Predictive Model of Burnout and Labor Satisfaction

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1. INTRODUCTION

Changes in the economic and employment environment, as well as the emergence of organizations in which the need to work longer in direct contact with people, has had a great impact on the development of burnout syndrome also known as burnout or obesity syndrome (Burn for work).

The conceptual origin of burnout syndrome dates back to the works of (Freudenberg, 1974), a pioneer in the study HEI of the syndrome. This author began to use the term Burnout to refer to a phenomenon of physical, emotional and mental fatigue of lack of interest in work, dehumanization and low level of realization. Later, MaLSach and Jackson (1981), defined that Burnout is a response to a prolonged stress situation in the workplace, characterized by the joint presence of 3 dimensions: emotional exhaustion, depersonalization and low personal fulfillment. Similarly, Gil Monte and Peiró (1997), define it as an emotional response to chronic work stress composed of negative attitudes and feelings towards the people with whom they work and towards their own professional role. According to the aforementioned authors, the syndrome affects any worker regardless of job, sex and age as long as the worker is subject to prolonged work and personal stress, which affects their performance (Saborio et al., 2017).

Instruments to measure this syndrome have been developed, such as the MaLSach Burnout Inventory (MBI) of MaLSach and Jackson (1981), the most used questionnaire for the evaluation of the syndrome as (Hederich and Caballero, 2016; Juárez et al. 2014; Knox et al. 2018; Kulakova et al, 2017), among others. The Burnout Measure (BM) of Pines and Aronson (1988), used by Symonetti et al. 2017. The Shirom-Melamed Burnout Questionnaire (SMBQ) of Melamed et al. (1991) used by (Gerber et al, 2018 y Jocic et al. 2018). The Oldenburg Burnout Inventory by Demerouti et al. (2003), used by several authors, such as Mahadi et al. 2018, Sorkkila et al. 2017; and the Staff Burnout Scale For Health Professionals (SBS-HP) by Jones (1980), Studied by O’Connor et al, 2018; Blades, et al. 2018; Kyllofen et al. 2018.

The SBS-HP has presented significant correlations with different antecedents and consequent of the labor stress like work overload (Jones, 1990), lack of social support in the work (Boyle et al., 1991), absenteeism, lack of health (Jones, 1990), and low job satisfaction (Brookings et al., 1985). The SBS-HP includes in the dimensions of the syndrome variables such as job dissatisfaction, psychological stress, health problems and lack of professional relationships with colleagues or superiors.

The burnout syndrome in teachers is defined as a syndrome of physical and emotional exhaustion in relation to the development of harmful attitudes towards work, low professional self-concept and the loss of empathy towards...
On the other hand, job satisfaction (JS) in the teaching activity is usually located within the group of help professionals, in which personal relationships and direct contact is the key to effective intervention. In this group are also health professionals, social service, which are works of special wear and with obvious risks to physical, mental and emotional health.

Personal and professional satisfaction is closely related to mental health and personal balance. In the case of teachers, satisfaction has to do with the characteristics of their own personality, insofar as all of this has an impact on their emotional stability, creating tension, stress, and producing discomfort from both a personal and professional perspective, (Mirás et al. 2017).

The JS has become a priority subject of evaluation and improvement in any organizational field, with greater reason in the field of education, where the work carried out by teachers has as a raw material the people in training and as an objective to effectively guide their development up to achieve that they are fully formed. In fact, there is a growing interest in the study of job satisfaction of teachers, (Muñoz et al. 2017; Muñoz et al. 2018). This variable has been the subject of study for researchers in the educational field who have addressed as principals of secondary schools (Cantón and Téllez, 2016); (Martínez and Gil, 2018), (Rodríguez, 2018) to basic level teachers (Brito, 2018, Villaruel et al., 2018); to professors who practice in non-university education; to physical education teachers in Spain ((López and Pantoja, 2018, Martínez et al., 2017, Fernández and Espada, 2017), and to university professors (Millán et al., 2017, Fernández, 2017).

The burnout syndrome and job satisfaction are considered two multidimensional constructs that represent effective different responses to work, although highly related (Malander, 2016), (Párraga et al., 2018).

MaLSow (1954) cited by (Ramírez and D'Aubeterre, 2007), argues that man is more satisfied the closer he gets to the self-realization phase and the job is the most likely activity to allow the person to reach this phase; if the worker perceived that the work is interesting, significant and valued by others, he is motivated to meet more targets; But if the worker is doing his job without liking it or without being satisfied with what he does, any situation that the institution demands can be a source of stress.

It should be noted that there is no agreement on whether satisfaction is the cause or effect of the syndrome (Párraga et al., 2018, Muñoz et al., 2018). For some authors, the lack of job satisfaction brings it as a consequence, while for others, this is only an antecedent (Centeno, 2018). Some authors consider that job satisfaction is a mediating variable between work stress and occupational health (De la Villa et al., 2018, Cabana et al., 2018).

From the perspective of Gil-Monte and Peiró (1997), occupational health is negatively related to feelings of emotional exhaustion and depersonalization and positively with personal fulfillment. On the other hand MaLSach et al. (2001), assumes that burnout is associated with a decrease in occupational health and a low commitment in work and organization.

It is important to highlight that the teaching activity is a source of satisfaction or fatigue for the teacher. In regards Domich and Faivovich (1994), point out that the problems at work that affect the level of job satisfaction and consequently, discomfort, burnout and burnout in teachers would be: excessive and overwhelming work, administrative difficult HEI that prevent projects, lack of recognition of the effort made, dissatisfaction of belonging to the school, few opportunity HEI to carry out valuable activity HEI and the low salary received.

In some study HEI in which the relationship between the burnout syndrome and LS have been analyzed, they have concluded that the relationship between both variables is negative, that is to say, as the burnout levels increase in the workers, the labor satisfaction levels decrease (Rosado, 2017; Brito, 2018; Günsel, 2017).

There are many factors that help the appearance and development of this syndrome. The social environment is demanding more from teachers because of the continuous reforms to the educational system, for which the teacher must have a better academic preparation, as well as methodological updating, psychological knowledge of the students; all this is an organizational context that does not favor the teaching work.

Consequently, it is necessary that Institutions of Higher Education define what kind of factors can affect the performance, health and well-being of teachers, given the importance that satisfaction has in them and how this affects their work to achieve their goals.

In this context, it is important to take into account the repercussions that the Burnout syndrome may have on the development of university teachers, which may have consequences on the quality of education and affect the level of the university. For this reason, it is important to know the conditions in which university professors develop their activity HEI; also university HEI should demonstrate interest in the analysis of the existing relationships between different dimensions that connect the Burnout syndrome and job satisfaction.

2. METHODOLOGY
The design of this research is non-experimental, transversal, quantitative, descriptive, and exploratory

Procedure and technique of information obtained
For the information collect, the collaboration of the authority HEI of different departments of the University was
requested, who facilitated the access to the full-time professors (FTT). Subsequently, the questionnaires were applied to the teachers in their cubicles and at no class times. Likewise, each teacher was asked for their authorization to deliver the questionnaire.

Finally, data was proceeded to tabulate results in a database for statistical analysis.

**Sampling**

The study population was made up of academic staff, specifically Full Time Teachers (FTT) of a Higher Education Institution (HEI) of Ciudad Juárez, Chihuahua.

**Selection and sample size**

There are four institutes on the HEI under study. To determine the size of the population, the data provided by the administration of each institute was taken as reference. Summarized information is showing on Table 1.

**Table 1: Population per institute**

| Institute | Population |
|-----------|------------|
| Institute 1 | 84         |
| Institute 2 | 277        |
| Institute 3 | 198        |
| Institute 4 | 100        |
| Total      | 659        |

*Source: Own elaboration*

Taking data from table 1, the calculation of the sample was made in the following way:

\[
n = \frac{1.96^2 \times 659 \times 0.50 \times 0.50}{0.5^2 \times (659 - 1) + 1.96^2 \times 0.50 \times 0.50} = 243
\]

A sample of 243 FTT was obtained. From this group, teachers were taken from each of the four institutes that make up the university, for which the stratified sampling of proportional allocation was applied (Table 2).

**Table 2: Stratified Sample by institute**

| Institute | Population | %   | Questionnaires | %   | Questionnaires |
|-----------|------------|-----|----------------|-----|----------------|
| Institute 1 | 84         | 12.74 | 30.95          |     |                |
| Institute 2 | 277        | 42.03 | 102.13         |     |                |
| Institute 3 | 198        | 30.04 | 72.99          |     |                |
| Institute 4 | 100        | 15.17 | 36.86          |     |                |
| Total      | 659        | 99.98 | 242.93         |     |                |

*Source: own elaboration*

**Conceptual model proposed**

The conceptual model proposed for this research is presented in Figure 1, observing the possible relationships between the analyzed constructs and whose variables under study were obtained from various investigations.

**Figure 1: Conceptual model of Burnout Syndrome and Job Satisfaction proposed.**

Source: own elaboration.

**Burnout Syndrome Variables**

Jones (1980) mentions the variables that are important for the analysis of burnout syndrome are which are:

- **Job dissatisfaction.** Researches show that job satisfaction is correlated with emotional exhaustion and depersonalization, but has a weak relationship with personal fulfillment.

- **Stress or Psychological pain:** This variable is related to causes that belong to the field of daily life and work, so it is considered of great importance for development of burnout syndrome and job dissatisfaction.

- **Health problems:** This variable is of great importance because when faced with stressful situations in the organization, it could generate health problems, as well as low productivity and performance (Williams and Cooper, 2004).

- **Lack of professional relationships with colleagues or superiors:** This variable is related to low professional performance, since at this stage professionals tend to evaluate negatively affecting their relationship with colleagues and people around them, which can lead to burnout.

**Labor Satisfaction Variables**

Variables that the experts analyze for the evaluation of Job Satisfaction are described below:

- **Perception:** Perception is important for this research because it helps to understand and act in relation to the feelings in the work environment of the FTT. The perception is the mental process of interpreting and giving meaning to the sensation of a given object. It is a mental process which is associated with the sensory organs.

- **Benefits:** Chiavenato (2001) mentions that the benefits are those facility HEI, amenityHEI, advantages and services that company HEI offer to their employees in order to save their efforts and concerns. The benefits are important for the evaluation of LS, since it is a means to maintain the labor force, satisfaction and productivity.

- **Work position:** This variable is important since it seeks the comfort of the employee, in addition to avoiding diseases related to deficient working conditions. According to the International Labor Organization, the job is the place that a worker occupy HEI when performing a task.
Recognition: Employees recognitions for their contributions and initiatives generates benefits, improving profitability and productivity, as well as a good work environment, which may be written, economic compensation, social or cultural (Sánchez, 2005, Tejero et al., 2008, Escobedo et al. 2014).

Relationship with colleagues: This variable is important, since the work environment can improve the development of activity HEI, in addition to good communication with colleagues, be cordial and friendly, this generates more benefits for staff (Merino and Díaz, 2008, Escobedo et al. 2014).

Boss supervision: This variable allows us to measure within the LS level since the needs of the work are covered by the social interaction. The relationship that employees have with their bosses is important for them and for the company. In similarly for the boss who gives interest to his staff (Merino and Díaz, 2008, Benedito et al., 2008, Escobedo et al. 2014).

Working conditions: According to the General Union of Workers (GUW), variables are what define the performance of a task in an environment, determining the health of the worker either physically, psychologically and socially. So this variable helps to measure the degree of LS of the employees.

Plenty of rope: This variable measures the level of freedom that employees have in the development of their work, decision-making, freedom to express opinions without fear of rejection or ridicule, allows the employee to feel a high level of LS (Robbins and Judge, 2009, Escobedo et al. 2014).

Hypothesis Development
From the perspective of Gil-Monte and Peiró (1997), LS is negatively related to feelings of emotional exhaustion and depersonalization and positively with personal fulfillment. The aforementioned is supported by Gomes et al. (2010), in a study of 689 teachers, of which about 40% had professional stress and burnout, various physical health problems, and about 20% were highly dissatisfied at their place of work.

In some study HEI in which they have analyzed the relationship between both constructs have concluded that the relationship between both variables is negative, that is, as they increase the levels of burnout in workers decrease the job satisfaction (Lee et al., 2004).

Therefore, the following hypothesis was put forward:

**H1. Job satisfaction negatively impacts Burnout syndrome**

**Measurement tools**

a) Labor Satisfaction Scale from Sociocultural and Ergo-Environmental Factors (Escobedo et al., 2014), which is composed of 32 items divided into three parts: Labor Satisfaction (15 items), sociocultural factors (13 items) and Ergo Factors Environmental (4 items), which have a Likert type response pattern, composed of 7 category HEI, ranging from very dissatisfied, satisfied, moderately satisfied, neither satisfied nor dissatisfied, moderately satisfied, satisfied to very satisfied. Table 3 shows the total of items corresponding to each variable.

**Table 3: Items and variables that make up the construct**

| Dimension                  | Item | Total |
|----------------------------|------|-------|
| 1 Work satisfaction        | 1 to 15 | 15 |
| 2 Sociocultural factors    | 16 to 28 | 13 |
| 3 Ergo-environmental factors | 29 to 32 | 4 |

**Source:** Labor Satisfaction Scale from environmental factors (Escobedo, 2014).

Showing an alpha of 0.926 with respect of the items pertaining to job satisfaction, 0.836 with respect to sociocultural factors and 0.955 with respect to the items related to ergo-environmental factors.

b) The staff Burnout Scale For Health Professionals (SBS-HP) of Jones (1980), It consists of 20 items which, with a likert response pattern composed of 7 category HEI, ranging from totally agree to totally disagree.

Although the scale was developed to estimate Burnout syndrome in health professionals, in some study HEI it has been used to estimate the syndrome in other types of help service professionals such as supervisors, social workers, and civil servants.

According to Jones (1982c), he affirms that all the items of the questionnaire have reached significant correlations, between $r = 0.59$ and $r = 0.82$ with the whole scale, which suggests that the syndrome as evaluated by the SBS-HP, can be considered as a unique construct, it is important to emphasize that this instrument considers that the syndrome is fundamentally emotional exhaustion.

In Mexico, publications of SBS-HP are very limited (Preciado et al., 2004), in articles review we have found only one that measures the consequences of Burnout syndrome in teachers used by SBS-HP in Argentina with a very limited sample (Marrau, 2004).

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**3. RESULTS**

According to the obtained results, it was found that of 243 questionnaires applied to full-time professors, 13 were not returned, for which a total of 230 questionnaires were obtained, which were answered as follows: 139 for men and...
76 for women. Regarding the age range, it ranges between 24 and 71 years.

**Model of structural equations according to the method of partial least squares optimization (PLS):**

The use of the technique of optimization of Partial Least Squares (PLS) has been an object of growing interest among researchers in recent years (Chin and Gopal, 1995), due to its ability to model latent constructs under conditions of non-normality and with small and medium sample sizes (Chin, 2010).

The PLS is a multivariate analysis technique for testing structural models (Wold, 1985). It is a general method for estimating PATH models that involve latent constructs indirectly measured by multiple indicators, Levy et al. (2006).  

The objective of PLS modeling is the prediction of dependent variables, both latent and observable. This goal is translated into an attempt to maximize the explained variance (R2) of the dependent variables, which leads us to the estimation of the parameters based on the ability to minimize the residual variances of the endogenous variables. In summary, PLS is designed to explain variance, that is, to analyze the importance of relationships and their resulting R2, as in a linear regression.

Because SEM models estimated with PLS to date have not incorporated goodness-of-fit criteria, researchers such as Chin cited in Henseler et al. (2009) and Lévy et al. (2006), mark our the analysis of the model in two stages:

1. Reliability and validity of the model.
2. Assessment of the structural model.

**Adjustment model evaluation**

Falk and Miller cited in Márquez (2011), mention that we must have observable variables with loads greater than 0.55, since these contribute approximately 30% of the variance related to the component.

The conceptual model was run in Smart PLS, items that did not meet the load criteria were eliminated, a total of 14 items were obtained corresponding to the following constructs: 2 eliminated from the variable Labor Satisfaction and 12 eliminated from the variable Burnout Syndrome.

**Model Reliability and validity**

**Load analysis**  
The factorial loads shown by the indicators show a range from 0.584 to 0.836 as well as acceptable t values, for which they fulfill the established criteria, in this way the loads were statistically significant.

**Composite reliability**  
The interpretation of composite reliability is the same as Cronbach’s Alpha. An acceptable level for internal consistency in the first stages of the investigation is 0.70 and values from 0.80 and 0.90 for more advanced stages. Values less than 0.60 indicate lack of reliability (Henseler et al., 2009).

The constructs show a composite reliability of 0.942 for job satisfaction and 0.889 for burnout syndrome, with a Cronbach's alpha greater than 0.70.

**Convergence Validity**

The validity of convergence means that a set of indicators represent a construct and that it is also the same construct, this can be demonstrated through the one-dimensional.

The commonality average of each construct and model is calculated by means of the AVE (Average Variance Extracted). Henseler et al. (2009), mentions that a latent variable with AVE of at least 0.50 indicates that the capacity of the construct is able to explain more than half of the variance of its indicators on average.

**Table 4. Model Statistics**

| Construct       | AVE   | Composite reliability | Square R | Cronbach Alfa |
|-----------------|-------|-----------------------|----------|---------------|
| Burnout         | 0.559 | 0.942                 | 0.184    | 0.934         |
| Labor satisfaction | 0.505 | 0.889                 | 0.179    | 0.862         |

**Source:** Own elaboration From SmartPLS results

It is observed that all the constructs have AVE values greater than 0.50.

**Validation of Discriminant**

In the PLS methodology there are two criteria for validation discriminant, one of them is the AVE indicator, Fornell and Lacker (1981) cited in Henseler et al. (2009), suggest that the AVE of each latent variable is greater than the square of the correlation with all other latent variables, second one is that the square root of the AVE of each latent variable is greater than the correlation with all other latent variables.

The second judgment for validation discriminant is the value of each indicator; it is expected to be larger than all of its crossed weights (Chin, 2010)

**Table 5. Matrix of correlations between constructs and AVE root**

| Construct       | Burnout | Labor satisfaction |
|-----------------|---------|--------------------|
| Burnout         | 0.748   |                    |
| Labor satisfaction | -0.348 | 0.711              |

**Source:** Own elaboration From SmartPLS results

**Multicollinearity analysis**

For the evaluation of the existence of collinearity, the statistical Factor of Inflation of Variance (VIF) is used. There may be problems of multicollinearity when the indicators of the reflective constructs show VIF values greater than 10 (Henseler et al., 2009).
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Table 6. Variable Inflation Factors

| Construct       | Item   | VIF  |
|-----------------|--------|------|
| Burnout         | CBO.1  | 1.497|
|                 | CBO.8  | 1.780|
|                 | CBO.13 | 1.607|
|                 | CBO.15 | 1.511|
|                 | CBO.22 | 1.998|
|                 | CBO.25 | 2.095|
|                 | CBO.26 | 1.419|
|                 | CBO.28 | 2.158|
| Labor satisfaction | CLS.1  | 1.802|
|                 | CLS.2  | 2.563|
|                 | CLS.3  | 2.457|
|                 | CLS.4  | 2.983|
|                 | CLS.5  | 2.814|
|                 | CLS.6  | 3.040|
|                 | CLS.8  | 2.946|
|                 | CLS.9  | 3.218|
|                 | CLS.10 | 3.002|
|                 | CLS.11 | 3.366|
|                 | CLS.12 | 2.366|
|                 | CLS.13 | 1.703|
|                 | CLS.14 | 2.663|

Source: Own elaboration From SmartPLS results

It is observed that none of the reflective indicators have a VIF value greater than 10, so it can be affirmed that there are no problems of collinearity.

Structural model assessment

The PLS method emphasizes the analysis of variance explained. The predictive power is evaluated with the R² value of each endogenous latent variable. The R² indicates the construct variance explained from the model.

Analysis criteria of the R² according to (Chin, 1998), estimated models whose R² of 0.67 is considered substantial, R² of 0.33 as moderate, and R² of 0.19 is considered weak, obtaining in the model an R² of 0.121, Therefore, it is considered weak.

To make the analysis more complete, it is necessary to evaluate the results of the structural paths. According to Henseler et al. (2009), the estimated values from path values must be evaluated in terms of algebraic signs coinciding with the a priori postulates; there is a partial empirical validation of the theoretical relationships proposed in the model.

Following image shows the loads of the reflective indicators as well as the path coefficients of the structural model.

Figure 2. Statistics of measurement model and structural model
Source: Own elaboration From PLS results

Figure 2 shows that the structural path sign coincides with the postulate in the conceptual model hypothesis (Figure 1).

Evaluation of direct effects

Structural paths

Structural path proposed was statistically significant (95% confidence), which exceeds the minimum established value of 0.20 (Chin, 1998), with a value of -0.348. Then an increase in job satisfaction standard deviation results in an expected average decrease of -0.348 (coefficient path) standard deviation in Burnout.

R square analysis

The 12.1% (weak value) of the variance of Burnout Syndrome is explained by the latent variable Labor Satisfaction. The remaining 87.9% variance is explained by factors not included in the measurement model.

4. CONCLUSIONS

Based on the statistical analyzes performed, it is possible to affirm that the results obtained validate the established hypothesis, that is, job satisfaction negatively impacts the burnout syndrome, which is why it is not rejected.

From the 15 analyzed variables of the LS, two are discarded for having loads lower than 0.55, being CLS 7 (Salary) and CLS 15 (Stability in employment).

From the 30 analyzed variables of the Burnout, 22 were discarded for having loads below 0.55, among which are CBO 2 (Work offenses), CBO 3 (anger, fury), CBO 5 (headaches at work) and CBO 29 (few opportunity HEI at work).

It was also found that job satisfaction factors that most impact the development of the burnout syndrome are the CLS.6 (assigned responsibility) and CLS.9 (relations between management and workers) with path values of 0.807 and 0.796 respectively.
5. ARGUMENT

Ocaional health is currently an important indicator for the increase of well-being and quality of life. All professional activity involves exposure to stressful stimuli that can enhance the maladjustment and affect the physical and emotional health of susceptible people. In this case, the activity of university teachers imply HEI a personal commitment and a direct interaction with students and staff of the institutions.

In this investigation, sufficient evidence was found to affirm that the burnout syndrome is present in teachers of the HEI analyzed, although at a low level. This result agrees with that obtained by Cavalcante (2004), in which it was found that burnout levels were similar, however, the results differ from the work of Brito (2018), since this author identified that 68% of the study population was affecting a high level of burnout.

One of the purposes of this study was to determine the factors of job satisfaction, ergo-environmental and sociocultural that may influence the development of burnout syndrome in full-time teachers of an HEI in Ciudad Juárez, Chihuahua.

On the other hand, for job satisfaction and burnout, factors were evaluated: physical working conditions, freedom, the relationship with co-workers, the immediate superior, responsibility, salary, promotion, working hours work, as well as stability in employment, finding that there is a direct weak negative relationship (Brito, 2018; Cabana et al, 2018), that is, the greater the satisfaction felt by teachers, the lower the risk of developing burnout (Burish, 2002; Kallith and Morris, 2002; Lee, Hwang, Kim and Daly, 2004). Consequent, discomfort, exhaustion and burnout in teachers would be: excessive and overwhelming work, administrative difficult HEI that prevent projects, lack of recognition of the effort made, and dissatisfaction of belonging to the school, few opportunity HEI to perform valuable activity HEI and like this research the salary received. The aforementioned is supported by Gomes, Montenegro, Baptista da Costa (2010), in a study of 689 teachers, of whom about 40% had professional stress and burnout, various physical health problems, and about 20% were highly dissatisfied in their workplace.

Authors such as Günsel (2017) and Mahadi et al. (2018), have analyzed stress as a cause of subsequent job dissatisfaction. According to Gerber et al. (2018), job dissatisfaction may appear as the result of the processes caused by stress. For others, Burnout Syndrome should be considered as a predictor of job satisfaction (Malander, 2016). Whereas Escobedo et al (2014), considers that job satisfaction precedes Burnout Syndrome. As a result of this research, was found that job satisfaction precedes burnout syndrome with a high structural path value (-0.296) that relates these two latent variables but a low value of square R (0.179).}

In turn, some aspects that may highlight warning indicators are detected, since it has been proven that there is a percentage, although low, of teachers who are susceptible to burnout. Currently it affects them in a weak way in their occupational health, according to the variables analyzed in this research, but these are a clear indicator that in the future, they can progress in stressful situations.

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