. Tried to forget the whole thing), (4) Wishful thinking: the attribution of reality to what one wishes to be true or the tenuous justification of what one wants to believe (e.g. Wished that the situation would go away) and (5) Seeking social support: describes efforts to seek informational support, tangible support, and emotional support (e.g. Talked to someone who could do something concrete about the problem). Conceptually, these subscales represent two underlying dimensions: active or approach/adaptive coping strategies (confrontive coping, problem solving, seeking social support) and emotionally focused or avoidance/maladaptive coping styles (wishful thinking, avoidance/denial).

Teachers' Professional Stress Questionnaire. Participants also completed the "Teachers' Professional Stress Questionnaire" (Mouzoura, 2005). The questionnaire contained 37 randomly ordered statements, assessing six professional stressors: (1) perspective and prestige of teaching profession (11 items), (2) workload and time pressure (workload and time pressure includes actions such as preparing lessons, contacting parents, grading papers etc.) (7 items), (3) problems related to students' learning (6 items), (4) administrative and organizational issues at school (6 items), (5) problems related to students' behavior (5 items) and (6) relationships between colleagues (2 items). Survey participants responded on the basis of a five-point Likert scale, ranging from 1 (it is not stressful at all) to 5 (it is very stressful). A high score on the 5-point Likert scale indicated that the aspect being assessed by the question was perceived as very stressful by the teachers. Previous studies (Kamtsios & Lolis, 2016; Mouzoura, 2005) reported acceptable Cronbach coefficients for all the factors ($.70 < \alpha < .88$).

Statistical Analyses

The technique of Confirmatory Factor Analysis (CFA), with maximum likelihood estimation was used, in order to validate and study the properties of the "Teachers' Professional Stress Questionnaire." The hypothesized model includes all the 37 items loading on six factors. The fit of the model to the data was assessed based on the values of multiple fit indices: The comparative fit index (CFI), Goodness-of-fit Index (GFI), Normed Fit Index (NFI), and Root Mean Square Error of Approximation (RMSEA). CFI, GFI and NFI values higher than 0.90 indicate a good fit of the data to the model and values higher than 0.95 are considered on excellent fit (Bryne, 2001). The majority of researchers consider that RMSEA values lower than 0.05 indicate a very good fit and values up to 0.08 a reasonable fit (Byrne, 2001). We did not check further the psychometric properties of the "Ways of Coping Questionnaire" (Lazarus & Folkman, 1984). This questionnaire has been used in previous studies in Greece and its factorial validity has been confirmed (Karademas, 2007; Karademas & Kalatzi-Azizi, 2004; Karademas, Karveli, & Argyropoulou, 2007; Papastaurou, Tsangari, Karayiannis, Papacostas, Efstathiou, & Sourtzi, 2011).

Means and standard deviations were calculated for all factors. Reliability of the scales was examined using Cronbach's alpha coefficient. Furthermore, a six (6) (stressors) X two (2) (gender) X three (3) (school level, pre-primary, primary, secondary) X three (3) (years of teaching experience- 1 to 10 years, 11 to 20 years, >20 years) multivariate analysis of

variance (MANOVA) was carried out. Gender, school level and years of teaching/working experience served as the multivariate dependent variables, while each of the six stressors scores served as independent variables. Furthermore, a five (5) (coping strategies) X two (2) (gender) X three (3) (school level, pre-primary, primary, secondary) X three (3) (years of teaching experience= 1 to 10 years, 11 to 20 years, >20 years) multivariate analysis of variance (MANOVA) was also performed, with each of the five coping strategies as independent variables. The partial eta-square (η^2) statistically estimated the effect size associated with each statistical difference. The data were analyzed using SPSS-20.0 and AMOS 16.

RESULTS

Descriptive Statistics

Descriptive statistics are presented in Figure 1. “Perspective and prestige of teaching profession”, “problems related to students’ behavior” and “administrative and organizational issues at school” seems to be the most intense stressors. On the contrary, “relationship between colleagues” as well as “problems related to students’ learning” considered as least severe sources of stress in this study.

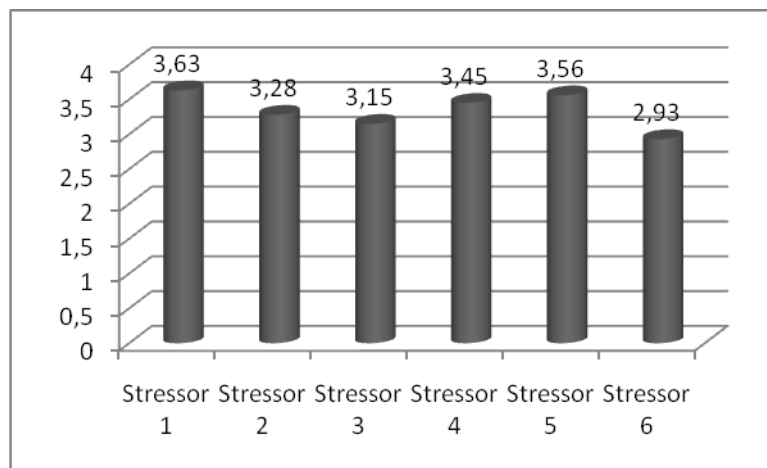


Figure 1. The distribution of the intensity of stressors.

Note: Stressor 1: Perspective and prestige of teaching profession
 Stressor 2: Workload and time pressure
 Stressor 3: Problems related to students’ learning
 Stressor 4: Administrative and organizational issues at school
 Stressor 5: Problems related to students’ behavior
 Stressor 6: Relationships between colleagues.

Results from Confirmatory Factor Analyses (CFA)

CFA were carried out for the purpose of validating and confirming the goodness of fit of the “Teachers’ Professional Stress Questionnaire”. Maximum likelihood (ML) estimation was used to address the possibility of non-normal distribution (Cantoni & Ronchetti, 2006) and to estimate the model parameters and the fit indices. ML has been found to produce more

accurate fit indices and less biased parameters than generalizes squares estimation (Olsson, Foss, Traye & Howell, 2000). Examination of fit indices indicated that the 6-factor model of the “Teachers’ Professional Stress Questionnaire” provided a good fit to the data ($\chi^2=1870.9$, $df=396$, $p=.001$, $CFI=.93$, $GFI=.92$, $NFI=.91$, $RMSEA=.05$ [with 95% confidence interval from .04 to .05]). These findings suggest that the factorial validity of the questionnaire is supported.

Results from Reliability Analysis. The internal consistency of the sub-factors of the questionnaires is presented in Table 2. Alpha coefficients for the six factors of the “Teachers’ Professional Stress Questionnaire” ranged from .70 to .88, whereas alpha coefficients for the five factors of the “Ways of Coping Questionnaire” ranged from .60 to .81. As a result of this analysis, these questionnaires were judged to be internally consistent and therefore reliable.

TABLE 2
Means, α -Cronbach, split-half and number of items of the factors of the questionnaires

Construct	M [SD]	α -cronbach	spli-half	Number of items
<i>Questionnaire of Teachers' Professional Stress Subscales</i>				
1 Perspective and prestige of teaching profession	3.63 [.80]	.88	.82	11
2 Workload and time pressure	3.28 [.91]	.86	.84	7
3 Problems related to students learning	3.15 [.74]	.75	.70	6
4 Administrative and organizational issues at school	3.45 [.81]	.77	.74	6
5 Problems related to students' behavior	3.56 [.78]	.77	.68	5
6 Relationships between colleagues	2.93 [1.1]	.70	.70	2
<i>Ways of Coping Questionnaire Subscales</i>				
1 Confrontive coping	2.96 [.48]	.81	.74	11
2 Seeking social support	2.84 [.58]	.72	.72	6
3 Wishful thinking	2.21 [.63]	.76	.77	8
4 Escape/avoidance	2.36 [.54]	.77	.71	9
5 Problem solving	2.16 [.52]	.60	.52	4

Manova Analysis Results. MANOVA analysis results of stressors by gender, school level and years of teaching/working experience indicate a significant multivariate effect of gender (Wilks's $\lambda=.99$, $F_{(1,1437)}=2.12$, $p=.04$, $\eta^2=.009$), school level (Wilks's $\lambda=.93$,

$F_{(2,1437)} = 8.30, p = .001, \eta^2 = .03$) and years of teaching/working experience (Wilks's $\lambda = .97, F_{(2,1437)} = 3.09, p = .001, \eta^2 = .02$) (Table 3).

More specifically, female school teachers scored higher than their male counterparts in stressors "perspective and prestige of teaching profession" ($F_{(1,1437)} = 4.94, p = .02, \eta^2 = .003$), "workload and time pressure" ($F_{(1,1437)} = 2.76, p = .04, \eta^2 = .004$), "administrative and organizational issues at school" ($F_{(1,1437)} = 9.23, p = .002, \eta^2 = .006$), "problems related to students' behavior" ($F_{(1,1437)} = 2.85, p = .04, \eta^2 = .004$) and "relationships between colleagues" ($F_{(1,1437)} = 4.49, p = .03, \eta^2 = .003$).

Concerning school level and stressors, univariate tests revealed differences between pre-primary, primary and secondary school teachers. More specifically, pre-primary school teachers scored higher in stressor "administrative and organizational issues at school" ($F_{(2,1437)} = 6.12, p = .002, \eta^2 = .008$). On the contrary, primary school teachers rate stressor "problems related to students' learning" higher than secondary teachers ($F_{(2,1437)} = 5.33, p = .005, \eta^2 = .007$), whereas secondary school teachers scored higher in stressor "workload and time pressure" ($F_{(2,1437)} = 9.80, p = .001, \eta^2 = .014$).

Univariate tests also revealed differences in stressors between teachers with different years of teaching/working experience. Primary school teachers with more than 21 years of teaching/working experience scored higher in stressor "administrative and organizational issues at school" than secondary and pre-primary school teachers ($F_{(2,1437)} = 7.73, p = .001, \eta^2 = .011$). This was also the case for pre-primary middle-career teachers (11-20 years of teaching/working experience), compared with their counterparts (primary and secondary school teachers) ($F_{(2,1437)} = 7.73, p = .001, \eta^2 = .011$).

Regarding coping strategies, MANOVA results of coping strategies by gender, school level and years of teaching/working experience indicated a significant multivariate effect of gender (Wilks's $\lambda = .99, F_{(1,1437)} = 1.42, p = .019, \eta^2 = .009$), school level (Wilks's $\lambda = .98, F_{(2,1437)} = 2.51, p = .005, \eta^2 = .007$) and years of teaching/working experience (Wilks's $\lambda = .98, F_{(2,1437)} = 2.62, p = .004, \eta^2 = .006$) (Table 4). Female teachers reported greater use of "seeking social support" ($F_{(1,1437)} = 7.21, p = .007, \eta^2 = .005$), whereas more experienced teachers (>21 years of teaching/working experience) reported greater use of "confrontive coping" ($F_{(1,1437)} = 6.36, p = .002, \eta^2 = .009$), as a strategy to deal with daily stressors. Furthermore, pre-primary and primary school teachers tend to adapt more the coping strategy "seeking social support" than secondary teachers ($F_{(2,1437)} = 9.76, p = .001, \eta^2 = .013$).

DISCUSSION

The purpose of the study was to investigate demographic factors influencing sources of stress and coping strategies employed by pre-primary, primary and secondary Greek teachers. Results of the study revealed gender differences in the reported sources of stress. Furthermore, school level and years of teaching experience appear to have an impact on teachers' sources of stress and coping strategies.

Concerning the overall sample, teachers in the present study reported moderate to high levels of stress. Teacher stress is found to be associated with both subjective (e.g. interaction with students, relationships with colleagues) and objective factors (e.g., school level, gender). The present study points out that the most salient stressors are associated with the quality of social interaction at work, mainly with students (e.g. problems with students' behavior). Furthermore, "administrative and organizational issues at school" as well as "perspective and prestige of teaching profession" have been reported as stressors in the teaching profession (Kamtsios & Lolis, 2016; Mouzoura, 2005).

Interestingly, “workload and time pressure” as well as “problems related to students’ learning” were the least prevalent stressors among the teachers who participated in the study. These findings are contrary to the evidence provided by different studies, in which time management and workload were rated the least likely sources of occupational stress for teachers (Boyle et al., 1995; Pithers & Fogarty, 1995), and with studies in Greece mentioning that the main sources of stress experienced by Greek teachers are related to discipline problems and interaction with students and colleagues (Antoniou et al., 2006). Possibly, teachers in this research (which was conducted in a context of economic crisis and appraisal of the educational-teaching work) worried more about the future and the occupational stability of their working life and also for their legitimacy in the profession. Also, specific work conditions and the fact that this population has suffered from massive salary cuts and radical educational reforms, which includes and the prospect of dismissal from work, create more stress. Viewed from this perspective, stressors related to “workload and time pressure” as well as to “problems with students’ behavior” were not the most prevalent causes of stress.

When differences between male and female teachers were explored, with respect to stressors and coping strategies, results of the study revealed that gender has an effect on stress and coping, utilizing by teachers. Results demonstrate that female teachers experienced higher levels of stress in the majority of stressors, compared to their males’ counterparts. These findings are in line with international studies (Chaplain, 1995; Eichinger, 2000; Gursel, Sunbul, & Sari, 2002; Romano & Wahlstrom, 2000) and studies in Greece (Antoniou et al., 2006; Kantas, 2001). However, some researchers have failed to find any significant gender differences in their studies (Aamodt, 2004; Fontana & Abouserie, 1993). These findings may be explained by differences in skills such as coping strategies and personality characteristics, as well as to different gender and social norms, regarding different gender related behaviors (Nasser & Alhija, 2015). Nevertheless, gender still remains a quite interest factor to be examined in the context of teachers’ workplace stress (Shkemi, Melonashi, & Fanaj, 2015).

Moreover, results of the study point out that significant differences were evident concerning the coping strategy “seeking social support.” Primary and secondary female teachers reported greater use than their men colleagues, “viewing” seeking help as a more effective strategy than their men counterparts. There were no other significant differences for the rest of coping strategies. Seeking social support, which is viewed as an adaptive way of coping with stress, is typically associated with positive outcomes in the teacher stress and coping literature (Dick & Wagner, 2001). Social support at the workplace is commonly seemed to promote well-being (Byrne, 1994) and supporting relationships in the work environment. Also it appears to serve as a stress-reducing, health promoting function, enhancing psychological functioning and reducing physiological arousal. Research findings indicate that female teachers reported seeking support as one of the most effective means of coping (Litt & Turk, 1985). Griffith, Steptoe, and Cropley (1999) confirmed the positive impact of social support on elementary teachers’ stress levels, whereas Dick and Wagner (2001) found social support to be negatively correlated with teachers’ stress levels.

TABLE 3
MANOVA Results of Stressors by Gender, School Level and Years of Teaching/Working Experience for Males

Stressors	Pre-primary school			Primary school			Secondary school		
	Years of experience			Years of experience			Years of experience		
	1 to 10 <i>M [SD]*</i>	11 to 20 <i>M [SD]</i>	>20 <i>M [SD]*</i>	1 to 10 <i>M [SD]</i>	11 to 20 <i>M [SD]</i>	>20 <i>M [SD]</i>	1 to 10 <i>M [SD]</i>	11 to 20 <i>M [SD]</i>	>20 <i>M [SD]</i>
Perspective and prestige of teaching profession		2.90		3.59 [.82]	3.60 [.81]	3.55 [.81]	3.51 [.70]	3.57 [.84]	3.41 [.94]
Workload and time pressure		3.28		3.12 [.97]	3.07 [.81]	3.07 [.93]	3.32 [.86]	3.24 [1.00]	3.09 [1.03]
Problems related to students' learning		3.66		3.13 [.83]	3.11 [.80]	3.10 [.85]	3.00 [.70]	3.08 [.75]	2.94 [.64]
Administrative and organizational issues at school		1.83		3.66 [.64]	3.43 [.75]	3.32 [.79]	3.41 [.79]	3.29 [.93]	3.05 [.85]
Problems related to students' behavior		4.00		3.50 [.84]	3.37 [.78]	3.30 [.90]	3.56 [.78]	3.51 [.84]	3.26 [.82]
Relationships between colleagues		3.00		3.01 [1.14]	2.73 [1.01]	2.60 [1.10]	2.65 [1.21]	2.63 [1.21]	2.52 [1.14]

Note. *There were no male teachers in these two group

TABLE 4
MANOVA Results of Stressors by Gender, School Level and Years of Teaching/Working Experience for Females

Stressors	Pre-primary school			Primary school			Secondary school		
	Years of experience			Years of experience			Years of experience		
	1 to 10 <i>M [SD]</i>	11 to 20 <i>M [SD]</i>	>20 <i>M [SD]</i>	1 to 10 <i>M [SD]</i>	11 to 20 <i>M [SD]</i>	>20 <i>M [SD]</i>	1 to 10 <i>M [SD]</i>	11 to 20 <i>M [SD]</i>	>20 <i>M [SD]</i>
Perspective and prestige of teaching profession	3.69 [.85]	3.92 [.75]	3.97 [.62]	3.54 [.83]	3.72 [.72]	3.67 [.75]	3.62 [.74]	3.71 [.83]	3.67 [.78]
Workload and time pressure	3.40 [.88]	3.64 [.82]	3.69 [1.00]	3.10 [.92]	3.23 [.84]	3.11 [.81]	3.44 [.91]	3.55 [.89]	3.48 [.88]
Problems related to students' learning	3.15 [.78]	3.15 [.86]	3.15 [.87]	3.20 [.75]	3.31 [.62]	3.38 [.76]	3.07 [.71]	3.08 [.70]	3.19 [.69]
Administrative and organizational issues at school	3.60 [.77]	3.63 [.71]	3.46 [.94]	3.56 [.79]	3.59 [.82]	3.47 [.79]	3.56 [.78]	3.50 [.78]	3.29 [.79]
Problems related to students' behavior	3.42 [.71]	3.56 [.80]	3.48 [.66]	3.70 [.72]	3.68 [.69]	3.68 [.74]	3.64 [.79]	3.64 [.75]	3.64 [.73]
Relationships between colleagues	3.15 [1.27]	3.12 [1.39]	3.50 [1.30]	3.06 [1.13]	3.09 [1.19]	2.96 [1.24]	3.08 [1.04]	3.10 [1.18]	2.98 [1.15]

TABLE 5
MANOVA Results of Coping Strategies by Gender, School Level and Years of Teaching/Working Experience for Males

Males (n=508)									
Coping strategies	Pre-primary school Years of experience			Primary school Years of experience			Secondary school Years of experience		
	1 to 10	11 to 20	>20	1 to 10	11 to 20	>20	1 to 10	11 to 20	>20
	<i>M [SD]*</i>	<i>M [SD]</i>	<i>M [SD]*</i>	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>
Confrontive coping		3.18		2.94 [.59]	3.00 [.48]	2.98 [.49]	2.91 [.47]	2.91 [.54]	2.99 [.46]
Seeking social support		3.50		2.73 [.66]	2.70 [.55]	2.68 [.45]	2.68 [.56]	2.50 [.61]	2.50 [.58]
Wishful thinking		2.50		2.24 [.71]	2.09 [.64]	2.24 [.61]	2.19 [.60]	2.09 [.61]	2.07 [.61]
Escape/avoidance		2.11		2.36 [.49]	2.43 [.52]	2.33 [.50]	2.46 [.51]	2.34 [.49]	2.26 [.51]
Problem solving		2.75		2.19 [.53]	2.17 [.61]	2.14 [.44]	2.23 [.61]	2.06 [.57]	2.18 [.40]

Note. *There were no male teachers in these two groups

TABLE 6
MANOVA results of coping strategies by gender, school level and years of teaching/working experience

Females (N=939)									
Coping strategies	Pre-primary school Years of experience			Primary school Years of experience			Secondary school Years of experience		
	1 to 10	11 to 20	>20	1 to 10	11 to 20	>20	1 to 10	11 to 20	>20
	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>	<i>M [SD]</i>
Confrontive coping	2.96 [.45]	2.98 [.52]	3.17 [.51]	2.88 [.47]	3.04 [.43]	3.15 [.47]	2.85 [.46]	2.90 [.48]	2.98 [.42]
Seeking social support	3.03 [.55]	3.15 [.50]	3.05 [.47]	3.00 [.54]	2.98 [.60]	2.97 [.52]	2.98 [.55]	2.87 [.58]	2.92 [.50]
Wishful thinking	2.40 [.65]	2.46 [.74]	2.17 [.48]	2.29 [.63]	2.28 [.65]	2.18 [.56]	2.20 [.60]	2.18 [.65]	2.11 [.66]
Escape/avoidance	2.55 [.59]	2.49 [.55]	2.53 [.61]	2.31 [.55]	2.38 [.56]	2.32 [.56]	2.31 [.52]	2.36 [.56]	2.36 [.57]
Problem solving	2.03 [.47]	2.15 [.44]	2.18 [.57]	2.13 [.52]	2.27 [.50]	2.19 [.50]	2.14 [.53]	2.19 [.58]	2.18 [.48]

Concerning the association between years of teaching/working experience and coping strategies, results of the study revealed relationships between years of experience and confrontive coping. These results seem to confirm the theoretical assumption mentioning that the years of teaching experience may be an important variable to consider when examining the relation between teacher stress and coping methods/strategies (Folkman & Lazarus, 1980; Sheu, Lin, & Hwang, 2002). Previous studies have generally reported to be a connection between years of teaching and coping (Griva & Juekes, 2003; Pascual, Perez-Jover, Mirambell, Ivanez, & Terol, 2003); experience plays a part in coping with daily stressors. Other studies have shown that there are no differences in coping as a function of experience (Dick & Wanger, 2001; Stoeber & Remert, 2008). Results of the study indicate that more experienced teachers adopt more a confronting coping strategy. Confrontive coping is used to reduce or eliminate external stress such as student related stressors (Blasé, 1986). We can hypothesize that experienced educators develop more adaptive coping strategies (confrontive coping is an adaptive coping strategy), included varied teaching techniques and materials, individual and personalized instruction, rewarding positive behavior, as a product of more familiarity with the teaching context. By developing these adaptive strategies, which directly affect the source of stress but also manage the consequences for the teacher, become more aware for the process of coping and improving their capacity to self regulate. In turn, fewer demands (stressors) are experienced, emotional reactions are less severe, more adaptive strategies are utilized and increased learning is acquired. By developing more effective coping strategies teachers are able to become less stress resistant and remain in the profession. These coping strategies used by teachers affect their outlook on the situation, thereby altering the perception of stress (Griffith, Steptoe & Cropley, 1999).

Regarding teaching/working experience and stressors, results of the study were in line with the existing literature; teachers with more teaching experience (years of teaching) reported lower stress levels (Lau, Yuen, & Chan 2005; Platsidou & Agalotis, 2008). Teaching experience seems to be a protective factor. Teachers may learn through experience and adjust their techniques of coping after reflecting on the effectiveness of the strategy employed, adapting those that appear beneficial. In this way, teachers would develop new skills as a function of experience and these new skills might result in changes in coping behavior over the course of the teachers' career. However, this finding must be treated with caution. Previous studies have shown no differences in coping as a function of experience (Dick & Wanger, 2001; Stoeber & Remert, 2008), whereas some others mention that research findings on the importance of experience in predicting stress and coping are inconsistent (Korevarr & Bergen, 1992). Therefore, further investigation is warranted.

Differences on the reported sources of stress across school levels were also investigated. Significant differences were evident for stressors "workload and time pressure", "administrative and organizational issues at school" and "problems related to students' learning". Pre-primary school teachers ranked stressor "administrative and organizational issues at school" higher comparing to primary and secondary school teachers. "Administrative and organizational issues at school" is a commonly investigated source of stress in this school level. This stressor includes several factors within the teaching domain, such as shaping curriculum, administrative work, pressure from superiors, and communications with educational authorities (Burke & Greenglass, 1995). Pre-primary schools in Greece mostly staffed by one person/teacher. This teacher has no interaction with colleagues and has the main responsibility for the whole school. As a result pre-primary school teachers experienced more stress due to administrative and organizational issues.

Concerning differences across school levels, results of the study revealed that primary school teachers scored higher than secondary teachers on stressor "problems related to students' learning." These results are similar with those mentioned by Griffith, Steptoe and Cropley (1999). They found that primary education teachers suffer from more stress than secondary education teachers. Primary education teachers are responsible for one class throughout the entire school year. This situation makes teachers not only responsible for educational activities, but for children's moral and social development, as well. More responsibility, along with work pressure and student misbehavior, causes the highest level of stress on primary classroom teachers. These behaviors

along with student discipline management, student apathy and student achievement, result in teachers experiencing increased stress (Blasé, 1986). On the contrary, research results point out that secondary school teachers scored higher in stressor “workload and time pressure.” This means that the total amount of work for them can be experienced as very stressful. Possible explanations derive from many different sources. In longitudinal studies of teacher stress, for example, the connection between personality traits and stress have been emphasized, as well as across different situational/academic contexts (Mykleton, Tander, Vaernes, & Ursin, 1988) and stress has been found to be very personal/situational in nature. A teacher’s personality is a factor of stress that is present (Guglielmi & Tatrow, 1998). This finding also may be attributed to the fact that work with older children is more demanding than with younger children. Personality characteristics and work conditions may play different roles and, as a result, secondary school teachers may not have control over the amount of work “depositing” by them, in versus other aspects of teaching.

Furthermore, results of the research point out differences in stressor concerning “students’ behavior” in teachers with different years of teaching experience. More experienced teachers (>21 years of teaching experience) appraise as less stressful “problems related to students’ behavior”, compared with early career teachers (...10 years of teaching). Likely, more experienced teachers use more effective teaching and learning strategies, play different roles in their attempt to impose discipline and they have the skills in how to control their class. They are also more aware for problems associated with students, and they may know (through their experience) how to help these pupils to overwhelm their problems (Howard & Johnson, 2004).

The purpose of this research was to recognize sources of stress and coping strategies utilized by Greek teachers. Knowledge of teachers’ internal cognitive and emotional causes of stress and coping methods is essential when attempting to understand the nature of stress. Gender, years of teaching experience and school level were found to differentiate levels of teachers’ stress and coping strategies. These results contribute to our understanding of the development of teachers’ coping strategies and sources of stress, so that training programs and interventions can intentionally support teachers in constructing the repertoire of strategies they need. Such findings may be of value to Greek teachers themselves, by helping them to gain insights about their own feelings of stress and coping procedures which they follow. By developing positive responses to stress will allow teachers to be more satisfied with their role as an educator and be more effective educator in the classroom. On the other hand, schools should provide guidance and counseling support, promoting lifelong learning in practical stress-reduction strategies (e.g. relaxation, classroom and time management) (Austin et al., 2005). Past research has evaluated therapy sessions and stress management techniques and has found positive results in favor of these techniques (Timmerman, Emmelkamp, & Sanderman, 1997).

However, results of the study must be treated with caution as the magnitude of stress and stressors vary according to different criteria (psychological, behavioral, psychosomatic or health variables). Keeping in mind that teaching and teacher stress is very individual and dynamic by its nature, future research should examine the stability of sources of stress and coping strategies over a period of time, as well as across different situational contexts. For example previous longitudinal studies support the hypothesis that teacher stress process varies during the school year (Beers, 2012; Fleischut, 1985), while in other studies it has been found to be rather stable (Capel, 1991). Some other studies suggest that stress increases with time during the autumn and requires more coping at the end of the school year (Guglielmi & Tatrow, 1998; Rajala, 1990).

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