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Predictive Competences of High-potential Talent Employees

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ABSTRACT

In talent management, predicting high potential (HP) is one of the most important questions human resources professionals face. The main goal of this study was to analyze which competences predict employees' HP and whether these competences differ by gender. The study analyzed 806 employees in the Spanish branch of a multinational service firm that employs over 6,000 employees. Participants, were classified as HP using a questionnaire about eight competences identified as key to the firm's talent management (TM) and divided into two categories: cognitive-intrapersonal and emotional-interpersonal, and assessment interviews of supervisors. Results indicate that the competences in the cognitive-intrapersonal category contribute greater weight in predicting HP. More specifically, competences of Initiative, Appetite for learning, and Thinking beyond boundaries were significantly related to the HP criterion. The competences that were significant by gender were also analyzed. Application of these results, as well as the study's limitations and recommendations for future research, are discussed.

Las competencias predictoras del talento en los empleados de alto potencial

RESUMEN

En la gestión del talento, predecir un alto potencial (AP) es una de las cuestiones más importantes a las que se enfrentan los profesionales de recursos humanos. El objetivo principal de este estudio ha sido analizar qué competencias predicen el AP de los empleados y si estas competencias difieren en función del género. El estudio analiza a 806 empleados de la sucursal española de una empresa multinacional de servicios que emplea a más de 6,000 trabajadores. Los participantes fueron clasificados como AP mediante un cuestionario sobre ocho competencias identificadas como clave para la gestión del talento de la empresa y entrevistas de evaluación a supervisores, y divididas en dos categorías: cognitivo-intrapersonal y emocional-interpersonal. Los resultados indican que las competencias de la categoría cognitivo-intrapersonal aportan un mayor peso en la predicción del AP. Más concretamente, las competencias de iniciativa, hambre de aprender y pensar más allá de los límites se relacionaban significativamente con el criterio de AP. También se analizaron las competencias que resultaron significativas en función del género. Se discute la aplicación de estos resultados, así como las limitaciones del estudio y las recomendaciones para futuras investigaciones.

Having talented employees in strategic positions at the right time is crucial for an organization's success, and executives often express concern about this issue (Pagán-Castaño et al., 2022; PwC, 2017). Large organizations thus engage in talent management (TM) programs (Church et al., 2021; Collings et al., 2019), understood here as the set of processes, practices, and techniques designed to attract, identify, develop, and retain talent to achieve strategic goals and satisfy the organization's needs (Collings et al., 2019).

The identification phase is one of the most important practices currently faced by human resources professionals (Ansar & Baloch, 2018; Church et al., 2019), and a priority for TM (Church et al., 2021). Similarly, talent identification is also an important research topic

although sufficient agreement has not been reached on how to define talent yet (Cascio & Collings, 2022; Gallardo-Gallardo et al., 2013; McDonnell et al., 2021).

We must therefore consider three crucial questions. The first is the TM model the organization adopts. Main positions range from considering talent as something all employees have and that should be identified and exploited for the good of the organization to focusing only on employees who demonstrate potential (a small percentage of the total). TM models also include other positions, such as considering talent in planning for succession or fitting and retaining persons in key positions in the organization (Yildiz & Esmer, 2023).

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The second question involves what constitutes talent and who has it (Gallardo-Gallardo et al., 2013). When organizations focus on description (what is talent?), they tend to practice management by competences (Vance & Vaiman, 2008), whereas focusing on the individual (who has talent?) aims primarily to find the individual differences between people who do and do not have talent (Ulrich & Smallwood, 2012).

Third and finally, we have the problem of whether talent is a set of behaviors that an individual has already manifested or something that can be predicted to manifest itself in the future (Dries & Pepermans, 2012; Nijs et al., 2014). In any case, Silzer and Church (2009) argue that talent is not only what is demonstrated but is primarily also potential.

Taking all of the foregoing into account, we understand talent as exceptional competences in a technical area possessed by certain employees. These competences are related to the capability to successfully perform a job that involves exercising strategic functions and functions with greater responsibility in the organization in both the medium and the long term (Silzer & Borman, 2017). Employees with these potentials are classified under the “high potential” (HP) category, and identifying (“flagging”) them is a way of differentiating and segmenting talent in the firm (Finkelstein et al., 2018). HP employees have the capability to assume higher-level jobs, even if their current performance is not necessarily high and especially if they are still at the beginning of their career or have just changed position.

In identifying these employees, however, most studies use indicators that assess current performance instead of indicators of potential (Boštjančič & Slana, 2018; Silzer & Church, 2009). This practice has been highly criticized, as it focuses on assessing requirements for the employee’s current job, not those of a higher position (Robinson et al., 2009). It would seem more relevant to use predictors of potential, not those of current performance, so that value is truly added to the procedure (Boštjančič & Slana, 2018; Church et al., 2021).

When classifying HP employees properly, recent research has focused primarily on competences (Leutner et al., 2014), defined as any underlying characteristics in an individual that can be assessed reliably, are related to a criterion, and differentiate significantly among employees with medium- and high-level performance (e.g., Spencer & Spencer 1993). Classifying HP employees based on competences both improves prediction (Campion et al., 2011) and facilitates perception of organizational justice (García-Izquierdo et al., 2012; Moscoso et al., 2012). Little empirical research on large organizations seeks, however, to explain how competences contribute to HP prediction (Church et al., 2021).

Based on analysis of the most important studies on the topic (e.g., Bartram, 2005; Dries & Pepermans, 2012; Finkelstein et al., 2018; Groves & Feyerherm, 2022; Kurz & Bartram, 2002; Silzer & Church, 2010), we can classify the competences that predict HP into two categories—cognitive-intrapersonal and emotional-interpersonal. The former includes analytic and personal competences, such as analytical thinking, will to learn, intellectual curiosity, problem solving, decision making, and strategic vision, among others. The latter include motivational and relational competences, such as adaptability, interpersonal understanding, achievement orientation, customer service orientation, emotional balance, teamwork, and leadership. What is not yet clear is whether emotional-interpersonal (Silzer & Church, 2010) or cognitive-intrapersonal competences better predict HP (Finkelstein et al., 2018; Lombardo & Eichinger, 2000; Nijs et al., 2014).

As very few studies have tackled this topic, the main goal of our study is to analyze which competences best predict HP. In the TM approach we adopt here, the organization aims to have a group of employees with HP prepared to perform key positions within the firm in the future. Based on the TM studies and approach mentioned, and

the research evidence demonstrating the importance of cognitive-intrapersonal as opposed to emotional-interpersonal competences above, we propose the first hypothesis:

H1: Cognitive-intrapersonal competences explain a greater percentage of variance than do emotional-interpersonal competences in predicting HP.

Another issue concerning HP prediction and of great social importance is equal opportunity between women and men in employment. The underrepresentation of women in leadership positions suggests significant gender bias in processes for hiring and promotion to positions of responsibility and leadership (Player et al., 2019).

Since HP identification can be influenced by barriers that make women’s professional development more difficult than men’s (Dzubinski et al., 2019), it is important that the process not be biased against the socially underrepresented group (García-Izquierdo et al., 2020). Only so can the benefits of gender diversity reach positions of responsibility (International Labor Organization [ILO, 2020]). Among these biases, we find stereotyped beliefs that women have lower performance than men, especially in top positions in the hierarchy and positions with responsibility (e.g., Castaño et al., 2019; García-Izquierdo et al., 2018).

Some stereotyped beliefs hold that traditionally masculine characteristics may play an important role in biasing identification of HP. Such bias views the masculine stereotype as agentive and prioritizing individual work goals, competitiveness, assertiveness, control, confidence, aggressiveness, self-sufficiency, independence, and ambition. These characteristics simultaneously indicate less skill in interpersonal relations and emotional sensitivity (Hoyt, 2010; Koburtay et al., 2019). The feminine stereotype, in contrast, is communal and stresses caring for others, personal relationships, compassion, goodness, kindness, and generosity (Hoyt, 2010), while denying personal ambition and professional achievement (Ellemers, 2018).

Gender stereotypes can influence opportunities for professional development (Barreto et al., 2009). Role congruity theory (Eagly & Karau, 2002), for example, argues that men have more possibilities to occupy positions of responsibility than women because men are perceived as possessing the characteristics appropriate and necessary for these positions (Heilman, 2001).

Thus, cognitive-intrapersonal competences are closer to the agentive stereotype and emotional-interpersonal competences to the communal.

Based on all the foregoing, the perceived incongruence between being a woman and occupying positions of responsibility may result in differentiated ways of relating to work for women and men, and we propose the second hypothesis:

H2: Gender-based differences exist in the pattern of the relationship between employees’ competences and HP, such that:

H2a: Men obtain significantly higher scores in cognitive-intrapersonal (agentive) competences than women, and

H2b: Women obtain significantly higher scores in emotional-interpersonal (communal) competences than men.

Method

Participants

The sample was composed of 806 participants employed by the Spanish branch of a multinational service firm with over 6,000 employees and approximately 80,000 workers in 90 countries. The participants’ average age was 43.27 ($SD = 8.33$ years), and they were 60.4% men and 39.6% women. By job type, 7.8% were directors, 51.9% were managers, and 40.3% were technicians, and the group comprised university graduates who held a technical degree,

middle managers, and executives in the HP program of the firm's TM system. Nongraduates (operators and administrative workers) were not part of the performance appraisal system, as only workers with a university degree could participate in this system.

Measures

The information on predictors, was collected using the corporate questionnaire designed by the Research and Development Department in the Hay Group McClelland Center (Hay Group, 2008), which contained eight key competencies to identify HP in the company's Talent Management (TM) system, which in turn were classified into two categories: cognitive-intrapersonal (composed of Initiative, Appetite for learning, Thinking beyond borders, and Customer service orientation) and emotional-interpersonal (consisting of Commitment, Cooperation, Self-control, and Interpersonal understanding). The questionnaire contained the name of the competency, its description, and an item for its evaluation in a range of responses according to a 5-point Likert-type scale from *rarely* (0) to *always* (4). The competences were the following, presented in the same order as they appeared in the questionnaire:

1. Commitment. The employee shows the ability and willingness to align his/her behavior with the needs, priorities and objectives of the company. It is evaluated with the item "Shows commitment to the organization".

2. Cooperation. It refers to an employee's intention to work together and in cooperation with others, as opposed to separately or competitively. It is evaluated with the item "Works in cooperation with others".

3. Customer service orientation. The employee focuses his/her efforts on discovering and satisfying the needs of customers or consumers. It is evaluated with the item "Addresses customer's needs".

4. Initiative. The employee identifies problems, obstacles and/or opportunities at work in order to respond appropriately; it is the predisposition to act proactively. It is evaluated with the item "Anticipates, acting proactively".

5. Appetite for learning. The employee shows willingness to learn new aspects of his/her work, beyond what is normally expected in their current job. It implies the acceptance of new challenges, responsibilities and broadening experiences that enrich their career. It is evaluated by the item "Shows curiosity and desire to learn".

6. Self-control. This is the ability to keep one's emotions under control and avoid negative reactions when working under stressful conditions. It is assessed by the item "Keeps one's emotions under control".

7. Thinking beyond boundaries. Intellectual curiosity, being open to new and diverse people and ideas, looking at things from new angles. He/she is able to identify patterns or relationships that are not obvious, find relationships between seemingly unconnected things and thereby discover new opportunities. It is assessed by the item "Sees things from a really new perspective".

8. Interpersonal understanding. The employee shows a desire to understand other people, and involves active listening and understanding of the thoughts, feelings and concerns of others, even if they are not explicit or are partially expressed. It is assessed by the item "Understands the thoughts, feelings, and concerns of others".

The information on the criterion (HP), was collected by a two-point scale as having high potential (1) or not having high potential (0). The item was "He/she/the applicant is able to assume greater responsibilities in the medium and long term." Employees identified as HP were defined as those who had the capability to assume future jobs with complex responsibilities and function at a high level in the organizational hierarchy.

Procedure

The firm's approach to TM only considered employees who showed future potential. Its classification of employees as HP thus involved evaluating competences to train and develop the employees to obtain optimal performance results.

The competences were assessed through the questionnaire described above, which employees completed by accessing the firm's online corporate TM platform. Employees who formed part of the target group completed the questionnaire and decided voluntarily to participate in the annual talent assessment after reading and accepting the instructions and conditions of the HP program. Each employee is asked to read the definition of each competency and then evaluate the extent to which he/she believes he/she possesses it.

Using the same platform, each of the employees' direct superiors, two weeks after conducting the high potential assessment using the two-point scale also completed the questionnaires for each of their subordinates.

Once the questionnaire data were obtained, during the following two weeks, the direct supervisor and collaborator held a 30-minute semi-structured interview to review the main survey findings and competence questionnaire results. They then made a consensual decision on scoring the competences, which led to preparation of an individual development plan for each employee. Finally, the firms created various committees, composed of the functional managers (of business and human resources), in each of the geographical areas into which the organization was divided administratively (south, central, east, north, and northeast). The committees met to review the assessment scores in their functional areas and reach a final decision about classification of the employees. The first criterion for inclusion in the category HP was having obtained a score higher than 3 out of 4 in each of the eight competences assessed and having received a positive report from the direct supervisor and the committee. The second—derived from the firm's policy—was that the participant should not be older than 53, as the goal was to have HP employees hold a high-level strategic position for at least 5 years.

Data Analysis

Firstly, we conducted exploratory and confirmatory factor analyses (EFA and CFA) using Mplus software (version 8.1) with data from the questionnaire items. The original sample of 806 participants was divided into two subsamples for cross validation, $n_1 = 406$ and $n_2 = 400$ (e.g., Flora & Flake, 2017).

To obtain two balanced halves, we followed stratified sampling with allocation proportional to the strata variable, crossing the following variables: gender (masculine, feminine), HP (no, yes), and job (technician, middle manager, executive). Since data normality could not be confirmed (Kolmogorov-Smirnov test with Lilliefors correction was significant) and we were analyzing Likert-type polytomous responses, we used categorical robust weighted least squares and oblique rotation (e.g., Castaño & García-Izquierdo, 2018; Lloret-Segura et al., 2014). We also used the following comparative and adjustment indexes to test for goodness of fit (e.g., Browne & Cudeck, 1993): (i) comparative fit index (CFI) and Tucker-Lewis index (TLI), (ii) root mean square error of approximation (RMSEA), and (iii) $\chi^2/\text{degree of freedom ratio}$. The EFA analysis used several objective theoretical and statistical criteria to determine the number of factors to retain (e.g., Lorenzo-Seva et al., 2011), such as: (i) RMSEA, (ii) item loadings (greater than .40), (iii) theoretical predictions about number of factors, and (iv) interpretability of the solution.

Secondly, we performed bootstrapped hierarchical binary logistic regressions by means of SPSS software (version 20) to analyze the ability of the indicators included in the performance appraisal

Table 1. Descriptive Statistics of the Main Study Variables

Competences and age	Minimum	Maximum	M	SD	Asymmetry	Kurtosis
Full sample (N = 806)						
Commitment	1	4	3.07	0.474	-0.324	0.233
Cooperation	2	4	3.07	0.460	-0.453	0.335
Customer service orientation	1	4	2.98	0.565	-0.254	0.245
Initiative	1	4	2.92	0.512	-0.332	0.259
Appetite for learning	2	4	3.34	0.618	-0.476	-0.145
Maturity	1	4	2.95	0.609	-0.241	0.489
Thinking beyond boundaries	1	4	2.60	0.613	-0.212	-0.151
Understanding of others	1	4	3.00	0.574	-0.237	0.883
Age	23	64	43.27	8.334	-0.060	-0.520
Non HP (n ₁ = 600)						
Commitment	1	4	3.02	0.467	-0.333	0.228
Cooperation	2	4	3.01	0.456	-0.449	0.411
Customer service orientation	1	4	2.93	0.555	-0.233	0.242
Initiative	1	4	2.84	0.490	-0.301	0.194
Appetite for learning	1	4	3.26	0.615	-0.350	0.048
Maturity	1	4	2.90	0.597	-0.296	0.656
Thinking beyond boundaries	1	4	2.52	0.605	-0.155	-0.331
Understanding of others	1	4	2.95	0.561	-0.302	1.081
Age	24	64	45.45	7.742	-0.187	-0.305
HP (n ₂ = 206)						
Commitment	2	4	3.22	0.462	-0.378	0.407
Cooperation	2	4	3.24	0.428	-0.511	0.229
Customer service orientation	1	4	3.15	0.562	-0.404	0.551
Initiative	1	4	3.13	0.515	-0.704	1.246
Appetite for learning	2	4	3.59	0.558	-0.967	-0.075
Maturity	1	4	3.10	0.620	-0.190	0.071
Thinking beyond boundaries	1	4	2.83	0.578	-0.410	0.870
Understanding of others	1	4	3.16	0.583	-0.183	0.467
Age	23	53	36.90	6.548	0.060	-0.724

Table 2. Pearson and Point-biserial Correlations

Variables	HP	Gender	Age	Commitment	Cooperation	Customer service orientation	Initiative	Appetite for learning	Maturity	Thinking beyond boundaries
HP ¹	-									
Gender ²	.107**	-								
Age	-.448**	-.243**	-							
Commitment	.185**	.004	-.020	-						
Cooperation	.214**	.031	-.080*	.731**	-					
Customer service orientation	.172**	-.024	.117**	.540**	.547**	-				
Initiative	.246**	-.014	-.027	.682**	.695**	.593**	-			
Appetite for learning	.237**	.135**	-.234**	.481**	.486**	.335**	.527**	-		
Maturity	.143**	-.046	.075*	.557**	.611**	.473**	.557**	.380**	-	
Thinking beyond boundaries	.218**	-.083*	-.051	.475**	.483**	.446**	.571**	.382**	.401**	-
Understanding of others	.162**	.020	-.134**	.505**	.579**	.336**	.431**	.307**	.421**	.288**

Note. N = 806. Point-biserial correlations are provided for gender and HP.

¹Gender: 1, masculine; 2, feminine.

²HP: 0, not HP; 1, HP.

*p < .05 (two-tailed), **p < .01 (two-tailed).

system to predict HP, including gender as a control variable. Receiver operating characteristic (ROC) curves were also used to determine the diagnostic accuracy of the indicators identified as key for HP—that is, to determine the cut-off point on a continuous scale that achieves the highest sensitivity and specificity to evaluate the discriminative capacity of each variable (i.e., their ability to differentiate the subjects with HP from the others).

A bootstrap t-test, Cronbach's reliability index, and Pearson and point-biserial correlations were also performed using SPSS software (version 20). Most empirical research in Psychology uses multiple-

item instruments to determine reliability. The main arguments in favor of multiple-item measures are based on the calculation of internal consistency reliability. Although single items are seen as unreliable because internal consistency reliability estimates cannot be calculated (Nagy, 2002), it is possible to establish the reliability of a single-item measure. Wanous and Reichers (1996) showed that the formula to correct for attenuation (Nunnally & Bernstein 1994) can be used to estimate reliability of single-item measures: $\hat{r}_{12} = \hat{r}_{12} / \sqrt{(r_{11} * r_{22})}$, where \hat{r}_{12} = the expected correlation between two perfectly reliable variables, r_{12} = correlation between variables 1 and 2, and

r_{11} and r_{22} the reliabilities of variables 1 and 2. If \hat{r}_{12} is assumed to equal 1.0, as it would for an item's correlation with itself, then $r_{11} = r_{12}^2/r_{22}$. Nevertheless, we believe it advisable to establish this value at .90, since it would be difficult to find a perfect correlation in a real situation. The formula to estimate reliability of the single items would thus be: $r_{11} = r_{12}^2/(r_{22} \cdot .81)$.

Table 3. Comparative and Fit Indexes in EFA and CFA

Comparative and fit indices	EFA ($n_1 = 406$)		CFA ($n_2 = 400$)
	Number of factors		
	1	2	2
RMSEA	.067	.060	.029
90% CI	.046, .088	.034, .086	.000, .061
χ^2	56.079	31.786	17.525
<i>df</i>	20	13	13
χ^2/df	2.804	2.445	1.348
TLI	.986	.989	.997
CFI	.990	.995	.998

Note. The structure analyzed in the CFA is composed of factor 1, which includes commitment, cooperation, maturity, and understanding of others; and of factor 2, which includes initiative, appetite for learning, and thinking beyond boundaries.

Some arguments against single-item measures remain. Single-item measures may not adequately represent the content domain of conceptually complex constructs because content validity may have criterion deficiency (e.g., Schriesheim et al., 1993). The difficulty of establishing content validity lies in separating true score variance from error or determining the degree to which the item converges with other measures of the same construct. It is difficult to demonstrate that these measures are accurate representations of the construct of interest. Our study overcomes this difficulty by ensuring agreement on the final score of every construct. Because each construct is assessed from two sources of variance (employees and supervisors), content validity is achieved.

Some research has revealed the appropriateness of single-item measures (e.g., Bergkvist & Rossiter, 2007; DeSalvo et al., 2006; Sverke et al., 2002; Wanous & Hudy, 2001). These items were

thoughtfully developed by subject matter experts who calculated their psychometric quality, as in our case. Finally, Fisher et al. (2016) argues that single-item measures provide some advantages by minimizing respondent burden, reducing criterion contamination and increasing face validity.

Results

Of the total number of participants ($N = 806$), 25.6% (206) were assessed as HP. Of these, 106 (51.5%) were men and 100 (48.5%) women. Table 1 presents the descriptive results of the main study variables for all participants, as well as for those classified as HP and as not HP.

Table 2 displays the correlations of the main variables. All associations among the competences were direct and significant. Note also the significant indirect association between HP and age, which represents the influence of the company's policy indicated above. Based on this finding, we eliminated the variable age from subsequent analyses.

Factor Analyses

Table 3 presents the results of the EFA with subsample n_1 . The test shows better fit of the questionnaire structure with two factors (RMSEA = .60, 90% CI [.034, .086], $\chi^2 = 31.786$, $df = 13$, $\chi^2/df = 2.445$, TLI = .989, CFI = .995) than with one (RMSEA = .067, 90% CI [.046, .088], $\chi^2 = 56.079$, $df = 20$, $\chi^2/df = 2.804$, TLI = .986, CFI = .990). We eliminated the Customer service orientation competence because its factor loading did not reach the established minimum of .400 (Table 4).

As to the results of the CFA with subsample n_2 , the two-factor model presented good fit, as shown in Table 3 (RMSEA = .029, 90% CI [.000, .061], $\chi^2 = 17.525$, $df = 13$, $\chi^2/df = 1.348$, TLI = .997, CFI = .998). We thus conclude (see Table 4) the existence of one composite factor composed of Commitment, Cooperation, Self-control, and Interpersonal understanding competences, and another composed of Initiative, Appetite for learning, and Thinking beyond boundaries. The first composite factor is emotional-intrapersonal and the second cognitive-intrapersonal. Both factors

Table 4. Item Loadings of the 2-Factor Model in EFA and CFA

Item	Number of factors	
	1	2
EFA ($n_1 = 406$)		
Commitment	.588**	.307
Cooperation	.983**	-.044
Customer service orientation	.347**	.371**
Initiative	.046	.882**
Appetite for learning	-.094	.786**
Maturity	.452**	.342**
Thinking beyond boundaries	.135	.635**
Understanding of others	.721**	.014
CFA ($n_2 = 400$)		
Commitment ($\alpha = .826$)	.863**	
Cooperation ($\alpha = .933$)	.909**	
Maturity ($\alpha = .592$)	.825**	
Understanding of others ($\alpha = .519$)	.666**	
Initiative ($\alpha = .726$)		.926**
Appetite for learning ($\alpha = .476$)		.727**
Thinking beyond boundaries ($\alpha = .555$)		.643**
α	.840	.745

Note. Loadings higher than .400 or with theoretical significance for the factor are highlighted. The competence Customer Service Orientation was eliminated from the CFA because it was not above this minimum in the EFA.

** $p < .01$.

Table 5. Bootstrapped Hierarchical Logistic Regression Analyses to Predict HP

Predictors	b and 95% bootstrap CI	95% CI for Odds Ratio		
		Lower	Odds	Upper
Step 1 Nagelkerke R squared = .017, step $\chi^2 = 9.187$, $p = .002$, overall percentage = 74.4				
Constant	-1.775 [-2.289, -1.294]**	-	0.170	-
Gender	0.495 [-0.173, 0.832]**	1.192	1.641	2.260
Step 2 Nagelkerke R squared = .142, step $\chi^2 = 72.428$, $p = .000$, overall percentage = 75.3				
Constant	-6.808 [-8.525, -5.309]**	-	0.001	-
Gender	0.495 [0.150, 0.872]**	1.163	1.640	2.312
Initiative	0.639 [0.150, 1.137]**	1.209	1.895	2.969
Appetite for learning	0.536 [0.200, 0.889]**	1.217	1.710	2.402
Thinking beyond boundaries	0.478 [0.144, 0.865]**	1.138	1.612	2.283

Note. Only represents the two steps with significant improvement in model fit. N = 806. * $p < .05$, ** $p < .01$.

show good reliability (.840 and .745, respectively). Reliability of the single items ranges from .555 to .933, although these values are estimations of the minimum reliability of the single item and the real value could be higher (Wanous et al., 1997). In any case, analyzing the single items gives the study greater more details to facilitate obtaining conclusions.

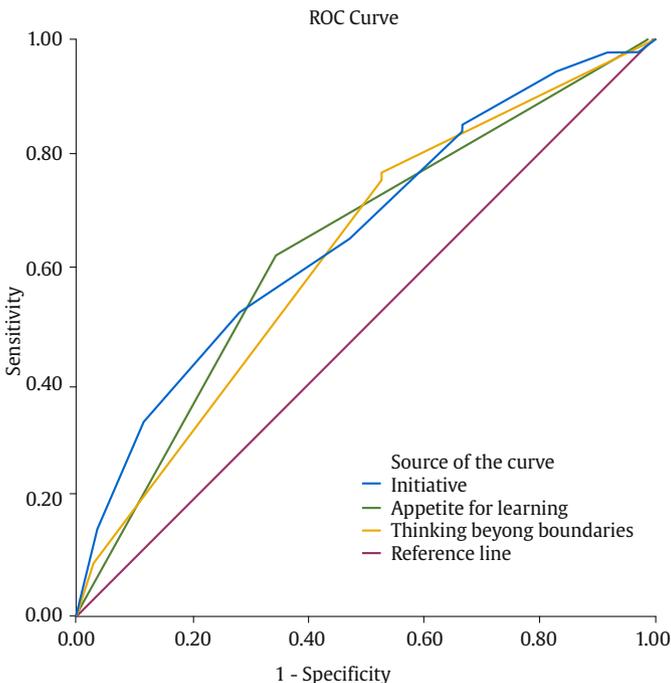


Figure 1. ROC Curves for the Scores of the Significant Competences as Predictors of HP.

Regression Analysis

Table 5 presents the results of the bootstrapped hierarchical logistic regressions to predict HP, which included the variable gender in step 1, adding the cognitive-intrapersonal competences in step 2 and the emotional-interpersonal ones in step 3. The model in step 1 was significant ($\chi^2 = 9.187$, $p = .002$), indicating that the variable gender has predictive power for HP. Next, we added the cognitive-intrapersonal competences to the predictive model (step 2), producing significant improvement in prediction of HP relative to step 1 ($\chi^2 = 72.428$, $p = .000$). Finally, we included the emotional-interpersonal competences and did not obtain significant improvement over the previous model ($\chi^2 = 3.242$, $p = .518$). These results support H1, since the cognitive-intrapersonal competences and the variable gender better predict HP (percentage of correct classifications of HP = 75.3%, Nagelkerke R

squared = .142) than do the relational-socioemotional competences.

Lastly, we calculated the ROC curves of the scores for the three significant competences in classifying subjects with high performance. Figure 1 presents the three ROC curves with estimates of the total area under the curve (AUC) and the confidence interval. Diagnostic accuracy was acceptable for Initiative (AUC = .66, 95% CI [.62, .71]), slightly lower for Appetite for learning (AUC = .65, 95% CI [.60, .69]), and lower still for the variable Thinking beyond boundaries (AUC = .63, 95% CI [.59, .67]). These AUC values could be considered as poor according to some classifying systems (e.g., Safari et al., 2016). However, we should highlight that AUC values above .50 show reasonable discriminating ability (Mandrek, 2010). Optimal cut-off points for HP classification, and the sensitivity (Se; probability to predict a positive outcome when it is positive – true positive rate) and the 1- specificity rates (Sp; probability to predict a positive outcome when it is negative – false positive rate) were calculated for each competence, with a cut-off at 2.60 for Initiative (Se = .85, Sp = .67), at 3.50 for Appetite for learning (S = .63, Sp = .35), and at 2.80 for Thinking beyond boundaries (S = .75, Sp = .53).

Analyses Disaggregated by Gender

First, we compared the scores of men’s and the women’s competences and found that men obtained significantly higher scores on Thinking beyond boundaries ($t = 2.347$, $p = .019$, 95% CI [.014, .189]) than women (men, $M = 2.64$, $SD = 0.605$; women, $M = 2.54$, $SD = 0.621$), while women scored significantly higher ($t = -3.844$, $p = .001$, 95% CI [-0.254, -.076]) on Appetite for learning (women, $M = 3.45$, $SD = 0.616$; men, $M = 3.28$, $SD = 0.610$).

We subsequently performed bootstrapped logistic regressions disaggregated by gender to predict HP (see Table 6). For women, the competences were significant for Initiative ($b = 1.126$, $p = .010$) and Thinking beyond boundaries ($b = 0.645$, $p = .016$), with 72.1% correct classifications of Nagelkerke R squared (.182). For men, the only significant competence was Appetite for learning ($b = 0.818$, $p = .001$), with 78.2% correct classifications of HP (Nagelkerke R squared = .118).

These results only partially support the proposed H2, as they indicate differences in the competence scores and the relationship pattern between the competences and the criterion based on the employee’s gender. In the case of both women and men, however, the competences that best predicted HP were from the cognitive-intrapersonal category.

Discussion

The main goal of this study was to analyze which competences predict HP of employees in a large multinational service organization and whether these competences differ by gender.

The results support the first hypothesis, indicating that cognitive-

Table 6. Bootstrapped Logistic Regression Analyses to Predict HP Disaggregated by Gender

Predictors	<i>b</i> and 95% Bootstrap CI	95% CI for Odds Ratio		
		Lower	Odds	Upper
Men (<i>n</i> = 487) Nagelkerke <i>R</i> squared = .118, $\chi^2 = 38.837$, <i>p</i> = .000, overall percentage = 78.2				
Constant	-6.574 [-9.432, -4.111]**	-	0.001	-
Initiative	0.183 [-0.594, 0.947]	0.573	1.201	2.521
Appetite for learning	0.818 [0.380, 1.339]**	1.436	2.265	3.574
Thinking beyond boundaries	0.353 [-0.128, .919]	0.894	1.424	2.267
Commitment	-0.175 [-0.930, 0.597]	0.391	0.840	1.805
Cooperation	0.350 [-0.562, 1.339]	0.587	1.419	3.432
Maturity	-0.009 [-0.521, 0.551]	0.606	0.991	1.619
Understanding of others	0.163 [-0.321, 0.711]	0.726	1.177	1.911
Women (<i>n</i> = 319) Nagelkerke <i>R</i> squared = .182, $\chi^2 = 44.319$, <i>p</i> = .000, overall percentage = 72.1				
Constant	-6.238 [-9.171, -4.111]**	-	0.002	-
Initiative	1.126 [0.356, 2.134]*	1.366	3.083	6.959
Appetite for learning	0.089 [-0.511, 0.734]	0.635	1.093	1.881
Thinking beyond boundaries	0.645 [0.124, 1.228]*	1.101	1.905	3.299
Commitment	-0.236 [-1.370, 0.741]	0.320	0.790	1.950
Cooperation	0.212 [-0.914, 1.240]	0.461	1.236	3.315
Maturity	-0.270 [-0.959, 0.323]	0.434	0.763	1.342
Understanding of others	0.317 [-0.303, 0.985]	0.761	1.373	2.476

p* < .05, *p* < .01.

intrapersonal competences better predict classification as HP, especially the competences Initiative, Appetite for learning, and Thinking beyond boundaries.

In order of strength in predicting HP, the first competence was Initiative. Initiative implies a predisposition to take action. People who score high on Initiative is proactively action oriented. This factor type serves to differentiate groups with HP from those with low potential in organizations and predicts superior managerial performance (Jena & Sahoo, 2014).

The second competence is Appetite for learning. This competence has been referenced by different authors as a key competence for the identification of high potential (Church & Seaton, 2022; De Meuse, 2017; Groves & Feyerharm, 2022), as it is future-oriented, enabling the individual to adapt quickly to new and changing situations. Inclusion of this competence follows Nijs et al. (2014), who indicate that the HP employee must have the capability to learn and grow from opportunities and experience. It is also associated with potential to rise (e.g., Lombardo & Eichinger, 2000) and closely related to variables such as executive intelligence (Menkes, 2006). Its relationship to professional success has been demonstrated (Finkelstein et al., 2018; Ng et al., 2005), justifying its presence as a predictor of HP.

The third competence with capability to predict HP is Thinking beyond boundaries. People who score high on this competence work well in situations that require openness to new ideas and experiences, are innovative and creative, and have an openness to new experiences (Kurz et al., 2018). Closely linked to personality trait openness and intellectual curiosity, this competence has also been considered an excellent predictor of success in most fields, both academically and professionally (Schmidt & Hunter, 2004).

The above-mentioned cognitive-intrapersonal competences show common characteristics that lead us to think of a model oriented to development. Since HP indicates what an employee could become, willingness and motivation for growth and learning are essential elements (Finkelstein et al., 2018). In fact, the three competences that form part of this factor could be related to three of the four components of "learning agility" (De Meuse et al., 2010): results agility (Initiative), mental agility (Appetite for learning), and change agility (Thinking beyond boundaries). This pattern also has a component related to innovative behavior, meaning that employees contribute new ideas or suggestions to improve any aspect of the

organization (Chen et al., 2020). This quality is captured in the competence that best predicts HP, Thinking beyond boundaries. Various authors have demonstrated its importance for future performance in terms of entrepreneurship and innovation (Chen et al., 2020; Dyer et al., 2008; Kurz et al., 2018).

As to the second hypothesis proposed, on the gender-based differences in HP competences, we observe that women show greater weight in Initiative and Thinking beyond boundaries, and men greater weight in Appetite for learning. We do not find differences between men and women for the communal or agentive competences. Further, the different weights of these competences for men and women may reflect the different significance of HP for the assessors. The assessors may require a higher level of action and results (Initiative and Thinking beyond boundaries) and of desire to learn for men (Appetite for learning). That is, women would have to demonstrate that they are willing to go farther and innovate, whereas men want to develop their potential.

Theoretical and Practical Implications

These results have several implications and recommendations, for both academic specialists and HR practitioners. First, they contribute to defining the concept of HP as a type of future talent that can be identified with behavioral predictors. The study also supports the theoretical corpus of research on competence-based positionings in predicting HP (e.g., Silzer & Church, 2010) and supporting models that classify HP-related competences into two categories (cognitive and emotional), like those identified by Dries and Pepermans (2012), Groves and Feyerherm (2022), and Finkelstein et al. (2018).

For human resource professionals, the results provide important information on which competences best predict HP. The results should help, for example, to improve tests and assessment centers, making them much better at evaluating competences (Dulewicz & Higgs, 1999). They may also contribute to improving the effectiveness of development actions for employees in the field of HP, delimiting the objectives and content of actions necessary. ROC analyses have provided evidence of the performance of the HP classification model. Cut-off points provided for Initiative, Appetite for learning, and Thinking beyond boundaries can serve as a reference for practitioners in future assessments (so that above

the identified cut-offs employees can be classified as HP with hit and miss percentages in the classification according to sensitivity and 1-specificity rates respectively).

Limitations

The first limitation involves the study's inclusion only of competences that form part of the TM model of the organization where the study was performed. Although the model was developed and applied with rigor, it is possible that it did not include all competences relevant to prediction of HP.

Second, the data were collected through self-report instruments and interviews, which may give rise to bias in the assessment process and limit the variables' predictive validity.

The third limitation involves the possibility of generalizing the results. It is advisable to use more varied samples across different organizational environments (e.g., small and medium companies) and different sectors and to expand the number and type of assessment tools (e.g., situational evaluations). Further such studies would make it possible to determine whether the results obtained in this study are generalizable.

Fourth, regarding the ROC analyses, a limitation related to what is discussed in this paper is that the AUC values cannot be considered excellent and that more empirical evidence is needed to improve the accuracy of the prediction model.

Finally, most research on TM—this study included—shows substantial Anglo-American influence and was performed in the private sector on multinational organizations (Gallardo-Gallardo & Thunnissen, 2016). The concepts and practices based on this literature are not fully transferrable to other kinds of organizations, such as medium-sized and large (non-multinational) organizations, or to organizations in other cultures.

Suggestions for Future Research

This study considers future performance based on a list of competences. In such research, the concept of HP assumes the relationship between predictors (in our case, competences) and specific performance criteria. One issue we were not able to consider here was the inherent time lag between assessment of competences and their relationship to the performance criteria of the future job. Research should thus focus on confirming these relationships through long-term studies.

Another possible study could analyze the relationship between the indicators of the pattern identified and other kinds of indicators in other competence models—even those not specific to HP, such as Bartram's Great Eight competences (2005), the leadership competences proposed by Hollenbeck et al. (2006), Mumford et al.'s (2017) leadership development skills, or those of the HP-leader identified by Charan (2017). Such studies could attempt to verify whether these kinds of indicators belong to the same competence group and determine their connections with other groups. Nori et al. (2018), for example, explained such connections by demonstrating the relationship between emotional indicators and creativity.

It would also be useful to deepen knowledge of the moderating role of the competence Appetite for learning, which is similar to that of growth and learning identified by Filkenstein et al. (2018), given this competence's contribution to the model of Silzer and Church (2009).

Finally, we recommend that research continue to advance in constructing a model of HP, which, as mentioned, should include not only an operational definition of HP that enables determination of what competences characterize HP and how to identify, assess, and develop these competences in different types of organizations, but also what type of factors may be affecting judgments about HP (see, for example, Le Sante et al., 2021).

Conflict of Interest

The authors of this article declare no conflict of interest.

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