

Stress in Teaching during a time of crisis: An investigation of the school teachers in Magnisia, Greece

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Abstract

This paper presents the result of a primary research which occurred in a sample of Greek teachers. The aim was to investigate whether the demographics were a factor which affects job stress and operates as a mediator. The research occurred in a sample of 208 primary education teachers. The adaptation to the Greek version of TSI for this research has been used, as it has been made by Agagiou (2011). The outcome of the research indicated that demographics determine the levels of job stress. Especially factors such as age and teaching experience are moderators. Years in this school unit also varied responses to overall anxiety and also to the dimension of personal stress at work. The working relationship affected the dimensions of lack of control and good control at work, the marital status affected the lack of control, and the education affected the aspect of having a fair control at work". The paper makes a recommendation for future research

Key words: Job stress, Teachers, TSI, Anxiety, Teachers, Greece

Introduction

The teacher today has a very difficult task. The reason is that a professional teacher is no longer restricted to the dissemination of knowledge to students, but has to manage a complex environment consisting of challenges arising both from the inside of the school unit (leadership style, infrastructure, etc.) as well as from abroad the environment of the unit (economic crisis, the social and cultural environment of the students' families, etc.), leading teachers to have high levels of work-related stress and other negative characteristics such as work dissatisfaction and emotional exhaustion (Skaalvik & Skaalvik, 2017). Occupational stress is defined as a situation where the employee does not understand the balance to be achieved between the capabilities he / she has as a worker and the requirements he / she has and the environment in relation to what that person can offer to work (Antoniou, 2006).

It should be stressed that work stress and stress can work positively as a point because they motivate the worker to be more effective in his work. However, high levels of work-related stress have negative consequences (Antoniou, 2006). The issue of work-related stress has been extensively studied in the field of education. Teachers are an industry that has particularly high levels of work-related stress due to a large number of factors that affect the school environment. Indeed, as the school environment changes and interacts more and

more with its external environment, both the work of teachers and the stressors (Rajkumar, 2016) are more difficult.

Using a factor analysis, this empirical research will examine whether the demographic characteristics of teachers in the area of Magnesia are differentiation factor of job stress. As it is already mentioned this is an empirical research where the expected results are associated with the study of the impact that demographic characteristics have over the examined population of teachers.

Literature review

Definition of work stress

This study will examine the dimension of the workplace as a stressful factor for teachers. In terms of working climate, we refer to a set of factors that affect the working conditions within an organization. Indicative factors such as interpersonal relationships, employer-employee relationships, customer relationships, ergonomics of premises, equipment, etc. are mentioned. The work climate is largely linked to organizational culture (Griffin, 2009).

It is understandable that the work will examine how the stressors that exist in the working environment affect teachers' professional anxiety. It should be noted that the sources of professional anxiety of teachers vary and may be within the school unit, such as the leadership style of the School Director, but may also be outside the school unit, such as the impact of industrial relations and wages made centrally by the Political Leadership (Loukas, Suzuki, & Horton, 2006). This shows that the chosen dimension falls within the scope of "Professional Educational Stress". Indeed, the relationship between work climate and occupational anxiety has been studied in a wide range and has been linked to other factors such as professional burnout, research to show that there are factors in the professional climate that burden teachers' professional anxiety and when they have high intensity lead and high levels of professional burnout. However, there is a need to continually produce new studies because the professional educator is exposed to a constantly changing environment (McCarthy, Lambert, O'Donnel & Melendres, 2009), which makes research in this dimension particularly necessary. The basic concepts under consideration are the following:

- Stress: Physical and mental reaction in stressful and demanding situations (Zervis, 2003).
- Stress management. Effort to control the distorted perception of reality that affects all aspects of a person's life (Zervis, 2003).
- Drivers of stress. Characteristics that make the individual able to create followers who believe in him as part of the development of an organization (Smelser & Baltes, 2001).
- Efficiency. Ability to deliver the expected result (Smelser & Baltes, 2001).

Stress at work

In 1976, the Cooper and Marshall model was presented, an alternative proposal in the research of work anxiety. The two researchers argued that it is only through an interdisciplinary approach that it is possible to investigate work anxiety and the factors that determine it. They focused mainly on their research into the extent to which psychological, physiological and social problems cause demanding stimuli experienced by workers in their working environment (Davidson & Cooper, 1981).

Accordingly, with the specimens of this model, Cooper and Marshall, there are a variety of factors that can lead the individual to experience the negative effects of a stressful situation. In particular Cooper and Marshall, they present five sources of work-related stress and give examples for each of them. So sources of stress are related to:

- Work, such as poor working conditions, time pressure, heavy workload.

- The role of the organization, such as clutter of roles and conflicts.
- Professional development, referring both to the lack of professional security and professional development.
 - Relationships in the working environment, such as lack of relationships with the boss or co-workers, or extreme violence at work.
 - The structure and climate of the organization, such as low participation in decision-making and policy-making of the organization. (Johnson, Cooper, Cartwright, Donald, Taylor & Millet, 2005)

The above five sources are those that play a key role in creating anxiety in the classroom of teachers, a profession which is characterized as a profession of high anxiety (Torrington & Cooper, 1977). It is easy to see that work stress is not caused by a single agent but by a combination many factors or problems (Fimian, 1988).

Torrington and Cooper (1977) refer to adaptive behaviors. According to them, when a person is stressed he will do a series of reaction behaviors. These adaptive behaviors are directly related to the stressful situation and are directly involved in finding a solution to deal with it. Feeling pressure and lack of calm will turn into exhausting anxiety when the person feels weak to cope with it. However, something that causes anxiety to someone, to someone else can cause professional satisfaction. For example, the deadline for completing a project can create anxiety for an employee, but it can also be a challenge for someone else who can provide satisfaction (Torrington & Cooper, 1977).

Teacher's stress

The research by Collie et al (2012) examines the emotional and social empowerment of students as a means to reduce work-related stress among teachers. The study by Gluschkoff et al (2016) examines the lack of sleep that is a major symptom of work-related anxiety.

With regard to the findings, there appears to be a multitude of stressors that affect work stress such as time management at school (Zuganel et al, 2016; Gluschkoff et al, 2016), working conditions, contact and interaction with students and the expectations of teachers (Zuganel, et al., 2016). Also, critical factors are working pressure, pay imbalance (Gluschkoff et al, 2016), workload and student behavior (Collie et al, 2012). In addition, as Mousa and Alan (2016) report, since public schools are the main type of school for children living in Egypt, the lack of commitment on the part of teachers can harm the entire educational process, with the result that there is a need to create community climate with specific organizational values and spirituality in the workplace. As they themselves say, in Egypt, teachers who experience a lack of organizational skills have a low level of health and anxiety while internal balance plays an important role in the satisfaction of educators.

Selamat et al., (2013) in the existing studies add important findings such as the fact that office work outside of training hours is an important factor of anxiety for an educator, while positive is the influence of the way of organizing by the management. Therefore, as they themselves say, there is a need for more lifelong teacher education, focusing mainly on their leadership characteristics in order to have a healthy organizational climate. This organizational climate increases teachers' performance and creates more commitment to their work. It is almost important that the stress can derive from changes on the economy and the society as it happens now in Greece (Belias et al, 2013a,b) which has caused high levels of stress among Greek teachers (Belias et al, 2014; Platsidou & Agaliotis, 2017).

Methods

The research occurred in a sample of 208 Primary Education Teachers of the Regional Unity of Magnesia participated in this survey. The survey was conducted in May 2017 in

schools in Magnesia, including the region of Magnesia where the primary schools of the islands of Skiathos, Skopelos and Alonissos are located. In particular, the sample of the study was teachers of the WP70 - Teachers sector. The survey was conducted at the end of the academic year. With this option, it was the advantage of finding the views of teachers after the end of most of the school year and the educational process.

Their participation was voluntary and we pointed out that the questionnaire is anonymous and the data will be used exclusively for research purposes. This has contributed to a high participation rate in completing the questionnaires. The selection of the sample followed was simple, random sampling.

In the present study, the research tool used to measure the levels of work-related stress in primary school teachers in Magnesia was a structured closed-ended questionnaire. The questionnaire consisted of two modules. The first section refers to the demographics of teachers interviewed. In particular, it contains eight questions that are designed to identify the personal characteristics of the respondents. The personal characteristics that include gender, teaching experience, age, marital status, working relationship, seniority in the particular school unit, level of education, and work area. The second section contains questions about work anxiety experienced by teachers in their work.

Correspondingly, Cohen et al. (1983) used the Perceived Stress Scale (PSS) questionnaire to measure occupational anxiety. This tool measures whether the situations in a person's life are assessed as stressful (Cohen, 1994). The issue of the questionnaire used consists of 14 questions. The sample was asked to respond to a five-level Likert scale where 5 corresponds to the very often and 1 to the ever. The adaptation to the Greek language of this research tool has been made by Agagiotou (2011).

The questionnaires were distributed by the researcher himself to the teachers, having been previously asked to enter the school units by the management of the units. Participation in the survey was voluntary and the participants were not given a fee. Prior to completing, information on the content and research objectives was made, and it became clear that the data would be used purely for research-academic purposes and that anonymity would be respected. Clear oral and written supplementary instructions were given - which were the same for each participant and stressed that they can whenever they want to leave the process without any impact. All the questionnaires were used in the analysis and there were no questionnaires excluded because of incomplete or incomplete completion.

It was particularly stressed that the questionnaires are filled in anonymously, that there are no correct or wrong answers and that the results will be used for purely scientific purposes, and that they are asked to respond with absolute sincerity and in the appropriate environment. During the grant, the investigator had no visual contact with the questionnaire, and in no case criticized the participants for the content of the answers or the non-completion of some of them. When selecting the sample, there was no exclusion of subjects due to cultural or individual differences (origin, religion, age, sex, sexual preference, etc.). For research studies with valid results, it is necessary to use research tools that have previously been tested for their validity and credibility. For this reason, each researcher, when studying an investigation, focuses on the reliability and validity of the measurement instrument of the study.

In order to check validity and reliability, we initially proceeded to an exploratory factor analysis to find common factors among the groups of surveyed variables in the questionnaire and to confirm the scale of the questionnaire we used. We examined the polygranularity to check if our data is suitable for factorial analysis. This statistic takes values in the interval $[0,1]$. If $KMO > 0.6$ we continue the factorial analysis. We checked the Measure of Sampling Adequacy indicator to determine whether a variable is suitable for use in the analysis. Values greater than 0.5 indicate our suitability.

Then the reliability test (ie Cronbach's alpha, Reliability Analysis) was performed. Used to measure reliability in measuring tools. It can be applied not only to a proposal or to a sub-scale, but also to the whole tool that measures the same concept (variable). Internal consistency is an indicator that shows whether different items measure the same concept (variable). The credibility of internal coherence in both a sub-scale and the entire scale is estimated by the Cronbach's alpha coefficient, which shows the homogeneity of a scale. To be considered acceptable, the price of Cronbach's alpha should be > 0.7 . The higher the value of Cronbach's alpha, the greater the credibility of internal cohesion. A precondition for conducting research is the use of tools that are appropriately designed for the population under investigation. In this case, both Teacher's Satisfaction Inventory (TSI).

Results

On average, teachers were not sure if the environment was safe (MO = 3,38) or if it was appropriate (MO = 3,36). It is worth noting that in 4 out of 20 questions teachers did not give a negative answer. These were Questions 6 ("My colleagues help me when needed"), 7 ("I have good relations with my colleagues"), 12 ("My work is creative"), and 13 ("The role of the teacher is significant"). In the Work Anxiety Scale, the answers had a maximum of 5 ("very often"), with the exception of question 11, in which the maximum response was 4 = "quite often".

Overall work anxiety was moderate with an average of 2.6 ("sometimes", and the overall work anxiety scale had sufficient and acceptable Cronbach reliability with $\alpha = 0.73$.) In the individual queries, teachers in the last month had they feel on average quite often that they control things, confident about their ability to handle problems, and that things go as they please, while they have been able to control annoying situations (MO = 3.5-3.9). , in the last month teachers are sometimes if they felt nervous and stressed at work, they were angry because of things outside their own control, they were upset because something unexpected happened and they felt anxious about their future retirement (ME = 2.6-2.7).

In their work, on average, teachers almost never in the last month did not find themselves unable to overcome them with everything they had to do, they did not feel that they were unable to control the important things, they did not feel that the difficulties were so many that they could not to overcome them, and did not feel anxious about evaluating their educational work and their service consistency and proficiency (MP = 1.6-2.3). Finally, the study teachers on average never felt the fear of being dismissed (mean = 1.44).

Regarding the factor's analysis, for the validity and reliability of the scales of perceived anxiety (Cohen et al., 1983), exploratory analyzes of factors were performed to confirm the structure of the occupational satisfaction sub-scales and to examine the structure of any stress sub-scales. The method chosen is the analysis of major components with Varimax rotation and Kaiser normalization. The factor of professional satisfaction by the Co-workers explained 16.6% of the variance and contained the five questions of colleagues (Questions 6-10), and had a very high and acceptable reliability ($\alpha = 0.9$). The average satisfaction for colleagues was 4.3 ("I agree").

Factor analysis of the 14 queries of the Work Anxiety Scale exported 3 factors, which explained 58.8% of the observed variance (KMO = 0.82, Bartlett's = 1057.46, $p \leq 0.0005$). The Scree graph revealed that 3 factors should be retained in the analysis. All charges to the agents had a loading of more than 0.4 (Table 5).

The queries presented acceptable charges to the factors they are included, with values ranging from 0.43 to 0.83. The first factor, "(Inertia and Lack of Control at Work)", explained 31.73% of the variance and consisted of six (6) queries, 1, 2, 3, 6, 9 and 10 with loads of 0, 71 to 0.83. The reliability of the sub-scale was high and acceptable with $\alpha = 0.86$, and the mean of the sub-scale was M.D. = 2.42. The second factor, "(Fear and) Personal Stress at Work", explained 15.28% of the observed variation and consisted of four (4) questions, 11, 12, 13 and 14, with loads ranging from 0.43 to 0.73. The reliability of the sub-scale was adequate

and acceptable with $\alpha = 0.65$, and the mean was M.D. = 1.86. The third factor, "(Positive outcomes and) Good Labor Inspection", explained 11.77% of the variance and consisted of four (4) queries, 4, 5, 7 and 8, with loads ranging from 0.6 to 0.8. The reliability of the sub-scale was adequate and acceptable with $\alpha = 0.71$, while the mean of the sub-scale was M.D. = 3.73.

In the research hypothesis "Demographic characteristics are a factor in the differentiation of work-related anxiety, statistical tests have shown that gender (t-test) did not significantly alter stress, nor its sub-scales. The t-test, the educational level and the marital status (ANOVA) also did not statistically differentiate the anxiety factor, but had an impact on its individual dimensions. In fact, the work relationship had a statistically significant effect on Lack of Control at Work ($t(22,96) = -2.53, p = 0.019 < 0.05$) and Good Labor Control ($t(24,83) = 3.12, p = 0.005 < 0.05$). The deputies had significantly more control deficiency (mean = 2.85), while the permanent ones had significantly better control (MO = 3.78).

In the individual results, the marital status had a statistically significant effect on the lack of control ($F(2, 205) = 2.26, p = 0.01 < 0.05$), according to the Bonferroni test, lack of control in work by married and divorced. Education had a statistically significant effect on the good control dimension ($F(2, 205) = 3.66, p = 0.027 < 0.05$). In this case, the Bonferroni ex-post test could not be calculated and therefore the question of the direction of this relationship was not solved. The teaching experience had a statistically significant effect on total anxiety ($F(4, 203) = 2.47, p = 0.046 < 0.05$) but in all three dimensions of anxiety, lack of control ($F(4, 203) = 2.5, p = 0.013 < 0.05$), personal stress ($F(4, 203) = 3.58, p = 0.008 < 0.05$) 3.61, $p = 0.007 < 0.05$). For overall perceived work-related anxiety, the Bonferroni control did not identify the direction of the relationship. However, it was observed that those with a teaching experience of 0 to 5 years had slightly higher anxiety than all those with more teaching experience, and this difference was greater with the teaching experience sub-groups of 11-15 years and > 20 years. In addition, it was observed that as the teaching experience grew, the anxiety was reduced, with the exception of 16-20-year-old teachers who showed a higher stress than 11-15 year-old teachers. For the three dimensions of anxiety, the Bonferroni test revealed that those with teaching experience of up to 5 years had a higher lack of control than those with over 20 years of teaching experience. Teachers with experience of up to 10 years had higher work-related anxiety in work than those with more than 20 years of teaching experience. Finally, teachers with 6 to 20 years of experience had better control over the work than those with a teaching experience of up to 5 years. The age had a statistically significant effect on overall anxiety ($F(3, 204) = 3.68, p = 0.013 < 0.05$), but in its three dimensions separately, the anxiety ($F(3, 204) = 2.9, p = 0.036 < 0.05$) and lack of control ($F(3, 204) = 7.36, p = 0.000 < 0.05$).

For overall anxiety, the Bonferroni test showed that teachers up to 30 years of age were more anxious than older educators. For the three dimensions, the Bonferroni test showed that teachers aged up to 30 years had a significantly greater lack of control than those aged 41 years and over, and greater driving stress from all other ages. In addition, teachers aged 41 to 50 had better control over work than teachers aged up to 30 years. Finally, years in this school unit were found to have a statistically significant effect on overall work anxiety ($F(4, 203) = 2.97, p = 0.021 < 0.05$), as well as on the personal stress dimension at work ($F(4, 203) = 4.66, p = 0.001 < 0.05$). The Bonferroni test revealed that teachers aged 10 to 20 in the school had lower overall anxiety than those with a stay of 3 to 5 years, as well as lower personal stress from those with a stay of 6 to 10 years.

For personal work-life stress, the Bonferroni test showed that 6 to 10 year-old teachers in the school unit had significantly more stress than those with 10 to 20 years of age in that unit.

Conclusions – Recommendations

The research assumption as to whether demographic characteristics are a factor in the differentiation of work-related anxiety can be accepted in more detail as follows: "Age and teaching experience are factors that differentiate overall work anxiety but also their three dimensional stresses. Years in this school unit also varied responses to overall anxiety and also to the dimension of personal stress at work. The working relationship affected the dimensions of lack of control and good control at work, the marital status affected the lack of control, and the education affected the aspect of good control at work".

The subject of this research is topical and the findings of such a survey indicates that the teachers's experiences from their everyday life can be exploited to better address and manage their problems at the workplace. Therefore, it would be useful to carry out pre-qualitative research in the form of an interview in future surveys in order to identify satisfaction factors as they feel the population to be studied. It would also be useful to have a study of the satisfaction factors for teachers working at different levels or teachers of different specialties. Finally, it is necessary, due to the continuous legislative changes, to make a correlation between primary school teachers working in public and primary schools of private schools.

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