

Psychosocial Factors and Burnout Syndrome in Academics of a Public University from Mexico


Factores psicosociales y síndrome de Burnout en académicos de una universidad pública de México

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Summary

The objective of the study was to identify the relationship between psychosocial factors of academic work and Burnout Syndrome in a public university in Mexico. In a sample of 247 academics from a public university in Mexico, an online battery was applied that was made up of an adaptation of the questionnaire Psychosocial Factors of Academic Work (FPSIS), the Questionnaire for the Evaluation of Burning Syndrome by Work for Educational Professionals (CESQT-PE) and a section on sociodemographics. The high and/or critical prevalence of Burnout dimensions was around 30% at the same time as more than 90% showed high levels of illusion at work. Multivariate linear regression models showed a statistically significant relationship between all psychosocial factors and most Burnout dimensions independent of sex, age or marital status, reaching explained variances between 16% and 43%. The most reliable predictors were "social and organizational problems" and "problems with students", which also had higher prevalence (40.9% and 34.8% respectively). Negative dimensions of burnout and Illusion for work seem to coexist to some extent. The psychosocial factors found are clearly linked to the new higher education policies. It is recommended to implement actions at the institutional level that contribute to improving working conditions and well-being, as well as preventive programs to reduce work stress and improve the quality of life of academics.

Keywords: Psychosocial Factors; Burnout; University Professor; Public University.

Resumen

El objetivo del estudio fue identificar la relación que existe entre los factores psicosociales del trabajo académico y el Síndrome de *Burnout* en una universidad pública de México. En una muestra de 247 académicos de una universidad pública de México, se aplicó una batería en línea que estuvo conformada por una adaptación del cuestionario de Factores Psicosociales del Trabajo Académico (FPSIS), el Cuestionario para la Evaluación del Síndrome de Quemarse por el Trabajo para Profesionales de la Educación (CESQT-PE) y un apartado de sociodemográficos. Las prevalencias altas y/o críticas de las dimensiones de *Burnout* rondaron el 30% al mismo tiempo que más del 90% mostraron altos niveles de ilusión en el trabajo. Los modelos de regresión lineal multivariada mostraron una relación estadísticamente significativa entre todos los factores psicosociales con la mayoría de las dimensiones del *Burnout* independientes al sexo, la edad o el estado civil, alcanzando varianzas explicadas entre el 16% y el 43%. Los predictores más confiables fueron "problemas sociales y organizacionales" y "problemas con alumnos", los que también tuvieron mayor prevalencia (40.9% y 34.8% respectivamente). Parecen coexistir dimensiones negativas del burnout y la Ilusión por el trabajo en alguna medida. Los factores psicosociales encontrados se vinculan claramente a las nuevas políticas de educación superior. Se recomienda implementar acciones a nivel institucional que contribuyan a mejorar las condiciones laborales y el bienestar, así como programas preventivos para disminuir el estrés laboral y mejorar la calidad de vida de los académicos.

Palabras Clave: Factores psicosociales; Burnout; Profesor de universidad; Universidad pública

Introduction

In recent decades, the world of work has undergone a major transformation in different work contexts, which has meant the approach of policies that include new forms of work organization and division of tasks that prioritize the maximization of productivity in a new globalized world (Thornley, Jefferys and Appay, 2010). The current working conditions resulting from this context have represented for most workers different challenges, precarious working conditions and low budgets to face them, which has impacted the physical, mental and emotional health of workers, in particular, through sufferings such as negative work stress (Leka, Griffiths and Cox, 2003).

Quiñones, Tapia and Díaz (2012) and Gallardo and Quintanar (2008), point out that these changes in work environments have added new psychosocial factors to jobs, such as: intensified work demands, the use of new technologies and types of work, work overload, ambiguity, multiple subordination (reporting to several bosses, according to groups to which they belong), and continuous evaluation focused on productivity. As a consequence of the presence of these aspects in the work context, workers are affected in different areas of their lives: health, well-being, quality of life and after-work environment (Morales-Nápoles, 2011).

According to the International Labour Organization (2010), the Psychosocial Factors of Work (FPS-T) are present in the various types of workers throughout the world and their consequences may be at the individual level (health and well-being) and/or organizational level (absenteeism and worker performance). In this sense, the Psychosocial Factors of Work (FPS-T) have acquired great importance and the ILO defines them as:

Interactions between work, its environment, job satisfaction and the conditions of its organization, on the one hand, and the worker's capabilities, needs, culture and personal situation outside of work, on the other, all of which, through perceptions and experiences, can influence health and job performance and satisfaction. (ILO, 1986, p.3).

In this regard, Bakker et al. (2014) add that there are general psychosocial factors, that is, factors that can be found in almost any job (such as work under pressure and autonomy), and others that are specific or proper to the role played by the worker. In addition, they also point out that those psychosocial factors perceived as negative (labor demands) are the main predictors (causes) of Burnout, mainly when there are no resources to face those demands (Bakker et al., 2014).

In this sense, the public university as a labor field has also been submitted to global policies, putting productivity before quality in work and the health of professors (Gallardo & Quintanar, 2008; Walker, 2016). It should be noted that the evaluation of academic tasks arises from this type of policy and is carried out at the university through evaluation and reward programs focused on the productivity of academics, mainly in research (Díaz, 1996; Vera and González-Ledesma, 2018). As a result, the university has become an environment of constant change and increasing work demands for academic workers (Terán and Botero, 2011; Vera and González-Ledesma, 2018).

In that sense, some of the negative psycho-social factors that have been identified as characteristic of the academic profession according to Caramés-Balo (2001, cited in Pando-Moreno et al., 2006) are: physical load, mental overload, amount of time during which the person must elevate the answers in his memory and environmental factors.

Pando-Moreno et al. (2006) indicate that, of 7 psychosocial factors explored in their research with academic workers, only 3 were shown as negative psychosocial factors (labor demands) and related to Burnout: a) workload, b) content and characteristics of the task, and c) role of the academic and career development.

From their views, Silva and Flores (2014) indicate that from their study with academics from a public university in Mexico, the psychosocial factors that stood out at a high level were: Workplace conditions (57.3%), Social interaction and organizational aspects (49%), Work characteristics (32.8%) and Work content (31%).

Aguilar et al. (2011) and Sánchez y Martínez (2014) point out that work overload is a latent aspect in professors-researchers of the public university in Mexico, since it includes an endless number of extra activities to teaching, among which research, tutoring, dissemination of knowledge and administrative activities stand out, as well as other substantive tasks to these.

Martínez-López, Martínez and Méndez (2015) identified work overload as an aspect reflected in their study in which 86% of academics who participated reported working on days off and

holidays. In addition, 60% reported working more than 48 hours a week (Martínez-López, Martínez and Méndez, 2015).

There are also studies that have reported the presence of latent physical demands in this work environment. In that sense, Pando-Moreno, Castañeda-Torres, et al. (2006) found that constant verbalization (86.7%) and prolonged visual effort (71.1%) were the most prevalent aspects in academic work and that, in addition, they were related to Burnout syndrome. Martínez-López et al. (2015), from their study with 192 academics, report that one of the most frequent physical demands in this work according to 58% of the academics in their sample is to remain seated most of the working day.

Accordingly, it has been demonstrated that negative psychosocial factors are potential triggers of various processes of deterioration in health such as exhaustion, psychosomatic problems and distress, as well as negative results in the organization, for example, absenteeism, intention to abandon and low performance (Bakker et al., 2014). In this sense, Velázquez (2010) points out that chronic distress, Burnout in particular, is one of the problems that most afflicts academics in their work environment and outside it, in addition to being an evil that affects the productivity of organizations.

Burnout is an indicator of chronic stress, and the midpoint between stressors and their consequences (Gil-Monte, 2003). According to Gil-Monte (2003), the highest incidence of Burnout syndrome occurs in professionals who perform welfare or social activities (as in the case of academia), so the deterioration of their quality of work life also has repercussions on society in general. Ortega-Loubon, Salas and Correa (2011) coincide with the above and point out that Burnout is a growing public health problem that not only affects workers, but also the quality of the service they offer.

The Burnout syndrome can manifest itself in a lack of motivation, interest and responsibility in people regarding the performance of their work (Carlin and Ruiz, 2010; Maslach, 1998; Schaufeli, Leiter, and Maslach, 2009). In addition, Burnout can also trigger physical repercussions such as chronic-degenerative diseases in workers who suffer from it, including hypertension, diabetes and psychological disorders, as well as heart attacks (Velázquez, 2010).

Research on the presence of Burnout syndrome has been carried out in different professions, including some research with university professors, both in Mexico and in other countries. One study that accounts for this is that carried out by Pando-Moreno, Aranda-Beltrán, Aldrete, Flores y Pozos (2006) at the University Center for Health Sciences (CUCS) of the University of Guadalajara with a sample of 144 professors, where it was found that the studied population showed a high degree of prevalence of Burnout with at least one of the 3 dimensions affected (52.7%). Of that percentage, 37% had only one affected dimension, 11.6% had 2 affected dimensions and 4.1% of the population qualified as affected in all 3 dimensions (Pando-Moreno, Aranda-Beltrán, et al., 2006).

In another study conducted with 156 university professors from Zacatecas, Mexico by Ruiz de Chávez, Pando-Moreno, Aranda and Almeida (2014) also found a high prevalence of Burnout in this population, where 63.5% of university professors had at least one of the 3 dimensions affected. Of which 35.3% of the professors presented damage in a single dimension, 22.4% in two dimensions and only 7.7% presented the three affected dimensions.

Another study reports that in a public university in Mexico with a sample of 234 academics, only 21% of them manifested Burnout scores (Magaña-Medina and Sánchez-Escobedo, 2013). Similarly, Magaña and Sánchez-Escobedo (2008) studied the presence of Burnout syndrome in teacher-researchers in Yucatan, Mexico and found a prevalence of 19% at a moderate level.

However, in another study also carried out in Mexico with a sample of 185 university professors from a private university in the city of Guadalajara, Mexico, it was found that the

prevalence of Burnout, based on the MBI questionnaire, was 38.9% of the population studied with at least one of the three dimensions affected. Likewise, in a recent investigation carried out through the MBI questionnaire with the entire academic staff of full-time professors of a public university in Baja California, Mexico, medium-high levels are reported in the dimensions of exhaustion and cynicism and low professional effectiveness, which means affectation in all three dimensions and high possibility of suffering Burnout (Brito, 2018).

This shows the dissimilarity in prevalence of Burnout between studies even if it is the same occupation. Similar trends have been found in other countries. For example, in a study carried out in Colombia with a sample of 194 university professors, from the MBI questionnaire it was found that generally the professors perceived an average level of Burnout, as well as each of its three dimensions (ViloriaMarín and Paredes Santiago, 2002), while in the study by Caballero et al. (2009) they indicate that derived from their study with 101 full-time university professors from the city of Barranquilla, Colombia, they found a prevalence of 9.9% of high levels of Burnout. A relevant aspect of this study is the fact that the majority of participating academics (88.1%) expressed a high level of Illusion for work. This same result agrees with what was reported by Velazquez's study (2018) with 80 academics from a public university in Morelos, who manifested high levels of Illusion for work.

So far it is important to point out that although studies of Burnout syndrome are increasingly frequent in academics, they are still few compared to studies that include other populations such as those in the area of health, where most of the studies referring to Burnout syndrome have been developed, at least in Mexico (Juárez-García, Idrovo, Camacho-Ávila and Placencia-Reyes, 2014).

Likewise, it is important to emphasize that the scarce research regarding the specific psychosocial factors of the academic work and their role as predictors of Burnout Syndrome, does not make clear its relevance, especially when the most used instrument in these studies is the MBI (Maslach Burnout Inventory), in spite of its psychometric limitations in the Mexican population (Placencia, Camacho, Juárez, Ballinas and Hernández, 2015). It is also not clear which psychosocial factors have the greatest impact on Burnout, since the scales used in these studies are not exclusive or adapted to the specific occupation of the academy and its particular demands. On the other hand, the existing evidence is not conclusive to demonstrate the relative weight of psychosocial risk factors in Burnout in relation to sociodemographic aspects such as sex, age or marital status, since it is common that its effect is not controlled despite its relationship with the syndrome (Jiménez, Hernández and Gutiérrez, 2000; León-Rubio, León-Pérez and Cantero, 2013).

Finally, in accordance with the above and in order to contribute to the study of psychosocial factors and their link to Burnout syndrome in academics, the aim of this study is to identify the relationship that exists between psychosocial factors of academic work and Burnout Syndrome a public university in Mexico.

Method

Design

The design of this study is a non-experimental cross-sectional type of correlational scope.

Participants

Sampling was not probabilistic at convenience. From a population of 16,881 university professors, only those who work as Professors and Researchers in the thematic and regional centers of the institution were selected. Therefore, 1,825 e-mail invitations were sent and 259 academics participated, so the response rate was 14.19%.

The inclusion criteria were: to carry out research and teaching activities, to be an active worker at the University at the time of the study, to have a full-time contract, to participate in a stimulus program (PRODEP, SNI, SEI, Teacher Performance Stimulus Program) due to the demands that these programs place on academics, to accept to participate in the study and to sign the informed consent letter. The exclusion criteria were: to be teachers on sabbatical, to be teachers with contracts other than full time, not to participate in any stimulus program, not to accept to participate in the study and not to sign/accept the informed consent letter. The elimination criterion was not to answer the battery of instruments or to answer it partially. Finally, according to these criteria, a sample of 247 academics was obtained.

The final sample was distributed as follows: 122 men (49.4%) and 125 women (50.6%), with an average age of 49.28 years (Standard deviation = 9.677). With regard to marital status, 149 were married (60.3%), 53 were single (21.5%), 23 were in union (9.3%), 18 were divorced (7.3%) and 4 were widowed (1.6%). At the highest level of studies, 38 have a master's degree (15.4%), 179 have a doctorate (72.5%), and 30 have a postdoctoral degree (12.1%). With respect to the university center of affiliation, 205 belong to a Topic Centre (82.9%) and 42 to a Regional Centre (17.1%).

According to the official appointment, 240 participants indicated to be Professor-Researcher (97.2%) and 7 indicated to be Academic Technician (2.8%). However, all are engaged in research and teaching activities. The average length of service in the institution was 19.32 years (standard deviation = 10,983), although the average in the current position was 8.81 years (standard deviation = 7,832).

Instrument

The battery consisted of two instruments and a sociodemographic section that explored the sex, marital status and age of the participants and others with respect to affiliation and appointment. The two additional instruments are described below:

The questionnaire on Psychosocial Factors in Academic Work (Academic FPSIS) by Silva (2006). Its original version consists of 7 dimensions and 50 items valued by a scale of 5 degrees, Likert type, which estimates the frequency with which participants perceive psychosocial factors in their work (0 = Never, 4 = Always). However, for the present study, an exploratory factorial analysis was carried out to guarantee the psychometric validity of this instrument, which is described in more detail in the procedure and results. Initial results required adjustments to the original scale. In the end an adapted version was obtained that served the purposes of exploring its association with Burnout syndrome. This adaptation kept 26 items with the 7 dimensions that had to be reclassified and renamed as follows: Social and organizational problems, 7 items (e.g. There are communication problems about changes that affect your work), Excessive workday, 3 items (e.g. Your workday is prolonged more than new daily hours), Insufficient spaces and materials, 4 items (e.g. The space where you work is inadequate for the work you do), Problems with students, 3 items, (e.g. The space where you work is inadequate for the work you do), Problems with students, 3 items, (e.g. The space where you work is inadequate for the work you do). Confronts problems with student behavior), Dissatisfaction with financial reward, 3 items (e.g., dissatisfied with salary for work performed), Mental and physical effort, 4 items (e.g., requires high degree of concentration), Biochemical risks, 2 items (e.g., is exposed to dust, gases, solvents, or vapors) (Table 1).

For its evaluation, the scores of each section were summed and divided among the number of items, additionally they were classified in three categories: low, medium and high according to cut-off points established from the 66th and 99th percentile. The results of this analysis can be seen in Table 2.

The Burnout Syndrome Evaluation Questionnaire was used to measure Burnout Syndrome in its version for Education Professionals (CESQT-PE). This instrument is made up of

20 items distributed in 4 dimensions (Gil-Monte, 2011): Illusion for work: The individual's desire to achieve work goals because they are a source of personal satisfaction. Psychic wear and tear: Emotional and physical exhaustion due to the fact that at work we have to deal daily with people who present or cause problems. Indolence: Presence of negative attitudes of indifference and cynicism towards the clients of the organization (patients, students, etc.). Guilt: Feelings of guilt that the person has for the behavior and negative attitudes developed at work, especially towards people with whom work relationships are established. CESQT measures each dimension from a frequency scale of five degrees ranging from 0 (never) to 4 (very frequently; every day) (Gil-Monte & Noyola, 2011). Low Job Illusion scores and high scores on Wear and Indolence indicate high levels of Burnout. The Guilt scale allows differentiation between two profiles "with guilt" and "without guilt", but does not contribute to the overall CESQT score. In this sense, it is worth clarifying that, for the purposes of this analysis, only the 3 dimensions that measure the Burnout are evaluated. It should be noted that this instrument offers the advantage of overcoming the psychometric insufficiencies of other Anglo-Saxon instruments (Gil-Monte, Unda and Sandoval, 2009).

In addition, this instrument has psychometric validity of the four-dimensional model in Mexico, carried out with basic education personnel from which it is concluded that the instrument in its version for education professionals (CESQT-PE), was a reliable and valid instrument to evaluate the SQT in Mexico. However, this same instrument has been used by Velazquez (2018) in a study with academics from a public university in the state of Morelos, who points out that all dimensions of the construct manifested an acceptable internal consistency value ($> .7$), but that its use must be careful since some items do not apply to the academic context. As a precautionary measure and similar to the instrument previously described, an ad hoc exploratory factorial analysis was also carried out for this study, which confirmed the original theoretical structure of the CESQT (not shown for reasons of space), so there was no change for use in subsequent analyzes.

Procedure

For the application an online battery was structured through the SurveyMonkey® platform. In order to send it, it was necessary to obtain e-mails from the academics of the University of Guadalajara, which were obtained on the PRODEP website titled "Academic Bodies recognized by PRODEP". This list is publicly accessible and can be accessed from the following link: <https://promep.sep.gob.mx/ca1/>.

As part of the ethical considerations, a letter of informed consent was formulated. Through this document, the voluntary participation of academics was requested, the confidentiality of their identity was guaranteed and they were given the freedom to leave the survey at the desired time. Acceptance of the letter was necessary to enter the questionnaire.

In order to collect data, the questionnaire was sent by e-mail to academics of the different university centers of the institution in which this research was carried out. The university centers are classified as follows: a) Thematic: they refer to those spaces organized and administered by areas of knowledge and there are six (UdeG, 1994); and b) Regional: they are those spaces through which attention is given to the different multidisciplinary needs of the population of the different regions of Jalisco where they are located and there are nine (UdeG, 1994).

The results analysis strategy required three steps. As mentioned above, exploratory factor analyzes were carried out in a first step to confirm the dimensional structure of the surveys used without assuming their implicit validity. The exploratory factorial analysis was performed using the unweighted least squares extraction method, oblimin rotation and the Horn parallel analysis criterion was used together with the theoretical interpretability criterion for the definition of number of factors (Lloret et al, 2014). Minimum factorial loads were considered at $\lambda=.40$. Likewise, the Cronbach alpha (α) and Mc Donald's omega (ω) were calculated as reliability

indices, the latter was considered necessary due to the heterogeneity of factorial loads (Dunn, Baguley and Brunsten, 2014), all with JASP software (JASP Team, 2018).

In a second step, the prevalence of psychosocial factors and Burnout syndrome were estimated, and finally, in the third step, multiple linear regression analysis was carried out by the entry method for each component of Burnout syndrome as an outcome variable, incorporating sociodemographic variables and work psychosocial factors as predictors.

Results

The initial factorial explorations did not allow confirming the psychometric validity and therefore the viability of the use of the Scale of Psychosocial Factors of the Academic Work, nevertheless, an adapted version was looked for that allowed to fulfill the objectives of the present study. For this purpose, items that did not contribute to the variance or reliability of the instrument, those that showed factorial complexities or those that simply broke with a theoretical interpretability were eliminated. This led to the version of 26 items and 7 factors described above, which maintained theoretical coherence and acceptable levels of reliability in all its dimensions, obtaining ranges from .70 to .86 both in the coefficient ω and in α (Table 1).

Regarding the reliability of the CESQT-PE dimensions, it was found that Illusion for work presented $\alpha=.85$ and $\omega=.86$, for Indolence the value was $\alpha=.75$ and $\omega=.74$, the dimension Psychic burnout presented $\alpha=.87$ and ω with the same value and for Guilt $\alpha=.87$ and $\omega=.88$, which in general showed a high consistency in this instrument.

Table 1.
Factorial matrix and Cronbach alpha of the dimensions of the adapted FPSIS questionnaire

ACADEMIC PSYCHOSOCIAL FACTORS SCALE (original numbering of items)	Social and organizational	Excessive workday	Space and insufficient	Problems with students	Dissatisfaction with remuneration	Mental and physical effort	Biochemical risks	Communalities, etc.
16.10. Equipment and Materiales	.097	.144	.460	.121	.061	-.091	.142	0.535
16.5. Dusts, Gases, etc.	.133	.086	-.067	.037	-.033	.004	.625	0.526
16.6. Microbes, insects, etc.	-.039	-.061	.063	-.003	.034	-.000	.879	0.212
16.7. Carece de Cubículo	-.073	-.115	.574	-.052	.044	-.085	-.086	0.707
16.8. Insufficient space	.008	.031	.746	.013	.035	.007	.017	0.396
16.9. Overcrowding	.086	.017	.703	.006	-.059	.077	.074	0.404
17.1. Excess of activities	-.042	.600	.098	.055	.051	.174	.047	0.485
17.3. Long hours	-.052	.841	.005	.011	.005	-.056	-.016	0.335
17.4. Work on days off and vacations	.117	.580	-.025	-.063	.076	.073	-.065	0.581
18.2. Problems with students behaviour	-.039	.052	-.014	.621	.102	-.015	0.043	0.582
19.1. Complex tasks	.075	-.025	-.017	.135	-.041	.617	0.010	0.572
19.2. Degree of concentration	-.011	-.044	.045	-.023	-.033	.631	-.013	0.624
19.3. Uncomfortable postures	.017	.264	.111	.007	.108	.484	.071	0.495
19.5. Visual effort	.095	.333	-.098	-.110	.034	.446	.058	0.544
20.2. No value given to Education	.086	.031	.008	.751	-.047	.044	-.000	0.382
21.1. Relationship with peers	.421	.024	-.022	.282	-.133	-.048	.075	0.671
21.3. Problems with principals	.622	.195	.023	.008	-.165	-.190	.084	0.555
21.4. Evaluación processes	.437	.012	.106	.170	.252	-.007	-.057	0.537
21.5. Control systems	.583	-.021	.034	.058	.135	.106	-.006	0.503
21.6. Communication problems	.773	-.031	.013	-.022	.091	.060	.068	0.288

ACADEMIC PSYCHOSOCIAL FACTORS SCALE (original numbering of items)		Social and organizational	Excessive workday	Space and insufficient	Problems with students	Dissatisfaction with remuneration	Mental and physical effort	Biochemical risks	Communalities, etc.
21.7. Limitation in Decisions		.762	-.021	.082	-.016	-.011	.136	.036	0.293
21.8. Effectiveness on information		.764	-.043	.006	.033	.069	-.054	-.046	0.413
22.1. Dissatisfaction with Salary		.027	.035	.093	.008	.719	-.058	-.058	0.437
22.2. Change in the retirement pensions' system		.004	.067	-.019	.001	.595	-.014	.210	0.539
22.3. Incentive programs		.160	.005	-.069	.065	.573	.092	.037	0.538
24.3. Unbearable students		-.117	-.100	.032	.637	.032	-.006	-.012	0.611
Reliability	McDonald's ω	.86	.76	.75	.71	.72	.71	.73	
	Cronbach's α	.86	.75	.74	.70	.72	.70	.73	

Note: Personal Design

With regard to prevalence, it can generally be said that psychosocial factors are perceived at a low, medium or high level in an heterogeneous way by most academics, however, it is important to highlight those that are perceived at a high level. More specifically, factors I) social and organizational problems and IV) problems with students were perceived at a high level by 40.9% and 34.8% respectively, which place them with the highest prevalence in this study. Nevertheless, the sum of prevalence in the medium and high levels shows that in all psychosocial factors there are medium or high risks in more than 50% of the cases (Table 2).

Table 2.

Prevalence of the level of perception of psychosocial factors in academic work

Level	Psychosocial factors of academic work						
	Social and organizational problems	Excessive workday	Space and insufficient materials	Problems with students	Dissatisfaction with remuneration	Mental and physician effort	Biochemical risks
Low	72 (29.1%)	96 (38.9%)	104 (42.1%)	120 (48.6%)	81 (32.8%)	89 (36%)	87 (35.2%)
Medium	74 (30%)	96 (38.9%)	63 (25.5%)	41 (16.6%)	90 (36.4%)	88 (35.6%)	78 (31.6%)
High	101 (40.9%)	55 (22.3%)	80 (32.4%)	86 (34.8%)	76 (30.8%)	70 (28.3%)	82 (33.2%)

The results of the CESQT-PE evaluation to determine the level of perception of Burnout Syndrome by academics are presented in Table 3. The most relevant results indicate that with respect to the dimension Illusion for work, the majority of academics (96.8%) perceived it at the "critical" level, although it should be considered that the scores for this dimension should be interpreted in an inverted manner, low scores in this dimension indicate high levels of Burnout, which means that only for this case a "critical" level is something positive, since it represents that the illusion for work is very high.

As for the Indolence dimension, this is perceived by the majority of academics (32%) in a medium level, although high percentages are also observed in the low (21.5%) and high (22.3%) levels for this dimension. The Psychic Wear dimension is also perceived at a medium level by the majority of academics (34.8%), but high percentages were obtained at the low (21.1%) and high (20.6%) levels.

Finally, when evaluating the total score of the CESQT-PE scale, it was obtained that the majority of academics (33.6%) perceived the Burnout in a medium level, but also a high percentage (30%) was found in the low level.

Table 3
Frequencies with respect to the level of perception of Burnout Syndrome

Level	CESQT-PE	Illusion	Indolence	Burnout	Guilt
Very low	7 (2.8%)	0 (0%)	42 (17%)	33 (13.4%)	62 (25.1%)
Low	74 (30%)	1 (0.4%)	53 (21.5%)	52 (21.1%)	41 (16.6%)
Medium	83 (33.6%)	3 (1.2%)	79 (32%)	86 (34.8%)	74 (30%)
High	49 (19.8%)	4 (1.6%)	55 (22.3%)	51 (20.6%)	52 (21.1%)
Critical	34 (13.8%)	239 (96.8%)	18 (7.3%)	25 (10.1%)	18 (7.3%)
Total	247 (100%)	247 (100%)	247 (100%)	247 (100%)	247 (100%)

Note: Personal design

With respect to the relationship between Burnout Syndrome, sociodemographic factors (age, sex, marital status) and psychosocial factors of academic work, multiple linear regression analyzes showed some interesting trends. In principle it is worth mentioning that all the models were statistically significant, which showed the joint and relevant contribution of sociodemographic variables and academic psychosocial factors to the variables of the Burnout syndrome, reaching explained variances in a range of 16% to 43% (the adjusted square R -R2- higher was for indolence).

In particular, the factors of "social and organizational problems" and "problems with students" were highlighted as the most consistent predictors of most of the Burnout variables, with their own weights independent of sociodemographic aspects. Next in importance was the exhaustive day and the mental and physical effort, the first was presented as the main psychosocial predictor or of greater weight for the psychic exhaustion ($\beta=.273$). An unexpected case is the relationship between mental and physical effort and illusion at work, which is positive and in the opposite direction to what was theoretically expected (the greater the effort, the greater the illusion), although this relationship was low ($\beta=.140$) (Table 4).

As for sociodemographic aspects, age was a reliable predictor for indolence ($\beta= -.147$) and partially for guilt ($\beta= -.115$) (older age, lower scores for Burnout variables) and sex was for attrition ($\beta= -.278$) (men had less psychological attrition). Table 4 highlights the constituent variables of the model that are associated with the dimensions of Burnout Syndrome, the value of R2 (normal and adjusted), the predictive weight (b) and the Typified Beta (β) of each variable with its respective significance value.

Table 4.

Linear regression analysis of the dimensions of Burnout Syndrome and the sociodemographic and psychosocial factors of academic work.

	F	R2	R2 a	b	Standard error	β	p	Lower limit	Upper limit
Illusion for work	5.72	.19	.16				.000		
<i>Sociodemographic</i>									
Sex (male)				-.045	.083	-.033	.589	-.209	.119
Age				.008	.004	.110	.069	-.001	.016
Marital status (with a partner)				.166	.090	.111	.066	-.011	.343
<i>Academic psychosocial factors</i>									
Social and organizational problems.				-.266	.061	-.323	.000	-.387	-.146
Excessive workday				.030	.051	.039	.555	-.071	.132
Space and insufficient materials				.002	.044	.003	.961	-.085	.089
Problems with students				-.153	.064	-.155	.017	-.279	-.027
Dissatisfaction with remuneration				.018	.045	.028	.680	-.069	.106
Mental and physical effort				.124	.060	.140	.039	.006	.242
Biochemical risks				-.048	.042	-.077	.249	-.131	.034
Indolence	19.58	.45	.43				.000		
<i>Sociodemographics</i>									
Sex (male)				-.038	.055	-.034	.494	-.146	.071
Age				-.008	.003	-.147	.003	-.014	-.003
Marital status (with a partner)				.015	.059	.012	.804	-.102	.132
<i>Academic psychosocial factors</i>									
Social and organizational problems				.058	.041	.087	.155	-.022	.138
Excessive workday				-.035	.034	-.056	.308	-.102	.032
Space and insufficient materials				-.056	.029	-.106	.056	-.114	.002
Problems with students				.499	.042	.629	.000	.415	.582
Dissatisfaction with remuneration				-.033	.029	-.063	.261	-.091	.025
Mental and physical effort				-.044	.040	-.063	.264	-.123	.034
Biochemical risks				.021	.028	.042	.448	-.033	.076
Psychic burnout	16.10	.40	.38				.000		
<i>Sociodemographics</i>									
Sex (male)				-.553	.104	-.278	.000	-.757	-.349
Age				-.008	.005	-.078	.133	-.019	.002
Marital status (with a partner)				-.062	.112	-.029	.580	-.282	.158
<i>Academic psychosocial factors</i>									
Social and organizational problems.				.181	.076	.152	.019	.031	.331
Long hours				.307	.064	.273	.000	.181	.433
Space and insufficient materials				-.030	.055	-.032	.583	-.139	.078
Problems with students				.250	.079	.175	.002	.094	.407
Dissatisfaction with remuneration				.064	.055	.068	.248	-.045	.173

Mental and Physical effort				.186	.075	.145	.013	.039	.333
Biochemical risks				.026	.052	.028	.622	-.077	.128
Guilt	6.98	.22	.19				.000		
<i>Sociodemographics</i>									
Sex (male)				.007	.073	.005	.927	-.137	.150
Age				-.007	.004	-.115	.052	-.015	.000
Marital status (with a partner)				-.052	.079	-.039	.505	-.207	.102
<i>Academic psychosocial factors</i>									
Social and organizational problems.				.131	.054	.178	.015	.026	.237
Excessive workday				.134	.045	.192	.003	.045	.222
Space and insufficient materials				-.073	.039	-.123	.062	-.149	.004
Problems with students				.319	.056	.362	.000	.209	.429
Dissatisfaction with remuneration				-.084	.039	-.143	.032	-.161	-.007
Mental and physical effort				-.094	.052	-.119	.075	-.197	.010
Biochemical risks				.024	.037	.044	.504	-.048	.097

Note: Personal Design

Discussion

The objective of this study was to analyze the relationship between Burnout Syndrome and psychosocial factors of academic work, considering sociodemographic factors. First, it should be noted that the prevalence of Burnout Syndrome, with respect to the high level of 19.8% (49) and critical level of 13.8% (34), resulted in 33.61% (83). These results correspond relatively to those of Pando-Moreno et al. (2006) using the Maslach Burnout Inventory (MBI) where they found a prevalence of 38.9% in a sample of 185 university professors from a private university in the city of Guadalajara, Mexico. In another study conducted at a public university in Mexico, with a sample of 234 academics it was reported that 21% of academics manifested suggestive Burnout scores (Magaña-Medina and Sánchez-Escobedo, 2013).

In addition, a relevant aspect is the fact that the majority of participating academics (96.8%) of this study showed a high level of Illusion for work. These results are consistent with the findings of Caballero et al. (2009) in university professors in Colombia. Similarly, Velazquez (2018) points out in his study with academics from a public university in Morelos, who manifested high levels of Illusion for work.

Regarding psychosocial factors, it was found that the most prevalent at high level were I) Social and organizational problems and IV) Problems with students by 40.9% and 34.8% of academics, respectively. Silva and Flores (2014) agree with the above and point out that Social interaction and organizational aspects was the second factor with the highest prevalence (49%) factor identified at a high level by the academics in their study. Unlike the study of Pando-Moreno, Castañeda-Torres, et al. (2006) where they report that the factors of greater prevalence in high level were: Labor demands and Remuneration to the performance in high level with 22.3% and 12%, respectively. These differences may be due to the type of population studied, since this last study was carried out with professors from a private university, although it could also be the result of the adaptation of the proposed scale. The adaptation of the scale used in this research explored and grouped more specific factors of occupation, such as "problems with students" or "mental and physical efforts", leaving behind general concepts such as "social interaction" or "labor demands" used in the original scale. Future studies should evaluate the contribution of this shorter version of the scale used.

Regarding the excessive workday, Magaña-Medina, Aguilar-Morales, and Sánchez-Escobedo (2014) point out that work overload is a predominant factor in professors-researchers at the public university in Mexico, due to the diverse activities they perform in addition to teaching, such as research, tutoring, dissemination of knowledge, and administrative activities, among others. Likewise, Martínez-López et al. (2015) point out that 86% of the academics in their study reported working days off and vacations, and 60% said that they work more than 48 hours a week.

It is important to emphasize that the relationships found between the dimensions of Burnout Syndrome and the evaluated academic psychosocial factors: Social and organizational problems, Problems with students, Physical and mental effort, Excessive workday and Dissatisfaction with remuneration, were independent of the sociodemographic aspects, which is an important contribution of the present research, since there are few studies of multivariate scope in the literature of Burnout in Mexico (Juárez et al., 2014). In some studies, although univariate, similar results have been found with respect to the relevance of the factors identified in this research. In relation to the factor excessive workday of this study and its relation with the dimension of psychic burnout in academic population, Pando-Moreno, Castañeda-Torres, et al. (2006) found that the workload turned out to be a risk factor for emotional exhaustion, although they also found related the factors "constant verbalization" and "prolonged visual effort". Similarly, Martínez-López et al. (2015), from their study, identified that sitting most of the working day is one of the most prevalent factors indicated by 58% of academics.

An unexpected aspect was the positive relationship of mental and physical effort and illusion at work, which could be due to the effort of academics who commit too much to their work in a positive way. However, at the same time there is a positive correlation of mental and physical effort with psychic wear, which leaves doubts regarding the possible influence of other uncontrolled variables. In any case, the weight of this variable was too low to be considered important.

In accordance with expectations, the factors Space and insufficient material and Biochemical Risks had no significance in their relations with Burnout, as it was an occupation with little exposure to these aspects. These results coincide with what was reported by Pando-Moreno, Castañeda-Torres, et al. (2006) regarding the dimension they indicate as workplace conditions and which is similar to the two factors indicated here. The workplace conditions dimension did not manifest statistically significant associations with any Burnout dimension in their study.

With all of the above, it can be concluded that despite the fact that about 30% of academics have high or critical levels in the dimensions of Burnout Syndrome, most have considerably high levels of Illusion for work, which means that they have high desires to achieve work goals and a source of personal pleasure for their work (Gil-Monte, Carretero, Roldán and Núñez, 2005) at the same time that moments of attrition can coexist, a topic that needs further investigation.

The higher prevalence of psychosocial factors found was specifically for communication and organizational problems, as well as problems with students, which were also at greater risk according to their relationship with the burnout. These factors are clearly linked to new national and international educational policies in the sense that they imply diverse pressures and communication problems generated by processes and organizational systems linked to academic productivity and the fulfillment of individual and institutional accreditation programs that are increasingly overwhelming for academics and researchers, which are also linked to the increase in enrollment and the considerable increase in students, thus increasing the risk of emotional demands for greater interaction with them.

The associations found between the different psychosocial factors and the Burnout Syndrome indicate that all the psychosocial factors have at least a partial impact on the Burnout Syndrome, especially with the dimension of Psychic Exhaustion. Therefore the most suitable

prevention strategy involves implementing actions of psychosocial improvement at the level of the institution, in order to contribute to improving working conditions in general, since five out of the seven psychosocial factors explored were manifested at a medium level, and according to the theory would be classified as factors of "possible" psychosocial risk, and one at a high level, which would be classified as a psychosocial "risk" factor.

It is important that the new higher education policies include the development of preventive welfare programs that guide academics regarding the management of work-related stress and health in general, with the purpose of preventing and promoting the quality of academic life, as well as the quality of higher education and of the institutions themselves, since academics are the main actors in charge of education and its quality.

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