

Burnout Syndrome in School teachers and University Professors: A Psychometrical and Comparative Analysis from Arequipa City

Síndrome de Burnout en profesores de escuela y universidad: un análisis psicométrico y comparativo en la ciudad de Arequipa

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Summary:

In the present study, the manifestations of burnout syndrome in school and university professors living in the city of Arequipa were analyzed comparatively. A total of 413 intentionally selected professors were evaluated, and the Maslach Burnout Inventory was applied. It yielded adequate levels of reliability for our sample and three factors obtained through confirmatory factorial analysis, confirming the theory of Maslach and Jackson (1981). It was found that there are significant differences in terms of sex, marital status and teaching level of teachers, resulting in higher levels of exhaustion for female teachers at school level and moderate levels of depersonalization for university teachers, in whom negative correlations were obtained regarding the number of children and the burnout syndrome.

Key words: Burnout Syndrome, Teacher Stress, Teachers, Psychosocial Risk.

Resumen

En el presente estudio se analizaron comparativamente las manifestaciones del síndrome de burnout en profesores de escuela y de universidad, radicados en la ciudad de Arequipa. Se evaluó a un total de 413 profesores, que fueron seleccionados de manera intencional, y se les aplicó el Inventario de Burnout de Maslach, que arrojó adecuados niveles de confiabilidad para nuestra muestra y tres factores obtenidos mediante análisis factorial confirmatorio, que confirman la teoría de Maslach y Jackson (1981). Se encontró que existen diferencias significativas en función del sexo, el estado civil y el nivel de enseñanza de los profesores, resultando en mayores niveles de agotamiento para las profesoras de nivel escolar y niveles moderados de despersonalización para los profesores universitarios, en quienes se obtuvieron correlaciones negativas con el número de hijos y el síndrome de burnout.

Palabras clave: Síndrome de Burnout; Estrés docente, Docentes; Riesgo psicosocial.

Introduction

Historical background of burnout syndrome

Studies on stress begin in the first decades of the 20th century with Hans Selye, who proposes the theory of general adaptation to explain that when stressors exhaust the body's response resources, negative emotions occur that burn down health (Selye, 1960). Quickly, the concept was applied to diverse scopes as the organizational, familiar, educational, etc.; so that one can speak about labor stress, familiar stress, academic stress, etc. (Labrador, 1996). To speak of work stress, is a complex subject because it includes aspects proper to the worker, of the interaction with other co-workers, organizational variables and of other scopes such as the family, community, etc. Likewise, work-related stress can be evidenced through various aspects, such as the satisfaction of the worker, his physical and mental health and his performance, mediated by his performance, absenteeism and work-related accidents (Arias, 2011).

In this way, stress is a state of tension that includes a wide variety of symptoms such as exhaustion, fatigue, anxiety, feelings of personal inadequacy, loss of professional self-esteem, labor dissatisfaction, recurrent interpersonal conflicts, somatizations, psychophysiological disorders, etc. (Ayuso, 2006). These symptoms can manifest themselves in an acute way, when they only have a short duration, or they can occur in a

chronic way, when they persist for a long period of time. Chronic stress has the most harmful effects on health, since it can lead to a condition known as burnout syndrome (Díaz, 2006).

The burnout syndrome began to be referred to by Freudenberger (1974) as a lack of motivation in a group of volunteers at a clinic for drug addicts in New York, but it was Maslach (1976) who made the first theoretical formulation of the syndrome, and developed the first test to measure it according to its three pathognomonic symptoms: emotional exhaustion, depersonalization and low self-realization (Maslach, & Jackson, 1981). Initial theorizations focused on human service professions in which there is an asymmetric interaction between the workers and the beneficiaries of their work, so that the situation of dependence of the latter towards the former, and the high responsibility that this entails, as well as the emotional wear and tear that dealing with people implies, would be the triggers of the syndrome (Buunk, & Schaufeli, 1993).

Consequently, the first studies on burnout syndrome focused on health and education professionals (Arias, & Jiménez, 2012). Likewise, burnout syndrome began to develop from a processual approach, in which the worker's "disillusionment" became a relevant source of stress, since it is accompanied by feelings of guilt that affect his emotional stability, and that mediate between the worker's perceptions and his workplace (Edelwich, & Brodsky, 1980). In that sense, in the decade of the 90's there appeared more and more solid evidence that gave greater weight to the structural and organizational factors as the causal variables of the syndrome (Winnubst, 1993). Thus, new theoretical proposals also emerged that focused on workers' personal variables such as self-efficacy (Cherniss, 1993), but without losing sight of the role played by social exchanges at work, but rather more oriented, either from a psychosocial approach or from a clinical perspective (Gil-Monte, & Peiró, 1999a).

Burnout syndrome in teachers: theoretical review

It is in the 80's that the study of burnout syndrome in teachers began (Moriani, & Herruzo, 2004), highlighting the role of certain predictors such as interpersonal relationships at work, dissatisfaction with tasks, experimentation with high levels of stress, feelings of apathy and inadequate support (Ayuso, 2006). In this sense, according to Nieto (2006), the most frequent sources of stress in teachers lie in the disturbing behaviors of students, unsatisfactory working conditions, the scarce time available and a negative school culture. All of these factors affect their quality of life and reduce their teaching performance, with implications for student performance (Villaruel, & Wooding, 2005).

Thus, the main variables related to burnout syndrome can be grouped into three categories: personal, psychosocial and organizational (Arís, 2009). Within the former, sociodemographic variables such as sex, age and marital status are present, but the results are controversial. Thus, according to some studies, male teachers tend to have the highest levels of burnout (Arias, & Jiménez, 2013), but it has also been reported that female teachers are the most affected (Ayuso, & Guillén, 2008), since women also tend to assume household functions, and this "double role" situation generates stress. In terms of age, it has been pointed out that it is the older teachers who present higher levels of exhaustion, due to the cumulative effect of work stress (Gil-Monte, 2005), but it has also been seen that the younger teachers are those who have greater exhaustion and those who present anxious symptoms (Matud, García, & Matud, 2008), possibly because the lack of expertise

makes them feel little self-sufficient or capable of assuming the demands of teaching. With respect to marital status, Fernández (2002a) found that married teachers with children showed lower burnout levels (Fernández, 2002a), but it has also been reported that it is single teachers (Latorre, 2005) and divorced teachers (Cordeiro, Guillén, & Gala, 2003) who have the highest burnout, or that there is no relationship between burnout syndrome and marital status (Rodríguez, & Sánchez, 2018).

It has also been reported that burnout syndrome correlates positively with mobbing (Díaz, 2006), with passive and avoidant coping styles (Marqués, Lima, & Lopes, 2005), with negative attributional styles (Manassero, García, Torrens, Ramis, Vázquez, & Ferrer, 2005), with low self-esteem and the type A behaviour pattern (Fernández, 2002b), lack of social support (Gil-Monte, 2005), the focus of external control (Moriana, & Herruzo, 2004), anxiety and mood disorders (Quiceno, & Vinaccia, 2007), sleep problems, psychophysiological disorders and the consumption of psychoactive substances (Arias, & Jiménez, 2012); while maintaining negative correlations with psychological well-being (Romeiro, 2015), resilience (Franco, 2010), optimism (Moreno, Arcenillas, Morante, & Garrosa, 2005), job satisfaction (Briones, Tabernero, & Arenas, 2010), self-efficacy (Llorens, García, & Salanova, 2005), spirituality (Arias, Riveros, & Salas, 2012), engagement (Durán, Extremera, Montalbán, & Rey, 2005), happiness (Arias, Masías, & Justo, 2014), etc. That is to say, burnout syndrome is associated with diverse conditions that affect the physical and mental health of those who suffer it, for that reason, it is considered an occupational disease (Gil-Monte, 2005) and even a public health problem (Oramas, Amador, & del Castillo, 2011); since work stress explains 35% of the health variance, although in the case of teachers, stress makes them more directly vulnerable in their psychological health and indirectly to physical deterioration (Gómez, 2008).

The school context can also be a cause of chronic stress and therefore, represents various psychosocial risks for the teacher. Thus, it has been reported that the school social climate is associated with a greater emotional wear of the teacher, when it is negative or it is difficult to maintain the discipline of the students (Arón, & Milicic, 2000). Even teaching styles can be stressors if they are not aligned with students' learning styles (Rojas-Jara, Díaz-Larenas, Vergara-Morales, Alarcón-Hernández, & Ortiz-Navarrete, 2016). In that sense, a recent study found that the expert style of teaching according to Grasha's theory has predictive power in the involvement with the work of university professors (Arias, & Carrasco, 2018). The challenges teachers face: reduced discipline, increased violence, loss of teaching time, lack of fluidity in the use of specialized pedagogical behaviors (Salmurri & Skoknic, 2003).

Also, the socioeconomically unfavorable conditions of students can be conducive to stress, since they entail a greater effort on the part of the teacher to generate his or her learning and to build an effective link between the family and the school (Maya-Jariego, Holgado, Márquez, & Santolaya, 2018). Hence, working in suburban schools or in marginal areas represents another source of psychosocial risk (Moriana & Herruzo, 2004). In this sense, the type of school management is associated with differential manifestations of burnout, since it has been reported that public school teachers have low personal achievement and those who work in private educational institutions have higher scores in emotional exhaustion (Arias, & Jiménez, 2013). This could be explained because, as has been pointed out in a recent study, professionals from public institutions have a lower quality of working life and those who work in private institutions have little institutional support, but the salary received is a mediating factor in the second case, so that

professionals who earn more than S/. 4,000 soles per month (US\$1,200) are indifferent to the support received at work (Loli, Danielli, Navarro, & Cerón, 2018).

At the organizational level, work overload, lack of recognition, low control and little autonomy, the perception of absence of justice and authoritarian values in school culture have been associated with the syndrome (Moreno, Garrosa, Rodríguez, Martínez, & Ferrer, 2009). It has also been reported that excessive bureaucracy and organizational obstacles are sources of psychosocial risk for teachers (Salanova, Martínez, & Lorente, 2005), as well as role ambiguity and lack of participation in organizational decisions (Fernández, 2002b). Likewise, it has been pointed out that the longer the permanence and hierarchical position in educational institutions, the higher the reported burnout

levels (Hermosa, 2006), and that hostile work contexts where situations of harassment or mobbing take place constitute sources of stress and burnout (Ayuso, & Guillén, 2008). Thus, interpersonal relationships with colleagues at school are also relevant risk factors (Moreno et al., 2009).

In terms of educational level, it has been reported that special education teachers have higher levels of stress and burnout than those who work in the regular basic education modality (Gil-Monte, Carretero, Roldán, & Núñez, 2005). Within this modality, it has also been indicated that the syndrome is more common among secondary school teachers than among primary school teachers (Fernández, 2002), and among school teachers than among higher education teachers (Marqués et al., 2005). In the case of pre-school teachers, it has been reported that they enjoy a better quality of working life and occupational health, although the number of children in charge (between 21 and 40) is associated with physical ailments such as body pain (Arteaga, Hermosilla-Ávila, Mena, & Contreras, 2018). It has also been pointed out that education assistants tend to have higher burnout levels than incumbent teachers (Guerrero, 2003) and that university teachers have lower burnout levels compared to regular basic education teachers (Moriana, & Herruzo, 2004).

Psychometric studies on Maslach Burnout Inventory

Thus, several studies have been oriented towards the psychometric properties of the Maslach test in its different versions. Maslach and Jackson (1981) reported, for example, a three-factor structure according to their theoretical model of emotional exhaustion, depersonalization, and low self-fulfilment for human service professions, with confidence levels higher than 0.7 for each factor and obtained with Cronbach's Alpha test. In addition, the convergent and discriminant validity was estimated, for which we worked with the job satisfaction construct. Gil-Monte and Peiró (1999b) validated this instrument in a Spanish-speaking and multioccupational sample of 559 workers in the health, education, security and services sectors; reporting three factors that respond to Maslach's model, however, items 6, 12 and 16 saturated in two or more factors.

A general version has also been developed for all types of professionals who respond to an expanded theoretical model of the syndrome (Maslach, Jackson, & Leiter, 1996) that has been tested in Peru with 940 workers, reporting that it has a structure of three factors with reliability indices greater than 0.75, and little variation in function of sex, but item 13 failed to contribute to the validity of the instrument (Fernández-Arata, Juárez, & Merino, 2015). Another study with 741 Peruvian subjects estimated the

measurement error for Maslach's Burnout Inventory (General Version) reporting that the most extreme cut-off points are more reliable (Fernández-Arata, & Merino, 2014). In that sense, a recurrent problem on the studies of burnout syndrome in Peru, have been the cut-off points that have been used in different studies, which makes difficult the comparison between the results obtained in one or another research work.

Brief versions of a single item from the general version have also been reported, showing convergences consistent with stress variables and coping styles (Merino-Soto, Juárez-García, Altamirano-Bringas, & Velarde-Mercado, 2018). For the case of burnout specifically in teachers, Fernandez applied the educator version of Maslach's Burnout Inventory 264 primary school teachers, assessing construct validity through a confirmatory factor analysis that yielded adequate adjustment

indices in most cases, for the three factor model; and a reliability with indices higher than 0.7 obtained through the internal consistency method (2002a). In Arequipa, Arias and Jiménez (2012) analyzed the validity and reliability of Maslach's Burnout Inventory in a multioccupational sample that included health personnel, educators, and police; that obtained adequate levels of validity and satisfactory reliability for two of the three factors, while the low personal achievement factor yielded a reliability index of 0.67, which was considered acceptable.

Comparative studies on burnout syndrome in teachers according to educational level

Thus, it can be said that at both the basic and higher levels of education, teachers face different psychosocial risk factors. In the case of the former, a study of 251 regular basic education teachers in Bogotá reported that 35% experienced high stress at work and that 15.9% consumed cigarettes and 5.2% alcohol (Gómez, 2008). In Mexico, Arias and González (2009) reported that preschool, primary and secondary teachers in Morelos have significant levels of stress, and that emotional exhaustion had a negative predictive effect on their health (Arias & González, 2009). In the opposite sense, it was reported that in a group of teachers in a Paraguayan school, the most satisfied teachers had a higher level of psychological well-being (Romeiro, 2015); while in Peru, a study with teachers in public educational institutions found that most were dissatisfied with their lives and that single people were more satisfied than married people (Reyes, 2017).

With regard to burnout syndrome, 300 primary school teachers were evaluated in Mexico, with 25.9% reporting high levels of emotional exhaustion, 21.6% low personal fulfilment and 80% depersonalization (Aldrete, Pando, Aranda, & Balcazar, 2003). In Colombia, research with 240 public school teachers reported that 37% have high emotional exhaustion and 34% high scores in depersonalization (Restrepo, Colorado, & Cabrera, 2006). Likewise, it has been pointed out that the guilt that the teacher feels when he feels that his performance declines because of the burnout syndrome is a mediator between this and the rate of absenteeism he presents (Rabasa, Figueiredo, Gil-Monte, & Llorca-Pellicer, 2016). In Chile, a recent study with primary school teachers reported that those with high scores in the neurotic dimension of personality also achieved high scores in the syndrome, emotional exhaustion, indolence and guilt (Salgado, & Leria, 2018).

Studies in Peru have reported somewhat different figures depending on the level of education and the socio-demographic characteristics of the samples. Thus, Fernandez

(2002a) indicated that in 264 primary school teachers in Lima, 43.2% had high scores in burnout syndrome, 33.7% high levels of emotional exhaustion, 33% in depersonalization and 50% in low personal fulfillment. In another study with 764 secondary school teachers from Lima, it was found that 32.7% is at a high level of the syndrome, and that comparatively, male teachers and those who work in state schools have higher burnout levels than their female peers and their private school colleagues (Delgado, 2003). Fernandez (2008) also found statistically significant negative correlations between burnout syndrome and self-efficacy in teachers in Lima. In the case of Arequipa, studies carried out in this city reveal diverse sources of psychosocial risk. According to Arias and Jiménez (2013), a greater number of male teachers in regular basic education are affected by the burnout syndrome, but women have more severe levels. In addition, teachers in state schools have higher levels of depersonalization and those in private schools have lower levels of personal achievement. Another study reported that teachers working in public educational institutions have predominantly hostile and insecure relationships with their co-workers, an aspect that could deteriorate their mental health (Arias, 2013a). It has also been seen that primary teachers have little control and high labor demands, so they have high levels of stress, which correlate positively with creativity, which could indicate that the stress experienced by teachers leads them to be more creative (Arias, Montes, & Masías, 2014). On the other hand, it has been reported that, in the teachers of a private educational institution in the city, burnout syndrome is negatively correlated with job satisfaction, highlighting that intrinsic job satisfaction has a negative predictive effect on burnout syndrome (Arias, Sánchez, & Ceballos, 2017).

University teachers also have psychosocial risks that have a negative impact on their health, for example, in a study with 185 Mexican university professors, work demands and a high degree of concentration were detected as psychosocial risk factors, so that 38.9% of the sample had high burnout levels, and of these, 52% belonged to a public university (Pando, Castañeda, Gregoris, Aguila, Ocampo & Navarrete, 2006). In another study conducted in Mexico with 144 professors from the University Health Science Center of the University of Guadalajara, 18.3% are exposed to negative psychosocial risk factors, 37% present burnout syndrome, with emotional exhaustion being the main risk factor (Pando, Aranda, Aldrete, Flores, & Pozos, 2006). Likewise, in Spain, Guerrero (1999) reported that 257 professors of the University of Extremadura 23% of professors are located in the maximum level of burnout, 42% presents worrying levels and 21% the minimum (Guerrero, 2003). Also in Spain, Marqués, Lima and Lopes (2005) found that denial and avoidance as coping styles of university professors were positively correlated with emotional exhaustion, so that coping acts as a mediator between stress and burnout, thus detecting 30.4% teachers who were at risk of having the syndrome and 6.3% who suffer from it. In another study with 885 Spanish university professors, it was reported that those who were older were at low levels of emotional exhaustion, and that women had higher scores in the burnout syndrome (Moreno, Garrosa, Rodríguez, Martínez, & Ferrer, 2009).

More recent studies have reported that in Mexico, the prevalence of burnout syndrome was 2.6%, after evaluating 554 professors from the Autonomous University of Baja California, and that those who had a doctor's degree had higher levels of severity of the syndrome (Palmer, Prince, Medina, Figueroa, López, & Rodríguez, 2016). Other research in Mexico reported that emotional exhaustion and depersonalization in professors at a public university correlated moderately and positively with organizational climate, use of technology, leadership, cohesion, and social support (Ceballos, Pérez, &

Hernández, 2016). Another study of professors at the University of Carabobo in Venezuela found that the majority of professors present high emotional exhaustion, and moderate depersonalization and low personal fulfillment (Bustamante, Bustamante, González, & Bustamante, 2016). In the research of Amorim, Ferreira, and Gomes (2017) with professors from Brazil, it was found that many of them have work overload, since they work more than one shift, and that women had a higher percentage of burnout than men. In Chile, Moyano-Díaz (2017), pointed out that the conditions of strike and paralysis of academic and teaching activities in a provincial university were associated with lower mental health and lower mental health. Finally, in Mexico, Brito (2018) reported that professors at a public university had high levels of emotional exhaustion and depersonalization, and low levels of personal self-efficacy, which places them at high risk of suffering from burnout syndrome.

In the case of Peru, Ponce, Bulnes, Aliaga, Atalaya and Huertas (2005) evaluated 274 university professors, finding that there are no significant differences between men and women, or single and married; and that professors in the area of health sciences have greater burnout than those in the literary area, law and humanities. In another study with 150 medical school teachers, it was found that 44% had high levels of the syndrome, that men had greater depersonalization, and that those working at the Ricardo Palma University, the Cayetano Heredia University, and the Universidad Nacional Mayor de San Marcos employed active coping techniques (Torres & Lajo, 2008). More recently, Rodriguez and Sanchez (2018) evaluated 260 university professors in Lima based on various socio-labour variables, finding that women had greater emotional exhaustion and men had greater personal fulfillment. Age was also associated with personal fulfillment. Likewise, married and divorced teachers felt more fulfilled compared to separated and cohabiting teachers; in addition, professors with higher academic degrees had greater personal fulfillment, and those who held a higher hierarchical position had more emotional exhaustion. Depending on the specialty, writers had more depersonalization and anthropologists more personal fulfillment. In Arequipa, burnout studies in university professors have reported that there is a statistically significant and negative relationship between burnout syndrome and happiness (Arias, Masías, & Justo, 2014), and between burnout syndrome and spirituality at work and passive and avoidant coping styles, while active coping style negatively correlates with burnout syndrome (Arias, Riveros, & Salas, 2012).

Based on this research background, a comparative study was proposed (Montero, & León, 2007). It is also planned to perform, previously, a psychometric analysis of the instrument used, to give greater validity and reliability to our data. In that sense, the present study focuses on comparing the manifestations of the burnout syndrome between teachers of regular basic education and university professors, for which a previous psychometric analysis has been carried out in order to assess the validity and reliability of Maslach's Burnout Inventory for teachers.

Method

Sample

The sample is made up of 413 intentionally chosen teachers, of whom 282 are teachers from eight educational institutions (I.E.), of which 3.2% are from the pre-school level, 4.3% from the primary level, 21.3% from the secondary level and 71.3% did not answer

the level where they teach (they answered that they are I.E. teachers) and 131 teachers from a university in the city of Arequipa. The general age range was from 24 to 70 years ($M=41.79$, $DE=10.04$). The age range for I.E. teachers was 26 to 67 years ($M= 41.43$, $DE= 10.13$) and the age range for university teachers was 24 to 70 years ($M= 43.52$, $DE= 9.65$). Of the total sample, 40.2% are men, 47.9% are women and 11.9% did not indicate this data. Of the E.I. teachers, 36.5% are men, 56% are women and 7.4% do not need this information. 20.9 per cent are single, 43.3 per cent are married, 1.8 per cent are widowed, 1.4 per cent are divorced and 32.6 per cent do not need information. 57.1% have no children, 17.4% have one child, 16% have two children, 7.4% have three children and 2.1% have four children. With respect to university professors, 48.1% are men, 30.5% are women and 21.4% do not need this information. 9.2% are single, 53.4% are married, there is a widowed teacher, a living partner, a divorced person and 35.9% do not need information. 45% have no children, 9.9% have one child, 23.7% have two children, 17% have three children, 4.6% have four children and 0.8% have five children. The study considered the excluding criterion that is, only E.I. teachers who do not teach in higher education and only university teachers who do not teach in educational institutions.

Instruments

The information on sociodemographic data was attached to the instrument applied; the variables recorded were age, sex, occupation, marital status, level of education, for teachers of educational institutions as well as for university professors.

Maslach's Burnout Inventory (Maslach, & Jackson, 1981) was applied and adapted to the Spanish population by Seisdedos (1997). For linguistic adaptation, the Delphi technique (Blasco, López and Mengual) was considered, made up of three experts (linguist, educational institution teacher, university teacher). The instrument consists of 22 Likert response items (0= never, 1= few times a year, 2= once a month, 3= few times a month, 4= once a week, 5= few times a week, 6= every day). It evaluates three dimensions: Emotional Exhaustion (EA) with nine items (1, 2, 3, 6, 8, 13, 14, 16, 20); Depersonalization (D) with five items (5, 10, 11, 15, 22) and Personal Realization (RP) with eight items (4, 7, 9, 12, 17, 18, 19, 21). For the adapted version, Cronbach's alpha for the EA dimension was .90, for the D dimension of .79 and the RP dimension of .71.

Procedure

In the first place, several coordinations were carried out with the authorities of the colleges and the university of origin of the teachers. All were evaluated in the teachers' rooms of their respective institutions and were previously informed of the purpose of the study. All those evaluated agreed to participate voluntarily and signed the informed consent. Instruments were applied individually during their free time. Data were collected between March 2017 and March 2018.

Data analysis.

The analysis of the data was carried out in two stages, the first for the confirmatory factorial analysis of Maslach's Burnout Inventory and the second to compare the burnout in a sample of E.I. professors and another one of university professors according to some socio-demographic characteristics.

Descriptive statistics (mean, confidence intervals, standard deviation, asymmetry and kurtosis) were calculated for the 22 items of the Burnout Inventory. For this purpose, the confirmatory factorial model (AFC) was carried out with the Lavaan de R library, using the WLSMV estimator (weighted least squares and with adjusted mean and variance), this estimator presents robustness in the results in situations of non-normality and ordinal scale (Kline, 2015). To confirm the model, the comparative fit index (CFI) was taken into account, with values of $\geq .90$ (Bentler, 1990). The standardized quadratic mean residual root (SRMR) and the approximation mean quadratic error (RMSEA), with values $\leq .80$ (MacCallum, Browne, & Sugarawa, 1996). Finally, reliability was estimated by means of the Omega (ω) (Ventura-León, & Caycho-Rodríguez, 2017), its 95% confidence intervals were attached, as well as the average of variance extracted (AVE), whose value greater than 0.5 provides evidence of convergent internal validity (Fornell, & Larcker, 1981).

In the second stage the comparisons of Burnout Syndrome were made in I.E. professors and University professors by sex, for this purpose the Student t statistical test was used for independent samples, the measures of effect size (TE) were calculated with Cohen coefficient d (Cohen, 1988), the values for their interpretation are .20, .50 and .80 express a small, moderate and large TE; respectively (Ferguson, 2009). Comparisons according to marital status and educational level were analyzed with the ANOVA of a factor, the effect size was calculated with the eta square coefficient (η^2), where the values of .01, .06 and .14 express a small, moderate and large TE (Cohen, 1992).

Results

Psychometric analysis

The descriptive analysis of the items (Table 1) was performed, finding high and scattered arithmetic means in items 4, 7, 9, 12, 17, 18, 19 and 21, which would correspond to the Personal Realization dimension. Items with low arithmetic means are 5, 10, 11, 15, 22 that correspond to the Depersonalization dimension and items 13, 16 and 20 of the Emotional Exhaustion dimension have low and scattered arithmetic means. Descriptive statistics show that none of the items present high values of asymmetry and kurtosis, considering that values within the ± 1.5 threshold indicate slight variations within normality (George, & Mallery, 2001), so the distributions are not excessively non-normal; however, the WLSMV estimator was used (weighted least squares and with adjusted mean and variance) that presents robustness in the results in situations of non-normality and having categorical variables.

Table 1.
Analysis of the items

Ítems	M	95% IC	σ	g_1	g_2
1	2.286	2.114, 2.457	3.146	.616	-.737
2	3.155	2.976, 3.334	3.427	.037	-1.217
3	2.274	2.091, 3.334	3.554	.492	-.952
4	4.605	4.430, 3.334	3.288	-1.135	.105
5	1.148	0.999, 3.334	2.349	1.436	1.204
6	2.010	1.820, 2.199	3.830	.652	-.822
7	4.266	4.081, 2.199	3.691	-.798	-.627
8	2.574	2.387, 2.761	3.731	.385	-1.096
9	4.438	4.266, 4.611	3.184	-.956	-.124
10	1.172	1.005, 1.339	2.973	1.391	.812
11	1.291	1.123, 1.458	2.983	1.283	.706
12	4.213	4.018, 4.408	4.047	-.788	-.747
13	1.731	1.559, 1.903	3.168	.784	-.476
14	2.419	2.224, 2.614	4.069	.449	-1.127
15	1.269	1.079, 1.458	3.843	1.343	.369
16	1.816	1.641, 1.991	3.277	.750	-.532
17	4.535	4.360, 4.710	3.264	-1.140	.208
18	4.588	4.419, 4.758	3.058	-1.092	.054
19	4.346	4.153, 4.539	3.974	-.878	-.638
20	1.332	1.156, 1.508	3.314	1.122	-.057
21	4.220	4.031, 4.410	3.842	-.773	-.727
22	1.327	1.164, 1.490	2.837	1.283	.761

Note: n= 413; M= Mean; 95% CI= 95% Confidence Interval; σ = Variance; g_1 = Asymmetry; g_2 = Kurtosis

The model of three correlated latent factors of Maslach's Burnout Inventory, made up of 22 items, was analyzed. Observing that the original model does not present a good fit (Table 2), the standardized waste matrix was evaluated and the significant correlated errors, where standardized waste greater than ± 2.58 , indicate statistically significant correlations ($p \leq .05$) and indicate prediction error, finding that items 1 (I feel emotionally exhausted by my work) and item 2 (I feel tired at the end of the workday) had residual values greater than ± 2.58 (Hair, Anderson, Tatham, & Black, 1998). Items 1 and 2 were removed, and the model was re-analyzed, which indicates an appropriate robust fit, $\chi^2(167) = 674.4$, CFI= .929, RMSEA= 0.075 [IC90% 0.069, 0.086], SMRM= 0.071.

Table 2.
Adjusted goodness of fit index

	SB- χ^2	(gl)	RMSEA	(I.C. 90 %)	SMSR	CFI
Original model	1413.07	206	.119	.113, .125	.108	.853
Model without ítem 1	1063.57	186	.107	.101, .113	.092	.883
Model without ítem 2	995.72	186	.103	.097, .109	.088	.893
Model without ítem 1 and 2	674.4	167	.075	.069, .086	.071	.929

Note: CFI= Comparative adjustment index; RMSEA= approximation mean quadratic error; SMRM= standardized quadratic mean residual root, $p < 0.001$

Standardized factor loads to confirm the three-dimensional model, not including item 1 and item 2 (Table 3), are adequate, values ≥ 0.5 were considered adequate (Johnson & Stevens, 2001). In addition, the average factorial loads are greater than the required 0.7 (Hair, Anderson, Tatham, & Black, 2014), and the correlations between the variables do not show multi collinearity.

Table 3

Factorial loads of the standardized AFC solution for the final model

Ítem	Emotional exhaustion	Depersonalization	Self-realization
Ítem_03	.640		
Ítem 06	.691		
Ítem 08	.718		
Ítem 13	.784		
Ítem 14	.514		
Ítem 16	.760		
Ítem 20	.744		
Ítem 05		.715	
Ítem 10		.785	
Ítem 11		.639	
Ítem 15		.587	
Ítem 22		.716	
Ítem 04			.682
Ítem 07			.727
Ítem 09			.656
Ítem 12			.825
Ítem 17			.799
Ítem 18			.822
Ítem 19			.764
Ítem 21			.743
Correlation among factors			
Emotional exhaustion	-		
Depersonalization	.402**	-	
Self-realization	-.345**	-.305**	-

Reliability was found through the Omega coefficient, finding good indices, these are between .70 and .90 (Campo-Arias, & Oviedo, 2008), which indicate an acceptable value, the indices were: in the Emotional Exhaustion dimension, $\omega = 0.86$ (IC95% = 0.79-0.86); in the Depersonalization dimension, $\omega = 0.77$ (IC95% = 0.68-0.79) and in the Personal Realization dimension, $\omega = 0.88$ (IC95% = 0.85-0.89). In addition, the average of the extracted variance (AVE > 0.5) was included, which indicates convergent validity and means that the latent factor is well explained by its observed variables.

Table 4.
Descriptive and internal consistency coefficient

	Ítems	ω	AVE	M	DE
Emotional exhaustion	3, 6, 8, 13, 14, 16, 20	.86	.5	14.2	9.2
Depersonalization	5, 10, 11, 15, 22	.77	.5	6.2	6.0
Self-realization	4, 7, 9, 12, 17, 18, 19, 21	.88	.6	35.2	10.9

Note: ω = McDonald's Omega; AVE= average of variance extracted

Comparative analysis

Table 5 shows the differences of burnout syndrome in E.I. teachers and university professors, it reveals that in the dimension of emotional exhaustion there are no statistically significant differences ($t(411) = 1.338$; $p = .182$) and an effect size (ET) $d = 0.14$ indicating a negligent effect; the depersonalization dimension shows statistically significant differences ($t(411) = 2.933$; $p = .004$) in small TE ($d = 0.31$) where university professors present higher scores than I.E. professors. The personal fulfillment dimension shows statistically significant differences ($t(411) = 8.556$; $p = .001$) of large TE ($d = 0.91$) where I.E. professors present less personal fulfillment than university professors, and also, when taking into account the probability of superiority one could say that 0.71 is the probability that a randomly selected university professor has a higher score than a professor of an I. The personal fulfillment dimension shows statistically significant differences ($t(411) = 8.556$; $p = .001$) of large TE ($d = 0.91$) where I.E. professors present less personal fulfillment than university professors. E. selected at random.

Table 5
Descriptive values of Burnout by groups

Dimensions	School Teachers	University Professors	$t(411)$	p	d
	($n = 282$)	($n = 131$)			
	$M (D.E.)$	$M (D.E.)$			
Emotional exhaustion	13.7 (9.7)	15.0 (8.0)	1.338	.182	0.14
Depersonalization	5.6 (5.9)	7.5 (6.1)	2.933	.004	0.31
Self-realization	38.1 (9.8)	29.0 (10.8)	8.556	.001	0.91

Note: n = sample size; M = average; DE = Standard deviation; t = student t ; p = p value; d = Cohen d (effect size).

Table 6 compares the burnout syndrome in E.I. teachers according to sex, it is observed that there are no statistically significant differences in the dimensions Depersonalization and Personal fulfillment, however, in the dimension Emotional exhaustion ($t(259) = 2.083$; $p = .038$; $d = .26$), there are statistically significant and small TE differences, which would indicate that male E.I. teachers present higher scores of emotional exhaustion than women. When comparing this variable according to sex in university professors, it is observed that there are no statistically significant differences and the TE is negligent ($d < 0.2$) in all dimensions.

Table 6
Comparison of Burnout means by groups according to sex

Dimensiones	School Teachers					University Professors					
	Women (n= 158)		Men (n= 103)		t(259)	p	d	Women (n= 40)		Men (n= 63)	
	M (D.E.)	M (D.E.)	M (D.E.)	M (D.E.)				t(101)	p	d	
AE	12.7 (9.7)	15.3 (10.0)	2.083	.038	.26	16.4 (7.7)	15.2 (8.7)	.719	.474	0.15	
D	5.7 (6.2)	5.7 (5.4)	.004	.997	.00	8.0 (5.9)	7.1 (6.8)	.645	.521	0.13	
RP	38.6 (10.0)	36.8 (9.7)	1.419	.157	.18	30.2 (8.4)	29.6 (8.4)	.266	.791	0.05	

Note: n = Sample size; M= average; SD= Standard deviation; t= Student t; p= p value; d= Cohen d (effect size); AE= Emotional exhaustion; D= Depersonalization; RP= Self-realization

Table 7 shows the differences in the dimensions of Burnout according to marital status, it is observed that there are no statistically significant differences ($p > .05$), except in the personal realization dimension ($F(3, 270) = 1,382$; $p = .249$; $\eta^2 = .015$), where there are differences in small TE, which would indicate that married teachers show higher scores than single, widowed and divorced teachers in this dimension.

Table 7
Analysis of Burnout variance by marital status

	Single (n= 71)	Married (n= 192)	Widowed (n= 6)	Divorced (n= 5)	F(3, 270)	p	η^2
	M (D.E.)	M (D.E.)	M (D.E.)	M (D.E.)			
Emotional exhaustion	13.6 (9.6)	13.9 (9.7)	8.3 (7.4)	13.6 (13.2)	.634	.593	.007
Depersonalization	6.1 (5.9)	6.2 (6.3)	5.5 (6.2)	5.6 (6.0)	.047	.986	.001
Self-realization	36.7 (10.9)	34.7 (11.9)	42.5 (6.3)	37.6 (8.2)	1.382	.249	.015

Note: n= sample size; M= average; DE= Standard deviation; F= ANOVA of a factor; p= p value; η^2 = eta square (effect size).

Table 8 shows the differences of the burnout syndrome in teachers according to level of teaching, in the dimension Emotional exhaustion is observed ($F(3, 208) = 2.555$; $p = .056$; $\eta^2 = .036$), that indicates differences and with small TE, where the teachers of the secondary level and university present higher scores than the teachers of the initial and primary level; in the dimension depersonalization is shown statistically significant differences and of small TE ($F(3, 208) = 3.005$; $p = .031$; $\eta^2 = .042$) where teachers at the secondary level have greater depersonalization than teachers at the pre-school, primary, and university levels; in the personal achievement dimension, statistically significant and large TE differences are shown ($F(3, 208) = 11,872$; $p = .001$; $\eta^2 = .146$) which would indicate that university teachers have higher scores in the personal achievement dimension than teachers at the pre-school, primary, and secondary levels.

Table 8*Analysis of Burnout variance by level of education*

	Pre-school (n= 9)	Primary (n= 12)	Secondary (n= 60)	Higher (n= 131)			
	<i>M (D.E.)</i>	<i>M (D.E.)</i>	<i>M (D.E.)</i>	<i>M (D.E.)</i>	<i>F(3, 208)</i>	<i>p</i>	η^2
Emotional exhaustion	9.9 (9.8)	9.3 (10.6)	14.5 (9.0)	15.0 (8.0)	2.555	.056	.036
Depersonalization	7.4 (7.5)	4.2 (3.8)	9.6 (7.2)	7.5 (6.1)	3.005	.031	.042
Self-realization	36.8 (13.2)	41.5 (7.1)	37.0 (10.2)	29.0 (10.8)	11.872	.001	.146

Note: n= sample size; M= average; DE= Standard deviation; F= ANOVA of a factor; p= p value; η^2 = eta square (effect size).

Discussion

In recent years burnout syndrome has been studied in various professional groups in Peru (Fernández, 2010), and mainly in the city of Arequipa (Arias, 2015), where teachers have obtained high scores of emotional exhaustion, depersonalization and low personal fulfillment (Arias, & Jiménez, 2013). The importance of this syndrome lies in the fact that it constitutes a source of psychosocial risk that affects the mental health of the teacher, with the consequent deterioration of his physical health (Morian, & Herruzo, 2004); but it also has a negative impact on students, both at school level (Oramas, Rodríguez, Almirall, Huerta, & Vergara, 2003) and at university level (Brito, 2018).

This syndrome, however, gives very variable data depending on the origin of the sample, the level of teaching, the modality of work and the type of management of the educational institutions where the teachers work (Gil-Monte, 2005). This generates some difficulties when analyzing the differential manifestations of the syndrome. In this sense, in the present study, the levels of burnout syndrome were compared between teachers of regular basic education and university higher education in the city of Arequipa, for which a previous psychometric analysis was carried out, finding that Maslach's Burnout Inventory has adequate levels of reliability and a factorial structure of three dimensions as foreseen in the theoretical model of Maslach and Jackson (1981), but items 1 and 2 had to be eliminated, due to the fact that they presented high residual values.

As for the descriptive values, we have that in general, there are no significant differences between the teachers of school educational institutions and those who come from universities, although school teachers obtained lower scores in depersonalization than university teachers. This data is congruent with what has been reported in other researches, where university professors present moderate and high levels of Depersonalization, in comparison with other teaching levels (Moreno, Garrosa, Rodríguez, Martínez, & Ferrer, 2009).

This could be explained by the greater involvement shown by school teachers in pedagogical activities, who plan their learning sessions, design their didactic activities and provide a closer accompaniment of the students' learning (Nieto, 2006); while university professors do not usually carry out such activities and their classes tend to be expository, given the level of psychological development of the students. This also has to do with the fact that university professors have not studied the teaching career in formal terms, and this becomes a teaching style based on their expertise, but not on a systematic, planned

and evidence-based teaching methodology (Arias, 2013b). On the other hand, the teaching style of Arequipa's university professors has been an important predictor in their labor involvement, being precisely the Expert type the one that positively impacts their performance (Arias, & Carrasco, 2018).

In terms of sex, female teachers in educational institutions score lower in Emotional exhaustion compared to their male peers, while in the case of university level teachers no statistically significant differences were recorded. Likewise, these data disagree with previous reports in teachers in Arequipa, which indicated that women had more severe levels of burnout in regular basic education compared to men (Arias, & Jiménez, 2013). On the other hand, the results in university professors agree with what was reported in Lima by Rodríguez and Sanchez (2018), who have pointed out that there are no significant differences depending on the sex of the university professors. However, other international studies have reported that women have a higher level of exhaustion than men in school (Ayuso, & Guillén, 2008), and in university (Arís, 2009).

In terms of marital status, only significant differences were found in terms of the dimension of Depersonalization, which indicates that divorced and cohabiting university professors show higher scores than married and widowed professors. These data are consistent with those reported by various authors, who point out that divorced teachers have higher burnout rates (Cordeiro, Guillén, & Gala, 2003; Moreno, Garrosa, Rodríguez, Martínez, & Ferrer, 2009), but differ from the results those that point out that marital status is not a relevant variable to explain burnout or any of its syndromic manifestations (Rodríguez, & Sánchez, 2018). In that case, we could infer that depersonalization could be affecting not only the working life of university teachers, but also their family life, but given that no causal assessments have been made, we cannot affirm such an assumption. However, it is necessary to evaluate family aspects and their impact on the health of university professors. In that sense, a recent study in Arequipa found that marital and family satisfaction have a positive impact on the job satisfaction of workers at a private university in the region, and that family satisfaction had a negative and significant predictive effect on the burnout syndrome (Arias, Ceballos, Román, Maquera, & Sota, 2018).

In this way, different strategies can be designed to approach worker health from a family perspective, since both aspects are integrated in the worker's life (Kampowski, & Gallazi, 2015). In this sense, a diversity of techniques and strategies have been applied to mitigate the effects of the burnout syndrome, such as mindfulness (Franco, 2010), positive and active coping strategies (Guerrero, 1999), coaching (Nava, & Mena, 2012); Moreno, Álvarez, & Inojosa, 2013), social skills, relaxation, self-verbalizations, music therapy (Morianá & Herruzo, 2004), organizational intervention programs based on social support, flexible schedules, training and coaching, job enrichment (Guerrero & Rubio, 2005), etc. of which relaxation techniques, cognitive therapies, training in social and interaction skills, and mindfulness have been proven effective (Salmurri & Skoknic, 2003).

With regard to the level of education, secondary and university teachers are more emotionally exhausted than those working in pre-school and primary school; while secondary school teachers are more depersonalized than teachers in other levels of education. In this sense, it is secondary school teachers the ones who present the greatest psychosocial risk, as pointed out by Nieto (2006), since it is at this level where academic demands increase, there is a greater incidence of behavior problems, and adolescence

tends to complicate interactions among students, their peers, their parents, and their teachers. All of this would contribute to suffering greater emotional exhaustion and depersonalization. These data are also consistent with other reports at national level, which indicate that secondary school teachers have higher burnout levels than those who teach at the primary level (Fernández, 2002a). Evidently, more research is needed on the subject, and in particular on the manifestations of burnout syndrome at different levels of education, in order to obtain more conclusive data. In this sense, some limitations to overcome in this study would be the type of sampling, as well as the most detailed classification of teachers according to certain labor variables that have proved to have a certain explanatory weight in the teacher burnout, such as the type of contract (Arias, & González, 2009); in the case of school teachers, the variables consider whether they teach in primary or secondary school (Fernández, 2002b), and in the case of university teachers, the careers they teach. (Arias, & Carrasco, 2018).

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