The effect of interpersonal relationships on burnout syndrome in Secondary Education teachers

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Abstract

Background: Recent studies show that teachers, especially in Secondary Education present varying levels of burnout syndrome. This problem could be caused by internal factors unique to the subject (psychological characteristics) or external factors (overwork, social climate, etc.). Method: The objective of this study is to analyze the influence of interpersonal relationships on the development of burnout in a sample of 794 secondary education teachers from the Community of Madrid, applying structural equation modeling methodology. Results: it was observed that the teacher-student relationship has a significant effect on each of the three dimensions of the syndrome (exhaustion, cynicism, and inefficacy), and the teacher-superiors and teacher-coworker relationships show a moderate effect on these dimensions. Conclusions: The results show the importance of taking care of interpersonal relationships in schools to ensure the well-being of teachers and, ultimately, the quality of the learning process.

Keywords: Burnout, teachers, Compulsory Secondary Education, interpersonal relationships, structural equation modeling.

The changes that our society is currently undergoing affect the field of education. The expansion of the technological world and its inclusion in classrooms, new models in family structures, and legislative changes in the field of education influence aspects such as student motivation, the teacher’s loss of authority, the increase of school failure, etc. (Rodríguez-Mantilla & Fernández-Díaz, 2012a).

Abenavoli, Jennings, Greenberg, Harris, & Katz (2013) state that teachers in the twenty-first century are increasingly exposed to emotionally provocative situations that threaten their performance, their physical and psychological well-being, and the teaching-learning process in general (Kokkinos, 2007). It is, furthermore, in secondary education where teachers say they experience more harassment, a lack of motivation, and the symptoms that make up burnout syndrome (Arís, 2009; Cisneros Report XI, 2009; Moya-Albiol, Serrano, & Salvador, 2010).

Maslach (2009), Golembiewski (1993) and Gil-Monte (2005) define burnout syndrome using three dimensions: emotional exhaustion, cynicism, and inefficacy. Emotional exhaustion refers to feelings of physical strain and psychological tiredness as a result of constant personal interactions. Cynicism refers to the development of negative and distant feelings and attitudes toward other people (coworkers, students, etc.). Inefficacy entails the loss of confidence in personal performance and the presence of a negative self-image.

Burnout does not appear suddenly, but rather is the final phase of a continuous process. According to Maslach (2009), Xiao-Ming & Dong-Mei (2005), and Weng, Sturmlinger, Wirsching, & Schaarschmidt (2005), the syndrome begins with emotional exhaustion that leads to cynical behaviors and, consequently, feelings of low personal and professional efficacy. This is the most widely accepted theory explaining the development of burnout in the scientific community, but authors such as Golembiewski (1993) establish that cynicism precedes inefficacy, and inefficacy...
leads to exhaustion; others, such as Gil-Monte (2005) suggest that exhaustion and inefficacy have a direct effect on cynicism.

Theories such as organizational theory, interactionist theory (social exchange), the Cisneros Report XI (2009), and the study by Grau, Valdejo, & Tomás (2004), stress the role that work environment variables play (competitive environment, rivalries, conflict, insecurity, problems between teachers, etc.) in the syndrome. Some authors say that to understand the development of burnout, we must pay attention to the way in which individuals perceive and interpret the behavior of others at work. That is, they suggest that the origin of burnout lies in the subjects’ perception of a lack of fairness in establishing interpersonal relationships (Bono, Alarčón, Rosa, & Moya-Albiol, 2005; Yong & Yue, 2008).

There are several investigations that analyze the influence of the perception of work environment and interpersonal relationships on burnout in teachers. Some show that students’ bad behavior or conflicts with coworkers are a cause of stress and burnout in teachers (Kokinos, 2007; Maslach, 2009). However, others like Burisch (2010) conclude that contextual variables only influence the emotional exhaustion dimension.

In terms of teacher-student relationships, Unterbrink (2007) evaluated the balance between effort put in and rewards for teachers in relation to their students. The study found that the lack of reciprocity (between what one gives and receives) was positively related to the symptoms of burnout, especially emotional exhaustion and a lack of organizational commitment.

In relationships between teachers and their superiors, it is worth mentioning some of the most relevant variables, such as: overwork, role conflict, and participation in decision-making (Khan, Yusoff, & Khan, 2014). Santavirta, Solovieva, & Theurell (2007) and Grayson (2008) performed a regression analysis to estimate the separate and joint effects of the work demands made by superiors and the level of autonomy in decision making on emotional exhaustion. The results showed that teachers who defined their job as a job with high demands and low autonomy in decision making presented higher levels of the three dimensions of burnout.

Gil-Monte (2005) argues that within organizations there are processes of contagion among the worker’s emotions, in such a way that a bad environment as experienced by one person can be passed on to others by personal relationships. Thus, teachers’ relationships with their coworkers are decisive in the work environment. Maslach (2009) and Esparza, Guerra, & Martínez (2000) argue that the most destructive thing for a community are chronic, unresolved conflicts with others. Therefore, the more negative interpersonal relationships are, the higher the probability that there will be burnout.

Opposing these studies, which give greater importance to contextual variables in developing the syndrome, other theories such as the social cognitive theory of the self-efficacy base their theses on the prominent role of the subject’s psychological variables. Roesser, Skinner, Beers, & Jennings (2012) and Jennings, Frank, Snowberg, Coccia, & Greenberg (2013) show the role that the teacher’s personal abilities and characteristics play in maintaining an appropriate environment and behaviors with students. They state that when teachers lack the resources to effectively manage the social and emotional challenges within the classroom context, the classroom environment deteriorates, increasing conflict among the students, which is a factor that possibly leads to teacher burnout.

Other theories, such as the structural theory, focus on the joint importance of both types of variables (contextual and psychological) in the appearance of burnout. Along these lines, Cano-García et al. (2005) and Kokinos (2007) found in their studies that teachers who presented higher levels of burnout also had higher levels of neuroticism and introversion. However, with regard to contextual variables, they only found significant relationships between: high levels of burnout and teachers who perceive their profession with little social prestige; high levels of burnout and teachers with bad relationships with their students, and a medium level of burnout with rural public schools.

Due to the existence of burnout syndrome in teachers, especially in Secondary Education, it is necessary to identify the weight that certain variables have on the development of the syndrome. In this sense, this research provides a new study that analyzes the influence of teacher’s interpersonal relationships with students, coworkers, and superiors on the development of burnout (emotional exhaustion, cynicism and inefficacy of teachers). Thus, the identification of these effects can help the design of prevention and intervention plans in the development of burnout in teachers, contributing to improving the quality of teacher performance and teaching-learning process.

In our case, this study’s objective is to analyze the influence of the teacher’s interpersonal relationships with students, coworkers, and superiors (as contextual variables) on the three dimensions of burnout (emotional exhaustion, cynicism and inefficacy) using structural equation modeling. We will analyze the effects of interpersonal relationship factors on the dimensions of burnout and the direct effects that the dimensions of the syndrome have on each other (emotional exhaustion, cynicism, and inefficacy).

According to the literature reviewed, the following hypotheses are proposed (which are shown graphically in Figure 1):

1. Emotional exhaustion leads to cynicism, which in turn results in decreased efficacy (Hypothesis 1) (based on the theoretical foundations proposed by Maslach, 2009).
2. The emotional exhaustion receives direct effects from the variables: teacher’s interpersonal relationships with students, coworkers, and superiors (Hypothesis 2).
3. The cynicism receives direct effects from the variables: teacher’s interpersonal relationships with students, coworkers, and superiors (Hypothesis 3).
4. The inefficacy receives direct effects from the variables: teacher’s interpersonal relationships with students, coworkers, and superiors (Hypothesis 4).
5. The teacher’s sex does not cause significant differences on the effects of the model (Hypothesis 5).
6. The type of school does not cause significant differences on the effects of the model (Hypothesis 6).

Method

The research methodology employed in this study is quantitative, ex post facto, with a non-experimental design.

Participants

The population of this study corresponds to Compulsory Secondary Education teachers in the Autonomous Community of Madrid (ACM), composed of a total of 12,770 teachers (Board of Education of Madrid, 2013). A total of 1,291 secondary education
teachers from 38 schools in different areas of the ACM (north, south, east, west and center) were contacted, of whom, 794 participated in the study. The sampling procedure was random and incidental, obtaining a margin of error of ± 3.37%. Thus, 62.6% of the sample (n = 497) are teachers from public schools, 29.85% (n = 237) from state subsidized private schools and 7.55% (n = 60) from private schools, (sampling distribution is proportional to the population distribution). The sample consists of 318 women (40.1%) and 476 men (59.9%), of which 45.2% are under 39 years old, 34.6% are between 40 and 49 and 20.2% are 50 or older.

**Instruments**

In order to measure the teachers’ interpersonal relationships, the Climate Measurement Instrument in Secondary Schools (Rodríguez-Manilla & Fernández-Díaz, 2015) was used, which evaluates the teacher-student relationship (10 items - PA01 to PA10). The reliability analysis showed satisfactory levels in the study, Cronbach’s α = .842), the teacher-coworker relationship (22 items-PC11 to PC32. α = .923) and the teacher-superior relationship (17 items-PS33. α = .964).

In order to measure burnout in teachers, the Measuring Instrument for Burnout Syndrome in Teachers (Rodríguez-Manilla & Fernández-Díaz, 2012b) was used, which evaluates: emotional exhaustion (6 items -A01 to A06. α = .849), cynicism (6 items-D07 to D12. α = .774) and inefficacy (11 items-R13 to R23.- α = .899).

In both questionnaires, the teachers responded to the items on a Likert-type scale of 1 to 5 (where 1 indicates “not at all”, “never” and 5 indicates “very much”, “always”).

**Procedure**

In order to obtain teacher participation in the study, questionnaires were sent to the schools, along with an informative letter explaining the objectives of the study and ensuring the anonymity of the participants. Once the questionnaires had been filled in, the teachers left them in a collection box provided for that purpose.

**Data analysis**

The data was processed with the AMOS 22 software package, by applying SEM (Structural Equation Modeling) methodology to specify initial and final models for the factors of teachers' interpersonal relationships that have an effect on burnout. After analyzing the fit indices of both models, a multi-group analysis was carried out (using as moderator variables: sex of the teacher and ownership of school).

**Results**

**Initial model of the effects of interpersonal relationships on burnout**

The initial configuration of the model was based on the theoretical foundations proposed by Maslach (2009) in order to determine the effects of burnout factors. The aim was to observe how these factors behave together with the influence of teachers' interpersonal relationships in the workplace on the syndrome. Thus, it was established that emotional exhaustion precedes cynicism, with this second factor influencing the absence or presence of inefficacy (according to the Hypothesis 1). Similarly, and according to the theoretical foundation, we start with the premise that each of the teacher’s interpersonal relationships (with students, coworkers, and superiors) affects each of the burnout factors (Hypothesis 2, 3 and 4).

In a first estimation of the initial model, using the maximum likelihood procedure, (Figure 1) the results showed some fit indices below acceptable values, according to Kline (2005), (Table 1) such as CFI = .840 and IFI = .841, below the recommended .9, so we proceeded to the re-specification model. The effects were not statistically significant were eliminated (teacher-superior relationship on cynicism and inefficacy, and the teacher-coworker relationship on emotional exhaustion and cynicism).

The Modification Indices were consulted (Table 2), and multiple correlations were found among the error terms of several elements (items D07 to D12, PA01 to PA05 and PC11 to PC14 and items PS33 to PS35). According to indications from Byrne (2001) and Kline (2005), with the aim of obtaining a possible improvement in the fit indices, five sub-factors were included in the model using these items. The Modification Indices also indicated the possibility of including a correlation between the error terms of ePA03 and eD11, and showed six variables with saturation problems in several factors (A03, R22, R23, PC30, PC31, and PC32) (Table 3); therefore these variables were eliminated.

**Re-specified model of the effects of interpersonal relationships on burnout**

Once the modifications were made, all of the re-specified model’s fit indices showed satisfactory levels. We obtained CFI = .900 and IFI = .900; the RMSEA was considerably under .05 (RMSEA = .041) and the parsimony indices were excellent (PRATIO = .9543, PNFI = .800 and PCFI = .858, above .7). The chi-square standardized value reached a value of 2.36 (within the adjustment limits of 2 to 5) (Table 2).

In order to facilitate the extraction of conclusions that will advance our knowledge of how teachers’ interpersonal relationships influence the different burnout factors, the direct and indirect effects in the final model were analyzed. In Table 3 the standardized effects according to the final model are shown. For the variable emotional exhaustion, although it receives effects from other variables, an elevated percentage of its variance cannot be explained (only 32%, according to the value of its squared multiple correlation) (see Figure 2). Emotional exhaustion receives two direct effects: one medium effect from the teacher-superior relationship (-.23), and a moderating effect from the teacher-student relationship (-.46). This variable, in this model, does not receive indirect effects from other variables; therefore the proposed Hypothesis 2 is partially met in the study.

64% of the inefficacy variable (Figure 2) can be explained by a group of direct and indirect effects. It has three direct effects: two weak effects from the teacher-coworker relationship variable (-.21) and the teacher-student relationship (-.25) variable and a moderating effect from cynicism (.49), therefore Hypothesis 3 is partially fulfilled. It receives indirect effects from the teacher-supersiors relationship (.06) through emotional exhaustion and cynicism, and from the teacher-student relationship (.35) through cynicism. Finally, emotional exhaustion has a moderating indirect effect of .28 on the inefficacy variable through cynicism.
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Figure 1. Initial model of the effects of interpersonal relationships and burnout

Table 1
Summary of fit indices

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Level of adjustment recommended</th>
<th>Initial model value</th>
<th>Final model value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIN/DF</td>
<td>2-5</td>
<td>3.013</td>
<td>2.365</td>
</tr>
<tr>
<td>IFI</td>
<td>≥0,9</td>
<td>0.841</td>
<td>0.800</td>
</tr>
<tr>
<td>CFI</td>
<td>≥0,9</td>
<td>0.840</td>
<td>0.800</td>
</tr>
<tr>
<td>PRATIO</td>
<td>≥0,7</td>
<td>0.962</td>
<td>0.953</td>
</tr>
<tr>
<td>PNFI</td>
<td>≥0,7</td>
<td>0.749</td>
<td>0.800</td>
</tr>
<tr>
<td>PCFI</td>
<td>≥0,7</td>
<td>0.808</td>
<td>0.858</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤0,06</td>
<td>0.050</td>
<td>0.041</td>
</tr>
<tr>
<td>LO 90</td>
<td>≤0,06</td>
<td>0.049</td>
<td>0.040</td>
</tr>
<tr>
<td>HI 90</td>
<td>≤0,06</td>
<td>0.052</td>
<td>0.043</td>
</tr>
<tr>
<td>HOELTER .05</td>
<td>≥200</td>
<td>0.276</td>
<td>0.353</td>
</tr>
<tr>
<td>HOELTER .01</td>
<td>≥200</td>
<td>0.281</td>
<td>0.361</td>
</tr>
</tbody>
</table>

CMIN/DF: Chi-square / Degrees of Freedom
IFI: Incremental Fit Index
CFI: Comparative Fit Index
PRATIO: Parsimony Ratio
PNFI: Parsimony-adjusted Normed Fit Index
PCFI: Parsimony-adjusted Comparative Fit Index
RMSEA: Root Mean Square Error of Approximation
According to Hypothesis 4, this model explains 82% of the variance in cynicism. The explanation for such a high percentage is due to the direct and moderating effects of emotional exhaustion (.58) and the teacher-student relationship (-.45). The teacher-superiors relationship and the teacher-student relationship have an indirect effect of -.13 and -.27 respectively through emotional exhaustion.

**Multi-group analysis**

In order to evaluate the moderating effect that the sex of the teachers and the ownership of the school have on the parameters of the model (Hypothesis 5 and 6), a multi-group invariance analysis was carried out on the final structural model between men and women, on the one hand, and between public schools, private schools, and state subsidized private schools, on the other.

With regard to the moderating effect of the variable sex, all of the parameters were invariant given that the chi-square value was non-significant in all cases. Therefore, the teacher’s sex does not cause significant differences on the effects of the model (Table 4).

In order to evaluate the moderating effect of the type of school variable, the private schools and state subsidized private schools were combined in one group, given that the sample did not permit the minimum statistical power to carry out the analysis. It was shown that all the parameters are invariant between the two groups (public schools - private/state subsidized schools) except for the regression weight of the teacher-student relationship emotional exhaustion (pc.01). Table 5 shows the direction and magnitude of the difference; here we see a greater regression weight in public schools. This indicates that the relationship the teacher has with his or her students has a greater effect on emotional exhaustion in public schools compared to private and state subsidized schools.
Discussion

In light of the results obtained, the most relevant conclusions for the scientific community in the field of burnout syndrome study are presented below.

Firstly, the importance of interpersonal relationships with students, coworkers, and superiors in burnout has been demonstrated (Grayson, 2008). In configuring the model, Maslach's model (2009) was taken as a reference. This model proposes emotional exhaustion as the first step in the syndrome and as the most important aspect in the origin of burnout. Emotional exhaustion leads to cynicism, which in turn results in decreased efficacy. According to this model, emotional exhaustion showed an important, direct effect on cynicism, which indicates that a teacher's increased exhaustion increases his or her cynicism. It was also observed that when the teacher's level of cynicism increased, his or her efficacy decreased. Therefore, the Hypothesis 1 proposed is true.

Regarding the direct effects received by variables emotional exhaustion, cynicism and inefficacy proposed in the Hypothesis 2, 3 and 4, we have only found the following effects:

Table 3
Direct and indirect effects from the final model

<table>
<thead>
<tr>
<th>INDIRECT EFF.</th>
<th>Teacher-coworkers relationship</th>
<th>Teacher-superiors relationship</th>
<th>Teacher-students relationship</th>
<th>Emotional exhaustion</th>
<th>Cynicism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional exhaustion</td>
<td>-.237</td>
<td>-.469</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cynicism</td>
<td></td>
<td></td>
<td>-.450</td>
<td>.588</td>
<td></td>
</tr>
<tr>
<td>Inefficacy</td>
<td>-.219</td>
<td></td>
<td>-.252</td>
<td>.490</td>
<td></td>
</tr>
</tbody>
</table>

Table 4
Comparison of the fit indices of the nested models (by sex)

<table>
<thead>
<tr>
<th>Model (Regression weight)</th>
<th>DF</th>
<th>CMIN</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher-superiors-relationship-Efficiency</td>
<td>1</td>
<td>.29</td>
<td>.865</td>
</tr>
<tr>
<td>Teacher-coworkers-Efficiency</td>
<td>1</td>
<td>.088</td>
<td>.767</td>
</tr>
<tr>
<td>Teacher-students relationship-Efficiency</td>
<td>1</td>
<td>.065</td>
<td>.942</td>
</tr>
<tr>
<td>Teacher-students-relationship-Efficiency</td>
<td>1</td>
<td>.336</td>
<td>.361</td>
</tr>
<tr>
<td>Teacher-student relationship-Efficiency</td>
<td>1</td>
<td>1.408</td>
<td>.235</td>
</tr>
<tr>
<td>Emotional exhaustion-Cynicism</td>
<td>1</td>
<td>1.131</td>
<td>.718</td>
</tr>
<tr>
<td>Cynicism-Efficiency</td>
<td>1</td>
<td>1.084</td>
<td>.298</td>
</tr>
</tbody>
</table>

Table 5
Estimation of regression weights (by type of school) in exhaustion - Teacher-Student Relationship

<table>
<thead>
<tr>
<th>Public</th>
<th>Private and state subsidized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard estimate</td>
<td>Estimate</td>
</tr>
<tr>
<td>-.545</td>
<td>-.742</td>
</tr>
</tbody>
</table>

Analyzing the teacher-student relationship, it was shown that this type of relationship influences the development of cynicism in teachers (Kokkinos, 2007), as well as their inefficacy and emotional exhaustion. This indicates that, the more positive the relationships between teacher and students, levels of cynicism and exhaustion decrease significantly, and efficacy increases. The media is constantly reporting incidents where students harass other students or their teachers, especially in Compulsory Secondary Education (Kokkinos, Antoniadou, & Markos, 2014). In these situations, teachers suffer from high levels of burnout, which can lead to depression (Abenavoli et al., 2013; Jennings et al., 2013). Given the importance that this type of relationship seems to have on the appearance and development of burnout, it is necessary to expand studies regarding student behavior and their relationship with teachers.

The teacher-coworker relationship seems to affect a teacher’s efficacy in such a way that improving this relationships tends to improve their level of professional efficacy. In the case of teacher-superiors relationships, it can be inferred that by improving the quality of these relationships, the teacher’s level of emotional exhaustion decreases. However, this type of relationship does not have such an important effect on burnout factors as the teacher-student relationship. Nevertheless, and in terms of future studies to identify and analyze possible burnout triggers, we consider it important to include the teacher-family relationship in the model, given that, many times, a student’s disruptive behavior - inside and outside of the classroom - is accompanied by a lack of support for the teacher from his or her family (Grayson, 2008; Stoeber & Rennert, 2008). Similarly, it would be especially interesting to analyze to what extent legal changes contribute to a decrease in conflicts and an improvement in teacher-student relationships.

By defining the effects of the proposed final model, we were able to explain 64% of the variance in inefficacy, 82% in cynicism, and 32% of the variance in emotional exhaustion. According to
the Hypothesis 2, the emotional exhaustion only receives direct effects from teacher’s interpersonal relationships with students and superiors. In this regard, the fact that so little of the variance is explained for emotional exhaustion indicates that there are aspects that explain this factor that were not contemplated in this model. This circumstance could be due to the fact that emotional exhaustion does not only depend on contextual variables, but also on personal characteristics unique to the individual (Abenavoli et al., 2013; Jennings et al., 2013). Specifically, a hostile environment can cause the appearance in this case of greater emotional exhaustion in teachers, but the response to this situation may be different in each case, depending on the psychological characteristics of each subject. Therefore, it would be particularly interesting to configure a model that included, on the one hand, contextual variables, and, on the other, the most prominent psychological variables in the process of the syndrome (type A behavior pattern, cognitive styles, external locus of control, dependence, resistant, personal characteristics, sense of coherence, etc.) (Fives, Hamman, & Olivares, 2007) in order to analyze it in burnout.

According to the Hypothesis 5, the sex of the teacher variable showed no differentiating effect on the proposed model; these results do not coincide with those obtained by Gil-Monte (2005), Unterbrink (2007) and Grayson (2008), who suggest that emotional exhaustion is more prevalent in women and cynicism in men. However, the results proposed here are consistent with those of Weng et al. (2005), which demonstrate the absence of significance in this variable on the development of burnout syndrome. With regard to the type of school variable, Hypothesis 6 is partially fulfilled. It was found that in public schools, a negative teacher-student relationship has a greater influence on emotional exhaustion compared to the effect observed in private subsidized schools. These results are consistent with those of Kokkinos (2007). This explains the fact that public schools seem to have a higher level of conflict between students, which means that teachers face serious difficulties to teach class normally.

However, regardless of the results obtained and the resulting conclusions, it is worth noting the recommendation to increase the study sample. Therefore, this being a limitation of the study, it is considered appropriate to extend the study to other regions in order to increase the power of generalization of the results.

As a final conclusion, while the teacher’s interpersonal relationships and psychological characteristics seem to play an important role in the development of burnout, we believe that future research should be aimed at training teachers in strategies to face and overcome conflictive situations (at both a psychological and behavioral level). In order to do so, applied research aimed at not only treating burnout syndrome, but also at prevention, will be absolutely necessary, given that, ultimately, the quality of education depends on it.

References


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