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The Cross-Country Generalizability of High-Performance Work Practices and Interactions of Internal Promotions with Organizational Capital and Innovation Strategy on Market, Operational, and Financial Performance

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Abstract:
High Performance Work Practices (HPWPs) research lacks a consistent measure with good psychometric properties impeding the growth and accumulation of knowledge. This study provides empirical support for a reliable, multi-dimensional, cross-culturally generalizable, and valid measure of HPWPs. The Ability, Motivation, and Opportunity (AMO) framework provided a theoretical foundation (Appelbaum, Bailey, Berg, & Kalleberg, 2000). This new measure maps onto each of the three dimensions of the AMO framework. Data from multiple managers working for companies in 18 different countries (N = 3,289) showed cross-cultural measurement equivalence and other good measurement properties. Validity was demonstrated by focusing on one understudied practice, Internal Promotions, showing that it generally has a positive impact on organizational performance. However, in organizations with higher Organizational Capital, or those organizations using an Innovation Strategy, Internal Promotions impaired organizational performance, thereby confirming theory based hypotheses derived from the Peter Principle. This demonstrated how the measurement of distinct practices can be used as a basis for studying intriguing questions about HPWPs.

Keywords: High Performance Work Practices, Measure, Cross-Cultural

INTRODUCTION

Despite considerable evidence showing that HPWPs are associated with improved performance (Arthur, 1992; MacDuffie, 1995; Shin & Konrad, 2017), there are critical limitations in this field of research, as discussed in recent reviews (Combs, Liu, Hall, & Ketchen, 2006). The central issue is the lack of a widely accepted measure of HPWPs. This study address this concern by developing a multi-dimensional, cross-cultural, and validated measure of HPWPs.

Prior Measures

Huselid's (1995) seminal work contained a 13-item measure of HPWPs that was broken down into 2 categories with marginal Chronbach alpha scale reliabilities: Employee Skills and Organizational Structures (α = .67) and Employee Motivation (α = .66). While that study was highly successful in showing the positive impact of HPWPs on organizational performance, it did not enable researchers to study the impact of more than 2 subcategories of practices. For example, questions about whether recruiting and selection practices are more effective at increasing organizational performance than other practices like pay for performance could not be readily answered using this scale.

More recently, a study of Canadian firms identified 5 sub-dimensions of HPWPs (Shin & Konrad, 2017). Unfortunately, in that study the empirical evidence that all 5 factors tended to work together as one system and did not find different effects for different practices thereby precluding the identification of differential effects for different practices.

Unless the complete domain of commonly used practices is measured, the validity of research findings could be questioned because other unmeasured practices could account for observed results. Nevertheless, it is not often feasible to use long surveys collect data that measures all practices. Therefore, a measure of HPWPs is needed that has good measurement properties, multiple dimensions, taps into the full domain of practices, and yet is sufficiently concise that it can be used by researchers.

Prior research has also shown that individual HPWPs can have positive impact on overall measures of organizational performance, and that conglomerated measures of multiple dimensions of HPWPs, also referred to as systems, can have positive impact on different dimensions of organizational performance (Combs et al., 2006). However, an intriguing question still remains. That question is whether different individual practices have a predictable impact on different facets of organizational performance. We seek to demonstrate that this question can be addressed by measuring multiple individual practices and multiple outcomes.

Most prior empirical studies measured different practices and measured them in different ways (Boselie, Dietz, & Boon, 2005; Guest, 2011). Without agreement on what HPWPs to measure and how to measure them, comparing studies and drawing conclusions on which future studies can build, is impossible (Boselie et al., 2005; Guest, 2011). This impairs the growth and development of a body of knowledge in this field.

This difficulty was discussed by Dyer and Reeves (1995). In their review of four studies aimed at developing HR strategy configurations, Dyer and Reeves (1995) found that the number of HR practices measured in each of the studies varies greatly in number as well as content. Though the four studies are similar in purpose, only one HR practice appears in all four studies and of the 28 practices that appear in total, 22 of them appear in only one of the four studies. Thus, it is no surprise that the studies each resulted in different HR strategy configurations. In the first study, Ichniowski (1990) uncovered nine HR strategy configurations. Of the nine configurations, the commitment HR model was associated with greater productivity and higher Tobin's q than the other models. A few years later, Ichniowski and colleagues found evidence of three HR configurations (Ichniowski, Shaw, & Prennushi, 1997) in which the innovation system outperformed the mixed model and traditional systems in both productivity and quality. In 1992, in his study of steel mills, Arthur discovered two HR strategy configurations (Arthur, 1992). The HR configuration he termed the commitment strategy had significantly higher levels of

productivity (measured by labor hours per ton of steel produced) and quality (measured using scrap rate) than the control strategy. The fourth study reviewed MacDuffie (1995), examined the auto industry and found that the HR configuration which he called the flexible or lean HR system resulted in higher levels of productivity and quality, as measured by JD Power scores, than either the transitional or mass production systems found in the study.

However, because the measurement of HR practices in these studies varies, the reason for the success of the high investment configurations remains unclear. To truly understand what accounts for the success of HPWPs it should be measured the same way across studies. An agreed-upon measure of HPWPs will facilitate the development of consistent answers to research questions. Therefore, this study addresses this need by developing and validating a measure of HPWPs (Toh, Morgeson, & Campion, 2008; Ichniowski et al., 1997; Wright & Boswell, 2002).

OVERVIEW

We began with a conceptual model based on the AMO framework and then used empirical data to examine a previously published taxonomy of HPWPs (Posthuma, Campion, Masimova, & Campion, 2013). Below, we first briefly explain how the taxonomy was created and represents the domain of the AMO model. Second, we explain how we used survey data from a U.S. sample to examine the factor structure of this taxonomy in order to validate a more concise number of meaningful multiple dimensions of HPWPs. Third, we explain how we used authors from 18 countries to multiple the refined measure of HPWPs in 18 countries with different cultures. This enabled us to further refine the measure to identify a shorter scale that is generalizable across cultures. Fourth, we explain how we demonstrated the good psychometric properties and validity of this measure by comparing it with other variables in Anglo and Asian cultures. Lastly, we explain how we further demonstrated the validity usefulness of the measure by showing how it can be used to test the hypothesized relationships between individual practices and other variables practices (e.g., internal promotions interacting with innovation business strategy).

Taxonomy of HPWPs

This study builds on the conceptual foundation that generated a taxonomy of HPWPs. With the objective of providing clarity and structure to the "fuzzy" area of HPWPs (Boxall & Macky, 2009), Posthuma et al. (2013) developed a taxonomy that captures a wide variety of HPWPs. This taxonomy was developed by reviewing and analyzing all HPWPs found in peer-reviewed academic articles published over 20 years (1992 – 2011). This extensive process resulted in 63 individual HR practices. These original categories of HPWPs were Recruiting and Selection, Compensation and Benefits, Communications, Training and Development, Promotions, Job and Work Design, Performance Management and Appraisal, Employee Relations, and Turnover and Retention. These reflected similar groupings in the literature (e.g., Ichniowksi et al., 1997; Wright & Boswell, 2002). This provided a foundation for clarification of the field of HPWPs. However, we build on that effort by conceptualizing how practices fit into the nomological theoretical framework identified in the Ability, Motivation Opportunity framework (Appelbaum et al., 2000).

Ability, Motivation, Opportunity

HPWPs can be mapped onto HR systems (MacDuffie, 1995). We extend this line of research by showing how HPWPs can enhance organizational effectiveness by improving three things: employee knowledge, skills and abilities (Ability), employee motivation (Motivation), and creating an environment in which employees have opportunities to perform at higher levels (Opportunity) (Appelbaum et al., 2000). Table 1 shows how HPWPs map onto AMO dimensions.

We explain the rationale for this mapping to indicate how each practice could enhance each AMO factor. The result is the integration of practices with AMO factors thereby suggesting a useful nomological network.

Table 1: HPWPs Matched with AMOs

HPWPs	Ability	Motivation	Opportunity
Recruiting and Selection	X	X	
Compensation and Benefits	X	X	
Communications	X	X	X
Training and Development	X	X	
Job and Work Design		X	X
Promotions		X	X
Performance Management and Appraisal	X	X	
Employee Relations		X	X

Recruiting and selection can increase the quality and intrinsic motivation of employees and thereby enhance ability and motivation. Compensation and benefits can enhance the ability of the workforce by attracting better candidates increasing ability, and pay for performance can increase their motivation. Communications can increase ability by enabling employees to understand strategies, target their efforts, etc. and thereby increase the ability; and communications can contain inspirational messaging thereby enhancing motivation. Training and development can increase the skills of the workforce thereby enhancing ability and contain motivation and inspiration thereby enhancing motivation. Job and work design can include motivational job design thereby improving motivation, and create prospects for employees to perform better thereby increasing motivation and opportunity. Promotions can create opportunities for employees to move up in the organization thereby improving motivation, and enable those with higher level skills to be promoted into positions where they can use those skills increasing opportunity. Performance management and appraisal can increase ability by identifying employee weaknesses that need to be corrected increasing ability and provide feedback to employees to improve their performance thereby increasing motivation. Employee relations can increase positive attitudes and thereby enhance motivation. We did not include turnover and exit management in this mapping because our review of the literature indicated turnover is usually considered an outcome rather than a practice.

Instrument Development and Validation

We followed Hinkin's (1998) guidance on the measure generation process: item generation, questionnaire administration, initial item reduction, confirmatory factor analysis on a new sample, convergent/discriminatory validity, and replication. Items that measured practices that did not load well with others were dropped because they could cause confusion for others responding to this measure. Since our goal is to identify distinct and distinguishable practices that are measured with multiple items to ensure reliability, this iterative winnowing process was necessary to drop items that did not hold together well resulting in low reliability consistent with recommended practices (Hinkin, Tracey, & Enz, 1997). This recursive interactive process also stimulated insights that were used by the authors to modify the names of the groups of practices to better identify their unique nature (Job and Work Design became Empowerment, Compensation and Benefits became Pay for Performance, Promotions became Internal Promotions, and Performance Management became Performance Appraisal).

Initial Data Collection

A questionnaire containing all 63 HR practices in Posthuma et al.'s (2013) taxonomy was administered online to HR managers working in the U.S. For each of the 63 items, participants were asked to rate how many employees in their organization were subject to each HR practice. Ratings ranged from 1 (none or very few) to 5 (all or nearly all). The survey was emailed to 458,513 HR professionals found in LexisNexis. A total of 722 questionnaires were returned for a response rate of .16 percent. Of these surveys, 119 were missing an excessive amount of data, leaving us with 603 usable surveys. Although small samples with low response rates could be representative samples and therefore valid, some may be concerned that this indicates response bias. Therefore, we followed the recommended procedure to test for this by comparing early and late respondents were compared. Linder, Murphy, and Briers (2001) has shown that late respondents can be used as a proxy for non-respondents (Rogelberg, & Luong, 1998). The effect sizes between groups for each variable were measured using Cohen's d (Cohen, Cohen, Aiken, & West, 2013) All fell below .27, indicating that there is no significant difference between groups (Cohen et al, 2013). This suggests that response bias as not a problem.

When reviewing the surveys with the most missing data, it became clear that most of the items missing data appeared later in the survey. This indicated that the length of the survey might be an issue, which can potentially lead to problems with respondent fatigue and bias (Hinkin, 1995). Therefore, we shortened the survey for future samples would reduce the likelihood of such problems. The 63 items were qualitatively evaluated by management faculty members for redundancy, clarity, and generalizability. Items thought to be redundant, along with those which were vague or left themselves open to misrepresentation, were eliminated (e.g. frequent or regular meetings with employees, innovative recruiting practices). Also eliminated were items that did not translate easily to other countries or cultures (e.g. diversity and equal employment opportunity, labor union collaboration). The resulting list contained 42 items, shown in Table 2.

Table 2: Reduced list of 42 HPWPs

Recruitment and Selection	**Communication**	**Job and Work Design**
		Decentralized participative decision making
Hiring few of those who apply	Formal information sharing program	
Specific and explicit criteria used to hire employees	Employees receive info about the org's perf and strategy	Project or other temporary work teams
Multiple selection methods to screen job applicants	Employee input and suggestion processes	Job analysis
Employment tests or structured job interviews	Frequent or regular meetings with employees	Job rotation or cross functional employee utilization
Planning for selection and staffing procedures		Self-managed work teams, quality teams, etc.
	Training and Development	Employee discretion and autonomy
Compensation and Benefits	Extensive training	Job enlargement and enrichment
Pay for performance	Training improve performance	
Formal performance appraisal for pay increases	Training for job or organization-specific skills	**Performance Management and Appraisals**
Competitive and fair pay compared to other orgs	Training for career development	Appraisals based on objective results or behaviors
Incentive compensation	Cross-functional or multi-skill training	Appraisals used for development or potential
Comprehensive fringe benefits	New employee training and orientation	Frequent performance appraisal meetings
Profit sharing or gain sharing		

Group-based pay	**Promotions**	**Employee Relations**
Pay for skills or knowledge	Employees are promoted from within the org	Job security or an emphasis on permanent jobs
Employee stock ownership	Promotions are objectively based on merit	Low status differentials between employees and mgrs.
Public recognition or non-financial rewards	Career planning	Employee opinion and attitude surveys
	Many opportunities to get promoted	
	Defined career paths and job ladders	

Initial Item Reduction

Data were split into two subsamples. A calibration sample (n=300), was used to develop the measure. A validation sample (n=303) was used to confirm the stability of the measure.

Exploratory Factor Analysis (EFA) identified underlying factors. Using Kaiser's criterion, there were nine factors with eigenvalues exceeding 1, explaining 64.9% of total variance. No factor accounted for over 50% of the variance. Using Varimax rotation, items with low factor loadings (< .40) or problematic cross-loadings were eliminated (Hair, Black, Babin, Anderson, & Tatham, 2006). Factors with fewer than two items were also eliminated. The result was a 28-item, seven-factor solution explaining 70.1% of variance (Table 3).

Table 3: Exploratory Factor Analysis Results, U.S. Subset 1 (n=300)

Factor		Training & Development	Job & Work Design	Recruitment & Selection	Promotion	Perf. Mgmt. & App.	Comm.	Pay & Benefits
TD	Training to improve performance	**0.875**	0.142	0.177	0.188	0.153	0.147	0.086
TD	Training for job or organization-specific skills	**0.795**	0.17	0.232	0.164	0.111	0.131	0.077
TD	Extensive training	**0.731**	0.092	0.235	0.253	0.157	0.141	0.051
TD	Training for career development	**0.595**	0.183	0.215	0.354	0.115	0.132	0.126
TD	Cross-functional or multi-skill training	**0.498**	0.3	0.165	0.277	0.063	0.224	0.107
JWD	Decentralized participative decision making	0.089	**0.697**	0.069	0.127	0.177	0.085	0.083
JWD	Job enlargement and enrichment	0.195	**0.649**	0.094	0.222	0.074	0.157	0.167
JWD	Self-managed work teams, quality teams, etc.	0.072	**0.641**	0.058	0.012	-0.073	0.086	-0.003
JWD	Employee discretion and autonomy	0.089	**0.63**	0.128	0.063	0.002	0.101	0.143
JWD	Project or other temporary work teams	0.082	**0.617**	0.075	0.083	0.141	0.044	0.105
JWD	Job rotation or cross functional employee utilization	0.114	**0.568**	0.107	0.243	0.069	0.008	0.061
RS	Planning for selection and staffing procedures	0.217	0.118	**0.746**	0.261	0.169	0.138	0.065
RS	Employment tests or structured job interviews	0.165	0.115	**0.69**	0.187	0.079	0.079	0.001
RS	Multiple selection methods to screen job applicants	0.173	0.191	**0.688**	0.053	0.123	0.213	0.081

RS	Specific and explicit criteria used to hire new employees	0.24	0.096	**0.61**	0.088	0.243	0.155	0.104
Promo	Defined career paths and job ladders	0.245	0.215	0.154	**0.693**	0.218	0.069	0.141
Promo	Career planning	0.247	0.143	0.202	**0.691**	0.182	0.239	0.155
Promo	Many opportunities to get promoted	0.281	0.228	0.233	**0.661**	0.162	0.117	0.102
Promo	Employees are promoted from within the organization	0.238	0.163	0.092	**0.47**	0.114	0.154	0.054
PMA	Appraisals based on objective results or behaviors	0.154	0.053	0.257	0.206	**0.788**	0.201	0.152
PMA	Appraisals used for development or potential	0.21	0.122	0.244	0.244	**0.757**	0.243	0.162
PMA	Frequent performance appraisal meetings	0.271	0.222	0.189	0.264	**0.48**	0.237	0.147
Com	Employee input and suggestion processes	0.271	0.21	0.22	0.182	0.138	**0.695**	0.063
Com	Formal information sharing program	0.198	0.257	0.171	0.209	0.213	**0.622**	0.123
Com	Employees receive info about org perf and strategy	0.156	0.147	0.291	0.159	0.253	**0.591**	0.138
CB	Pay for performance	0.134	0.115	0.024	0.084	0.155	0.088	**0.798**
CB	Incentive compensation	0.058	0.24	0.08	0.121	0.018	0.106	**0.65**
CB	Formal performance appraisal for pay increases	0.054	0.082	0.101	0.121	0.418	0.021	**0.509**

Note: Pattern matrix shown. Principal axis factoring, Varimax rotation. KMO measure of sampling adequacy = .92. Variance extracted = 70.10%. TD = Training and Development, JWD = Job and Work Design, RS = Recruiting and Selection, Promotion = Internal Promotions, PMA = Performance Management and Appraisal, Com = Communications, CB = Compensation and Benefits.

Confirmatory Factor Analysis

We used Confirmatory Factor Analysis (CFA) to improve the scale. Following Hinkin (1998), we used a separate validation data set (n = 303), for this step. The 28-item, seven-dimension HPWP measurement model was estimated using AMOS 23 with maximum likelihood estimation. Initial model fit was poor ($\chi^2_{(329)} = 637.57$; NFI = .87; CFI = .93; RMSEA = .056; SRMR = .053). To improve fit, we eliminated the five items that had the lowest factor loadings, and items that accounted for multiple high modification indices. Model fit was greatly improved ($\chi^2_{(231)} = 344.72$; NFI = .91; CFI = .96; RMSEA = .046; SRMR = .046).

Convergent and Discriminant Validity

Convergent validity was confirmed by ensuring that individual items loaded significantly onto their expected factors (Anderson & Gerbing, 1988; Arnold & Reynolds, 2003). Table 4 shows factor loadings all exceed .62 and are significant at the $p < .001$ level, supporting convergent validity.

Table 4: Confirmatory Factor Analysis: Item Loadings and Inter-Factor Correlations for 23-Item Model

Dimension	Factor Loading*
Training & Development (Mean = 9.90, SD = 3.15, α = .88)	
Training to improve performance	0.86
Extensive training	0.82
Training for job or organization-specific skills	0.84
Job & Work Design (Mean = 11.95, SD = 3.47; α =.75)	

Employee discretion and autonomy	0.82
Decentralized participative decision making	0.62
Job enlargement and enrichment	0.72
Promotion (Mean = 11.79, SD = 3.50; α = .86)	
Career planning	0.81
Defined career paths and job ladders	0.81
Many opportunities to get promoted	0.83
Employees are promoted from within the organization	0.67
Recruitment & Selection (Mean = 14.12, SD = 4.15; α = .81)	
Planning for selection and staffing procedures	0.84
Multiple selection methods to screen job applicants	0.67
Employment tests or structured job interviews	0.68
Specific and explicit criteria used to hire new employees	0.69
Compensation & Benefits (Mean = 9.83, SD = 3.78; α = .74)	
Incentive compensation	0.65
Pay for performance	0.8
Formal performance appraisal for pay increases	0.65
Communication (Mean = 10.68, SD = 3.34; α = .82)	
Employees receive info about org's performance and strategy	0.74
Employee input and suggestion processes	0.83
Formal information sharing program	0.75
Performance Management & Appraisal (Mean = 10.13, SD = 3.35; α = .83)	
Appraisals based on objective results or behaviors	0.84
Appraisals used for development or potential	0.85
Frequent performance appraisal meetings	0.71

* All factor loadings are significant at the p < .001.

Although HPWP factors were related, they also exhibited discriminant validity indicated by variance extracted estimates that exceeded squared inter-factor (phi) correlations (Arnold & Reynolds, 2003). All but one variance extracted estimates met this requirement. The variance extracted estimate for Communications (.60) is slightly lower than the Performance Management and Appraisal/Communication phi correlation (.61). Therefore, additional discriminant validity testing was performed. Suspect factors (Performance Management and Appraisal, and Communications) were combined and compared with the seven-factor model (Anderson & Gerbing, 1988; Arnold & Reynolds, 2003). The chi-square difference test showed that the alternative six-factor model had significantly worse fit ($\Delta\chi^2_{(6)} = 75.05$, $p < .001$).

Cross-Cultural Replication

In a global economy marked by continued globalization and ever-increasing cross-national competition, firms seek the best practices for managing their workforce. Institutional theory provides a basis for suggesting that organizations in different countries may accede to institutional pressures to adopt similar set of HPWPs because of mimetic and normative isomorphism (DiMaggio & Powell, 1983; Björkman, Fey, & Park, 2007). Mimetic isomorphism is the process of adopting practices based on the practices of other successful organizations. Normative isomorphism is the process by which organizations adopt practices based on the social norms of professional organizations (Björkman et al., 2007). These institutional processes can induce firms to adopt an increasingly homogeneous set of HPWPs (Heugens & Lander, 2009). Further, as research continues to find that increased investment in HPWPs is positively related to performance, organizations will feel even more pressure to adopt standard HPWPs. Therefore, we expect the seven-factor, 23-item measure of HPWPs will be generalizable across cultures.

- *Hypothesis 1: The seven-factor, 23-item HPWPs measure will be generalizable across cultures.*

Validity and Usefulness of the Refined Measure of HPWPs

Measure Validity:

To test the validity of the individual measures of HPWPs we examined whether they were more likely to be (positively or negatively) correlated with factors to which they should be logically related, and less likely to be correlated with other factors to which they should not be correlated. The primary objective of this analysis was to empirically demonstrate how this measure logically fits into the nomological network of prior research on HPWPs and its correlates.

Prior research suggests that change and innovation may be a reason that firms adopt HPWPs (Pil & MacDuffie, 1996). However, HPWPs have been shown to increase labor costs and therefore are probably not a good fit with a firm that has a strategy that focuses on low costs (Cappelli & Neumark, 2001). We expected that individual HPWPs would be more likely to be positively related with a firm's innovation strategy than with a firm's low-cost strategy. Managers choose HPWPs that will enhance employee competencies needed to contribute to implementing the organization's strategy (Jackson, Schuler, & Rivero, 1989). An important capability that innovative companies need is the ability to respond to changes in the environment. Organizations that rely on innovation will implement HPWPs that help attract highly skilled employees, including competitive compensation, good recruitment, and selection practices enabling flexibility.

- *Hypothesis 2: Individual HPWPs will be more likely to be positively related to an innovation strategy than a low-cost strategy.*

The Resource Based View (RBV) (Barney, 1991) considers organizations as networks of resources and capabilities (Wernerfelt, 1984; Rumelt, 1984). When these create value for the firm, and are difficult for competitors to imitate, they have the potential to become a sustained competitive advantage (Barney, 1991; Dierickx & Cool, 1989). Firm resources include: physical capital, human capital, social capital, and organizational capital (Barney, 1991; Snell, Shadur, & Wright, 2001). Human capital and social capital are employee-centered and are directly impacted by HPWPs (Youndt & Snell, 2004).

Human capital consists of the knowledge and skills of employees (Youndt & Snell, 2004). Compensation and Benefits practices can attract employees with higher human capital. Training and Development increases employee human capital. Empowerment facilitates decentralized decision making and autonomy encouraging employees to work through problems, increasing critical thinking.

Social capital refers to tacit exchanges that enable sharing and integration of knowledge within an organization and with outside partners (Youndt & Snell, 2004). HPWPs can encourage employees to develop relationships and use those relationships to benefit the organization by using promotions as a reward for higher social capital (Snell et al., 2001). Also, long-term relationships and effective communication are important elements of social capital. This will encourage consistent communication and elevate trust, increasing employee willingness to interact, cooperate, and share information within an organization and outside the organization to its social network (Jiang & Liu, 2015). Also, RBV, HPWPs has implications for the level of organizational resources in the firm's employees (Boselie et al., 2005). Specifically, we

hypothesize that individual HPWPs are positively correlated with human capital, social capital, and organizational capital.

- *Hypothesis 3: Individual HPWPs will be positively related to human, social, and organizational capital.*

Prior research has demonstrated that high performance work systems can have a positive effect on retention thereby reducing employee turnover (Combs et al., 2006). However, our expectation is that the driving force behind these systems is the individual HPWPs. Therefore, we expect that those individual practices will reduce turnover.

- *Hypothesis 4: Individual HPWPs will be negatively related to employee turnover.*

Similarly, prior research has demonstrated that high performance work systems can have a positive effect on organization performance (Combs et al., 2006). However, our expectation is that the driving force behind these systems is the individual HPWPs. Therefore, we expect that those individual practices will have a positive relationship with multiple dimensions of organizational performance.

- *Hypothesis 5: Individual HPWPs will be positively related to multiple measures of organizational performance.*

Usefulness for Theory-based Hypothesis Testing: The Peter Principle

The usefulness of a scale is an additional factor that demonstrates value of a new scale (Hogan & Hogan, 1989). In order to demonstrate usefulness, a scale should be used to collect data, and the data collected should be used to test insightful theory-based hypotheses. In this section we test the usefulness of this new multi-factor scale to demonstrate theory based hypotheses.

Scholars have suggested that if an employer institutes practices that promote current employees from within the organization there will be a positive impact on employee commitment (Dressler, 1999). By providing the incentive of a possible promotion, employees may choose to engage in improved performance, thereby benefiting their organization (Dressler, 1990). However, a countervailing force against the positive impact of internal promotions is that people may sometimes be promoted into situations beyond their level of competence (Fairburn & Malcomson, 2001). Thus, the actual relationship between the use of internal promotions and organizational performance is more complex than previously thought.

We hypothesize that effectiveness of internal promotions will depend on the environment in which that practice is used. This is consistent with the contingency theory proposition that there is no one best and universal practice that is always superior to other practices (Lawrence & Lorsch, 1967; Pennings, 1987). We expect that the success of the use of internal promotions will depend on the level of organizational capital that the firm has established.

Firms need to be willing to change, adapt, and innovate in order to thrive in a competitive business environment. Yet, firms that have higher levels of organizational capital will have established systems that indicate ongoing bureaucratic like systems that have proven to be successful in the past and therefore will resist change and innovation (Sharma, 1999). Similarly, high levels of social capital can have a positive impact on firm performance (Jiang & Liu, 2015). However, the past positive influence of social capital may also hinder an organization from being willing to change and innovate in a competitive business environment. If an organization tends to promote from within its own organization it will tend to perpetuate the past and enhance the strength,

resistance, and intractability of its bureaucracy (Teodoro, 2009). Therefore, using internal promotions will impair organizational performance in this environment.

- *Hypothesis 6: The positive impact of internal promotions on organizational performance will be reduced in organizations with high social or organizational capital.*

Similarly, when organizations need to change and adapt to maintain their competitive advantage in the marketplace, the use of internal promotions could have a negative effect. Candidates from within the organization will have proved their worth based on past performance and therefore will tend to prefer doing things the way they have done them in the past (Teodoro, 2009). Thus, internal promotion of employees may actually reduce the effectiveness of an innovation strategy as the promoted candidates resist change. In fact, it may be better when an organization uses an innovation strategy to hire people from the outside who bring in new ideas (Song, Almeida, & Wu, 2003).

- *Hypothesis 7: The positive impact of internal promotions on performance will reduced in organizations that have adopted an innovation strategy.*

METHODS

We collected additional data from five countries: U.S., India, China, South Africa, and Vietnam. These five countries combined to form Anglo and Asian clusters representing cultural variation on individualism-collectivism and power distance. Data were obtained 7 months after the survey that was used to create the HPWPs scale. In addition, we added two other scales regarding firm strategy, measuring low cost or innovation, and three types of capital: human, social and organizational. Strategy was assessed using two scales, with four items, rating the importance of innovation (α = .92) and low costs (α = .84) to organization success. Human capital (four items, α = .81), social capital (five items, α = .88), and organizational capital (four items, α = .62) were assessed (Youndt & Snell, 2004). Items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

RESULTS

Cross Cultural Analysis

To test the stability of the model across cultures, the seven factor, 23-item model was estimated in AMOS 23 using an independent sample. A 42-item HPWP questionnaire was administered to employees and managers working in sixteen countries (Argentina, Belgium, Brazil, Chile, China, Colombia, Germany, India, Italy, Mexico, Peru, Poland, Russia, South Africa, Spain, and Vietnam). Questionnaires were translated and administered by research partners located in each country. Standard translation and back-translation techniques were used (Brislin, 1980). Data was gathered using questionnaires administered via mail, computer aided telephone interviews, or online. For each of the organizations in the non-U.S. sample, multiple informants were surveyed regarding the presence of HR practices. This method is recommended to avoid the bias of relying solely on HR managers by also seeking responses from workers who directly experience and are impacted by the HR practices (Gerhart, Wright, McMahan, & Snell, 2000). A total of 2,492 usable surveys were returned. The U.S. calibration sample was combined with the non-U.S. sample increasing the cross-country sample to 2,795. Table 5 shows the cross-country sample broken down by country.

Table 5: Countries and Sample Sizes used for Calibration, Validation, Replication and Invariance Testing

Country	n

Argentina	110
Belgium	310
Brazil	53
Chile	73
China	120
Colombia	153
Germany	110
India	204
Italy	190
Mexico	176
Netherlands	194
Peru	92
Poland	216
Russia	259
South Africa	140
Spain	262
US*	603
Vietnam	24
Study Total	3,289

*US calibration sample = 300
*US validation sample = 303

Measurement Invariance across Country Clusters

CFA results showed the model fit the data well for both small ($\chi^2_{(209)} = 666.34$; NFI = .95; CFI = .96; RMSEA = .050; SRMR = .036) and large ($\chi^2_{(209)} = 843.15$; NFI = .92; CFI = .94; RMSEA = .060; SRMR = .042) companies. The fit of the baseline model, in which all parameters were allowed to vary across the two groups, was good ($\chi^2_{(418)} = 1509.5$; NFI = .94; CFI = .95; RMSEA = .038; SRMR = .036), supporting configural invariance. Next, metric invariance was assessed by constraining factor loadings to be equal across both groups. Comparing the constrained model to the baseline model resulted in only a slight change in fit (ΔCFI = .001). The third invariance test maintained the equality of factor loadings from the previous test and added intercept equality constraints to measure scalar invariance, which was supported (ΔCFI = .000). These invariance tests show that the seven-factor HPWP measure is invariant across small and large organizations.

We categorized the 18 countries into clusters. Clusters enabled a balanced study of HPWPs between the extremes of local and global perspectives (Ronen & Shenkar, 2013; Asmussen, 2009). Country clusters were based on prior studies (Gupta, Hanges, & Dorfman, 2002; Ronen & Shenkar, 2013). The 18 countries combined to form seven clusters. However, due to small sample sizes from China and Vietnam, these countries are combined with India to form a single Asian cluster (based on Cattell, 1950). CFA was conducted on each cluster. Results show the seven-factor structure fits the data well in the Anglo, Latin American, Latin European, and Eastern European clusters. The fit is slightly reduced in the Asian clusters (Table 6).

Table 6: Confirmatory Factor Analysis Fit Indices for Five Individual Country Clusters

Cluster	χ2	df	NFI	CFI	RMSEA	SRMR
(1) Anglo (U.S. and S. Africa)	487.44	209	0.91	0.95	0.06	0.04
(2) Latin American (Argentina, Brazil, Chile, Colombia, Mexico, Peru)	694.43	209	0.92	0.94	0.06	0.04
(3) Latin European (Belgium, Italy, Spain)	675.25	209	0.92	0.95	0.05	0.04
(4) Eastern European (Poland, Russia, Germany, Netherlands)	934.35	209	0.93	0.94	0.07	0.05

(5) Asian (China, Vietnam, India)	519.56	209	0.86	0.91	0.07	0.05

Results

Measurement invariance was tested across the five clusters (Gagné et al., 2015). We tested configural invariance between the Anglo cluster and the other four clusters. Results showed the HPWP model is configurally invariant across all four pairings (Table 7). Next, all four cluster pairings are found to be metrically invariant, and scalar invariance is supported for the Anglo/Latin European cluster (with rounding) (Tables 8 & 9). Thus, Hypothesis 1 was supported. The seven-factor, 23-item HPWPs measure is generalizable across cultures.

Table 7: Fit Statistics for Four Culture Pairings Separately

Cluster Pairing	χ2	Df	NFI	CFI	RMSEA	SRMR
Anglo and Latin American	1039	418	0.90	0.94	0.05	0.06
Anglo and Latin European	1078.94	418	0.91	0.94	0.04	0.06
Anglo and Eastern European	1349.06	418	0.92	0.94	0.05	0.06
Anglo and Asian	933.14	418	0.86	0.91	0.05	0.06

To examine the validity of this new measure, we compared it to other scales to which its multiple dimensions should have the expected positive and negative relationships with other variables. This demonstrates how this measure fits into a nomological network of outcomes and moderates of the multiple dimensions of HPWPS.

Table 8: Fit Statistics for Invariance Tests Using Chi-Square Difference Criteria

	Baseline Model		Measurement Invariance Model			Scalar Invariance Model		
Cluster Pairing	χ2	df	Δχ2	Δdf	*p*	Δχ2	Δdf	*p*
Anglo and Latin American	1039	418	38.51	16	0.001	138.1	44	0
Anglo to Latin European	1078.94	418	12.52	16	0.707	82.59	44	0
Anglo to Eastern European	1349.06	418	25.44	16	0.062	147.18	44	0
Anglo to Asian	933.14	418	25.36	16	0.064	204.44	44	0

Values for Δχ2 and Δdf represent comparisons with baseline model. Invariance supported when Δχ2 is not significant.

Table 9: Fit Statistics for Invariance Tests Using CFI Difference Criteria

Cluster Pairing	CFI configural invariance	CFI metric invariance	ΔCFI	CFI structural invariance	ΔCFI
Anglo and Latin American	0.94	0.93	0.01	0.93	0.01
Anglo to Latin European	0.94	0.94	0.00	0.94	0.00
Anglo to Eastern European	0.94	0.94	0.00	0.93	0.01
Anglo to Asian	0.91	0.91	0.00	0.89	0.02

Invariance supported when ΔCFI does not exceed .01 when compared to baseline/configural model (Chueng & Rensold, 2002)

Table 10 shows the correlations between multiple dimensions of HPWPs and the firm use of innovation versus low cost strategies in Anglo and Asian cultures. The data confirm hypothesis 2 that multiple dimensions of HPWPs (Empowerment, Internal Promotions, Pay for Performance, and Performance Appraisals) were positively related to innovation strategy but none were related to low cost strategy in the Anglo data. A similar, but slightly different pattern appeared in the Asian data several HPWPs were positively related to innovation strategy (Training and Development, Internal Promotions, Pay for Performance, and Performance Appraisal). However in the Asian sample several dimensions of the HPWPs were also positively related to a low cost

strategy (Internal Promotions, Pay for Performance, and Performance Appraisals). These results confirm that individual dimensions of HPWPs could be used with greater frequency depending on both the firm's strategy and the national culture within which the organization operates.

Table 10: Correlations between Manager Perceptions of HPWPs, Strategy Type, Capital Type, and Organizational Performance (Anglo Below and left, Asian Above and Right)

Variables	M	SD	α	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	M	SD	α
1. No. Employees	5.4	18.	-	-	.08	-.08	.03	.05	-.02	.07	.04	.13	.02	-.19	-.17	.19	.09	.06	-.07	.01	-.10	-.08	5.0	18.7	-
2. Industrial	.34	.48	-	-.03	-	-.81	.09	-.03	.17	.04	.03	.04	.15	.29	.24	.12	.10	.15	.05	.15	.21	.15	.76	.43	-
3. Retail/Service	.51	.50	-	.07	.68	-	-.05	.06	-.11	.04	-.04	.04	-.12	-.39	-.35	-.17	-.06	-.13	.01	-.17	-.24	-.16	.17	.38	-
4. Train. & Develop.	3.43	1.04	*.88*	.07	.16	-.07	-	.46	.60	.45	.42	.51	.53	.06	.23	.21	.16	.11	-.09	.06	.22	.13	3.38	.89	*.80*
5. Empowerment	2.82	.91	*.72*	.11	.02	.01	.37	-	.53	.42	.35	.43	.47	-.08	-.04	-.01	.04	-.04	-.01	-.04	.07	-.01	3.10	.76	*.63*
6. Internal Promotions	2.89	.95	*.86*	.15	.09	.03	.55	.45	-	.47	.53	.53	.71	.14	.24	.04	.12	.10	-.08	.09	.26	.18	3.31	.78	*.81*
7. Recruit & Select.	3.55	1.12	*.88*	.13	.08	-.01	.51	.39	.52	-	.44	.42	.46	-.07	.08	.08	.17	.10	-.01	.08	.19	.11	3.59	.76	*.76*
8. Pay for Perform.	3.07	1.25	*.75*	.21	.14	-.06	.36	.43	.43	.33	-	.43	.58	.17	.23	.15	.19	.13	-.01	.07	.21	.12	3.40	.85	*.64*
9. Communication	3.30	1.13	*.79*	.17	.10	.06	.50	.50	.60	.53	.39	-	.49	-.01	.03	.11	.13	.15	-.04	.12	.13	.16	3.24	.79	*.70*
10. Perform. Appraisal	3.29	1.22	*.88*	.11	.16	-.01	.54	.49	.65	.60	.48	.64	-	.20	.24	.05	.13	.12	.01	-.01	.21	.09	3.28	.85	*.78*
11. Low Cost Strategy	3.65	.67	*.80*	-.07	.03	-.05	.04	.07	.09	-.03	.04	.06	.04	-	.67	.07	.10	.14	.08	.04	.21	.09	3.70	.78	*.87*
12. Innovation Strategy	3.71	.72	*.84*	.18	-.15	.07	-.01	.15	.14	.08	.14	.12	.14	.19	-	.26	.20	.30	-.08	.22	.49	.37	3.52	1.02	*.94*
13. Human Capital	3.93	.65	*.78*	.17	-.07	.13	.01	.19	.12	.10	.07	.19	.08	.07	.26	-	.59	.31	.08	.43	.43	.38	3.65	.59	*.85*
14. Social Capital	3.77	.65	*.84*	.08	-.12	.08	.09	.06	.14	.01	.09	.16	.09	.07	.21	.44	-	.64	.12	.35	.43	.32	3.84	.48	*.82*
15. Organization. Capital	3.75	.65	*.63*	.15	.03	-.04	.16	.20	.29	.21	.25	.25	.31	.29	.33	.30	.45	-	.04	.45	.47	.37	3.75	.64	*.76*
16. Employee Turnover	.10	.22	-	-.03	.05	-.02	-.05	-.09	-.01	-.06	.07	-.05	-.01	.02	.02	-.13	-.22	-.21	-	.10	.04	.05	.10	.16	-
17. Market Perform.	3.65	.81	*.92*	.12	.06	-.13	.15	.05	.15	.11	.12	.14	.16	.10	.30	.14	.18	.29	-.29	-	.68	.72	3.78	.61	*.88*
18. Operational Perform.	3.78	.87	*.87*	-.03	.10	-.14	.08	.10	.18	.07	.12	.14	.17	.14	.34	.22	.25	.29	.04	.44	-	.82	3.86	.55	*.87*
19. Financial Perform.	3.68	.72	*.93*	.02	.15	-.22	.08	.10	.20	.10	.21	.13	.19	.07	.40	.12	.13	.28	-.05	.70	.56	-	3.71	.64	*.95*

Employees in thousands. N's: Anglo Countries (U.S. & South Africa) = 176 to 239, Asian Countries (China, India, & Vietnam) = 318 to 333, pairwise deletion. Variables 4 - 10 measured on Survey I, and Variables 11 – 19 on Survey II. Anglo Correlations > .12, significant at $p < .05$; and > .17, significant at $p < .01$, two-tailed. Asian Correlations > .10 significant at $p < .05$; < .14 at $p < .01$. Cronbach alpha reliabilities = α.

Table 10 also shows that multiple dimensions of HPWPs were related to human, social, and organizational capital. This supports hypothesis 3. In the Anglo sample human capital was positively related to empowerment, internal promotions, and communications; social capital was positively related to internal promotions and communication, and organizational capital capital was positively related to all 7 dimensions of the HPWPs. In the Asian sample human capital was positively related to training and development, pay for performance, and communication; and social and organizational capital were positively related to all dimensions of HPWPs except empowerment.

Table 10 shows that none of the individual dimensions of HPWPs were significantly related to employee turnover in either the Anglo or Asian sample at the level of $p < .05$. Thus, hypothesis 4 was not confirmed. However, we note that in both the Anglo and Asian samples the correlations between each HPWP practice and turnover had a negative sign and that this was the opposite direction of the positive correlations with firm performance.

Table 10 shows that multiple individual dimensions of HPWPs were positively related to multiple dimensions organizational performance (Market, Operational, and Financial) in both Anglo and Asian data. This confirms hypothesis 9.

Thus, the results from the data analysis examining hypotheses 3 through 5 show the validity of the individual measures of HPWPs because they followed the pattern of expected relationships (positive, negative, and not significant) with other variables.

Finally, we examined the interaction of Internal Promotions with Organizational Capital and Innovation Strategy. Table 11 shows hierarchical ordinary least squares regression analyses predicting market, operational, and financial performance. Internal promotions was shown to be positive related to all three types of performance. However, the interaction of internal promotions with organizational capital was negative when predicting market performance (*B* -.518) and financial performance (*B* = .505). This partially confirms hypothesis 6 showing that when a firm has a higher level of organizational capital, internal promotions may actually reduce organizational performance.

Table 11: Regression Analysis Using Dimensions of HPWPs to Predict Three Types of Organizational Performance

Variables	Market Performance	Market Performance	Operational Performance	Operational Performance	Financial Performance	Financial Performance
	β	B	β	β	β	β
No. Employees	-.115**	-.012	-.136**	-.131**	-.115**	-.110**
Industrial	-.042	-.039	-.009	.011	-.042	-.028
Retailers	-.226**	-.159*	-.169**	-.155**	-.226**	-.216**
Asian Company	-.016	.079	.019	.020	-.016	-.028
Training & Development	-.080	.002	-.033	-.029	-.080	-.084
Empowerment	-.031	-.065	.003	.007	-.031	-.029
Internal Promotions	.133*	.473*	.125*	.434**	.133*	.532**
Recruiting & Selection	-.022	.020	.027	.023	-.022	-.026
Pay for Performance	.059	.008	.024	.020	.059	.063
Communication	.097	.083	.008	.005	.097	.097
Performance Appraisal	-.055	-.092	-.026	-.023	-.055	-.058
Low-Cost Strategy	-.224**	-.100*	-.104*	-.092*	-.224**	-.229**
Innovation Strategy	.345**	.128*	.320**	.591**	.345**	.341**
Human Capital	.143**	.150*	.162**	.158**	.143**	.132**
Social Capital	-.009	-	.105*	.105**	-.009	-.005
Organizational Capital	.209**	.540*	.186**	.176**	.209**	.455**
Internal Promotions X Organizational Capital	-	-.518*	-	-	-	-.505*
Internal Promotions X Innovation Strategy	-	-	-	-.453*	-	-
Model df	16	16	16	17	16	17
Residual df	511	511	521	520	507	506
F	8.58**	8.89 **	17.21**	16.59**	12.52**	12.09**
Adj R^2	.187	.193	.326	.330	.261	.265

** = p < .01. * < .05. β = standardized beta coefficients.

In addition, the interaction of internal promotions with a firm using innovation strategy was also negative (*B* = -.453) when predicting operational performance. This partially confirms hypothesis 7 showing that internal promotions can actually result in lower organizational performance when a firm is using an innovation strategy.

CONCLUSION

We succeeded in developing a multi-dimensional measure HPWPs with good psychometric properties that was generalizable across cultures and useful for testing hypotheses about individual practices. This is an important addition to this literature because it can facilitate future cross cultural research on HPWPs.

Study Limitations. First, the initial questionnaire that was administered to the U.S. sample, included all 63 HPWPs in Posthuma et al.'s taxonomy (2013). Second, the U.S. data which was used to develop the measure was based on single source respondents. This limitation was not a concern in the non-U.S. data, in which multiple respondents per organization were surveyed. Third, China and Vietnam had small sample sizes of 24 and 120, respectively, requiring us to combine them with India into one cluster.

Future Research

In the future, research examining country clusters based on characteristics other than culture and economics is encouraged. For instance, the level of human development of a country, or the level of investment in education might impact employees' perception of certain HPWPs. In addition to further testing of the instrument itself, our hope is that future researchers can use the HPWP measure to better understand why and when employers use certain HPWPs, as well as how different practices are combined. Along with investigating the contextual factors that impact the selection of HPWPs, future research should ultimately aim to better understand the factors that influence their effectiveness.

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