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PSYCHOSOCIAL RISK FACTORS AND DISTRESS IN HIGHER
EDUCATION TEACHERS

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Abstract

It is known that occupational health problems in Higher Education (HE) teachers are a current and prevalent problem. Several authors point out the significance of work-related psychosocial factors in this phenomenon. The purpose of this study is to explore the psychosocial factors associated with the development of work-related distress in the specific professional context of HE teachers. We also aim to understand which Psychosocial Risks (PRs) dimensions are correlated with work-related distress. An empirical study was carried out involving 97 HE teachers, working at University of Aveiro departments (n=50) and Polytechnic Schools (n=47). The following instruments were used to obtain the data; the Kessler Psychological Distress Scale (K10) and the Copenhagen Psychosocial Questionnaire (COPSOQ, medium version). Our study highlights three main findings: 1) total cumulative functions plays a role in HE teachers' overload; 2) a large percentage of responders presented significant psychological distress symptoms, this effect being strongly higher in females; 3) work demands dimensions represent the most health risk, with health/well-being dimensions presenting the most significant correlations for distress increase in HE teachers. The work-related distress in this study was highly influenced by many factors. As such, the first step in the construction of intervention policies and tools would be an effective assessment fully integrated to specific work contexts. This study answers the investigation gap in the work-related context of HE teachers.

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Keywords: Psychosocial risks, distress, higher education, teachers.



1. Introduction

In recent decades, workplaces have undergone profound changes driven by constant innovation, with a high demand on their workers (Fernandes & Pereira, 2016). The experience of stress is common for everyone, in everyday life, emanating from challenging experiences, leading to the development of new skills in an adaptive way (Hassard, Cox, Murawski, De Meyer, & Muylaert, 2011). However, when this exposure is too long or too demanding, it can lead to the experience of distress, which corresponds to a negative and aversive state, possibly leading to significant health problems (Hassard, Cox, Murawski, De Meyer, & Muylaert, 2011).

Nevertheless, it is well known that work-related distress can seriously impair the workers' physical health (e.g. musculoskeletal injuries, raised blood pressure) and mental state (e.g. anxiety, depression, burnout), that can result in temporary or permanent functional impairment and consequent loss of working days (Cox, 1993; Cox & Griffiths, 2010; Hassard et al., 2011; Kinman, 2001; Leka & Jain, 2010). It is also highly correlated to decrease of working ability through lesser dedication to work, low productivity, unsafe labour practices resulting in an increased accident rate (European Agency for Safety and Health at Work [EU-OSHA], 2018). Therefore, in addition to the individual impact, it is also important to consider the organizational impact of work-related distress, given that functional incapacity at work and/or high absenteeism indirectly decreases the organizational competitiveness, in addition to an adverse economic and social impact (EU-OSHA, 2018; Hassard et al., 2011).

Hence, a growing concern with work-related distress has been evident, seeking to underpin a definition and explain its mechanisms (Caplan, 1987; Cox, 1993; Cox & Griffiths, 2010; Edwards, Caplan, & Harrison, 1998; Hassard et al., 2011; Karasek, 1979; Leka & Jain, 2010). This highlights several issues of safety and health at work, and has been recognized in recent years that, beyond the physical, chemical and biological risks, a set of work-related stress generators should also be considered, known as Psychosocial Risks (PRs) (EU-OSHA, 2018; Kristensen, Hannerz, Høgh, & Borg, 2005; Leka & Cox, 2008; Leka & Jain, 2010; World Health Organization, 2013). Currently, the negative effects arising from the way work is designed, organized or managed, as well as the economic and social contexts are considered as PRs, given the interrelation between them to cause high distress levels and consequently adversely affect worker health, performance or personal well-being (Cox, 1993; Cox & Griffiths, 2010; EU-OSHA, 2018; Fernandes & Pereira, 2016; Hassard et al., 2011).

The recognition of these factors in recent years has evidenced the central role and responsibility of organizations in the health of their workers, specifically in mental illness prevention and mental health promotion (Cladellas & Castelló, 2011; Hassard et al., 2011). However, it is necessary to emphasize that these prevention measures should be fully integrated in specific work contexts, given the variability of organization's operating profiles and respective underlying processes (Hassard et al., 2011). Thus, the first step in the construction of intervention policies and tools is an effective assessment (Cladellas & Castelló, 2011; Kinman, 2001; Leka & Cox, 2008).

In the Higher Education (HE) work context, the constant updates as result of the development and technological innovation (and information flow increase) (Sun, Wu, & Wang, 2011), the growing number of students (Slišković & Maslić Seršić, 2011; Sun et al., 2011; Thorsen, 1996), as well the need to reconcile educational systems due to the social reorganization driven by migratory flows and

demographic changes of the population within Europe, have brought about profound changes in teachers' work, requiring constant adjustment to accomplish professional excellence in today's HE highly competitive and demanding setting (Kinman, 2001; Slišković & Maslić Seršić, 2011; Thorsen, 1996).

HE teachers are nowadays required to respond to and perform different roles (e.g. teaching, mentoring, hosting internships, conducting research, organizing seminars, carrying out service responsibilities, etc.), all of which require a high level of personal, professional and scientific development (Cladellas & Castelló, 2011; Kinman, 2001; Slišković & Maslić Seršić, 2011; Thorsen, 1996).

Besides that, HE teachers' workload is not only associated with the accumulation of functions but also with the characteristics of each one (Kinman, 2001; Slišković & Maslić Seršić, 2011).

The traditional transfer of unidirectional scientific knowledge is gradually being replaced by problem-based learning or variants of it, which drastically changes the teacher-student interaction. Technology nowadays plays an important role in this interaction (and in class support), but also brings about the accumulation of one more task: besides classes, teachers must also provide online information and literature references through the dedicated platforms (e.g. Moodle) or Apps, which also requires constant knowledge update regarding these same tools (Kinman, 2001; F. Silva, 2007). In addition, HE teachers are required to work with many students (who also tend to be demanding), in the most varied situations of the academic course, such as traditional classes, practical classes, internships, master's or doctoral mentoring (Kinman, 2001; Slišković & Maslić Seršić, 2011).

Research, in turn, is another component of teacher overload, pointed out as one of the main stressors (Kinman, 2001; Slišković & Maslić Seršić, 2011; Sun et al., 2011). The literature shows that "publishing or perishing" is imperative, resulting from the high relation of the number of published scientific papers and grant attribution, essential for career progression in the academic setting (Kinman, 2001; Slišković & Maslić Seršić, 2011; Sun et al., 2011).

Teachers also have responsibilities such as administrative functions (Cladellas & Castelló, 2011), positions of leadership, management and coordination positions, that reinforce role overload and ambiguity (Kinman, 2001; Slišković & Maslić Seršić, 2011).

It should be noted that, as this field is particularly competitive, lack of support of colleagues and superiors, unsatisfactory management practices (increase of bureaucratic management practices), are some of the PRs of this work context (Kinman, 2001).

Several authors point out other main stressors, as too much paper work combined with a lack of human and technological support, long working hours and work-life balance compromise, poor communication, lack of influence on decision making (Cladellas & Castelló, 2011; Kinman, 2001; Slišković & Maslić Seršić, 2011; Thorsen, 1996), as well as some differences between gender, positions and work schedules (Slišković & Maslić Seršić, 2011).

Therefore, teachers need to have multi-tasking skills, as well as constant knowledge updating (Kinman, 2001). Lifelong training plays an important role in the development of soft skills to deal with today's work demands (Jardim & Pereira, 2016); however, due the large number of distress generators arising from this work-related context, more integrated perspectives must be developed (Cladellas & Castelló, 2011).

2. Problem Statement

It is known that occupational health problems in teachers are current and prevalent (Jardim & Pereira, 2016; Kinman, 2001; Leka & Jain, 2010) cause high work absenteeism, whose consequences do not end at the individual level, but also at the organizational one (Cladellas & Castelló, 2011; Sliškočić & Maslić Seršić, 2011).

Several authors point out the significance of work-related psychosocial risk factors (PRs) in this phenomenon. However, the results are difficult to integrate, perhaps because most of the studies are directed to school teachers (Kinman, 2001) or centred on the Burnout Syndrome (Cladellas & Castelló, 2011). Few studies have focused on the relationship between psychosocial factors in an integrative perspective (Kinman, 2001). Furthermore, the number of studies conducted in HE is limited and, so far, to our knowledge, none have been conducted in Portugal.

3. Purpose of the Study

The purpose of this study is to explore the psychosocial factors associated with the development of work-related distress in the specific professional context of HE teachers. We also aim to understand which PRs dimensions are correlated with work-related distress.

4. Research Questions

- 4.1 What are the psychosocial factors associated with the development of work-related distress in the specific professional context of HE teachers.
- 4.2 Which Psychosocial Risks (PRs) dimensions are correlated with work-related distress among HE teachers?

5. Research Methods

5.1. Participants

An empirical study was carried out involving 97 HE teachers, teaching at Aveiro University's departments (n=46) and Aveiro University Polytechnic's Schools (n=51), namely School of Design, Management and Production Technologies Northern Aveiro (ESSAN), Águeda School of Technology and Management (ESTGA) and Higher Institute for Accountancy and Administration (ISCA). The sample comprised 48 males and 49 females, aged 30 to 69 years (M=48.4; DP=7.85). All the sample characteristics can be seen in Table 01.

5.2. Instruments

▪ Kessler psychological distress scale (K10).

The K10 (Kessler et al., 2002) validated in Portuguese by Pereira et al. (2017) is a brief highly reliable scale for assessing non-specific psychological distress. It is a 10-item scale, based on self-reporting of psychological distress symptoms during the last 30 days.

Symptoms are estimated according to a 5-step Likert scale ranging from 1 to 5 ("no day", "few days", "some days" "most days", "every day"), resulting in a total score between 10 and 50. According to

Pereira et al, (2017), values equal or above the 22 cut-off point represents a risk of developing a mental disorder. Values between 10 to 15 represent absence of or low distress, 16 to 21 means moderate distress, 22 to 29 portrays high distress and 30 to 50 means very high distress. The Portuguese version showed good internal consistency with Cronbach's alpha (α) of 0.910.

▪ **Copenhagen psychosocial questionnaire (COPSOQ).**

COPSOC, (Kristensen et al., 2005) validated in Portuguese by Silva et al. (2011) is a highly reliable scale for assessing PRs in the workplace. It is a powerful tool that gathers international consensus on the adequacy for evaluating many of the most important psychosocial dimensions, and differs from other scales, since it systematically approaches the interaction between psychosocial work environment and health; not being based on or limited to a specific theoretical model (Fernandes & Pereira, 2016; Silva et al., 2011).

The version used in this study comprises 76 items distributed in 29 subscales grouped into 8 main dimensions, namely: Labour Demands (quantitative demands, work pace, cognitive demands, emotional Demands); Work organisation and content (Influence on work, opportunities for development, meaning of work, commitment to work); Social relations and leadership (work rewards/recognition, predictability, transparency of labour played role, conflicts of the labour played role, quality of leadership, support social support from colleagues and supervisors); Interface work-individual (job insecurity, job satisfaction, work-family conflict); Workplace values (vertical and horizontal trust, justice and respect, social community at work); Personality (self-efficacy); Offensive behaviours; and Health and well-being (overall health, sleeping problems, stress, depressive symptoms and burnout).

The averages of the items of each factor are calculated which presuppose the interpretation factor by factor, assuming the interpretation of this value to be different according to the factor / subscale in question. There are subscales where high values represent low risk, and the vice versa i.e., high values represent high risk. In addition, each factor can be interpreted by means of the health impact that the exposure represents, in particular: health-friendly situation, intermediate health situation and health risk. For this, the average obtained in a given factor is placed in a division of tripartite percentiles, with respective cut-off points of 2.33 and 3.66.

▪ **Demographic and Work Characteristics of Participants**

A sociodemographic questionnaire developed by researchers was applied to collect demographic characteristics (age, gender, marital status), as well informational issues and specificities of the work (Type of School, Scientific Area, Work years, Type of Contract, Type of work schedule, Percentage of work hours, Number of cumulative functions performed, Function of greater overload). A question about quality of life was also included, which was answered with 5-range Likert scale ranging from 1 to 5 ("Very bad", "Bad", "Neither good, neither bad" "Good", "Very good").

5.3. Procedures

Data collection was carried out between March 7 and May 25, 2018. The distribution of the research protocol questionnaires was made on paper and disseminated online through departmental/school

secretaries. At the same time, a demographic questionnaire was applied which aimed to collect demographic characteristics, informational issues and the specificities of the work.

All participants were informed of the objectives and voluntary nature of participation, as well as subsequent use of the data collected through informed consent, respecting the ethical and deontological principles inherent in the conduct of an investigation.

5.4 Data Analysis

All analyses were done using IBM SPSS Statistics® (version 25). At an early stage, besides descriptive statistics, internal consistency of the scales (Cronbach's alpha) and normality of distribution were assessed. Comparisons between two groups (gender, type of school, type of contact and type of work schedule) were made with nonparametric tests for independent samples i.e. Mann-Whitney U test. Several Spearman's correlate analyses were conducted to assess the relationship between distress and PRs.

Table 01. Participants' Demographic and Work Characteristics

Characteristics		Total (n=97)	Male (n=48)	Female (n=49)
Age (in years)	30 - 40	18	7	11
	41 - 50	41	18	23
	51 - 60	32	18	14
	61 - 70	6	5	1
Marital Status	Single	15	9	6
	Married	67	35	32
	Divorced	14	4	10
	Widower	1	-	1
Type of School	Aveiro University Departments	46	27	19
	Aveiro University Polytechnic Schools	51	21	30
Work years	0-5	9	4	5
	6-10	10	4	6
	11-15	18	7	11
	16-20	29	20	9
	21-25	9	3	6
	26-30	9	3	6
	31-35	10	6	4
	36-40	3	1	2
Type of Contract	Permanent	61	36	25
	Temporary	36	12	24
Type of work schedule	Full-time	71	38	33
	Part-time	26	10	16
Percentage of work hours	100 %	75	41	34
	80 %	1	-	1
	60 %	8	-	6
	50 %	3	2	1
	40 %	2	2	2
	30 %	7	3	4
	20 %	1	-	1
Quality of life (Mean)		3.56	3.60	3.51

6. Findings

6.1. Internal consistency of Scales

The K10 show high internal consistency with $\alpha= 0.91$. The COPSOQ also show good internal consistency with a range between $\alpha= 0.64$ and $\alpha= 0.90$ for almost all subscales, except Vertical trust with $\alpha= 0.29$, Horizontal trust with $\alpha= 0.44$ and Offensive behaviour with $\alpha=0.37$.

6.2. Compactions between groups

The Mann-Whitney U test revealed no statistically significant difference effects on type of school groups; however, statistically significant differences were found for gender, type of contact and type of work schedule group effects in many variables. Only the variables with statistically significant differences will be reported.

6.3. Functions performed and overload

Concerning the total number of cumulative functions, results show that most of the respondents accumulate 3 to 5 functions ($M=3.59$; $SD=1.375$). Total number of cumulative functions performed is higher in permanent ($Mdn=4$) than temporary contracts ($Mdn=3$), $U=658.500$; $z=-3.336$, $p<0.001$, $r= -0.342$, and higher on full-time work schedule ($Mdn=4$) than part-time work schedule ($Mdn=2.5$), $U=441.500$, $z=-4.022$, $p<0.000$, $r= -0.408$.

The respective percentage among the respondents was: 10.3% for one function, 12.4% for two cumulative functions, 19.6% for three, 27.8% for four, 25.8% for five and 4.1% for six cumulative functions.

Teaching is pointed out as having the largest overload with 64.9% of the respondents' votes. Total overload functions and respondents' votes distribution can be seen on Table 02.

Table 02. Percentage of functions distribution and overload.

		Teaching	Research/ investigation	Mentoring	Management functions	Administrative functions	Other	Total
Function of greater overload (%)	1st	64.9	10.3	-	6.2	1.0	4.1	86.6
	2nd	9.3	23.7	16.5	19.6	7.2	1.0	78.4
	3rd	8.2	19.6	22.7	7.2	8.2	1.0	68.0
	4th	1.0	9.3	12.4	16.5	7.2	-	50.5
	5th	-	3.1	10.3	4.1	9.3	4.1	35.1
	6th	-	1.0	1.0	-	2.1	6.2	15.5

6.4. Distress level

Considering the results of K10, the sum values of total respondents was mostly below of the 22-point cut-off ($M=20.89$; $SD= 6.97$). It should be noted that 39.1% of the respondents presented significant psychological distress symptoms. More specifically, according to the level of distress outcome of the total respondents, namely: 27.8% scored absence or low distress, 33% scored moderate distress, 27.8% scored high distress and 11.3% scored very high distress.

Concerning gender, distress levels are significant higher in females ($Mdn=21$) than males ($Mdn=18$), $U= 899.500$, $z =-1.998$, $p < 0.046$, $r=-0.203$. The results show some differences in percentage according to the level of distress outcome, more specifically, according to the level of distress outcome of the males' respondents: 39% scored absence or low distress, 29.2% scored moderate distress, 20.8% scored high distress and 10.4% scored very high distress. On the other hand, 46.9% of female participants presented significant psychological distress symptoms. More specifically, according to the level of distress outcomes of the female respondents: 16.3% scored absence or low distress, 34.7% scored moderate distress, 34.7% high distress, and 12.2% scored very high distress. The respective values are represented in Figure 01 above.

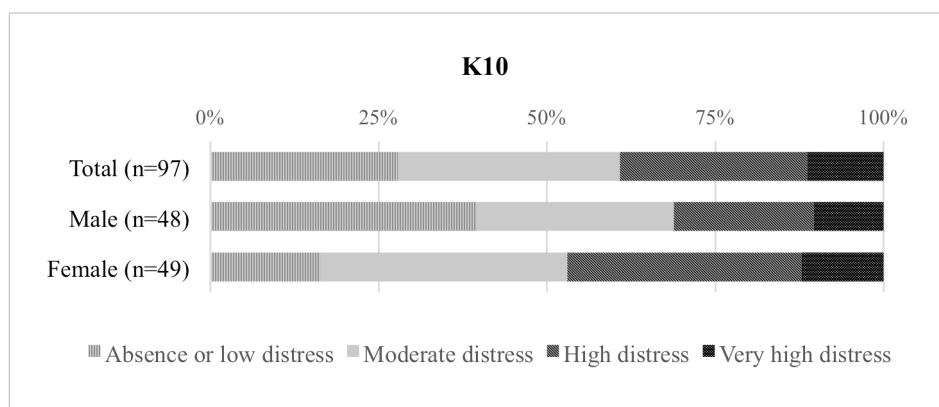


Figure 01. Percentage according to the level of distress

6.5. Psychosocial Risks

Considering the results of COPSOQ, in the interpretation of the health impact that the exposure represents, the findings revealed that the respondents were in the intermediate health range in most PRs dimensions (values between 2.33 to 3.66). In the dimensions of opportunities for development, meaning of work, transparency of labour played-role, self-efficacy, offensive behaviours and depressive symptoms, the respondents were in the health-friendly range (values under 2.33 or above 3.66 for positive subscales). In the work demands dimensions of work pace, cognitive demands and emotional demands, the respondents were in the health risk range (values above 3.66). Some differences are noted in the comparisons of the present study subscales means with the Portuguese normative data. All comparisons and study means can be seen on Figure 02.

On the compactions between gender groups, the dimension of emotional demands was found to be significantly higher in females ($Mdn=4.00$) than males ($Mdn=3.375$), $U=897.500$; $z= -2.083$, $p < 0.037$, $r=-0.212$; job insecurity was found to be higher in females ($Mdn=3.00$) than males ($Mdn=2.00$), $U=836.500$; $z=-2.52$, $p < 0.012$, $r=-0.256$. Stress was found to be higher in females ($Mdn=3.00$) than males ($Mdn=2.25$), $U=880.500$, $z= -2.163$, $p < 0.031$, $r= -0.220$). Burnout was found to be higher in females ($Mdn=3.00$) than males ($Mdn=2.50$), $U= 694.000$, $z= -3.533$, $p < 0.000$, $r= -0.359$. Influence on Work was found to be higher in males ($Mdn= 3.50$) than females ($Mdn=3.25$), $U=799.500$; $z=-2.737$, $p < 0.006$, $r= -0.278$, as well conflicts of the labour played-role was found to be significantly higher in males ($Mdn=3.33$) than on females ($Mdn=3.00$), $U=827.000$; $z= -2.564$, $p < 0.010$, $r= -0.260$.

Comparatively on type of contact, the dimensions of conflicts work played-role were found to be higher in permanent ($Mdn=3.33$) than temporary contract ($Mdn=3.00$), $U=780.000$, $z=-2.417$, $p<0,016$, $r=-0.245$, and job insecurity was lower in permanent ($Mdn= 2.00$) than temporary ($Mdn= 3.00$) ($U=430.0$, $z=-5.127$, $p<0.000$, $r= -0.521$).

Concerning type of work schedule, the dimensions of quantitative demands were found to be higher in full-time ($Mdn=3.67$) than part-time ($Mdn=3.00$), $U=633.500$, $z=-2.406$, $p<0.0016$, $r=-0.245$. Social support from supervisors was found to be lower in full-time ($Mdn=2.67$) than part-time ($Mdn=3.00$), $U=634.000$, $z=-2.39$, $p<0.017$, $r=0.243$. Job insecurity was found to be lower in full time ($Mdn=2.00$) than part-time ($Mdn=3.00$), $U=534.000$, $z=-3.259$, $p<0.001$, $r= -0.331$. Job satisfaction was found to be lower on full-time ($Mdn=3.25$) than part-time work schedule ($Mdn=4$), $U=610.000$, $z= -2.575$, $p<0.010$, $r= -0.261$.

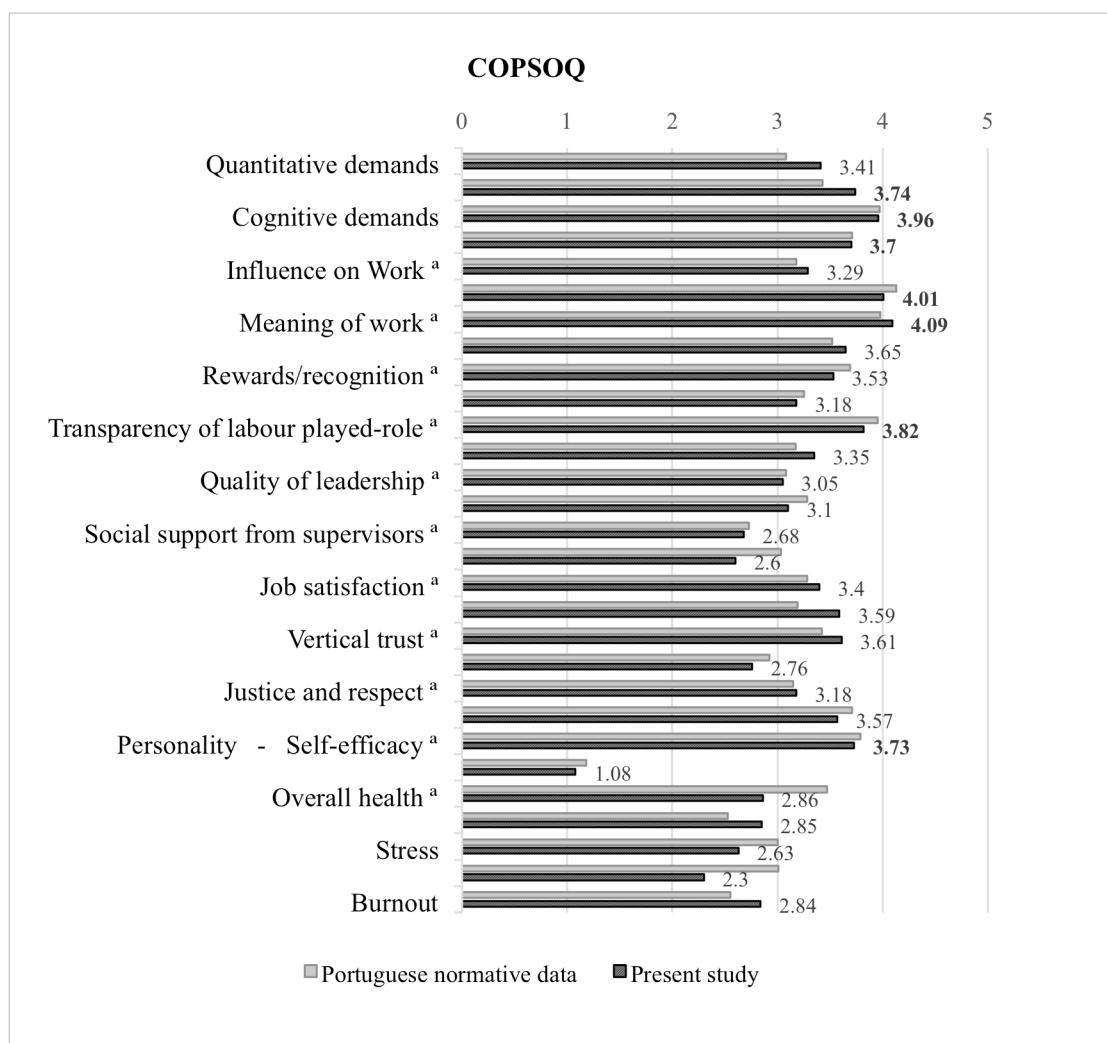


Figure 02. Comparison of the present study's Means of the COPSOQ Subscales Means with the Portuguese normative data. ^aPositive subscales, high values represent low risk

6.6. Relationship between Distress and PRs

The total number of cumulative functions performed was found to have a positive significant correlation with quantitative demands and work-family conflict, as well as a significant negative correlation with transparency of labour played-role, social community at work and job insecurity. Many

positive and negative correlations were found between K10 and the PRs assessed with the COPSOQ subscales. Work demands, and Health/Well-being dimensions presented the most significant correlations with an increase in distress. However, many significant correlations of positive subscales and decrease in distress were also noted. All correlations are present in Table 0.3.

Table 03. COPSOQ dimensions and K10 correlations

COPSOQ Subscales		K10	Total n of cumulative functions
Work demands	Quantitative demands	.368**	.323**
	Work pace	.301**	0.018
	Cognitive demands	0.160	0.073
	Emotional demands	.381**	0.035
Work organization and content	Influence on Work ^a	-.314**	-0.026
	Opportunities for development ^a	-0.131	0.116
	Meaning of work ^a	-.354**	-0.155
	Commitment to work ^a	-.208*	0.040
Social relations and leadership	Rewards/recognition ^a	-.258*	-0.131
	Predictability ^a	-.287**	-0.112
	Transparency of labour played-role ^a	-.263**	-.202*
	Conflicts of labour played-role	0.183	0.144
	Quality of leadership ^a	-0.149	-.201*
	Social support from colleagues ^a	-.253*	-0.179
	Social support from supervisors ^a	-.275**	-0.156
Interface work-individual	Job insecurity	.220*	-.275**
	Job satisfaction ^a	-.405**	-0.171
	Work-family conflict	.432**	.291**
Workplace values	Vertical trust ^a	-0.131	-0.176
	Horizontal trust	0.178	0.150
	Justice and respect ^a	-0.17	-0.036
	Social community at work ^a	-.245*	-.200*
Personality - Self-efficacy ^a	-0.136	-0.103	
Offensive behaviours	.245*	0.100	
Health/ well-being	Overall health ^a	.466**	0.088
	Sleeping problems	.634**	0.047
	Stress	.727**	0.188
	Depressive symptoms	.704**	0.179
	Burnout	.689**	.205*

a. Positive subscales, high values represent low risk.

* $\rho < 0.05$ ** $\rho < 0.01$

7. Discussion

To our knowledge, the present study is the first to assess the prevalence of distress and PRs in Portuguese HE teachers. Our study points to three main findings: 1) total cumulative functions plays a role in HE teachers' overload; 2) a large percentage of respondents presented significant psychological distress symptoms, this effect more strongly exhibited in females; 3) work demands dimension presented the most health risk, while the Health/Well-being dimension presented the most significant correlations for distress increase in HE teachers.

Our study shows that most of respondents accumulated between 3 to 5 functions. Total cumulative functions are correlated with some PRs, namely quantitative demand, transparency of labour played role, social community at work, job insecurity and work-family conflict. It must be noted that these are some of the dimensions whose averages are above the Portuguese normative data, and are also highly correlated with work-related distress. These results are congruent to several studies that report work overload strongly affects occupational stress (Kinman, 2001; Slišković & Maslić Seršić, 2011; Sun et al., 2011). It should be noted that in most studies, the work overload is analysed through the number of working hours. Indeed, in our study, type of work schedule as well type of contract plays a role in this effect: full-time work schedule shows a significant increase of quantitative demands, as well decrease of social support from supervisors, job satisfaction, when compared to part-time work schedule. Additionally, in type of contract, permanent shows a significant increase of work played-role conflicts. However, we highlight that, in our study, we focused on the total number of cumulative functions performed. Notice that multi-tasking and respective switching of attention can impair brain activity and overload, increasing the subjective sense of fatigue and stress (Lahnakoski, Jääskeläinen, Sams, & Nummenmaa, 2017; Robert & Hockey, 1997), which is not directly linked to many hours of work. Thus, we can conclude that HE teacher functions overload plays a role in the increase of work-related distress as well the subjective PRs increase.

It is worth pointing out that, contrary to other studies (Sun et al., 2011; Thorsen, 1996), we found that teaching is highlighted as having the most overload function. It is well worth noting that, the so-called the Bologna Process has led to a profound transformation of the HE and training system in Europe, in a collective effort of all involved, such as teachers (European Commission/EACEA/Eurydice, 2015; European Commission, 2018). Additionally, there are drastic changes in the teacher-student iteration due technological evolution and increase of student numbers (in the most varied situations of the academic course) (Kinman, 2001; F. Silva, 2007). Besides classes, there are also teacher-specific extra work demands, such as preparing lectures with constant knowledge updating and providing online information and literature references through the dedicated platforms as well (Kinman, 2001; Slišković & Maslić Seršić, 2011).

Regarding distress, we found that a large percentage of responders presented significant psychological distress symptoms, as well as many positive and negative correlations with the PRs dimensions of Work demands, and Health/Well-being dimensions. Both older and more recent studies demonstrate these same effects, as respective correlation with work-related variables, demonstrating that, as found in other studies, this profession is indeed stressful. (Sun et al., 2011; Thorsen, 1996). Additionally, significant psychological distress symptoms are strongly higher in females, concurring with most of the studies in this field (Kinman, 2001; Slišković & Maslić Seršić, 2011; Sun et al., 2011; Thorsen, 1996). This may also correlate with differences found in the compactions between gender groups, in the dimensions of Emotional demands, Job insecurity and Burnout Influence on Work.

Last but not least, the dimension of work demands was revealed to be the highest PRs in which total respondents presented a health risk; with work demand and health/well-being dimensions presenting the most significant correlations for distress increase in HE teachers. Similar results were found in other studies (Kinman, 2001; Sun et al., 2011), showing what seems to be a vicious cycle where work-related

stressors impair mental health, and poor mental health impairs the subjective perception of work-related characteristics which acts as a stressor generator (Sun et al., 2011).

The findings of the present study are a preoccupation given the well-known relationship between characteristics of the work (such as demands) and worker health (Leka & Cox, 2008), as well the fact that exposure to persistent distress has the potential to adversely affect physical, psychological and social well-being, causing illness, compromising the quality of work performance and personal development (Cladellas & Castelló, 2011; Cox, 1993; Cox & Griffiths, 2010; EU-OSHA, 2018; Hassard et al., 2011; Kinman, 2001; Leka & Jain, 2010). Notice that, despite the fact that higher-income countries were more likely to include workplace components in their programs for mental health (Leka & Cox, 2008), policies for mental health (and respective plans of action), were the least represented in policy frameworks in European countries (World Health Organization, 2013).

Given that this study was conducted as an online survey, it may be subject to limitations. Only 16.7% of the total number of Aveiro university teachers responded, raising issues about the representation of the population by the sample. Besides that, we highlight the auto-selection of the participants: as the survey was about stress at workplace, it may have attracted those respondents felt more affected by this syndrome. However, despite the limitations, this study revealed some interesting and exciting findings which concurred with many previous studies. Hence, this study may be taken as an initial exploratory study into this phenomenon within the Portuguese HE context.

These findings need confirmation by more extensive samples supported by more systematic assessments, to sink the contributions with more empirically strong scientific evidence in this field to allow for the development and implementation of effective prevention and health promotion actions in a holistic and multidisciplinary perspective.

8. Conclusion

This study, together with many other similar studies, shows that HE teachers, especially females have been found to suffer high levels of work-related distress. Number of cumulative functions performed play a significant role in this phenomenon with PRs mainly affecting correlate interactions. The health and well-being of HE teachers should be a primary consideration of university management and government policy makers as sick teachers cannot be expected to teach well let alone perform any of their duties in a satisfactory manner. The ultimate losers in this situation will be the young people; the students who expect their teachers to perform their best. The findings of this study and other similar studies highlight a very serious gap in the policies of providing a first class HE with the actual reality concerning the people who have to deliver the education. Despite the fact that HE teachers do not complain about their situation, it does not mean it does not exist. Specific policies addressing the workload of HE teachers must be designed and implemented if we want the best for the students.

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