

Psychosocial Risk Factors and Perceived Stress in University Professors

Factores de riesgos psicosociales y estrés percibido en docentes universitarios

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Summary

University teachers are involved in a work environment where they interact with people (bosses, colleagues, students, etc.) and situations that can cause stress. The main objective of this research was to know the relationship between psychosocial risk factors and the stress perceived by university teachers. The focus of the work was quantitative, the design was correlational and transversal; the sample consisted of 117 university teachers from Lima, Peru. The results indicated that perceived stress is positively related to psychological demands, active work, compensations and double presence of the teachers; however, an inverse relationship was found between stress and social support received. The data showed that teachers who work by contract have a higher level of stress and that the main symptoms experienced are tiredness, not being able to sleep, headaches, poor concentration and variation in appetite. No relevant differences were found in terms of age and sex.

Keywords: Stress; Teachers; Psychology; Education.

Resumen

Los docentes universitarios están involucrados en un ámbito laboral donde interactúan con personas (jefes, colegas, estudiantes, etc.) y situaciones que pueden causar estrés. La presente investigación tuvo como objetivo central conocer la relación entre los factores de riesgos psicosociales y el estrés percibido por los docentes universitarios. El enfoque del trabajo fue cuantitativo, el diseño fue correlacional y transversal; la muestra estuvo constituida por 117 docentes universitarios de Lima, Perú. Los resultados indicaron que el estrés percibido se relaciona positivamente con las exigencias psicológicas, trabajo activo, compensaciones y doble presencia del docente; sin embargo, se encontró una relación inversa entre el estrés y el apoyo social recibido. Los datos muestran que los docentes contratados presentan mayor nivel de estrés y que los principales síntomas experimentados son el cansancio, no poder dormir, dolores de cabeza, poca concentración y variación del apetito. No se encontraron diferencias relevantes en cuanto a la edad y sexo.

Palabras claves: Estrés; Docentes; Psicología; Educación.

Introduction

Since the 1980s, the world of work has undergone major changes that directly affect the person-work relationship (Güilgüiruca, Meza, Góngora&Moya, 2015). These changes are the result of advances in technology, worldwide competition, the search for development, markets and the reduction of the State; in addition, they influence employment options, social relations, types of training, updating, skills development, work rhythms and the health of collaborators (Gil-Monte, 2012). Every work context brings with it potential risk factors for health; these situations are configured according to the activity developed or the environment in which the worker works (Rodríguez, 2009).

Moreno (2011) explains that, historically, attention has been paid to risks related to chemical, physical and environmental agents. However, Díaz (2009) considers important the risks derived from safety, infrastructure, nature of the productive process, organization of the institution, process of adaptation to work and the human factor. For Caballero-Lozada and Nieto (2015), work is an important activity in the life of the human being and they recommend to carry out an analysis of its theoretical and practical conception if it is desired to promote the labor well-being and to prevent the professional and psychosocial risks. The psychosocial risk factors associated with work are identified as certain conditions of the work environment related to the organization, position, work activity and environment (Gil-Monte, 2012), which can seriously affect the physical, mental and social health of workers (Moreno, 2011); stress and workplace violence are the most common negative effects (Raffo, Ráez&Cachay, 2013).

Esteve (quoted in Pérez, 2012) points out that in the teaching profession two major aspects can be identified: (1) the vocation to serve society, which is related to personal fulfillment and satisfaction, and (2) the negative aspects that manage to unbalance the physical and emotional health of teachers. This, together with the changes promoted by globalization, the adoption of new educational paradigms and the leading role of the student in the learning process, form a multidimensional scenario where the teacher coexists on a daily basis with situations of risk that may affect his or her physical and psychological health. These occupational situations can generate tension in teachers due to the imbalance between the demands of the job and the skills they have to handle them (Carlotto&Gonçalves, 2017).

When we speak of stress, we commonly refer to nervous tension, emotional imbalance or the agent that causes such tension (Ayuso, 2006); Peiró and Rodríguez (2008) consider that stress is a subjective imbalance of the person that is produced by perceiving demands or threats that cannot be controlled and that cause negative consequences. Lazarus and Folkman (1986) consider stress as a dynamic and interactive process that originates from the peculiar and unique relationship between the person and a challenging environment in comparison with the available resources; if the person perceives that this threatening situation surpasses his defenses, he experiences stress (Pieró, 2001). In the model of cognitive appreciation proposed by Lazarus and Folkman (1986), primary and secondary appreciation are distinguished. During primary assessment, the person identifies whether an event is irrelevant, benign, or negative; secondary assessment occurs when, once the event is categorized as negative, the person evaluates the resources available to cope with the situation. If both assessments do not guarantee success, stress patterns are likely to occur.

Stress is a phenomenon that forms part of the work routine in today's world (Barron, 2004); it produces low performance, loss of certain capacities, exhaustion, insecurity and work-related accidents (Díaz, 2009); it puts at risk the health of the collaborator and the correct functioning of the company (Moreno & Báez, 2010). In the educational field, the teacher's work dynamic generates a cumulus of sensations, personal and emotional wear that can produce stress (Arís, 2009); the current characteristics of the student body and the interaction with them are one of the main sources of teacher stress (Amador, Rodríguez, Serrano, Olvera&Martínez, 2014); the work environment and the personality of teachers condition the appearance of stress and anxiety (Martínez, 2003). According to Cardona (2010), the categories that generate stress in teachers are, from greater to lesser impact: technology, organizational climate (perception of the organization), organizational territory (physical work space), organizational structure (hierarchical relations between collaborators and bosses), lack of cohesion (problems of union in the team), influence of the leader (ability to influence) and group support (support in achieving goals). Extremera, Rey and Pena (2010) consider that teachers are at high risk of suffering stress and its symptoms; everything would indicate that teaching demands a greater capacity to face stress (Hiebert&Farber, 1984).

Psychological demands at work constitute a factor of occupational risk that occurs in different scenarios, and teaching work is no exception. The requirements associated with tranquility at work, time available and the use of physical, cognitive and emotional skills are an example of this type of requirement. Rodríguez-Martínez, Tovalín-Ahumada, Gil-Monte, Salvador-Cruz and Acle-Tomasini (2018) found that stressful conditions and emotional demands are related to the appearance of anxiety and depression in Mexican university teachers. Ayuso (2006) considers that an inadequate schedule hinders the development of teaching activities; excess work hours and a demanding scenario with strong demands on competencies, knowledge and skills, cause teachers to be prone to stress (Barron, 2004). Pérez (2012) points out that the administrative functions entrusted to teachers bureaucratize their work and overload them intellectually. When the demands to meet educational goals exceed the effort and skills of the teacher, dissatisfaction, tension, and decreased work motivation are presented (Blase, 1982); negative emotional experiences related to teaching are accompanied by stress (Kyriacou, 2003).

Active work and possibilities of development represent an important aspect of the teacher's working life and are related to the amount of work, the possibility of learning or developing new skills, access to breaks during the day and finding a transcendent meaning to the work he or she does. Time pressures and the lack of materials (Extremera et al., 2010), as well as the assignment of hours in the three shifts (morning, afternoon and night) that forces teachers to stay long periods of time in the institution (González, 2008), are sources of stress. Due to the nature of teaching work, Guerrero (2002) recommends short breaks to deal with work-related stress. When teachers perceive that they do not have the freedom to develop their activities and, if in a toxic environment they do not have the control to modify such a situation, stress occurs, anxiety, irritability and depression occur (Barron, 2004).

On the other hand, clarity in assigned roles, the possibility of contributing new knowledge or procedures that solve a problem, the support of bosses, relations with colleagues and the leadership of superiors in conflict management are elements that make up a scenario of social support for teachers. The lack of clarity in the roles and their respective responsibilities, the lack of criteria in the evaluation and the interactions with colleagues and students, can become factors that produce stress (Guerrero, 2002); in the work carried out by Caballero et al. (2009), a group of teachers showed physical and emotional exhaustion as a consequence of the interaction with student problems. Difficulties among colleagues (Extremera et al., 2010), poor peer support (Barron, 2004), and routine or repetitive work (González, 2008) can lead to stress patterns. The labor pressures exerted by superiors on the teaching work (Oramas, Rodríguez, Almirall, Huerta & Vergara, 2003) and a rigid and vertical structure (Barron, 2004), also become situations that generate stress in the teacher.

Restrepo-Ayala, Colorado-Vargas and Cabrera-Arana (2006) indicate that compensation is the most relevant factor in the appearance of stress. Caballero et al. (2009) identified that lack of recognition is a psychosocial risk factor in university teachers that is accompanied by physical wear and tear, indolence and increased guilt. Little recognition, a deteriorated image (Martínez, 2003); indifferent organizations where the opinion of the teacher is not taken into consideration, unstable work (Barron, 2004) and unfulfilled work expectations (Extremera et al., 2010) have become drivers of stress patterns. Tension charts are presented when teachers do not receive the expected benefits, become frustrated and the teaching they give is conditioned (González, 2008).

According to García, Iglesias, Saleta and Romay (2016), interim and contract teachers are the group of workers who perceive the greatest insecurity in employment. Luceño, Martín, Rubio and Jaén (2008) explain that the workers with the greatest psychosocial risk factors and with the greatest psychosomatic symptoms (sleep disturbance, variation in appetite, tiredness, headache, difficulties in reaching agreement, among others) are those who are exposed to less stability in employment or the rewards they receive are low or unstable. García et al. (2016) found that double presence (preoccupation with fulfilling work tasks and, at the same time, domestic tasks) mostly affects women; domestic responsibilities are considered sources of stress for teaching (Rojas & Rodríguez, 2011). Valls-Llobet (2000) explains how the double working day, among other factors, has made domestic work one of the main drivers of stress in women.

The study of the perceptions of university teachers becomes a cornerstone if one wishes to know the different variables that participate in the teaching-learning process and in their professional performance; due to these considerations, the central objective of the research is to know the relationship that exists between the psychosocial risk factors at work and the stress perceived in university teachers, as well as to know the variations of this relationship according to sex, age, type of university and work modality.

Method

Research design

Due to the statistical treatment of the data, the research presents a quantitative approach, of correlational scope, with a non-experimental and transversal design. It is a correlational study because two variables (psychosocial risk factors and perceived stress) are associated and the relationship between them is sought to be known; the design is non-experimental because the variables have not been manipulated, and it is transversal because the data were collected in a single moment (Hernández, Fernández & Baptista, 2014).

Participants

The sample consisted of 117 university professors from the city of Lima, in the department of Lima, Peru. The universities in which the participating teachers work belong to an average NSE. Inclusion criteria were: (1) work full-time at the university and (2) participate voluntarily in research. The sample presented an average age of 45 years ($DE= 5.86$), with minimum and maximum ages of 35 and 54, respectively. 52% of the sample were men and 48% were women, 54.7% belonged to the private university, while 45.3% belonged to the public university. In addition, 67.5% of teachers worked under contract status, while 32.5% were appointed. Of the participants, all teachers who belonged to the private university had the status of contract teachers, whereas 28.3% of teachers who belonged to the public university were contract teachers, while 71.7% were appointed.

Instruments

Superintendence of Social Security, 2018). To measure the variable psychosocial risk factors at work, the SUSESO-ISTAS 21 brief version was used, which was prepared at the request of the Superintendence of Social Security of Chile; this instrument is an adaptation into Spanish of the Copenhagen Psychosocial Questionnaire (COPSOQ) prepared by the National Institute of Occupational Health and Safety of Denmark (Superintendence of Social Security, 2018). The SUSESO-ISTAS 21 short version has five dimensions: Psychological Demands, Active Work and Skills Development, Social Support and Leadership in the Company, Compensation and Double Presence; which are measured through 20 items, with a Likert scale of four response options, where zero means "Never" and four "Always".

In order to demonstrate construct validity, an exploratory factorial analysis was performed on the instrument. It was confirmed that the 20 items of the scale are grouped in a five-dimensional structure, which explains 60% of the variability of the responses. In addition, it can be observed in table 1 that the factorial loads of each item were greater than .50.

In the present investigation, the reliability test was applied through the alpha of Cronbach to the general scale and to the five dimensions of SUSESO-ISTAS 21, in table 2 it is observed that the values obtained are equal or superior to .67, which would indicate that the instrument is reliable. You can also see the 95% confidence intervals for each Cronbach alpha value

Table 1.
Factorial solution of SUSESO-ISTAS 21 short version

Nº of item	Psychological demands	Active work And skills development	Social support and leadership in the company	Compensations	Double presence
1	.65				
2	.65				
3	.64				
4	.57				
5	.75				
6		.75			
7		.71			
8		.77			
9		.62			
10		.83			
11			.66		
12			.76		
13			.63		
14			.70		
15			.76		
16				.64	
17				.58	
18				.51	
19					.80
20					.86

Table 2.
SUSESO-ISTAS 21 reliability indices short version

	Cronbach alpha	95% Confidence Interval	
		Lower limit	Upper limit
Overall scale	.70	.61	.78
Psychological demands	.68	.58	.77
Active work and skills development	.83	.78	.88
Social support and leadership in the company	.76	.68	.82
Compensations	.67	.57	.76
Double Presence	.72	.63	.80

Perceived Stress Scale: PSS14 (González & Landero, 2007). To measure the second variable, the Mexican adaptation known as the PSS14 Perceived Stress Scale was used (González & Landero, 2007). This instrument is based on the test developed by Cohen and collaborators in 1983, which in turn is based on the definition of psychological stress proposed by Lazarus and Folkman (Cohen, Kamarck & Mermelstein, 1983). This test seeks to measure the degree to which individuals value last month's situations as stressful. The PSS14 consists of 14 items with a five-choice Likert response format, ranging from zero (never) to four (always). Also, the instrument has seven items (4, 5, 6, 7, 9, 10 and 13) that must be inverted to calculate the total score.

An exploratory factorial analysis was performed on the instrument in order to demonstrate the validity of the construct. The analysis confirmed the one-dimensional structure of the instrument, which explains 30% of the variability of the responses. Likewise, the factorial loads of each item were equal to or greater than .47 (see table 3).

Table 3.

. Factorial solution of the PSS14 scale

N° of Ítem	Factorial Load
1	.61
2	.47
3	.58
4	.48
5	.57
6	.59
7	.50
8	.60
9	.52
10	.56
11	.58
12	.57
13	.55
14	.47

In the Mexican adaptation of PSS14 by González y Landero (2007), a Cronbach alpha index of .83 was obtained as internal consistency; in the present investigation, Cronbach's alpha presented an index of .82, with 95% confidence intervals from .76 (lower limit) to .87 (upper limit); the above demonstrates that the instrument is reliable.

Symptoms of stress. Hiebert and Farber (1984) analysed various studies on stress and explained that the teaching profession could become stressful and that the perception of stress is conditioned by the demands of the environment and the resources to deal with it. They emphasize that the results are not conclusive to establish that teaching is a stressful activity, but neither are they enough to affirm that it is not, so they recommend more research on the subject. Extremera et al. (2010) analysed symptoms associated with stress in primary and secondary school teachers in the province of Huelva, Spain; they found that both groups share symptoms such as fatigue, sleep difficulties, headache, among others. In one of their recommendations, the authors suggest collecting data in another teaching group, for example, those dedicated to university teaching, in order to obtain more evidence and generalize the results.

In accordance with the above, we wanted to deepen the symptomatological study of stress in university teachers, so we added the question: What are the main symptoms you experience when you are stressed? The card containing this question was introduced by the proposed definition of stress Lazarus and Folkman (1986), which allowed the teacher evaluated to report in writing the physiological manifestations produced by the stress he thought he was experiencing.

Procedure

For the selection of the sample a non-probabilistic sampling was used: convenience sampling; which allows the researcher to take into account the available cases to which they have access (Hernández et al., 2014). Thus, the sample consisted of 117 university professors who agreed to participate voluntarily in the research and who worked full time. The researchers gave the participants a booklet containing the informed consent, the socio-demographic record, the SUSESO-ISTAS 21, the PSS14 and the record with the question about the symptomatology.

Informed consent indicated the objectives of the research, the duration of the tests, their right to refuse to participate, complete the questionnaire or withdraw from the study; anonymous participation was also reported and that their data would be used only for the purpose of the study. On the other hand, the sociodemographic record allowed obtaining information such as: sex, age, type of university (private and public) and work modality (hired and appointed). The filling out of the documents took an average of 25 minutes per person and was carried out in the classrooms of each university during the free time of the teachers. Data collection took place in late 2018 at different universities in Lima, Peru.

Data analysis

The statistical package SPSS Statistics version 22.0 was used to analyse the data. First, an analysis was carried out to identify atypical cases; two cases were found with scores that were extremely far from the average. However, it was decided not to eliminate them, since the cases were part of the diversity of response of the sample, in addition to not generating significant variation in the results.

The Shapiro-Wilk test was used to evaluate the normality of the scores obtained in each test (see table 4). Lack of normality was found in all scores except for perceived stress data.

Table 4
Normality test: Shapiro-Wilk

	<i>M</i>	<i>DE</i>	<i>W</i>	<i>Sig.</i>
Psychological demands	17.96	1.78	.90	.001
Active work	16.79	2.81	.89	.001
Social support	3.75	2.51	.95	.001
Compensations	10.32	1.46	.87	.001
Double presence	7.20	1.02	.77	.001
Perceived stress	46.46	4.86	.98	.076

In the analysis of the coefficients of asymmetry ($<|3|$) and kurtosis ($<|8|$), it was concluded that there was no lack of severe normality (Kline, 2005), with these results the corresponding parametric analyses were used. Correlational analysis was performed with Pearson's *r* coefficient among the study variables. Additionally, the variables were correlated according to sociodemographic characteristics, with the purpose of knowing under which conditions (sex: women or men, age: 35-44 or 45-54, type of university: private or public, and work modality: hired or appointed) the correlations could present variations. Finally, mean contrasts were made using Student's parametric *t* test according to sociodemographic characteristics.

Results

In order to answer the central objective of the research, the study variables were correlated; positive and medium correlations were observed between perceived stress and psychological demands, compensations and double presence. In addition, the correlation between perceived stress and active work was found to be positive and small. On the other hand, there was an inverse relationship of medium size between the social support dimension and the perceived stress variable. In addition, the confidence intervals can be seen in table 5.

Table 5.
Correlations between study variables

	Perceived stress	95% Confidence Interval	
		Límite inferior	Límite superior
Psychological demands	.37***	.20	.51
Active work	.20*	.02	.37
Social support	-.32***	-.47	-.15
Compensations	.38***	.22	.53
Double presence	.42***	.26	.56

* $p < .05$; ** $p < .01$; *** $p < .001$

By correlating the study variables according to the type of university where the teachers work, it was found that all relations corresponding to the private university reported a higher correlation index in comparison with the results of the public university teachers. In private university teachers, the correlations between perceived stress and psychological demands and trade-offs were positive and large. According to Cohen (1988), q -values less than .10 represent a negligible difference in size between the correlations, between .10 and .30 small, between .31 and .50 medium, and greater than .51 large. An analysis of Cohen's q shows that the differences between perceived stress correlations with psychological demands, social support and trade-offs were small.

Table 6.
Correlations between study variables by type of university

	Perceived stress		q
	Private U.	Public U.	
Psychological demands	.53***	.44**	.12
Active work	.42**	.38**	.05
Social support	-.37**	-.28*	.10
Compensations	.53***	.37**	.20
Double presence	.48***	.45**	.02

* $p < .05$; ** $p < .01$; *** $p < .001$

According to the modality of work, in comparison with the appointed teachers, the contracted teachers present greater correlations among the study variables (see table 7). These differences are small (Cohen q with values between .10 and .30). No significant correlations were found in terms of age and sex.

Table 7
Correlations between study variables according to work modality

	Perceived stress		q
	Hired	Appointed	
Psychological demands	.49**	.38*	.14
Active work	.42**	.34*	.10
Social support	-.38**	-.13	.27
Compensations	.50**	.35*	.17
Double presence	.48**	.39*	.11

* $p < .05$; ** $p < .001$

On the other hand, comparisons of means were made according to the sociodemographic characteristics of the teachers. As for the type of university, table 8 shows that teachers who come

from privately managed universities have higher averages in the dimensions of psychological demands, active work, compensations and double presence.

According to Cohen (1988) a *d* with a value lower than 0.20 means an insignificant difference, from 0.21 to 0.50 a small difference, from 0.51 to 0.80 a median difference, and higher than 0.80 indicates a large difference. The differences between the means of the dimensions psychological requirements and active work present a Cohen *d* superior to 0.80, this would indicate that the differences are great and quite perceptible; in the compensations and the double presence, the differences between the means are of medium size. On the other hand, the means in the social support dimension present a negligible difference (see table 8).

Table 8.

Test t of the variable psychosocial risk factors according to type of university

	Private U. (n=64)		Public U. (n=53)		<i>t</i>	<i>d</i>
	<i>M</i>	<i>DE</i>	<i>M</i>	<i>DE</i>		
Psychological demands	18.80	1.31	16.94	1.75	6.55**	1.20
Active work	18.69	1.54	14.51	2.25	11.47**	2.17
Social support	3.63	2.79	3.91	2.14	-0.60	0.11
Compensations	10.81	1.37	9.74	1.35	4.27**	0.79
Double presence	7.44	0.94	6.91	1.04	2.90*	0.53

p*<.01; *p*<.001

In relation to the modality of work, higher averages were observed in the psychological demands, active work, and compensation of contracted teachers. The differences between the means (Cohen's *d*) of psychological demands and compensations are of medium size; while the difference in means of active work is large, which would indicate that it is a quite perceptible difference (see table 9). On the other hand, no differences according to age and sex were reported.

Table 9.

Test t of the psychosocial risk factors variable according to work modality

	Hired (n=79)		Appointed (n=38)		<i>t</i>	<i>d</i>
	<i>M</i>	<i>DE</i>	<i>M</i>	<i>DE</i>		
Psychological demands	18.33	1.72	17.18	1.67	3.41**	0.68
Active work	17.90	2.34	14.5	2.3	7.40***	1.47
Social support	3.85	2.67	3.55	2.15	0.60	0.12
Compensations	10.56	1.43	9.84	1.41	2.55*	0.51
Double presence	7.25	0.99	7.08	1.08	0.86	0.16

p*<.05; *p*<.01; ****p*<.001

In the case of the perceived stress variable, according to test *t*, only differences were found according to work modality, with hired teachers being the group that obtains the highest score in perceived stress. Likewise, table 10 shows that the size of the difference between the means is small (0.45).

Table 10.

Test t of the perceived stress variable according to work modality

	<i>M</i>	<i>DE</i>	<i>t</i>	<i>d</i>
Appointed (n=38)	45.77	4.809	-2.25*	0.45
Hired (n=79)	47.89	4.701		

**p*<.05

In addition, the main symptoms experienced by teachers were reported to be tired, unable to sleep, and headaches (see Table 11).

Tabla 11.

<i>Main stress symptoms experienced</i>	<i>%</i>
I feel tired all the time	45.2
I can't sleep	36.1
My head hurts	32.4
I can't concentrate	28.0
I lose my appetite or eat more than normal	26.3
I'm irritated all the time	23.1
I get sick all the time	18.1
I'm anxious all the time	16.2
. I drink or smoke more than usual	9.2
Other	10.0

A higher percentage of women than men report that they have experienced sleep problems, headaches, lack of concentration, variations in appetite, irritability, and anxiety. In terms of age, it has been reported that teachers between the ages of 45 and 54 experience more frequently fatigue, sleeping problems, headaches, irritability, feeling sick and anxiety (see table 12).

Tabla 12.

Main symptoms of stress according to sex and age

	Total (%)	Sex		Age	
		Women (%)	Men (%)	35 – 44 (%)	45 – 54 (%)
I feel tired all the time	45.2	41.6	48.8	39.4	51.0
I can't sleep	36.1	39.8	32.5	33.0	39.2
My head hurts	32.4	34.7	30.1	30.8	34.0
I can't concentrate	28.0	35.1	20.9	31.0	25.0
I lose my appetite or eat more than normal	26.3	32.2	20.4	32.1	20.5
I'm irritated all the time	23.1	25.2	21.0	18.0	28.3
I get sick all the time	18.1	12.1	23.9	15.1	21.0
I'm anxious all the time	16.2	18.0	14.4	13.2	19.2
I drink or smoke more than usual	9.2	5.9	12.5	10.3	8.1
Other	10.0	9.0	11.0	8.0	12.0

It can be seen that there is a higher percentage of perception of stress symptoms by teachers working in private universities, as well as in teachers who are hired (see table 13).

Tabla 13.*Main symptoms of stress according to type of university and work modality*

	Total (%)	Type of university		Work modality	
		Private (%)	Public (%)	Hired (%)	Appointed (%)
I feel tired all the time	45.2	51.1	39.3	51.2	39.2
I can't sleep	36.1	39.2	33.0	39.0	33.2
My head hurts	32.4	36.5	28.3	37.1	27.7
I can't concentrate	28.0	31.0	25.0	33.0	23.0
I lose my appetite or eat more than normal	26.3	32.5	20.1	33.4	19.2
I'm irritated all the time	23.1	27.8	18.4	27.3	18.9
I get sick all the time	18.1	21.2	15.0	20.4	16.0
I'm anxious all the time	16.2	21.3	11.1	19.2	13.2
I drink or smoke more than usual	9.2	11.1	7.3	8.4	10.0
Other	10.0	12.0	8.0	13.0	7.0

Discussion

According to the results, psychological demands, compensations and double presence are psychosocial risk factors associated with work that could generate stress in university teachers; these findings agree with the approaches of Gil-Monte (2012), Raffo et al. (2013), Carlotto and Gonçalves (2017), Barron (2004), Arís (2009), Amador et al. (2014), Martínez (2003), Cardona (2010), Ayuso (2006), Pérez (2012), Kyriacou (2003), Extremera et al. (2010), Guerrero (2002), González (2008), Oramas et al. (2003), Restrepo-Ayala et al. (2006), Caballero et al. (2009), Rojas and Rodríguez (2011) and Rodríguez-Martínez et al. (2018). On the other hand, the active work dimension obtained a correlation of .20 with perceived stress and the lower limit of the confidence interval showed an index of .02, this indicates the probability of a null correlation. Therefore, the correlation index between active work and perceived stress needs to be taken with caution.

While correlation indices in public university teachers are important, the results indicate that correlations between psychosocial risk factors and stress are higher in private university teachers, especially the dimensions of psychological demands (emotional, creative, sensory and workload) and compensations (job stability and undesirable changes). These results would reflect that the physical, academic and emotional demands of private management institutions have become psychosocial risk factors that feed the stress perceived by the teacher, on the other hand, the issue of compensations is a sensitive one and the results exposed could be related to the ratification of hired personnel, the six-monthly or annual renewal of teachers, the changes of schedule and academic load depending on the number of enrollments. It would be important to look for various incentives, for example, an emotional salary, so that teachers do not perceive these demands, valid within a competitive world that seeks academic excellence and provide a quality service, as psychosocial risk factors that would lead them to stress.

On the other hand, the general correlation between social support and perceived stress is inverse; moreover, according to the analysis of results among types of universities, inverse correlations were also observed in private university professors and public university professors. This would indicate that the support received by colleagues and bosses, the quality in the leadership of superiors, the clear assignment of functions, the quality in the relations with colleagues and the access to timely information for the development of activities, do not represent a psychosocial risk factor, that is to say, an adequate social support would contribute to diminish the teacher's perception of stress and could even be considered as a moderator of the harmful

effects of those factors that are perceived as psychosocial risks. Accordingly, social support for university teachers should be strengthened; the academic and administrative management of universities should consider these aspects in order to provide an emotionally and socially pleasant environment that allows all activities related to the teaching profession to be carried out in a healthy manner and, in this way, to avoid possible stressful situations.

In terms of work modality, the correlations between psychosocial risk factors (psychological demands, active work, compensations and double presence) and perceived stress are greater in contracted teachers. The correlation is inverse between social support and perceived stress; moreover, contracted teachers are those who perceive higher levels of stress; these findings seem to agree with what was stated by García et al. (2016) and Luceño et al. (2008). It is probable that the results of this research are a reflection of the problems experienced in the country due to new academic, legal and administrative changes and demands; it is possible that contracted teachers perceive greater psychosocial risk factors in the work due to the fact that their continuity depends on many factors, among them: teacher performance, evaluation of student satisfaction, preparation and presentation of documents, evaluation of coordinators, demand for continuous training, active participation in the development of research, attendance at conferences, congresses, seminars, etc. This without forgetting that, possibly, contracted teachers do not dedicate themselves exclusively to academic work; other responsibilities should also be considered.

It is also important to note that the appointed teachers, who come from the public university, enjoy certain benefits as opposed to those hired, for example: full monthly remuneration, extra bonus in case of achieving some administrative position, full social benefits, security of continuity in the institution (after evaluation), greater number of days off, etc.; these conditions could explain the differences in the perception of psychosocial risk factors and stress in the hired and appointed teachers. As mentioned above, it is valid that universities, without any distinction, demand academic and professional quality from teachers, but they should look at how teachers perceive the environment in which they work and see the impact it has on their performance and health.

As for the double presence dimension, this research has not found a significant difference between men and women; this does not coincide with the results of Valls-Llobet (2000) and García et al. (2016). According to the literature consulted, concern for domestic demands mainly affects women's work performance; however, it is possible that the participants in this study share these responsibilities, which leads us to believe that gender differences in terms of domestic and family activities are decreasing.

The five most common stress symptoms reported by the participants were: tiredness, not being able to sleep, headaches, lack of concentration and changes in appetite; this report seems to coincide with the contributions of Moreno y Báez (2010), Pérez (2012), Díaz (2009) and Extremera et al. (2010). Academic, physical and emotional demands can cause a lack of strength to continue the journey. Sleep is a necessary activity to recover energies and allow the body to repair tissues, its lack can lead to suffering from different diseases. Accumulated tension can cause headaches and cognitive problems related to attention and a poor diet can cause severe damage to health. These symptoms would indicate that the teachers surveyed have manifested patterns of stress, affecting their health and professional performance; it seems that this coincides with what was proposed by Hiebert and Farber (1984), the teaching profession can become stressful.

Out of all the participants, women, teachers between the ages of 45 and 54, private university teachers and those with a contract status report greater symptoms; this would indicate that these groups are more vulnerable to the demands of the environment. In the case of women, according to Duval, González and Rabia (2010), this condition would find an answer in the neurobiological differences and in the role played by the hormone corticotropin (CRF). In the case of older teachers, these could be affected by the "new" emotional and technological demands

that the teaching process in universities requires, to which are added the particular characteristics of students born in the digital era.

Because of its correlational scope, the study has not been able to ascertain the causality between psychosocial risk factors and the perception of stress in university teachers, however, the results of this research serve to deepen the knowledge of teacher perceptions and their possible impact on health and professional performance. Although the question of symptomatology was important for analyzing the reality of university teachers, it is important to recognize that this diagnosis is not based on objective tests or specialized medical analysis, so it would be important to implement them in future research.

Likewise, due to the nature of the research design and the instruments used, it would be advisable to promote more research in this field of study, but from the qualitative point of view. The use of qualitative techniques, such as personalized and in-depth interviews, as well as the focus group, are valid procedures that would serve to deepen those aspects that have not been able to be elucidated with quantitative information, but that would serve to value teaching work and offer a pleasant and safe environment in which to teach.

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