



## Article

# The Influence of Management on Teacher Well-Being and the Development of Sustainable Schools

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**Abstract:** Teaching is one of the professions with the highest levels of stress and disquiet at work, having a negative impact on teachers' well-being and performance. Thus, well-being is one of the priorities in human resource management (HRM) in schools. In this regard, this paper studies the relationship between HRM, well-being and performance, observing the incidence of leadership and innovation in these relationships. The objective is to measure the extent to which it is necessary to encourage sustainable environments that promote the well-being of teachers and, by extension, students. The study used the methodology of structural equations and a sample of 315 secondary school teachers. The work validates the influence of leadership by example and information management on HRM and performance. In addition, we confirm the significant effect of human resource management on educational performance. The relationship is observed both directly and through the mediating effect on the improvement of well-being. On the other hand, the positive influence of innovation on performance, both in schools and in the classrooms, is reaffirmed. These results suggest the need to zero in on the human resources policies in schools linked to the improvement of teacher well-being and educational performance. They also highlight the role of school and classroom innovation as a key element in maintaining educational quality.

**Keywords:** human resources management; well-being; performance; leadership; innovation; sustainability



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## 1. Introduction

The research carried out in recent decades on sustainable development has mainly focused on the economic and environmental dimensions, leaving aside the social one [1,2]. The social dimension focuses on well-being and on the development and maintenance of pleasant working and living spaces by understanding the material, social and emotional needs of individuals [3–5], beyond economic interest [6].

Furthermore, changes in the working and social environment (such as flexibility, digitalisation or increasing inequality) that threaten the well-being of people in general, and employees in particular [7], raise the need to generate working environments in which adequate levels of well-being can be achieved. Specially, when considering the well-being of employees as a goal and a responsibility of companies [8].

In this respect, the literature underscores the role of human resource management (HRM) in promoting employee well-being through practices that enhance employee satisfaction, engagement and reduce stress in work environments [9,10]. In addition, research holds that happy and satisfied employees are more willing to work hard to achieve organizational goals than those who are dissatisfied or unhappy [11].

Delving into these facts, the objective of this research is to analyse the importance and consequences of generating work environments with high levels of well-being, due

to its relevance to performance. This is considered in some of the theoretical frameworks on which this article is based, such as the AMO theory, which emphasises on the idea that the set of HR practices associated with HRM systems have an effect on individual and organisational performance, the model of labour demands and resources, which focus on the analysis of employee well-being; and the theory of social exchange, which affects social exchange as an essential element in the relationship between HRM practices and performance.

This research focuses on the need to generate working environments with high levels of well-being in educational institutions in particular. Mainly because of the fundamental role that education plays in the processes of leading the society towards a more sustainable future [12,13] and because of its contribution to the values and well-being of the society [14].

The study attempts to address various shortfalls detected in the literature. Specifically, and even though HRM in educational centres has been widely addressed in recent years, the literature does not deepen into the analysis of its relationship with leadership and performance in educational centres. In addition, performance is often measured primarily in terms of student academic achievement rather than in organisational terms. On the other hand, there are a few studies that address more than one dimension of well-being (physical and psychological) and for their measurement these mainly use self-reports instead of objective measures [15].

Finally, given the impact of school principals on teacher well-being, the study seeks to cover the need to expand the existing knowledge about factors that can contribute to the well-being in the workplace [16]. Thereby and observing the importance of teacher well-being for educational improvement as a key variable [17,18], this paper presents a model that addresses the effect of leadership and human resource management (HRM) on educational performance, both directly and through the mediating effect of teacher well-being between these relationships. The model, in turn, affects the added effect of innovation in the school and in the classroom on such performance (see Figure 1). The aim is to propose a model that integrates the main elements that can promote sustainable environments, and that have a positive impact on teachers' well-being and performance.

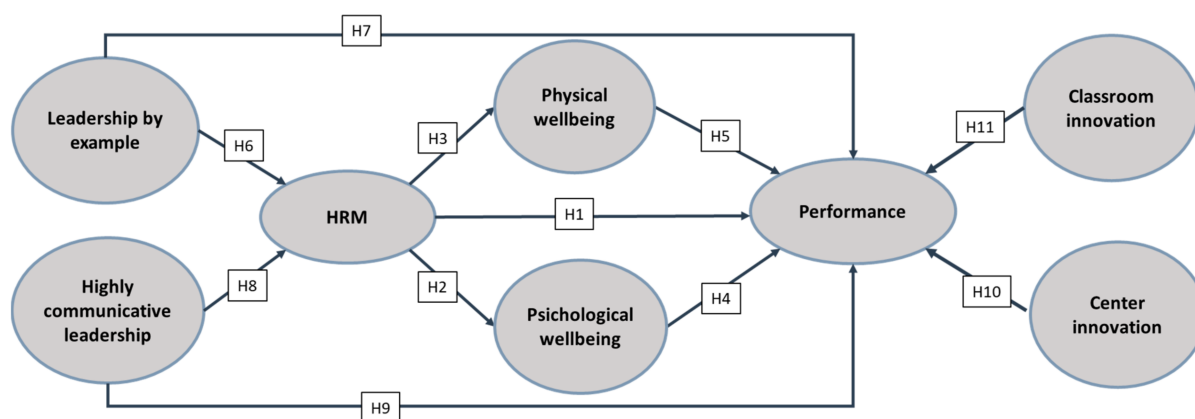


Figure 1. Causal model. Own elaboration.

The results support most of the hypotheses and indicate the need for greater promotion of leadership and HRM policies, both for their effect on teachers' well-being (and job performance) and for their ultimate effect on schools' performance. The results are also important, both on a theoretical level, as they open the door to future developments, and on a practical level, as they indicate and highlight the relevance of sustainable management practices and policies (both at the educational and business levels) in general for improving social well-being and sustainability, and for improving school performance.

The work is organised as follows. In the following section we present the basic theoretical model, and the theoretical justification of the hypotheses raised. Section 3 focuses on the observation of the sample and the methodological justification of the tools used

to test our hypotheses, and Section 4 presents the results. Finally, Section 5 discusses the results obtained, emphasising the main conclusions, theoretical and practical implications, limitations of the model and future developments.

## 2. Theory and Hypothesis Formulation

### 2.1. Theoretical Model

We use the combination of three theoretical models: the AMO theory, the Job Demands-Resources model and the theory of social exchange as its theoretical basis. These theories are used to explain the relationship between HRM and performance, and the mediating role of well-being in schools.

The AMO Theory [19,20] puts forth that performance is a function of three elements of HRM: (A) ability, (M) motivation and (O) opportunity. That is, employees could enhance both performance and well-being when the HR practices or HRM system provide the necessary skills and competences, as well as motivation and offers opportunities for participation [21].

The Job Demands-Resources Model (JD-R) [22]: This model classifies the characteristics of employment into two categories: an unfavourable demand for labour and a favourable demand for job resources [23]. It proposes that the well-being and performance of employees are the result of a balance between labour resources and demands [24]. Therefore, certain HRM practices may lead to feelings of continuous demand and that the organisation does not care about their well-being [25,26], leading to less commitment and more work-related stress [23].

The Social Exchange Theory explains the relationship between HRM practices and performance [27] through social exchange processes [28]. It is based on the premise that organisations promote commitment by investing in employees [29]. Thus, employees perceive this investment as an expression of the organisation's trust and commitment to them [30], resulting in higher levels of performance and satisfaction [31,32] and lesser likelihood of job abandonment [29].

### 2.2. Hypotheses Establishment

After the introduction and establishment of the theoretical bases of the study, we put forward the following hypotheses that form our theoretical model.

#### 2.2.1. HRM–Educational Centre Performance

A positive and significant influence between combinations of HRM practices on performance in organisations has been demonstrated from different disciplines [33,34]. The basis of this argument is that certain HRM practices help improve individual and organisational performance [35] through positive employee attitudes and well-being at work [19,36]. This element is key to the AMO theory underlying our work, and which is discussed above. In particular, the positive relationship between HRM practices and systems, employee well-being and organisational performance has been highlighted [37,38], validating the relationship between these practices, lower levels of absenteeism, greater job satisfaction, and a greater effort and willingness to remain in the organisation [39].

As for schools, HRM has also been acknowledged as a key element for performance improvement [40]. HRM is seen as a means to motivate teachers to achieve their school's goals, as a way to provide continuous professionalisation and also to help retain competent and motivated teachers [41]. Following the approach of social exchange theory, when teachers perceive HRM as distinctive, interrelated and coherent practices, their competence and commitment increases and performance of both teachers and schools improves [42,43].

Hence,

**Hypothesis 1 (H1).** *HRM has a positive and significant influence on organisational performance in schools.*

### 2.2.2. HRM–Psychological Well-Being

As we previously stated, the Job Demands-Resources Model (JD-R), shows its emphasis on the analysis of employee well-being. Emphasising this aspect, the literature shows mainly two dimensions of well-being: the psychological one, or related to happiness, and the physical one [44]. While psychological well-being is based on employees' subjective experiences, such as their level of engagement, physical well-being is related to employees' health and encompasses factors such as stress or the need for recovery [45,46]. Most studies addressing the relationship between HRM and employee well-being are based on the 'optimistic' view. In this sense, understanding HRM as human resources practices, systems or sets of practices associated with the management of people in companies [20,47] it states that HRM positively affects well-being [46] and happiness of employees [48,49]. Therefore, following the social exchange theory approach [29], research shows that investment in HRM and the consequent perception by employees that the company cares about their well-being [50] favour the performance and the fulfilment of their tasks, and increases commitment levels [48].

Regarding schools, the literature notes that the work environment plays an important role in the well-being of teachers. Thus, factors such as the availability of resources, the possibility of continuous professional development and participation in management processes suggest higher levels of teacher satisfaction and well-being [51]. In this regard, the literature has shown, for example, that certain human resources practices are positively related to dedication [52].

Based on the argument of the 'optimistic' perspective put forward by Peccei et al. (2013):

**Hypothesis 2 (H2).** *HRM systems have a positive and significant influence on the psychological well-being of teachers.*

### 2.2.3. HRM–Physical Well-Being

Having addressed the optimistic view in the previous section, the pessimistic view maintains that performance-enhancing HRM practices can lead to neglect of employees [6], overlooking potential consequences for workers' health [44]. A clash between well-being and performance is therefore evident [53]. For example, HRM associated with high-performance work systems and financial incentives as a motivational basis leads to an intensification of work that causes negative effects on workers' well-being [54,55]. It has been shown that these workers experience a greater need for recovery and their stress levels may increase [6,45].

In the specific case of the teaching profession, teachers have some of the highest rates of work-related stress, leading to physical and mental health problems [56,57]. Elements associated with HRM such as workload, conflict and role ambiguity or poor working conditions are identified as the main sources of stress [58]. For example, when available resources are not sufficient to meet teachers' work demands, stress and burnout may occur [59].

Based on the argument of the more pessimistic or 'critical' perspective put forward by Van De Voorde et al. (2012):

**Hypothesis 3 (H3).** *HRM systems have a significant negative influence on the physical well-being of employees.*

### 2.2.4. Psychological Well-Being-Performance

A positive relationship between well-being and performance has been shown [46,60], and this is highlighted by the theory of social exchange, which emphasises on social exchange as an essential element in the relationship between HRM practices and performance. In this regard, studies show that employees' moods and emotions influence organisational outcomes, such as performance, participation, decision-making, creativity, staff turnover, prosocial behaviour, teamwork, leadership [61,62] or productivity [63,64]. Following the

approach of JD-R theory, if employees perceive a balance between resources and work, the well-being of employees and their performance will improve. For example, job resources, such as personal development through feedback, help employees reduce job demand [65,66], and thus improve performance levels. Obviously, the performance of the workers leads to improvement in the performance of the organisation as a whole, an aspect that lies beyond the scope of this work.

In the case of education, it has been shown that teachers' well-being influences performance. Therefore, it is essential to improve their well-being in order to have a positive impact on the quality of teaching [67]. In turn, it has been confirmed, for example, that increased satisfaction and organisational commitment are linked to improvements in school performance [68,69]. Specifically, satisfaction has been found to contribute to organizational learning and teaching effectiveness, and by extension to student achievement [70,71], and hence to the performance and competitiveness of educational organisations.

In view of this:

**Hypothesis 4 (H4).** *Psychological well-being has a positive and significant influence on performance in schools.*

#### 2.2.5. Physical Well-Being and Performance

It has also been shown that work stressors, such as high demands or adverse psychosocial conditions in work environments, can cause stress and lead to musculoskeletal pain, thus being risk factors for long-term decline in both work performance [72,73]. According to the JD-R theory, feelings of continuous demand and the organisation's lack of concern for their well-being [25,26] can lead to burnout and work stress, as well as lower levels of commitment and performance [23]. Consequently, stress in the work environment can generate negative psychological and physical feelings, when there is no perceived correspondence between work demands and employees' capabilities and resources [74].

In education, it has been often confirmed that teachers' work is increasingly oriented towards evaluation and performance, and it is distancing from the more individualistic and creative aspects [75]. This performance culture has been identified as one of the main causes of teacher drop-out [75]. In this regard, research shows a negative relation between levels of teacher stress and the degree of achievement of educational goals, as stress is linked to detachment, alienation, absenteeism and drop-out [76,77].

Hence:

**Hypothesis 5 (H5).** *Physical well-being has a significant negative influence on organizational performance.*

#### 2.2.6. Leadership by Example-HRM

In addition to HRM, this work aims to emphasise the role of leadership. In this sense, evidence shows that leaders who model desired behaviours promote strong HRM systems [78]. This suggests that certain leadership styles positively influence the implementation of HRM policies. Theories such as ethical leadership or transformational leadership recognise the importance of leadership by example and suggest that modelling is an important means by which effective leaders motivate their followers to act accordingly [79,80]. That is, leaders must act as role models, motivating employees, providing a roadmap and creating positive supportive environments [81]. Under the AMO approach, leaders are expected to engage and serve as role models [82]; creating motivating and participatory environments where employees can exploit their capabilities.

School principals are responsible of organising and managing to improve teacher performance and achieve higher educational and administrative goals. In this regard, and under new developments to the AMO theory, they are responsible for motivating teachers and generating a cooperative environment [83]. This requires the director to be a 'role model' in all areas (from the professional and pedagogical to the interpersonal), in



order to promote the efforts and initiatives undertaken by the educational community, and especially by the teaching staff [84]. Along the same line, we can see the positive effect of the school principal leading by example, driven by an ethic of care for others [85].

In this light, the following hypothesis is put forth:

**Hypothesis 6 (H6).** *Leadership by example has a positive and significant influence on HRM.*

#### 2.2.7. Leadership by Example-Performance

It has been argued that leadership is the most important contextual factor influencing team performance [86], and this is evidenced by the AMO theory discussed above. Focusing on this, it has been shown that groups can function best when they are led by people who are willing to sacrifice personal gain for the greater good [87]. That is, groups respond effectively to the example set by a leader [82,88]. As a result of these relationships, a role model (benchmark power) has been shown to be critical in building commitment and performance [89]. In short, leaders model a behaviour, followers imitate it, a strategic orientation is created, and this strategic approach influences team performance [90].

In the field of education, we consider that the results obtained should be transferred to general theory. Our research has not permitted us to find much literature that analyses this situation, being such void a driver to this work. However, in the field of teaching, it has been shown, for example, that support from leaders helps maintain work commitment over time among teachers [23], and can mitigate the influence of demands or work overload [51]. Obviously, this would transfer directly and indirectly to changes in procedures in educational organisations, an issue that may ultimately affect the organisation's overall performance.

All this leads us to propose the following hypothesis:

**Hypothesis 7 (H7).** *Leadership by example has a positive and significant influence on organisational performance.*

#### 2.2.8. Highly Communicative Leadership-HRM

The literature suggests that systematic communication of objectives and priorities to employees is key to organisational integration [91]. Given this, the leader must implement a highly communicative style, with practices focused on the transmission of messages that ensure that employees know what is valued and considered important in the organisation and what is expected of them, giving meaning to their work [92]. This also forms a key 'co-ordination mechanism' for effective teamwork [93]. In this regard, a highly communicative leadership style can not only indirectly influence performance through the mediating effect of aspects such as HRM or well-being, but also directly, by observing other effects that emphasise this relationship. Thus, under the AMO approach again, this type of leadership generates safe climates in which team members are motivated to share their ideas and information [94,95].

The school principal, being responsible for HRM, organises, directs and coordinates with the aim of improving the school unit. Based on the AMO theory, the director motivates the teachers and uses incentives, through a leadership style based on the use of good communication practices and relations between the members of the school community. They are also expected to generate a cooperative and team environment [83]. To contemplate this environment, they must provide pedagogical instructions to teachers, motivate them to take initiatives, and use their skills, abilities and interests to carry out effective teaching [96,97]. For all these reasons, the school principal must have the ability to communicate both to manage the flow of information between the educational community [98] and to provide adequate feedback to the effort shown by the teaching staff [99].

This leads to the following hypothesis:

**Hypothesis 8 (H8).** *Highly communicative leadership has a positive and significant influence on HRM.*

### 2.2.9. Highly Communicative Leadership-Performance

Communication about group goals, strategies and processes has the potential to contribute positively to team effectiveness and improve performance [100]. In the same vein, a highly communicative leadership style can not only indirectly influence the performance through the mediating effect of aspects such as HRM or well-being, but also directly (by observing other effects that emphasise this relationship). Therefore, the exchange of information between teams is an important precondition for performance [101] as it exposes team members to ideas and data that enable them to optimise their processes [102,103]. Research has shown that internal communication across the firm's different job positions has a positive effect on the perceived performance [104,105].

Changes in the educational system, such as the increasing management in schools, have resulted in a great interest in the leadership skills of the school principal as a key factor in the effectiveness of the educational institutions [106,107]. Research shows that leadership based on communication, monitoring of goals, standards and staff participation, promote clarity and consensus on goals, and positively impacts performance at the educational institution [108,109]. For example, certain types of leadership, such as collaborative or instructional, provide access to information, encouraging dialogue and reflection, promoting a culture supportive of learning and progress [110,111], and thus contributing to the improvement of the centre's performance. From this, Hypothesis 9 is derived:

**Hypothesis 9 (H9).** *Highly communicative leadership has a positive and significant influence on organisational performance.*

### 2.2.10. Innovation in the Educational Centre—Organisational Performance

This work aims to shed light on the role of educational innovation in the model. Hence, we can define educational innovation as the 'application of an idea that produces planned change in processes, services or products that generate improvement in training objectives', and that must also be original, effective, transferable and sustainable [112]. In other words, it involves the implementation of new practices, which can range from small changes in classroom activities to changes at the school level that go from redesigning a curriculum to a new approach to teaching. In this work, we differentiate these two.

Innovation in schools refers to useful products or processes that promote the quality and outcome of learning processes. Three dimensions for successful innovation are identified in this area: the use of new or revised materials, the use of new teaching approaches, and the change in pedagogical beliefs [113]. It is expected that innovations in the educational centre will positively influence the achievement of the centres' goals and objectives.

Research shows that innovations are positively related to school efficiency, mainly those innovations that are developed around the educational profile, pedagogy, process, and the educational chain [114]. Although, again, we have not found literature on innovation in educational centres and its impact on performance—being this an important gap this work aims to address, general literature on the importance of innovation in organisational performance points in this direction. In turn, it has been observed, for example, that changes in curricula are related to improved performance and reduced program completion time [115,116]. Given this:

**Hypothesis 10 (H10).** *Innovation in the educational centre positively and significantly influences organisational performance.*

### 2.2.11. Innovation in the Classroom—Organisational Performance

Focusing on classroom observation, innovation implemented in the classroom environment focuses on course didactics, i.e., changes in the way classes are taught (e.g., the use of different teaching methods such as group work or project-based learning) and the use of pedagogical services (e.g., a support teacher). The use of such innovations is driven

by the quality requirements of the schools [114]. It has been shown that innovations such as problem-based learning or cooperative learning have positive effects on students and their performance [117,118] and thus on the achievement of school goals.

Considering that innovative behaviour is a fundamental element in the teaching profession [119] and that teachers are key agents in the introduction and execution of innovations in the classroom [120] these innovations are vital for the improvement of the organisational goals of schools. Moreover, it has been proven that when innovation, for example, in the use of information technology, is linked to teacher compensation plans, the results and added value of these plans increase [121,122], thus increasing the organisational performance of schools. Given this:

**Hypothesis 11 (H11).** *Innovation in the classroom has a positive and significant influence on performance.*

### 3. Research Methodology

#### 3.1. Study Design

To test the hypotheses, we used the scales for measuring HRM, innovation, performance, well-being and leadership. Below we describe the tools used.

We used items adapted from the Delmotte, De Winne and Sels [123] scale to measure HRM. Based on Bowen and Ostroff's [92] theoretical approach, these identify distinctiveness (visibility, relevance), coherence (consistency, validity) and consensus (agreement, fairness) as characteristics of a robust HRM system, measuring the perceived strength of the HRM system.

Two dimensions are considered for measuring well-being: physical well-being and psychological well-being [44]. The physical well-being analysis comprises three sub-dimensions: emotional exhaustion [46] psychosomatic disorders [124] and physical health [125]. With respect to psychological well-being, three sub-dimensions were studied: relational elements [126] working conditions or satisfaction [8] and happiness [127,128]. Emotional burnout was measured as items on the emotional burnout subscale of Maslach's Burnout Inventory (MBI) [129]. Psychosomatic disorders were half-items based on Dirken's psychosomatic complaints questionnaire [130]. Physical health symptoms were half items adapted from the Nordic Musculoskeletal Questionnaire [131]. We also used items adapted from the depersonalization subscale of Maslach's Burnout Inventory (MBI-ES) [129] to measure relationships. Job satisfaction was measured with items adapted from the Williams and Anderson scale [132]. Finally, happiness was measured with items from the Oxford Happiness Questionnaire [133].

Organizational performance in educational centres is conceived broadly in terms of the school or education to students, understood as a way to add value [134]. Given the difficulty in measuring and obtaining objective data, four items were used based on self-evaluation [135] and on the reliability of these measures, which suggest positive correlations between subjective and objective performance measures [136]. Respondents were asked to rate the performance of their workplace relative to other educational centres [137].

Regarding leadership, we considered two styles: leadership based on example and leadership of high communication. To measure it, we used items from the Empowering Leadership Questionnaire (ELQ), which measures the empowering leader behaviour [138].

Finally, we used items based on the OECD's approach to innovation in education centres were used to measure innovation, both in the centre and in the classroom [139].

The items of the different constructs were evaluated using a Likert scale with values from 1 to 5 (see Table A1).

#### 3.2. Sample and Data Collection

Data for this work were obtained through a non-probabilistic sampling for convenience of 300 educational centres, public, subsidised and private, of secondary education. In order to include large, medium and small cities, the provinces of Madrid, Valencia,



Malaga and Murcia in Spain were selected. This order represents the different sizes of the cities from larger to smaller. For the collection of data, we set up a link with access to a web questionnaire and sent it by email to teachers in order to guarantee anonymity. The final sample is made up of 315 secondary school teachers from 75 schools, of which 33% are men and 67% are women. With an average age of 43.34 years, the minimum age is 25 and the maximum is 65.

### 3.3. Instruments

The proposed model was analysed with structural equation modelling, which generally allows testing causal relationships between dependent and independent variables simultaneously. The statistical software EQS 6.4 was used, along with the robust maximum likelihood (MLR) method as the missing values in some variables had to be taken into account.

## 4. Findings

This section is divided into three points. In the first one, the common method bias of the scales used is analysed. In the second point, the dimensionality, reliability and validity of the wellbeing scale was analysed. In the third point, in the case of wellbeing, the items sharing the same dimension were averaged to form composite measures. Composite measures of wellbeing were combinations of items to create score aggregates that are then subjected to confirmatory factor analyses (CFA) together with the rest of the scales considered in the study, in order to validate them. Finally, at this point the causal relationships were analysed to test the hypotheses.

### 4.1. Common Method Bias

Since all questions are completed with the same scoring method in the questionnaire survey process, the risk of common method bias is likely to occur. We used Harman's test as a method of checking for the presence of common method bias [140–142]. Every item from every construct is implemented for factor analysis to judge whether more than 50% of the variance may come from a general factor before being rotated. In this study, the results reported a small portion of the variance (37.891% for well-being scale and 41.479% for all the constructs) occupied by the first principal component obtained, and when it is not rotated it does not account for the bulk. This assures that there is no common method bias and will not affect the conclusion of the study.

### 4.2. Well-Being Scale

In the first phase of the analysis, we focused on the study of the psychometrical properties of the well-being scale. With regard to the measurement of well-being, from the confirmatory factor analysis of the 23 items that finally make up the scale, we obtained six dimensions: emotional, symptoms, back ache, relations with students, favourable work conditions (fulfilment) and happiness (see Appendix A). As can be observed in Table 1, the probability associated with chi-squared reaches a value higher than 0.05 (0.40144), values for NNFI, CFI, IFI and MFI are close to one; and RMSEA is close to zero; all these results are indicating a good overall fit of the scale [143]. The convergent validity is demonstrated in three ways. First, because the factor loadings are significant and greater than 0.5 (See last column of Table 1) [144,145], second because alpha Cronbach is higher than 0.7 (See first value in parenthesis next to the name of each dimension) and third because average variance extracted (AVE) for each of the factors is higher than 0.5 (See second value in parenthesis next to the name of each dimension) [146]. The reliability of the scale is demonstrated because the composite reliability indices of each of the dimensions obtained are higher than 0.6 [144]. The last two columns of Table 1 show the mean value and standard deviation of all items.

**Table 1.** Analysis of the dimensionality, reliability and validity of well-being scale.

| Items  | Factor Loading | Mean | SD   |
|--|----------------|------|------|
| <b>PHYSICAL WELL-BEING</b>   |                |      |      |
| Emotional ( $\alpha$ : 0.78; AVE: 0.62; CR: 0.79)                                  |                |      |      |
| I feel that my work drains me emotionally  | 0.69 ***       | 3.22 | 1.13 |
| I feel exhausted at the end of the day   | 0.84 ***       | 3.31 | 1.09 |
| Daily work creates tension for me  | 0.71 ***       | 2.40 | 1.13 |
| Emotional symptoms ( $\alpha$ : 0.83; AVE: 0.68; CR: 0.83)                         |                |      |      |
| I am sad   | 0.85 **        | 2.19 | 0.87 |
| I am depressed   | 0.86 **        | 1.85 | 0.90 |
| I feel scared  | 0.65 **        | 1.75 | 0.92 |
| Backache ( $\alpha$ : 0.88; AVE: 0.76; CR: 0.89)                                   |                |      |      |
| My back hurts from the work activity.  | 0.89 ***       | 2.72 | 1.26 |
| I suffer from lower back pain.   | 0.71 ***       | 1.96 | 1.18 |
| I often notice pain in the back area.  | 0.95 ***       | 2.62 | 1.30 |
| <b>PSYCHOLOGICAL WELL-BEING</b>  |                |      |      |
| Students' relationship ( $\alpha$ : 0.84; AVE: 0.64; CR: 0.84)                     |                |      |      |
| I care very much about what happens to my students.                                | 0.70 ***       | 4.55 | 0.68 |
| I am enthusiastic about working with my students.                                  | 0.78 ***       | 4.45 | 0.75 |
| I feel like I help my students solve their problems.                               | 0.81 ***       | 4.18 | 0.74 |
| I feel satisfied with my work with the students.                                   | 0.74 ***       | 4.08 | 0.81 |
| Favorable working conditions (fulfillment) ( $\alpha$ : 0.88; AVE: 0.67; CR: 0.89) |                |      |      |
| I have the opportunity to do things differently.                                   | 0.80 ***       | 3.84 | 0.99 |
| I am duly rewarded for my work.  | 0.75 ***       | 3.22 | 1.23 |
| I can use my skills  | 0.85 ***       | 3.90 | 1.01 |
| I am free to try my own methods.   | 0.70 ***       | 3.96 | 1.06 |
| Working conditions are good.   | 0.80 ***       | 3.81 | 1.05 |
| Happiness ( $\alpha$ : 0.92; AVE: 0.67; CR: 0.89)                                  |                |      |      |
| I am happy with the way I am.  | 0.71 ***       | 4.02 | 0.73 |
| I feel that my life is rewarding.  | 0.93 ***       | 4.04 | 0.83 |
| I feel satisfied with my life.   | 0.93 ***       | 4.06 | 0.81 |
| I am capable of doing everything I want to do in life.                             | 0.72 ***       | 3.67 | 0.88 |
| I am happy with my life  | 0.91 ***       | 4.04 | 0.80 |

Note: model fits Chi-square ( $\chi^2$ ): 212.4569; df: 208;  $p$ : 0.40144; Bentler–Bonett Normed Fit Index (NFI) = 0.953; Bentler–Bonett Non-Normed Fit Index (NNFI) = 0.996; Comparative Fit Index (CFI) = 0.998; Bollen's (IFI) Fit Index = 0.997; McDonald's (MFI) Fit Index = 0.941; Root Mean-Square Error of Approximation (RMSEA) = 0.018. AVE is the Average Variance Extracted, CR is the Composite Reliability. \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Table 2 shows the discriminant validity of the construct considered, evaluated through average variance extracted-AVE [146]. For this, a construct must share more variance with its indicators than with other constructs of the model. This occurs when the square root of the AVE between each pair of factors is higher than the estimated correlation between those factors; as does occur here, thus ratifying its discriminant validity.

**Table 2.** Well-being-discriminant validity.

|   | 1          | 2          | 3          | 4        | 5        | 6    |
|---|------------|------------|------------|----------|----------|------|
| 1. Emotional                                  | 0.79       |            |            |          |          |      |
| 2. Symptoms                                   | 0.60 **    | 0.82       |            |          |          |      |
| 3. Back ache                                  | 0.42 ***   | 0.37 **    | 0.87       |          |          |      |
| 4. Relations with students                    | −0.02 (NS) | −0.12 (NS) | −0.05 (NS) | 0.80     |          |      |
| 5. Favorable working conditions (fulfillment) | −0.22 (NS) | −0.28 *    | −0.22 *    | 0.47 *** | 0.82     |      |
| 6. Happiness                                  | −0.11 (NS) | −0.36 *    | −0.14 *    | 0.51 *** | 0.54 *** | 0.82 |

Below the diagonal: correlation estimated between the factors. Diagonal: square root of AVE. \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; NS: not significant.

### 4.3. Overall Model

Subsequently, following Bandalos and Finney [147], Bou-Llusar et al. [148] and Landis et al. [149], once composite measures have been formed of the items sharing the same dimension in well-being, we analyse the psychometrical properties of the scales forming the model. As can be observed in Table 3, the probability associated with chi-squared reaches a value higher than 0.05 (0.09393); values for NNFI, CFI, IFI and MFI are close to one; and RMSEA is close to zero; all these results are indicating a good overall fit of the scale [143]. Convergent validity is demonstrated on the one hand because the factor loadings are significant and higher than 0.5 [144,145] and, on the other hand, because, for each of the factors, alpha Cronbach is higher than 0.7 and the average variance extracted (AVE) is higher than 0.5 [146]. As for the reliability of the scale, the indices of composite reliability of each of the dimensions obtained are higher than 0.6 [144]. It should be noted that the items that make up the well-being scale have been divided into two dimensions: positive well-being and negative well-being. The last two columns of Table 3 show the mean value and standard deviation of all items.

**Table 3.** Analysis of the dimensionality, reliability and validity of the scales of measurement.

| Items  | Factor Loading | Mean | SD   |
|--|----------------|------|------|
| Leadership by example ( $\alpha$ : 0.97; AVE: 0.87; CR: 0.97)              |                |      |      |
| They set high standards of performance by their own behaviour.             | 0.85 ***       | 3.72 | 1.19 |
| They work as hard as they can.   | 0.95 **        | 4.02 | 1.13 |
| They work as hard as any teacher.  | 0.93 ***       | 3.96 | 1.16 |
| Lead by example and work like everyone else.                               | 0.96 ***       | 3.98 | 1.18 |
| Guide with the example.  | 0.94 ***       | 3.84 | 1.21 |
| High communication leadership ( $\alpha$ : 0.95; AVE: 0.81; CR: 0.95)      |                |      |      |
| They inform about the decisions of the school.                             | 0.86 ***       | 3.66 | 1.13 |
| They inform about the objectives of the school.                            | 0.88 ***       | 3.88 | 1.15 |
| They make clear the roles and responsibilities of each.                    | 0.86 ***       | 3.65 | 1.16 |
| They inform the purpose of the school's policies.                          | 0.93 ***       | 3.63 | 1.13 |
| They inform about the rules and expectations                               | 0.89 ***       | 3.79 | 1.10 |
| Human Resources ( $\alpha$ : 0.95; AVE: 0.74; CR: 0.95)                    |                |      |      |
| They inform us about the actions they carry out                            | 0.83 ***       | 3.54 | 1.20 |
| They attend to our demands, suggestions, requests or ideas.                | 0.88 ***       | 3.50 | 1.13 |
| Their actions provide value or improvement for the teacher.                | 0.83 ***       | 3.51 | 1.07 |
| Employees get the recognition and rewards appropriate to their work.       | 0.83 ***       | 3.13 | 1.23 |
| They serve all staff equally   | 0.84 ***       | 3.42 | 1.32 |
| It is clearly aligned with the school management.                          | 0.79 ***       | 3.75 | 1.19 |
| It is concerned with the mood of the teaching staff.                       | 0.83 ***       | 3.43 | 1.31 |
| It conveys clearly the policy of the center and the established objectives | 0.85 ***       | 3.57 | 1.21 |
| Physical well-being ( $\alpha$ : 0.78; AVE: 0.53; CR: 0.71)                |                |      |      |
| Emotional  | 0.72 ***       | 3.10 | 0.96 |
| Symptoms   | 0.69 ***       | 1.93 | 0.77 |
| Backache   | 0.61 ***       | 2.43 | 1.12 |
| Psychological well-being ( $\alpha$ : 0.75; AVE: 0.65; CR: 0.82)           |                |      |      |
| Relation with students   | 0.65 ***       | 4.31 | 0.61 |
| Favorable working conditions (fulfillment)                                 | 0.93 ***       | 3.75 | 0.88 |
| Happiness  | 0.73 ***       | 3.96 | 0.71 |
| Performance ( $\alpha$ : 0.79; AVE: 0.63; CR: 0.80)                        |                |      |      |
| Quality of education   | 0.84 ***       | 3.60 | 1.01 |
| Offered services (dining hall, extracurricular, . . . )                    | 0.72 ***       | 3.57 | 1.08 |
| The demand of the school   | 0.70 ***       | 3.68 | 0.93 |
| Classroom innovation ( $\alpha$ : 0.91; AVE: 0.80; CR: 0.91)               |                |      |      |
| Students can design their own projects.                                    | 0.79 ***       | 3.27 | 0.96 |
| They use computer simulations to learn.                                    | 0.74 ***       | 3.17 | 1.06 |
| They use computers to practice skills and procedures.                      | 0.70 ***       | 3.54 | 1.07 |
| Center innovation ( $\alpha$ : 0.77; AVE: 0.62; CR: 0.79)                  |                |      |      |
| The teachers collaborate with each other.                                  | 0.80 ***       | 3.65 | 0.94 |
| Critical thinking is encouraged.   | 0.92 ***       | 3.54 | 1.03 |
| Problem solving and professional development are encouraged.               | 0.92 ***       | 3.41 | 1.03 |

Note: the model fits Chi-square ( $\chi^2$ ): 484.7512; df: 445;  $p$ : 0.09393; Bentler–Bonett Normed Fit Index (NFI) = 0.941; Bentler–Bonett Non-Normed Fit Index (NNFI) = 0.994; Comparative Fit Index (CFI) = 0.995; Bollen's (IFI) Fit Index = 0.995; McDonald's (MFI) Fit Index = 0.939; Root Mean-Square Error of Approximation (RMSEA) = 0.017. AVE is the Average Variance Extracted, CR is the Composite Reliability. \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Table 4 shows the discriminant validity of the construct considered, since the square root of the AVE between each pair of factors is higher than the correlation estimated between the factors, thus ratifying its discriminant validity.

**Table 4.** Discriminant validity of the scales associated with the model.

|                             | 1          | 2          | 3        | 4          | 5       | 6        | 7        | 8    |
|-----------------------------|------------|------------|----------|------------|---------|----------|----------|------|
| 1. Management example       | 0.93       |            |          |            |         |          |          |      |
| 2. Management information   | 0.68 **    | 0.90       |          |            |         |          |          |      |
| 3. Human resources          | 0.69 ***   | 0.63 ***   | 0.86     |            |         |          |          |      |
| 4. Physical well-being      | −0.04 (ns) | −0.16 (ns) | −0.24 ** | 0.73       |         |          |          |      |
| 5. Psychological well-being | 0.67 **    | 0.60 **    | 0.63 **  | −0.31 **   | 0.81    |          |          |      |
| 6. Performance              | 0.60 **    | 0.59 ***   | 0.60 *** | −0.33 ***  | 0.67 ** | 0.80     |          |      |
| 7. Classroom innovation     | 0.35 **    | 0.45 ***   | 0.53 *** | −0.17 (ns) | 0.60 ** | 0.55 *** | 0.79     |      |
| 8. Center innovation        | 0.62 ***   | 0.67 ***   | 0.62 *** | −0.20 **   | 0.62 ** | 0.63 *** | 0.54 *** | 0.89 |

Below the diagonal: correlation estimated between the factors. Diagonal: square root of AVE. \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

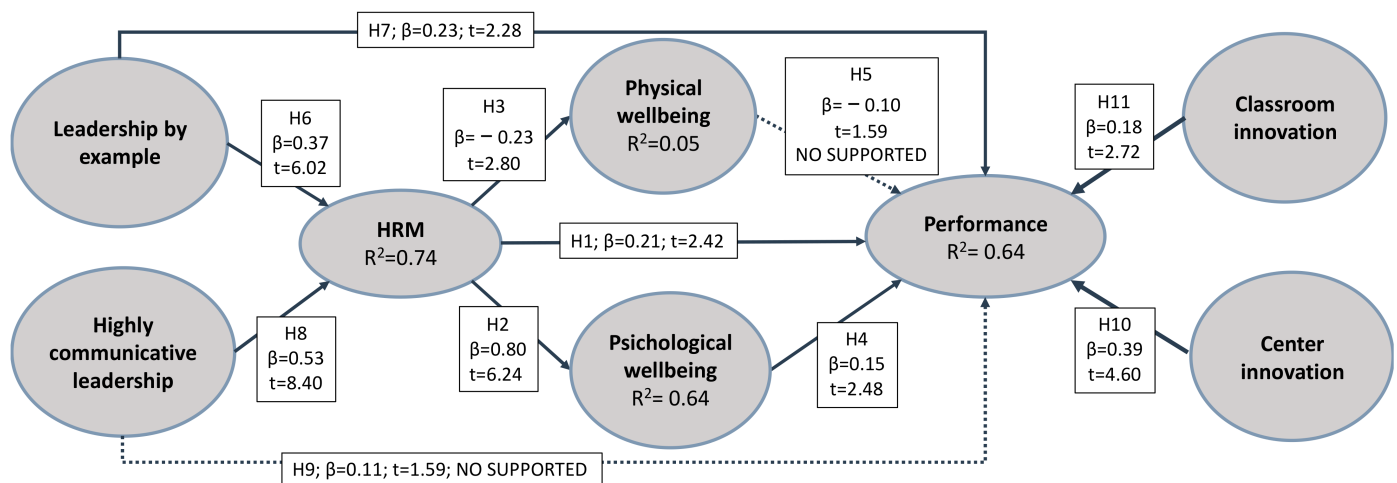
4.4. Causal Relationships and Moderating Effects

To test hypotheses 1 to 11 we next perform an analysis of the causal relationships (Table 5 and Figure 2). This is adequate mainly because the probability of the chi-squared is higher than 0.05 (0.10678), NNFI, CFI, IFI and MFI are close to one and RMSEA is close to zero [143].

**Table 5.** Structural model relationships obtained.

| Hypothesis | Path  | Parameter  | Results       |
|------------|---|------------|---------------|
| H1         | HRM → Performance                           | 0.21 *     | Supported     |
| H2         | HRM → Psychological well-being              | 0.80 ***   | Supported     |
| H3         | HRM → Physical well-being                   | −0.23 **   | Supported     |
| H4         | Psychological well-being → Performance      | 0.15 *     | Supported     |
| H5         | Physical well-being → Performance           | −0.10 (ns) | Not supported |
| H6         | Leadership by example → HRM                 | 0.37 ***   | Supported     |
| H7         | Leadership by example → Performance         | 0.23 **    | Supported     |
| H8         | Leadership by example → HRM                 | 0.53 ***   | Supported     |
| H9         | High communication leadership → Performance | −0.11 (ns) | Not supported |
| H10        | Innovation in the school → Performance      | 0.39 ***   | Supported     |
| H11        | Innovation in the classroom → Performance   | 0.18 **    | Supported     |

Note: the model fits Chi-square ( $\chi^2$ ): 474.1120; df: 437;  $p$ : 0.10678; Bentler–Bonett Normed Fit Index (NFI) = 0.943; Bentler–Bonett Non-Normed Fit Index (NNFI) = 0.994; Comparative Fit Index (CFI) = 0.995; Bollen’s (IFI) Fit Index = 0.995; McDonald’s (MFI) Fit Index = 0.943; Root Mean-Square Error of Approximation (RMSEA) = 0.016.  $R^2$  HRM = 0.74;  $R^2$  Physical well-being = 0.05;  $R^2$  Psychological well-being = 0.64;  $R^2$  Performance = 0.64. \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .



**Figure 2.** Causal model validation.

The results of the analysis show that nine out of the eleven relationships posited in the model are supported. Thus, the antecedents of human resources management are, by order of importance, due to parameter value of the relations, high communication leadership (H8;  $\beta = 0.53$ ;  $t = 8.40$ ) and leadership by example (H6;  $\beta = 0.37$ ;  $t = 6.02$ ), variance explained ( $R^2$ ) of human resources management is 0.74. Human resources management is the only antecedent of psychological well-being (H2;  $\beta = 0.80$ ;  $t = 6.24$ ;  $R^2 = 0.64$ ) and physical well-being (H3;  $\beta = -0.23$ ;  $t = 2.80$ ;  $R^2 = 0.05$ ). The remaining relations in the model explain the schools performance (ordered by the strength of the relation): innovation in the school (H10;  $\beta = 0.39$ ;  $t = 4.60$ ), leadership by example (H7;  $\beta = 0.23$ ;  $t = 2.28$ ); HRM (H1;  $\beta = 0.21$ ;  $t = 2.42$ ), innovation in the classroom (H11;  $\beta = 0.18$ ;  $t = 2.72$ ) and psychological well-being (H4;  $\beta = 0.15$ ;  $t = 2.48$ ); effects over performance of high communication leadership (H9;  $\beta = 0.11$ ;  $t = 1.59$ ) and physical well-being (H5;  $\beta = -0.10$ ;  $t = 1.59$ ) are not significant. Total variance explained ( $R^2$ ) of performance is 0.64.

In addition to the previous analysis, the control variables of gender, age, years working in schools and whether management positions are held in the school were introduced into the model. The result obtained was that none of the previous variables significantly affect the performance.

## 5. Discussion

We have conducted an analysis of the influence of HRM on performance, focusing on teacher well-being and assessing the influence of leadership and innovation. This work contributes to the effect of leadership and innovation as key factors to add to the model. In this regard, this work aims to evidence the need to generate more sustainable environments that contribute to teacher well-being, zeroing in on social sustainability.

Thus, after presenting the model and the hypotheses, we can attest that all the relationships established are supported by the data, with the exception of H5 and H9. The results obtained are consistent with the approach of the JD-R model [67], the theory of social exchange [48] and the AMO theory [43] which explain the positive relationship between HRM and performance in educational centres, through the provision of resources and increased teacher motivation.

First, the data show a positive and significant relationship between HRM and organizational performance in schools, confirming the H1 (0.21\*). This makes HRM a key element in organisational performance and competitive advantage [150,151] also in schools. Therefore, consistent HRM systems make teachers feel more appreciated, valued and energised, showing higher levels of commitment, lower burnout and improved performance [152].

The results from the analysis confirm that there is a positive relationship between HRM and psychological well-being, confirming the H2 (0.80\*\*\*). This restates the validity of this approach on the analysis of employee well-being, observed by the Job Demands and Resources Model, the importance of social exchange, or the perception of employees that the firm cares about their well-being. Therefore, there is an optimistic perspective maintaining that HRM is a method to increase the levels of well-being, improving satisfaction, commitment and/or reducing stress at work [8,9] in addition to the commitment and professional development of employees [153]. This confirms the important role that HRM plays in the well-being of secondary school teachers.

The data also show a negative and significant relationship between HRM and physical well-being, confirming H3 ( $-0.23^{**}$ ). High workloads, long hours, or pressure at work can reduce worker engagement and participation [154] well-being levels [155,156], and lead to higher prevalence of musculoskeletal disorders [157]. This negative effect of HRM on health and well-being corroborates the negative outlook [44] in educational settings.

Regarding the relationship between psychological well-being and performance, restated by the theory of social exchange and also by the Job Demands and Resources Model, the data show a positive relationship between both variables confirming the H4 (0.15\*). Thus, results stress that employee well-being becomes a fundamental mechanism to contribute positively to the effectiveness and competitiveness of the organisation [158].



Therefore, elements of well-being and satisfaction are positively related to the effectiveness of teaching and performance in schools [68,69]. Nevertheless, the relationship is not as important and as significant as those obtained in the previous hypotheses.

The data show a negative relationship between physical well-being and performance. However, H5 ( $-0.10$ ) is not confirmed. Although workers who experience work intensification and job stress are more likely to reduce motivation and satisfaction [55], and have lower performance levels [159], this relationship is not confirmed in this case. This can lead to delving deeper in the analysis of this relationship or its measurement in future studies.

In terms of leadership by example and HRM, data analysis shows a positive relationship between the two confirming H6 ( $0.37^{***}$ ), and again the relevance of statements based on the AMO theory that stress the importance of leadership involvement and their being role models. This implies that the contributions of the leader who leads by example are a 'model to follow' in empowering teachers [84], facilitating the implementation of HRM in the school. Thus, they should become a role model in all aspects, but specially in the attempt to strengthening motivation and to generate and instil a cooperative environment [83], consolidating the AMO theory statements.

The data show a positive relationship between example-based leadership and performance, confirming H7 ( $0.23^{**}$ ), consolidating again the AMO theory statements, which are pillar to our work. This suggests that behaviour models based on the expertise of supervisors generate commitment and performance in workers [89]. Therefore, the behaviour of leaders can spread by social contagion to followers, affecting team performance [160].

Results confirm that there is a positive relationship between high communication leadership and HRM, confirming the H8 ( $0.53^{***}$ ). Specially, the importance of this variable, with its significance and high effect, is evident. This implies that highly communicative leadership is critical as it provides access to diverse information, inspiring team members to share knowledge and ideas, and creating enabling environments for participation [161,162]. In turn, the data confirm the relevance, based on AMO theory, of observing leadership based on the use of good communication practices, as well as good relationships among school community member [83], as essential factors for strengthening HRM.

Based on our results and regarding the direct effect between high communication leadership and performance, and the yielding of a direct negative relation between both variables, permits us to state that H9 ( $-0.11$ ) is not confirmed. However, the effect is not significant. The non-existence of this direct relationship does not indicate, however, that the relationship does not exist, but rather that the relationship is not direct, given that the confirmation of the hypotheses H2, H8 and H4, highlight the significant existence of this relationship, although it does through the mediating effect of HRM and positive well-being.

The data show a positive relationship between innovation in the school and performance, confirming H10 ( $0.39^{***}$ ), and the relevance of our model, which includes innovation in schools as a relevant variable to observe, despite its shortcomings in the literature. Given this, innovation is now considered a valuable element for growth, strategic implementation and maintenance of competitive advantage [163,164] in the educational field. The results highlight the need for educational centres to continuously innovate to maintain their educational quality [165] since its important effect on performance can guarantee their competitiveness and survival, while standing out from other schools.

Finally, the data show a positive relationship between classroom innovation and performance, thus confirming H11 ( $0.18^{**}$ ). This highlights the results of the previous hypothesis, so that innovations implemented in the classroom have positive effects on student performance [117,118] and therefore also on the school. The results show the importance of innovation in the school's performance, but we must point out that the effect of innovation in the classroom is smaller and less significant than the effect of innovation in the school, facts which should lead us to more exhaustive and detailed analyses in future work.

## 6. Conclusions

After a detailed analysis of the results in the previous section, we can conclude that the results generally corroborate our model. In the same vein, they highlight the importance of HRM in schools as a mechanism to achieve high levels of teacher well-being and improve school performance, giving a key role to the principal's leadership and innovation in the process.

The results of the theoretical and empirical analysis show that schools can benefit from HRM systems [42,43] to generate both physical and psychological well-being in teachers. HRM is also identified as a key element in improving school performance [40]. However, the negative effects of HRM on physical well-being jeopardize its effectiveness if it is perceived as a method of monitoring teacher performance [43]. This reinforces both the social exchange theory approach by conditioning the effects of HRM on performance to the perception of employees that the company cares about their well-being [48,50]. In turn, our results highlight the proposals of the JD-R theory by stating that the well-being generated by the balance between resources and work contributes positively to their performance [23,65,66].

The work and data show the key role of leadership and therefore that of the principals of educational centres for the success of the schools [166,167]. Thus, HRM strategies and principals' actions should promote appropriate environments as part of faculty improvement [75], through highly communicative and example-based leadership. This reinforces the AMO approach by providing environments in which motivation and participation are increased and where teachers can perform stretching their capabilities.

The results also show that the innovation that takes place both in the school and in the classroom has a positive impact on performance, specially the former, favouring the achievement of the school's objectives. However, the success of innovation in schools depends mainly on the commitment of teachers and conducive contexts [168,169].

The results of our study have practical as well as theoretical consequences. From a practical and applied point of view, this work evidences both the need to generate sustainable environments where high levels of well-being can be achieved, promoting HRM models in which social sustainability and mutual benefit (school-teachers) can coexist [170]. The work also highlights the fundamental relevance of leadership and innovation, as fundamental levers to develop in schools, for its fundamental effect both in improving the well-being of teachers, as well as for its impact on the performance of the school itself.

On a theoretical level, our work also has fundamental consequences. In the first place, the work highlights the importance of continuing research on the role of well-being, as a fundamental variable to be included in the studies on management of educational centres. Also, the fundamental relevance of the variables of leadership and innovation in our model can lead to the development of new theoretical analyses, which deepen their study, both in the global management of organisations, and specifically in the educational field. In turn, the non-confirmation of the hypotheses H5 and H9, especially H9, indicate the need for further studies to analyse these relationships, or the measurement of the indicative variables. This is especially true in the case of H9, given that although our results do not observe the direct relationship between high communication leadership and performance, the corroborated indirect relationship, through the mediation of HRM or well-being, indicate the need for further study. Future studies could also influence the application of our model in other industries or environments, as well as provide a more detailed development of the relationships established.

Notwithstanding all these facts, we are aware that our analysis is limited by the size of the sample, and its application in a very specific geographical area, facts that could limit its generalisation (but that could in turn open up new developments). On the other hand, it is evident, for the purposes of future lines of research, the need to broaden the field of investigation with regard to the effects of leadership on the performance of the centres, mainly in view of the growing autonomy of educational centres. Therefore, it

should consider a broader conception of performance in educational centres, and not be limited almost exclusively to the academic results of the students.

Future studies should also take into account the different types of schools (public, private and subsidized), inasmuch as the room for manoeuvre differs in terms of HRM and leadership. In addition, teachers also tend to have different working conditions and settings that may influence results indirectly.

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**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A

**Table A1.** Well-being questionnaire.

|   |  |        |           |       |             |           |
|---|--|--------|-----------|-------|-------------|-----------|
| - | Gender: Masculine <input type="checkbox"/> Feminine <input type="checkbox"/>   |        |           |       |             |           |
| - | Year of birth: _____   |        |           |       |             |           |
| - | Years of teaching experience: _____  |        |           |       |             |           |
| - | Your centre is: <input type="checkbox"/> Public <input type="checkbox"/> Private <input type="checkbox"/> Subsidised   |        |           |       |             |           |
| - | Do you hold a leadership position in the school? (e.g.: Principal, chief of studies, department head, ... ) <input type="checkbox"/> Yes <input type="checkbox"/> No |        |           |       |             |           |
| - | Rate the following statements from 1 to 5:   |        |           |       |             |           |
|   | Never Nothing  | Rarely | Sometimes | Often | Always Much |           |
|   | 1  | 2      | 3         | 4     | 5           |           |
|   |  |        |           | Never | Always      |           |
|   |  |        |           | 1     | 2 3 4       | 5         |
|   | 1. Regarding my emotional situation at work:   |        |           |       |             |           |
|   | a. I feel that my work drains me emotionally   |        |           |       |             | 1 2 3 4 5 |
|   | b. I feel exhausted at the end of the day  |        |           |       |             | 1 2 3 4 5 |
|   | c. Daily work creates tension for me   |        |           |       |             | 1 2 3 4 5 |
|   | 2. Indicate the frequency:   |        |           |       |             |           |
|   | a. I am sad  |        |           |       |             | 1 2 3 4 5 |
|   | b. I am depressed  |        |           |       |             | 1 2 3 4 5 |
|   | c. I feel scared   |        |           |       |             | 1 2 3 4 5 |
|   | 3. Indicate the frequency of the following types of pain:  |        |           |       |             |           |
|   | a. My back hurts from the work activity.   |        |           |       |             | 1 2 3 4 5 |
|   | b. I suffer from lower back pain.  |        |           |       |             | 1 2 3 4 5 |
|   | c. I often notice pain in the back area.   |        |           |       |             | 1 2 3 4 5 |
|   | 4. Regarding my relationship with students.  |        |           |       |             |           |
|   | a. I care very much about what happens to my students.   |        |           |       |             | 1 2 3 4 5 |
|   | b. I am enthusiastic about working with my students.   |        |           |       |             | 1 2 3 4 5 |
|   | c. I feel like I help my students solve their problems.  |        |           |       |             | 1 2 3 4 5 |
|   | d. I feel satisfied with my work with the students.  |        |           |       |             | 1 2 3 4 5 |

Table A1. Cont.

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| 5. Regarding my satisfaction at work.  |   |   |   |   |   |
| a. I have the opportunity to do things differently.                            | 1 | 2 | 3 | 4 | 5 |
| b. I am duly rewarded for my work.   | 1 | 2 | 3 | 4 | 5 |
| c. I can use my skills   | 1 | 2 | 3 | 4 | 5 |
| d. I am free to try my own methods.  | 1 | 2 | 3 | 4 | 5 |
| e. Working conditions are good.  | 1 | 2 | 3 | 4 | 5 |
| 6. Regarding my happiness  |   |   |   |   |   |
| a. I am happy with the way I am.   | 1 | 2 | 3 | 4 | 5 |
| b. I feel that my life is rewarding.   | 1 | 2 | 3 | 4 | 5 |
| c. I feel satisfied with my life.  | 1 | 2 | 3 | 4 | 5 |
| d. I am capable of doing everything I want to do in life.                      | 1 | 2 | 3 | 4 | 5 |
| e. I am happy with my life.  | 1 | 2 | 3 | 4 | 5 |
| 7. To what extent the principal leads by example                               |   |   |   |   |   |
| a. They set high standards of performance by his own behavior.                 | 1 | 2 | 3 | 4 | 5 |
| b. They work as hard as they can.  | 1 | 2 | 3 | 4 | 5 |
| c. They work as hard as any teacher.   | 1 | 2 | 3 | 4 | 5 |
| d. Lead by example and work like everyone else.                                | 1 | 2 | 3 | 4 | 5 |
| e. Guide with the example.   | 1 | 2 | 3 | 4 | 5 |
| 8. To what extent the principal provides information adequately                |   |   |   |   |   |
| a. They inform about the decisions of the school.                              | 1 | 2 | 3 | 4 | 5 |
| b. They inform about the objectives of the school.                             | 1 | 2 | 3 | 4 | 5 |
| c. They make clear the roles and responsibilities of each.                     | 1 | 2 | 3 | 4 | 5 |
| d. They inform the purpose of the school's policies.                           | 1 | 2 | 3 | 4 | 5 |
| e. They inform about the rules and expectations                                | 1 | 2 | 3 | 4 | 5 |
| 9. To what extent the human resources department:                              |   |   |   |   |   |
| a. They inform us about the actions they carry out.                            | 1 | 2 | 3 | 4 | 5 |
| b. They attend to our demands, suggestions, requests or ideas.                 | 1 | 2 | 3 | 4 | 5 |
| c. Their actions provide value or improvement for the teacher.                 | 1 | 2 | 3 | 4 | 5 |
| d. Employees get the recognition and rewards appropriate to their work.        | 1 | 2 | 3 | 4 | 5 |
| e. They serve all staff equally.   | 1 | 2 | 3 | 4 | 5 |
| f. It is clearly aligned with the school management.                           | 1 | 2 | 3 | 4 | 5 |
| g. It is concerned with the mood of the teaching staff.                        | 1 | 2 | 3 | 4 | 5 |
| h. It conveys clearly the policy of the center and the established objectives. | 1 | 2 | 3 | 4 | 5 |
| 10. Share your perception regarding:   |   |   |   |   |   |
| a. Quality of education  | 1 | 2 | 3 | 4 | 5 |
| b. Offered services (dining hall, extracurricular, . . . )                     | 1 | 2 | 3 | 4 | 5 |
| c. The demand of the school  | 1 | 2 | 3 | 4 | 5 |
| 11. To what extent in the school:  |   |   |   |   |   |
| a. The teachers collaborate with each other.                                   | 1 | 2 | 3 | 4 | 5 |
| b. Critical thinking is encouraged.  | 1 | 2 | 3 | 4 | 5 |
| c. Problem solving and professional development are encouraged.                | 1 | 2 | 3 | 4 | 5 |
| 12. To what extent in the classroom:   |   |   |   |   |   |
| a. Students can design their own projects.                                     | 1 | 2 | 3 | 4 | 5 |
| b. They use computer simulations to learn.                                     | 1 | 2 | 3 | 4 | 5 |
| c. They use computers to practice skills and procedures.                       | 1 | 2 | 3 | 4 | 5 |

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