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Title: Refinement and validation of a comprehensive scale for measuring hr practices aimed at performance-enhancement and employee-support

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REFINEMENT AND VALIDATION OF A COMPREHENSIVE SCALE FOR MEASURING HR PRACTICES AIMED AT PERFORMANCE-ENHANCEMENT AND EMPLOYEE-SUPPORT

ABSTRACT

The purpose of this paper is to refine and validate a Human Resource practices (HRP) scale to measure employees' perceptions and test a two-tier model structured in eight practices and two bundles. In a sample of 554 employees, an EFA (Exploratory Factor Analysis) offered six factors that explained about 70% of the variance. Then, with 1647 employees (from 41 Spanish organizations), first- and second-order models were tested with Confirmatory Factor Analysis (CFA). The former encompasses eight practices. The latter grouped the practices in two bundles, one on enhancing performance and the other on supporting employees. The Cronbach's alpha, Rho coefficient (Composite Reliability Coefficient), Omega coefficient, and Spearman-Brown split half coefficient showed good reliability. Validity evidence was found for construct, criterion, convergent, content, discriminant, and predictive validity. Moreover, the paper integrates different ways of approaching the study of HR management based on employees' perceptions, using a two-tier approach. The two-bundle model showed better fit, pointing out the importance of paying attention to multiple outcomes for employees and organizations. The study makes a relevant theoretical contribution about the role and aims of HRM practices for organizational success and employees' performance and well-being.

Keywords: Human Resource Practices, scale validation, reliability, HRM assessment

1. INTRODUCTION

In recent decades, HR managers and scholars have emphasized the importance of HRP as a key element in enhancing organizational performance (Huselid, 1995) and employee well-being (Guest, 2002). In fact, several meta-analyses have found empirical evidence showing positive results of these relationships (Rauch & Hatak, 2016; Van de Voorde, Paauwe, & Van Veldhoven, 2012). For this reason, there is widespread agreement about the need to have a valid and reliable measure of HRP. The aim of the present study is to refine and validate an HRP scale to measure employees' perceptions, and test a two-tier model structured in eight practices and two bundles. To do so, we first reviewed and analysed a number of scales developed in recent years, identifying many of the most common core practices, such as training and development or contingent rewards. In addition, we also identified other less common practices related to supporting employees, such as work-life balance or exit practices. We also found that when studying relationships among HRP, performance, and well-being, the literature has usually focused on gathering all the practices together in a system of High Performance practices (HPWS).

However, some researchers have emphasized the need to consider different sets or bundles of HRP, depending on the goals pursued by the organization (Jiang, Lepak, Hu, & Baer, 2012). In this regard, some authors have defended the importance of considering not just HRP whose main goal is to enhance performance, but also practices whose main goal is to support employees (Guest, 2002). For decades, most of the research has focused on the relationship between HRP and organizational performance based on theoretical models such as the AMO and the Resource-based View (RBV) approach, aiming to effectively and efficiently enhance performance. In recent decades, awareness of the need for HRP to also focus on supporting employees and promoting their well-being has grown. Based on open system and institutional theory, we consider that the measurement of HRP should include two bundles of practices:

one bundle focusing on enhancing performance and another bundle oriented toward employee support and contextual demands. This does not mean that each bundle only has an impact on its main criteria, but rather that the effects of the two bundles are somewhat intertwined.

Although other types of bundles have been considered previously in HRM literature, our research contributes to HRP assessment by adopting a two-tier approach and emphasizing employees' centred goals per se in. Moreover, we differentiate two bundles that focus on different goals, but at the same time are synergistic and complement each other.

Traditionally, HRP were measured at the organizational level or through managerial opinions. However, research has shown that there can be differences in the implementation of HRP in different organizational settings and for different target groups. Moreover, employees' perceptions may vary, and so a gap between managers' aims and employees' perceptions may appear (Liao, Toya, Lepak, & Hong, 2009). Thus, recent research has turned its attention toward employees' perceptions of HRP (Kaše, Paauwe, & Batistič, 2014). Having an instrument to measure employees' perceptions of these practices could help us to understand the mechanisms linking HRP and employee outcomes, in terms of both performance and well-being.

In sum, our aim is to refine and validate an HRP scale to measure employees' perceptions, and test a two-tier model structured in eight practices and two bundles: performance-enhancement and employee-support. In this study, the scale is used in a Spanish population and adapted to the Spanish language.

2. THEORETICAL BACKGROUND

2.1. The importance of HRP and the complexity of their outcomes

HRP are key elements for building human capital and achieving employee and organizational goals (Bello-Pintado, 2015, Jiang et al., 2012). They serve as a source of competitive advantage (Huselid, 1995) and regulate the relationship between employees and their organization. Testing the existence of a causal effect between HRP and performance has been a constant endeavour for academics. Since Huselid's work (1995) showing that HRP can enhance productivity and financial performance, a large number of scientific articles and meta-analyses have found empirical evidence for this relationship (e.g. Rauch & Hatak, 2016), operationalized as organizational or individual performance. Theories such as Social Exchange (Blau, 1964) explain these positive results when HRP are applied to maximize utility.

In recent years, more research has focused on employee-level outcomes in order to understand the mechanisms between HRP and performance (Boxall, Guthrie, & Paauwe, 2016). This is an important challenge in the field because individual performance is considered a key factor in the comprehension of organizational performance (Van de Voorde et al., 2012); without the former, we could not have the latter.

Moreover, a large amount of research has shown the importance of employee well-being as a mechanism to achieve greater performance. Since Guest's (2002) seminal work, research on the relationship between HRP and employee well-being has spread, and some well-being outcomes have been positively related to HRP, including job satisfaction (Katou, Budhwar, & Patel, 2014; Boon et al., 2011) or life satisfaction (Guest, 2002). This is consistent with the humanistic management perspective (Pirson, 2017), which states that there are different goals (such as promoting well-being) apart from value maximization. Moreover, the diversity of goals stems not just from an RBV approach, but also from contextual and institutional forces. In sum, the importance of HRP in enhancing employee and organizational outcomes indicates

the need for a proper instrument to measure them. For this reason, it is important to know which HRP to measure and how to measure them (Kaše et al., 2014; Van de Voorde et al., 2012).

2.2. A two-tier approach to the measurement of HRP: The importance of HR bundles

Literature has identified a varied number of HRP, although there is no agreement about which practices should be considered, and establishing a taxonomy for HRP is an unresolved issue in the HRM research (Toh et al., 2008). Posthuma and colleagues (2013) explicitly addressed this issue in their review. Research has often focused on some “core” practices that were expected to promote employees’ performance (e.g. performance appraisal). Authors, such as Guest (2002), state that other HRP more directly oriented toward supporting employees are also needed to evaluate the HR system. In the Posthuma et al. taxonomy (2013), we find practices more oriented toward employee-support, such as employment security or work–life balance. Thus, the measurement of HRP should contemplate a wider array of practices, including those that have been researched the most and others that are more employee-centred (Guest, 2017), given the diversity of outcomes and the rich array of HR criteria.

Although the most widespread tradition in HRM involves understanding HRP as universal systems (e.g. HPWS), the differences between these systems are not very clear, and some authors propose that they are just different names for the same concept (Posthuma et al., 2013). Even if these approaches consider performance to be the main goal of HRM, there are some HPWS streams that consider employee support as well. However, this support (as in Perceived Organizational Support) has the aim and is the consequence of increasing

employees' efficiency and effectiveness (as in Lee, Lee & Kang, 2012), which, in turn, will indirectly affect performance.

Moving forward from the whole HRM index based on this "best practices" ideal (Boselie et al., 2005), research has acknowledged that different practices can be classified into categories (Jiang et al., 2012). Thus, strategic HRM benefits from the positive contribution of bundles (Bello-Pintado, 2015), defined as groups of complementary practices built around the organization's goals, even if one practice can influence some of those goals simultaneously (Toh et al., 2008).

Studies measuring HPWS often analyse their relationships with performance at the organizational level, whereas our study pays attention to individual criteria related to both individual well-being and performance. From this individual perspective, the distinction between two bundles of practices clearly shows differences in the strength of the relationship of each type with the different criteria considered.

Although there is no consensus about which bundles to consider (Bello-Pintado, 2015), some taxonomies draw on different theoretical or contextual frameworks. Some of these bundles are based on the AMO approach (Jiang et al., 2012), which focuses on the different processes between HRM and performance, although others differentiate bundles based on contingent characteristics (e.g. for older workers, see Kooij, Jansen, Dijkers, & De Lange, 2014).

However, other options may be developed by examining specific elements pertaining to different types of practices and seeing how they potentially bundle together, even across practices (e.g., one particular practice of rewarding and another of recruitment/selection).

The bundles considered in the present study are grounded on two theoretical approaches, open systems and institutional theory. Both theories emphasize the importance of considering the organization's relationship with its environment and, thus, the need for HRP to attend to

different types of goals. Forming different bundles offers an appropriate framework for building strategic models (Gong et al., 2009). However, even if we advocate for differentiating bundles, it does not necessarily mean that they only have effects on one type of outcome because they can complement each other (van Veldhoven & Peccei, 2015).

In their open systems theory, Katz and Kahn (1978) distinguished two important subsystems in organizations: the production and maintenance subsystems. The former refers to policies and practices to yield a productive outcome; the latter is more complex and refers to energetic inputs that sustain the global system and help to keep employees in organizations. The authors state that all open systems have to address both types of goals. Thus, this theory suggests that, along with actions to enhance performance (production), a comprehensive consideration of HRP requires another group of actions focused on supporting employees (maintenance).

Along with the open systems theory, the institutional theory (DiMaggio & Powell, 1983) considers the importance of organizations' external environment. More specifically, institutional theory pays attention to the impact of the environment (social legitimacy) on organizations and, thus, to the boundary spanning-out system of HRP, which implies paying attention to context drivers and institutional forces. According to this theory, we can distinguish between practices that are more focused on enhancing performance and others that are more focused on the moral aspects of organizations (Boselie & Paauwe, 2010). In addition, the new institutionalism embeds organizations in their broader institutional environment. Thus, certain social factors, such as legislation (for unfair dismissal, legal work leaves such as maternity leave, or days off for personal affairs) or union participation in negotiating better work conditions, etc., will shape practices such as work–life balance, exit, or employment security.

Organizations exist in larger social contexts, and HRP are influenced by external factors that organizations cannot ignore when designing the HRM strategy. From a managerial perspective, HRM should respond to the economic rationality and the relational rationality to achieve long-term effectiveness (Paauwe, 2004). Managers and academics must focus not only on economic standards, but also on social legitimacy. According to Paauwe (2004), this is the dual responsibility of managers. The relational rationality implies “treating your people well” (Paauwe, 2004:99) by integrating human and economic goals in the HRM system.

Through this dual rationale, organizations can achieve a sustainable competitive advantage due to their unique approach to HRM, providing both economic and moral value (Paauwe, 2004). In doing so, they will challenge the status quo in HRM research, which focuses more on the economic part of the organization (Van de Voorde & Boxall, 2015), by providing employees with practices that can make them more competitive and productive, as well as practices that give them support for their own sake. This approach gives the practitioner a good framework for a better HRM strategy.

Thus, in the present study, we consider a two-tier approach. The first tier encompasses eight HRP, and the second tier corresponds to two different bundles that can be interconnected: performance-enhancement and employee-support practices. We place training and development, contingent pay and rewards, performance appraisal, recruitment and selection, and competitive salary in the first group; and employment security, work–life balance, and exit management practices are in the second group. The methodological section contains more information about this division.

2.3. Employees' appraisal of HRP

One important question when designing a scale to measure HRP is deciding on the measurement level and the appropriate informants. Managers' perceptions about HRP could lead to important conclusions about the design of HRP because managers are responsible for policy making. When they make decisions about which practices are better for the organization, their mindset is normally focused on enhancing performance to promote organizational outcomes showing efficacy (Fast, Burris, & Bartel, 2014). However, their opinions should be interpreted cautiously by researchers (Nishii et al., 2008). There may be a disconnect between the intended practices and the actual impact on employees because the implementation of the practices may vary from setting to setting and in different groups of employees or individuals (see Rousseau 2005, for individual deals). Employees' perceptions of HRP can be different from managerial opinions in terms of the practices implemented (Liao et al., 2009). When applying HRP, there can be multiple effects, some even unwanted (Paauwe, 2004), and so it is important to understand how employees perceive them. In fact, employees' perceptions and attributions of HRP are one of the top interests in recent HRM research (Kaše et al., 2014). Thus, in the present study we focus on HR perceptions at the individual level.

Another important question is the way we ask about HRP because this will also affect the type of response given by the employee. The most frequent way to measure HRP is based on their intensity (e.g. Boselie et al., 2005). Intensity refers to the degree to which employees perceive that the organization is offering them HRP. This measure makes it possible to assess HRP through employees' perceptions, and it can be very helpful for both practitioners and scholars to be aware of the usefulness of the practices. Thus, in our study, the items are focused on employees' perceptions of the intensity of these practices.

We reviewed previous scales in order to see which ones met our requirements. First, they had to focus on employees' perceptions, which some previous scales did. However, many scales focus on managers' perceptions, and some of those focusing on employees' perceptions use dichotomous response scales (Kehoe & Wright, 2013). Second, we wanted to incorporate some of the most commonly used practices according to the literature, but also others that are often not considered, such as exit practices. These practices are based on social legitimacy from institutional theory. Finally, we offer a two-tier approach that considers practices in two bundles. Therefore, we needed to include practices that respond to the economic and relational rationality (Pauwwe, 2004). Even though some authors use bundles of practices, as we have seen, they do not follow our line of reasoning. Previous scales fulfilled some of these requirements, but we could not find any that met them all. Finally, we found the scale by Boon and colleagues (2011) to be the best starting point because it addresses several of our requirements.

Hence, the aim is to refine and validate an HRP scale to measure employees' perceptions, and test a two-tier model structured in eight practices and two bundles. Validity and reliability are expected for the two models. This tool will allow researchers to clarify the role of employee mechanisms between HRP and outcomes, assess the influence of HRP on relevant criteria for organizations and their employees, and, in doing so, broaden social legitimacy in HRM. Moreover, in this study, the scale is used in the Spanish population and adapted to the Spanish language.

3. METHOD

3.1. Procedure

Following the standard procedure in validations, we have conducted two studies. The first one is for cross-validation purposes, exploring the structure of the scale; the other one to test and confirm the best-fit model and to assess reliability and validity. For the first one, participants were directly contacted by post-graduate students who cooperated in the research. First, the study was presented to the participants, and then they were invited to participate under voluntary and anonymous conditions.

For the second one, different organizations were contacted by the members of the research group and asked to participate in the study. Convenience sampling was used, but directed to ensure a heterogeneous sample including companies from different sectors in different Spanish locations. Firm or HR managers were contacted first to ask if they were interested in participating in the research. An initial meeting was arranged to provide information about the procedure, the time required, and the goals of the project. Afterwards, we invited all employees in the organizations to participate by filling out a questionnaire voluntarily and confidentially.

3.2. Participants

In order to assess the EFA, 554 employees completed the survey. The majority worked in the service sector (60.3%), followed by industry (16.3%), building (5.2%), and others (18.2%). The sample was divided into women (50.6%) and men (49.4%). Participants were under 35 years old (30.4%), between 35 and 50 (41.8%), and older than 50 years old (27.8%). Regarding the type of contract, there were temporary contracts (43.9%), unlimited contracts (42.9%), self-employed participants (5.7%), and missing data (7.5%).

For the rest of the analyses, 1647 employees from 41 firms in Spain participated. The majority worked in the services sector (81.3%), and the rest (18.7%) in the secondary sector

(mainly the manufacturing industry). Slightly more than half the sample were female (54.6%). The majority of the participants were between 35 and 50 years old (56.9%), followed by employees under 35 years old (27%), and those over 50 years old (16.2%). Employees had more than 5 years (73.9%), from 1 to 5 years (17.5%), and less than 1 year (8.6%) seniority in the company. Finally, most of the sample had a full-time job (86%), and the rest (14%) held part-time jobs. Participants were from all hierarchical positions: 10.2% were non-qualified workers, 17.3% office workers, 31.4% mid-level technicians, 28.4% high-qualification professionals, 4.9% managers, and 7.8% in the “others” category (internship or civil servant, for instance).

In order to assess criterion validity, we used managers’ ratings of performance and job satisfaction for each of their employees (at the individual level). In all, 190 managers from the same 41 Spanish companies rated their employees based on their performance and well-being. Thirty-six percent of them were female. The majority, 56.8%, were 35 to 50 years old, 32.1% were older than 50, and the rest, 11.1%, were less than 35 years old. Moreover, 81.6% of the managers had more than 5 years of tenure in the same company, 13.9% had from 1 to 5 years, and the rest, 4.4%, had less than one year. Although one employee can have different supervisors (e.g. their department supervisor, the general manager or CEO, etc.), we paired the employees with their direct supervisor, who has better information about the performance and satisfaction of subordinates. Employees and their supervisors in the database are linked in the dyad, based on internal codes. Under confidentiality, 915 employees (55.55%) were willing to provide the necessary information about their identity so that the researchers could link the data from the supervisor about their performance to the data on perceived satisfaction provided by the employee themselves. The use of these criterion variables adds validity to the scale because it avoids problems of common method variance.

3.3. Measures

3.3.1. HRP scale

We used Boon, den Hartog, Boselie and Paauwe's scale (2011) as a point of departure for several reasons: 1) It includes core practices widely accepted in the literature. 2) It also includes some support practices that meet social legitimacy requirements, such as work–life balance. 3) The wording of the items makes it possible to assess employees' perceptions. However, the authors gathered all the practices into one big system, and they included items on practices that are more in line with work design than with HRM. We selected the three items per practice that showed the highest factor loadings. Items referring to job enrichment were excluded because they could potentially overlap other constructs (job characteristics). To complete the scale, we added the exit management subscale. This practice has not been considered very often. However, research has acknowledged its importance, and it has been included in recent literature (Peiró, Tordera, & Potocnik, 2013; Posthuma et al., 2013). Moreover, it can have an important impact on workers (especially older ones), and it is currently a major concern due to the ageing population. Therefore, we assessed practices related to the complete journey of employees in the organization, from selection to the exit process. The final selection of practices was made by the research team. We shared it with several visiting researchers from different research groups and received general support. A back-translation was performed, and we reworded some of the items so that they would make sense in Spanish.

The final scale was composed of 24 items grouped into eight different HRP and two hypothetical bundles: training and development, contingent pay and rewards, performance appraisal, recruitment and selection, and competitive salary in the performance-enhancement bundle; and employment security, work–life balance, and exit management in the employee-

support bundle. The wording of each item emphasized that each practice was offered in a high quality, professional way.

3.3.2. Criterion variables:

To test the criterion validity, we analysed the correlations between HRP and some other performance and well-being variables, based on the literature. These variables are life satisfaction (scale from: Diener, Emmons, Larsen, & Griffin, 1985), job satisfaction, distinguishing between intrinsic and extrinsic (scale from: Warr, Cook, & Wall, 1979), creative performance (scale from: Oldham & Cummings, 1996), and OCB (scale from: Mackenzie, Podsakoff, & Podsakoff, 2011). Moreover, we also had two ad-hoc scales, one regarding individual performance from the managerial perspective using a 5-point Likert scale from 1 (really bad) to 5 (really good). An example of an item is “What is the performance level of this employee?” The other ad-hoc scale was on employees’ individual job satisfaction from the manager’s perspective, using a 7-point Likert scale from 1 (very unsatisfied) to 7 (very satisfied). An example of an item is “Do you think he/she is satisfied with the work he/she does?” We used the same variables a year later to test the predictive validity.

3.4. Analysis

For cross-validation purposes, an EFA was carried out as a previous step in the refinement and validation of the scale. Afterwards, with the main database, we analysed the psychometric properties of the items, in order to check the variability and normality prior to the CFA (Confirmatory Factor Analysis), and the ICC(1) to see how much variance was explained by individual variables. We calculated the Kaiser–Meyer–Olkin test and Bartlett’s test of sphericity to analyse the matrices and verify that our results were not obtained by chance.

To test the construct criterion, different CFA were assessed with Mplus. The first model (model A) considers the eight practices. This model is compared to a one-factor model (model B) that includes all the items in one bundle. We also tested a second-order factor model, gathering the practices into two bundles (model A1). Finally, we compared these models to a second-order model, gathering all the practices into one bundle (model A2) as a system of practices. To provide more robustness to the bundles, we analysed the content validity using a group of experts in the field. We contacted 26 academics and practitioners (some of whom were HR managers at the organizations participating in our study) with extensive teaching, research, and/or business experience in HR management (all of them had more than 3 years of expertise). All the experts were Spanish because we used the original Spanish version of the items. The response rate was 57.69%. The experts were asked to distribute the eight HRP (items included) into the two bundles, based on the main goal of the practice. The level of agreement was assessed with Kendall's W coefficient.

Reliability was assessed with Cronbach's alpha, Rho, the Omega coefficient, and Split-half using Spearman-Brown. Finally, we conducted bivariate correlations and regressions to evaluate the discriminant, predictive, and criterion validity.

4. RESULTS

4.1. *Exploratory Factor Analysis*

Although our scale was already developed (Boon et al., 2011), because we selected a number of items for each subscale and added one new subscale, we carried out an EFA (principal component analysis for extraction and oblimin with Kaiser normalization for rotation) for cross-validation purposes.

Table 1 shows the EFA results. Only factor loadings higher than .30 are presented in bold.

Table 1: Factor loading of the EFA

	1	2	3	4	5	6
HR1: The opportunity to receive training and attend courses and workshops				-.93		
HR2: The opportunity to develop new skills and knowledge for my current job, or for possible future positions				-.93		
HR3: Support in planning my professional development				-.83		
HR4: A salary that corresponds to my performance	.78					
HR5: A benefits and rewards plan that is linked to my performance	.75					
HR6: A salary bonus that depends on the organization's profits	.71					
HR7: The periodic evaluation of my performance	.32				.43	
HR8: A fair evaluation of my performance					.50	
HR9: Motivating performance evaluations					.41	
HR10: Careful selection of new employees					.90	
HR11: Meticulous recruitment of new co-workers					.88	
HR12: Opportunities for internal promotion				-.32	.38	
HR13: A competitive salary on the job market	.67					
HR14: An above-average salary for this job	.75					
HR15: An equitable compensation system	.63					
HR16: The guarantee of keeping my job		.88				
HR17: A work contract that offers job security		.89				
HR18: More job stability than normal		.81				
HR19: Flexible work hours			.80			
HR20: The opportunity to work part-time if I need to			.89			
HR21: The opportunity to organize my work schedule so that I can fulfil my family obligations			.85			
HR22: Professionalized support in the retirement process						-.56
HR23: Support in looking for other jobs in the case of lay-offs						-.79
HR24: The best conditions legally possible in the case of being laid-off						-.82

Six factors had eigenvalues greater than 1 (9.20, 2.07, 1.84, 1.50, 1.13, 1.01), explaining 69.73% of the variance in all. Factor 1 included the items corresponding to the contingent pay and rewards and competitive salary scales. Factor 5 included the items corresponding to performance appraisal and recruitment and selection. The other four factors obtained replicate the four remaining scales: employment security (factor 2), work–life balance (factor 3), training and development (factor 4), and exit management (Factor 6).

Results showed a six-factor solution rather than an eight-factor one corresponding to each of the eight practices we presented in the introduction. As Hinkin (1995) stated, we cannot rely simply on EFA to build a scale, and even if different items load in the same factor, they do not necessarily measure the same thing. In this regard, items from competitive salary (HR13-15) and contingent pay and rewards (HR4-6) loaded in a single factor. However, these are two distinct aspects of the salary because one has to do with employees' performance, and the other is more related to the workplace itself. In fact, Boselie et al., (2005) cited these two practices as two separate components. Contingent pay was cited as a top (more traditional) HR practice in strategic HRM, whereas competitive salary was a different aspect, less used in empirical articles, but equally important. Therefore, we will consider these two as separate practices.

In the same way, items from recruitment and selection (HR10-12) and performance appraisal (HR7-9) loaded in the same factor. Even though these two load in the same factor, they correspond to two different practices because one deals with the recruitment of new employees, and the other is used to evaluate their performance. Boon and colleagues (2011), using the scale from which we started, use these two practices separately, and we will do the same. In any case, interestingly enough, the two factors that included two scales do in fact

bring together two scales from the same bundle. Thus, the composition of the two bundles, in terms of the items and scales included in each of them, is as hypothesized.

4.2. Validation of the two-tier approach to HRM practices aimed at performance enhancement and employee support.

Table 2 shows the list of items grouped in practices and their means and standard deviations.

Table 2: Items, means, and standard deviations

Please, indicate to what degree you think the organization offers you the following practices. 1 (not at all) - 2 (very little) - 3 (some) - 4 (a fair amount) - 5 (a lot) My organization offers me:		
	M	SD
Performance-enhancement practices	2.81	.94
<i>Training and development</i>	3.33	1.06
HR1	3.51	1.24
HR2	3.23	1.27
HR3	3.26	1.24
<i>Contingent pay and rewards</i>	2.49	1.15
HR4	2.91	1.24
HR5	2.39	1.32
HR6	2.18	1.42
<i>Performance appraisal</i>	2.83	1.26
HR7	2.92	1.39
HR8	2.84	1.33
HR9	2.73	1.33
<i>Recruitment and selection</i>	2.83	1.16
HR10	2.98	1.31
HR11	2.88	1.35
HR12	2.62	1.37
<i>Competitive salary</i>	2.58	1.07
HR13	2.92	1.22
HR14	2.31	1.15
HR15	2.51	1.25
Employee-support practices	2.91	.80

<i>Employment security</i>	3.66	1.22
HR16	3.62	1.36
HR17	3.82	1.36
HR18	3.53	1.34
<i>Work-life balance</i>	3.15	1.16
HR19	3.24	1.35
HR20	3.17	1.43
HR21	3.04	1.36
<i>Exit management</i>	1.92	.95
HR22	2.12	1.32
HR23	1.62	1.08
HR24	2.02	1.28

The focus of the present study is on individual perceptions of HRP. However, the subjects in our sample are nested within organizations, which may have an effect on the variability of the perceptions of individuals within companies. In order to test the potential organizational effect on members of the same organization, we computed the ICC(1) index and found an average of .28 for the eight HRP, indicating that 72% of the total variance corresponds to individual factors. As Vajargah and Nikbakht (2015) elaborated, ICC(1) higher than .50 would show higher efficiency for a multi-level approach, which is not the case. Our scale focuses on the individual level, on employees' perceptions. This is important because perceptions of practices are more related to employees' attitudes and behaviours (Kooij & Boon, 2018). Thus, based on the goal and rationale of our study, we analysed the data at the individual level.

The EFA empirically yielded six factors instead of the eight subscales considered in our model. Interestingly enough, the four subscales compressed in two empirical factors were all included in the performance-oriented bundle. As mentioned above, we decided to test the model with the eight subscales, rather than six, for theoretical and diagnostic reasons. In order to carry out the CFA, we checked the degree of adaptation of the matrix to be used for the

factor analysis, by applying the Kaiser–Meyer–Olkin (KMO) test and Bartlett’s test of sphericity to find out whether the correlation matrix is good enough to create a factor structure that would not be found by chance. The KMO test was .91, an excellent index. The approximate chi-square of Bartlett’s sphericity test was significant (24729.05; $df=276$; $p<.001$), and so there was a latent structure within the data.

To select the best model fit, several CFA were run. To assess the models’ fit, we examined several indices: RMSEA, CFI, TLI and SRMR. We also assessed the AIC (Akaike Information Criterion), BIC (Bayesian Information Criterion), and adjusted BIC (based on sample size). The use of the BIC (and adjusted BIC) for model comparison is the recommended option (Raftery, 1995). Differences between 6 and 10 are considered strong, and above 10 very strong (Raftery, 1995). Table 3 provides a summary of the main fit indices for the different models.

Table 3: Results of Confirmatory factor analyses¹

Model	AIC	BIC	Adjusted BIC	RMSEA	CFI	TLI	SRMR
(A) 8F Model	110622.15	111163	110845.13	.067	.915	.896	.057
(B) 1F Model	117805.66	118195	117966.21	.134	.622	.586	.093
(A1) 2F Model (2nd order)	110343.82	110787	110526.67	.060	.927	.917	.049
(A2) 1F Model (2nd order)	110358.98	110797	110539.59	.060	.926	.916	.050

Note. χ^2 in all cases has $p (<.0001)$

Table 3 reveals that the model fit is good for models A (eight practices), A1 (two bundles), and A2 (one system). However, the fit indices obtained for the two-bundle model were slightly better. Moreover, when comparing the models, model A1 had a better fit than model

¹ These models were also compared with the models built with the six-factor solution from the EFA. These models had significantly better fit than those from the EFA. Results are available from the corresponding author upon request.

A2 because the BIC difference was 10, and model A1 had the lowest BIC. With the adjusted BIC, the difference was almost 13, and using AIC, the difference was 15. Thus, we have strong evidence that the model with two bundles is better than the model with one system. In the same way, when comparing the other models, model A1 revealed a better fit than model B ($\Delta\text{BIC} = 7408$) and model A ($\Delta\text{BIC} = 376$). Therefore, internal construct validity is confirmed for the scale because the data fit the proposed two-tier approach, the eight-practices model, and the two-bundle model.

For content validity, we analysed the experts' responses. The null hypothesis was that experts would not be in agreement. Our results showed the acceptance of the alternative hypothesis, with a Kendall coefficient of .67 ($p > .05$), which represents quite strong agreement (Schmidt, 1997). This means that the bundling performed by the experts was quite similar to our hypothesised model.

Reliability was assessed, as table 4 shows, to evaluate the consistency of the scale. Different types of reliability were considered: the first and most common one, Cronbach's Alpha (α), is a measure of inter-correlation among the 24 items on the scale, and it should be above .70, as Nunnally (1978) recommended. Cronbach's alpha has been criticized recently in the psychometric literature (McNeish, 2017). Therefore, Rho, Omega Coefficient (Ω), and the Spearman-Brown coefficient were used.

Table 4: Reliability of the HRP scale, subscales, and bundles.

	α	Rho	Ω	Split-half method
Eight-Factor model (24 items)	.93	.98	.96	.81
F1 Training and development	.81	.81	.83	.83
F2 Contingent pay and rewards	.83	.84	.81	.81
F3 Performance appraisal	.92	.93	.91	.91

F4 Recruitment and selection	.82	.88	.78	.70
F5 Competitive salary	.86	.86	.86	.71
F6 Employment security	.87	.88	.88	.85
F7 Work–life balance	.78	.80	.81	.86
F8 Exit management practices	.65	.69	.70	.83
B1 Performance-enhancement	.94	.97	.95	.91
B2 Employee-support	.78	.92	.96	.62

Internal consistency was excellent for the whole scale, according to the Cronbach's alpha (.93), Rho (.98), Omega coefficient (.96), and Split-Half Spearman-Brown (.81). For the different subscales, reliability was also acceptable because all the practices had a value above the cut-off point, except for exit management practices, which only had good reliability with the Split-half method. Exit management has three items, and we had problems with the wording of one of them. Cronbach's Alpha when deleting this item was .74. For the two bundles of practices, all reliability criteria were adequate.

To assess the discriminant validity, the AVE square root must be larger than the correlations among the constructs. Table 5 shows the correlations and AVE square roots for each of the eight practices and for the two-bundle model.

Table 5: Discriminant validity of HRP scale: correlations among subscales and AVE square root ($\sqrt{\text{AVE}}$) (in bold)

N=1647	F1	F2	F3	F4	F5	F6	F7	F8	B1	B2
F1. Training and development	.77									
F2. Contingent pay and rewards	.53**	.80								
F3. Performance	.61**	.64**	.90							

appraisal								
F4. Recruitment and selection	.61**	.61**	.69**	.77				
F5. Competitive salary	.48**	.72**	.57**	.59**	.82			
F6. Employment security	.34**	.36**	.33**	.32**	.36**	.84		
F7. Work–life balance	.37**	.35**	.37**	.39**	.39**	.31**	.76	
F8. Exit management practices	.28**	.35**	.33**	.38**	.42**	.22**	.32**	.67
B1. Performance-enhancement								.82
B2. Employee-support								.59** .76

**p<0.01

The square root of the AVE for each factor exceeds its correlation with any other latent variable. This shows that each factor shares more variance with its indicators than it shares with the other factors, and so discriminant validity is confirmed. The same results are found for the two bundles of practices.

In order to evaluate convergent validity evidence, we used the AVE coefficient (Average Variance Extracted coefficient), which has to be greater than .50 (Hair, Black, Babin, Anderson, & Tatham, 2006). The whole scale had an AVE of .64, and the two bundles had AVEs of .67 (for performance-enhancement) and .58 (for employee-support practices).

Finally, to assess criterion validity evidence, we ran bivariate correlations to find out whether our scale (assessing the 2 bundles and the 8 factors separately) correlates with other constructs. We also ran the bivariate correlation with the measure of the same construct after one year to assess predictive validity (see Table 6).

These results show that practices and bundles present criterion and predictive validity. In fact, every bundle significantly correlates with the hypothesized criteria, and most of the correlations are also significant using the same criteria measured one year later, except performance assessed by the supervisor. It is interesting to note that there are significant differences in the correlation value obtained for each bundle with a given criterion. For instance, the correlation between the employee-support bundle and life satisfaction (.24**) is significantly higher than the one obtained between performance-enhancement (.19**) and the same criterion. The specific contribution of each bundle to each outcome is identified better if both bundles are jointly regressed on each criterion using a stepwise multiple regression analysis. The results show that performance-enhancement practices play a stronger role in predicting job performance indicators (with the surprising exception of supervisors' performance assessment) and all the job satisfaction indicators. In addition, the employee-support bundle is the strongest predictor of life satisfaction, an indicator of general well-being. Another way to identify some signs of the interest of the bundle approach is to compare the correlations obtained in this study using each of the bundle scales with those reported in other studies with HPWS scales. For job satisfaction, the correlation obtained by Zhanga et al. (2013) using HPWS scales is .50**, and the one obtained by Huang et al. (2016) is .12*. Heffernan et al. (2013) did not find a significant correlation, whereas Kooij et al., (2010) reported an average mean correlation of .34** in their meta-analysis. Our results show that the performance-enhancement bundle presented a correlation value of .57**, higher than those obtained in studies with an HPWS scale. At the same time, it is apparent that both bundles significantly correlate with every criterion, indicating that both types of practices contribute significantly, but the stepwise multiple regression analysis clearly differentiates the disparity in the strength of the relations.

Table 6: Criterion and predictive validity of the eight practices and the two-bundle model for T1 and T2^{1,2}

**p<0.01, ¹: The sample sizes for the individual criterion variables were 1647 (for T1) and 915 (for T2). The

		Life sat	Job Sat.	Instrin. Job Sat	Extr. Job Sat	OCB	Creative perfor.	Job Satisf. manager	Perfor. manager
F1. Training and development	T1	.19**	.51**	.48**	.43**	.20**	.21**	.23**	.15**
	T2	.24**	.39**	.37**	.33**	.29**	.13**	.21**	-.02
F2. Contingent pay and rewards	T1	.16**	.44**	.33**	.45**	.14**	.12**	.24**	.11**
	T2	.24**	.36**	.29**	.36**	.26**	.10*	.22**	-.04
F3. Performance appraisal	T1	.15**	.45**	.42**	.38**	.13**	.20**	.22**	.14**
	T2	.17**	.32**	.30**	.28**	.25**	.13**	.20**	-.01
F4. Recruitment and selection	T1	.14**	.46**	.39**	.43**	.15**	.16**	.18**	.07*
	T2	.15**	.29**	.26**	.28**	.21**	.06	.14**	-.06
F5. Competitive salary	T1	.15**	.52**	.36**	.57**	.10**	.16**	.24**	.12**
	T2	.19**	.40**	.30**	.42**	.18**	.13**	.24**	-.05
F6. Employment security	T1	.20**	.32**	.30**	.28**	.14**	.15**	.19**	.16**
	T2	.23**	.24**	.20**	.23**	.20**	.11**	.23**	-.02
F7. Work–life balance	T1	.19**	.45**	.33**	.47**	.15**	.15**	.15**	.13**
	T2	.18**	.29**	.20**	.33**	.15**	.09*	.17**	.02
F8. Exit management	T1	.13**	.26**	.19**	.28**	.09**	.08**	.10**	.02
	T2	.09*	.08	.02	.13**	.03	.04	.09	-.01
B1. Performance-enhancement	T1	.19**	.57**	.48**	.54**	.18**	.20**	.26**	.14**
	T2	.24**	<u>.42**</u>	<u>.37**</u>	<u>.40**</u>	<u>.29**</u>	.13**	<u>.25**</u>	-.04
B2. Employee-support	T1	.24**	.48**	.39**	.47**	.17**	.18**	.20**	.15**
	T2	.24**	<u>.30**</u>	<u>.20**</u>	<u>.33**</u>	<u>.19**</u>	.12**	<u>.19**</u>	.01
<i>Stepwise linear regressions</i>	B1	.01*	.33**	.23**	.29**	.03**	.04**	.07**	-.03
	B1+	.06**	.03**	.02**	.04**	.01**	.01**	.07	.02**
	B2								

sample sizes for the variables evaluated by the manager were 593 (for T1) and 398 (for T2). ²: Significant differences in correlations are shown in bold (T1) and underlined (T2).

6. DISCUSSION

Our aim was to refine and validate an HRP scale to measure employees' perceptions and test a two-tier model structured in eight practices and two bundles. The refinement and validation of this scale contributes to the measurement of HRP and the study of the role of employees' perceptions as mechanisms linking HRP and outcomes. Moreover, it contributes to the HRM

literature by incorporating important goals, such as social legitimacy, into the study of HRP. The scale was shown to be a reliable and valid measure that can provide scholars and practitioners with an effective instrument to measure employees' perceptions of HRP and contribute to analysing the relationships with their correlates.

6.1. Implications for Human Resource Practices research.

Based on Boon and colleagues' scale (2011), which has been reformulated and extended, different models were considered to test our scale's structure. Our scale includes conventional core HRP focused on enhancing performance (e.g. performance appraisal), along with others, rarely identified in previous research, more focused on supporting employees (e.g. exit management practices). Acknowledging the importance of employees' perceptions when measuring HRP (Kaše et al., 2014), our scale assesses employees' perceptions of the intensity of their use on a Likert scale.

The bundle model established is based on theoretical grounds such as open system and institutional theories. The content validity of the items in each bundle has been ascertained by expert opinions and the results of the CFA, confirming that the two-bundle model generated from the eight-factor model has a good fit, the best one when compared to other alternative models. Thus, the model of two bundles of practices, employee-support and performance-enhancement practices, has been confirmed and validated as an assessment tool. The results are consistent with the distinction between the production and maintenance subsystems of Katz and Kahn (1978), showing that it is possible to differentiate between practices focused on performance enhancement and those focused on employee support. Moreover, they support the importance of incorporating social legitimacy into the HRM strategy (Boselie, Paauwe, & Farndale, 2013), and they emphasize the importance of the boundary-spanning system. Our

results highlight that organizations should focus not only on their economic rationality, more motivated by results, but also on their relational rationality, based on organizations' institutional mechanisms (Paauwe, 2004). The model with eight practices also had a good fit, which shows the value of a two-tier approach. HRM literature has mainly focused on the relationship between HRP and performance (traditionally) and well-being (more recently). Several meta-analyses have found positive relationships with these two sets of outcomes. Consequently, we found that all the practices contribute to the two sets of outcomes if they are correctly implemented. However, our results highlight the dominant link between performance-enhancement practices and performance outcomes, and even a stronger link with job-related well-being outcomes, whereas general life well-being is more strongly and positively related to HR employee-support practices. In fact, life satisfaction was the only outcome that correlated higher with the employee-support bundle than with the performance-enhancement bundle, probably because life satisfaction is a broader and more general indicator that is not directly related to work. Therefore, it is important to incorporate context-free measures of well-being in order to know how different HRM practices influence employees' non-work-related results. These empirical findings highlight the importance of HRP outside the world of work, and how the company may support employees beyond their work sphere, which may induce a better contribution from these employees, according to social exchange theory, reciprocity, and mutual gains views.

Our study also contributes to the theoretical development of the HRP construct by distinguishing two bundles of practices, based on open system and institutional theory, because they pay attention not just to the production system, but also to the maintenance and boundary-spanning systems. In fact, we have included exit management practices, which have been somewhat neglected in the literature and are highly important in today's society (Boselie

et al., 2005). The two-tier approach more clearly emphasizes that HRP need to pay attention not just to production, but also to maintenance subsystems in organizations, focusing on the contextual and institutional drivers that will enhance individual well-being beyond the work context.

6.2. *Practical contributions.*

Our study confirmed that this HR practice scale is a good instrument because all the assumptions and validation tests were met, and so it is suitable for assessing employees' perceptions of these practices, gathering them into bundles, and relating them to performance and well-being outcomes. In addition, although most of the scales in the literature are quite long and tedious to administer, this one is shorter and easier to use, helping practitioners who assess HRP while also assessing other relevant constructs in a larger questionnaire.

Furthermore, the study focuses on employees' perceptions. As stated in the introduction, managerial opinions and employees' perceptions might differ (Liao et al., 2009), and so it is important to know how employees appraise these practices, keeping the scale on the individual level. However, future research could adapt this HRP scale to the managerial level, which would allow researchers to check the discrepancies between intended and implemented practices (Nishii et al., 2008).

Different bundles aligned with different organizational goals (Jiang et al., 2012) help to create a balanced agenda between social and economic goals, and they provide practitioners and researchers with more detailed information about the organization and the employees. In fact, results showed that the criterion validity was stronger for the bundles than for the individual practices. Relying only on individual practices may produce misleading interpretations (Macduffie, 1995). With regard to reliability, several coefficients were used to obtain a more

holistic view of the true reliability of the scale and show different techniques for a more robust instrument. The Rho, Omega coefficient, and Split-Half, as well as Cronbach's alpha, indicated good scale reliability because all the coefficients were above the respective cut-off points for the majority of the indicators. Evidence of convergent validity was also satisfactory because the indicators for the whole scale and the two bundles were above the cut-off point. Discriminant, convergent, construct, content, and criterion validity evidence and reliability were also satisfactory, providing academics and practitioners with a proper psychometric instrument to analyse perceptions of practices. This scale helps both practitioners and researchers to identify whether they are investing correctly in the workforce, or if they need to make some changes to balance the synergy between organizational and employee results.

6.3. Limitations

Some limitations of the present research should be mentioned. First, one of the employee-support subscales, exit management practices, presented weak reliability. More precisely, item 22 showed a weaker loading in the factor dimension, and if we delete it, the reliability increases to above .70. This item refers to retirement options. It also affected the bundle of support practices, probably because employees may not be aware of all the possibilities their organizations can offer them in case of retirement, especially the younger workers (just 16.2% of the sample were over 50 years old), who may not be thinking about the retirement process yet. However, because the number of older workers is increasing in different European countries (such as Spain), and retirement is an important part of the exit process, we thought it was an important element to include.

Second, regarding the correlations among the different practices, the results show that the bundle of performance-enhancement practices is more compatible with the definition of a

bundle because there is more synergy among the practices. For this bundle, it makes more sense to have synergy because we are looking for performance enhancement, and so the correlations among the practices are higher. However, the employee-support practices showed lower correlations with each other. In this case, the important thing might be for the organization to support employees in the different aspects of their lives or work, or when they need it most, and so synergy is not as relevant. Moreover, organizations do not use these practices as explicitly as the performance-enhancement practices. Thus, not having two well-differentiated bundles is not a weakness, but rather a reflection of the differences between the two types of practices, which is quite important for academics and practitioners.

Third, although we have selected the eight practices based on the literature and the criteria to reflect the two main goals of every organization, there are some other practices that could be incorporated. Practices such as service quality, more related to the HPWP, could be included in the performance-enhancement bundle. Moreover, employees' participation and voice or information sharing, which have been part of high commitment or high involvement practices, could be included in the employees' support bundle. However, we chose the practices that we thought would have a more powerful impact and be more easily applied in most organizations. Future research should continue the effort of developing other ways of bundling practices based on different models, or even combining specific elements of these practices (like the items itself) that may improve the predictor and discriminant validity of the bundles for different goal-enhancing purposes. For instance, it might be possible to examine specific elements pertaining to different practices and see how they potentially bundle together, even across practices (e.g., one particular practice of rewarding and another one of recruitment/selection). More approaches on different theoretically grounded strategies to bundle the practices may contribute to better understanding the combinations of practices and

their effects on relevant organizational and employee outcomes. Similarly, considering external-outcome variables, such as customer satisfaction, sales, etc., can be useful to provide implications, taking into consideration the diversity of stakeholders in the boundary spanning-out system.

Fourth, future research should contemplate a bathtub model to understand the top-down or bottom-up relationship between the variables at the organizational and individual levels. In this case, multi-level analysis would be recommended to see how mechanisms and boundary conditions of the interaction between the actions and perceptions of managers and employees affect HRM.

Finally, we used a sample made up exclusively of Spanish people. It would be advisable to find out how the two bundles work in different contexts, especially in countries that present differences in terms of Varieties of Capitalism (Cristiani & Peiró, 2018), because it would help to understand the institutional view and the RBV and how they can complement and limit each other. However, adapting and validating the scale in a Spanish sample makes a valuable contribution.

6.4. Conclusion

The main contribution of this study is to provide practitioners and academics with a tool to assess HRP from the employees' perspective using a two-tier approach, so that it can be used as a measure of the whole HRP system or differentiating it in two important bundles of that system.

Practitioners can use this scale to assess different practices or the two bundles and discover how they impact the performance and well-being of employees. Depending on the goals

practitioners want to enhance or the research questions academics have, they can use the scale in different ways.

Employees are a crucial element for organizations. We need to put the *human* back into HRM. Practitioners must boost not only their capabilities and motivation to perform better, but also their satisfaction and well-being as an outcome in itself. Future research may use this tool to analyse the differential effects of the interaction and the different HRP profiles on individuals and work units from mid- and long-term perspectives. Moreover, it is possible to expand this instrument to the conflicting outcomes research, testing it with other types of well-being, such as health or eudemonic well-being.

This scale has been developed considering not only economic ends, but also social goals in organizations, harmonising two bundles of practices: performance-enhancement and employee-support practices. In conclusion, the HRP scale presented in this study is a reliable and valid questionnaire that measures employee perceptions of the intensity of the practices applied to them.

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