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Richard A. Posthuma, Michael C. Campion, Malika Masimova and Michael A. Campion

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What is This?

A High Performance Work Practices Taxonomy: Integrating the Literature and Directing Future Research

Richard A. Posthuma
University of Texas at El Paso

Michael C. Campion
University of South Carolina

Malika Masimova
Purdue University

Michael A. Campion
Purdue University

High Performance Work Systems are designed to enhance organizational performance by improving employee capability, commitment, and productivity. Yet there is very little consensus about the structure of these systems and the practices therein. The lack of structure may be inhibiting the growth of knowledge in this field and the degree to which organizations adopt these systems. To address these concerns we develop a comprehensive High Performance Work Practices (HPWPs) taxonomy. We analyzed 193 peer-reviewed articles published over the past 20 years (1992-2011). We classified 61 specific practices into nine categories. We analyze the usefulness of this taxonomy using frequency, time, and countries. Directions for future research are provided.

Keywords: *high performance work practices; strategic HRM*

Introduction

Increasingly, human resource (HR) researchers and practitioners have found that organizational performance is substantially improved by HR systems that leverage human capital by acquiring, developing, and motivating the best talent. The HR systems that enhance

Corresponding author: Richard A. Posthuma, College of Business Administration, Room 230, University of Texas at El Paso, 500 W. University Avenue, El Paso, TX 79968, USA.

E-mail: rposthuma@utep.edu

employee competencies, commitment, and productivity are often called "high-performance work *systems*" (HPWSs) (Appelbaum, Bailey, Berg, & Kalleberg, 2000; Datta, Guthrie, & Wright, 2005). Numerous studies have demonstrated that organizations adopting HPWSs will have better operational and financial performance (e.g., Arthur, 1994; Bae & Lawler, 2000; Guthrie, 2001; Huselid, 1995; MacDuffie, 1995; Sun, Aryee, & Law, 2007; Way, 2002). HPWSs can improve financial performance through enhanced intermediate outcomes such as increased job satisfaction and productivity and also reduced turnover and less absenteeism (e.g., Cappelli & Neumark, 2001; Macky & Boxall, 2007; Wang, Yi, Lawler, & Zhang, 2011).

Research has also shown that the levels of certain types of investments in HR practices can be successfully aligned with organizational strategies to enhance organizational performance (Cooke, 2007; Kaufman & Miller, 2011; Sirmon & Hitt, 2009). However, the practices within HPWSs can also be strategically configured in such a way that they may achieve higher levels of synergistic alignment with organization strategies and thereby do even more to improve organization performance (Buller & McEvoy, 2012; Subramony, 2009).
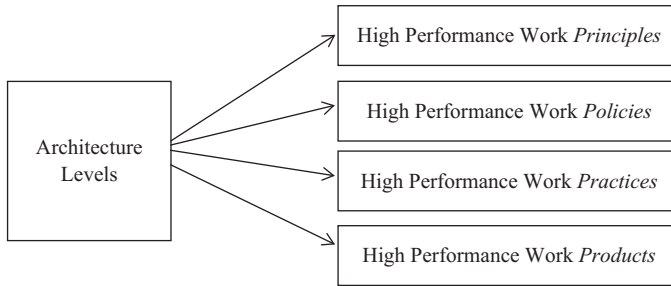
HPWSs can be viewed as coordinated bundles of High Performance Work *Practices* (HPWPs) that create synergistic effects in which certain practices reinforce one another to increase organizational efficiency and effectiveness (Becker & Gerhart, 1996; Dyer & Reeves, 1995; Horgan & Mühlau, 2006; MacDuffie, 1995; Toh, Morgeson, & Campion, 2008). Increases in organizational performance due to the bundling of specific HPW*P*s into HPW*S*s result from the appropriate matching of the implemented HPW*P*s. Thus, research has shown the usefulness of HPWSs and the importance of appropriate integration of specific HPWPs.

However, substantive problems still remain that can impair both theoretical development and adoption of HPWSs by organizations. The research literature often uses varied and divergent terminology (e.g., high performance work *practices*, high *involvement* work systems) and does not clarify the levels at which these terms operate. This lack of consistency and clarity stifles theoretical growth by impairing our ability to draw connections between studies and thus develop new knowledge about how HPWSs actually function. Many organizations remain reluctant to adopt HPWSs for reasons that may include institutional resistance to change, inertia, imitation, threats from the environment, political factors, and so forth (Johns, 1993). However, reluctance to adopt HPWSs may be due in part to the lack of a clear and coherent taxonomy that identifies the range of available practices and their relationship to performance outcomes.

Therefore, we develop here a clear and coherent taxonomy of HPWPs and demonstrate how that taxonomy fits with HPWSs using a multilevel architectural framework. This framework can be used to explain how and why specific practices coalesce within systems that facilitate higher organizational performance.

The taxonomy includes several categories of HPWPs (e.g., Compensation and Benefits, Recruiting and Selection). We identify the practices that fit into each category. Then, we illustrate the usefulness of the taxonomy by analyzing the practices reported in the research literature based on overall frequency, chronological changes, and cross-national differences. These analyses confirm the usefulness and general applicability of this taxonomy. We use the term "taxonomy" because in social science a taxonomy is a list that satisfies the following

Figure 1
Levels of High-Performance Human Resource Architectures

Architecture Levels →

High Performance Work *Principles*

High Performance Work *Policies*

High Performance Work *Practices*

High Performance Work *Products*

guidelines: (a) it is comprehensive, (b) each item is conceptually independent, and (c) each item has its own research history (Fleishman & Quaintance, 1984).

This comprehensive taxonomy and multilevel framework offers several benefits to both researchers and practitioners. The taxonomy and framework can help to clarify the interrelationships between and the synergies among practices often examined in the literature. This provides much needed clarity and structure for this very broad and "fuzzy" domain (Boxall & Macky, 2009). This also lays a foundation upon which future research can be built and provides organizations a roadmap for translating research into practice.

Theoretical Framework: Parallel Organizational and Human Resource Architectures

Good theory building requires both the conceptualization and the integration of concepts into a logically coherent framework (Bacharach, 1989). Here we offer a framework that uses a multilevel architecture. This framework can guide and organize research, and also answer the call for better definitions and more structure to facilitate the accumulation of knowledge in this field (Becker & Gerhart, 1996; Delery, 1998; Fleetwood & Hesketh, 2008).

We describe two parallel and hierarchical architectures: the HR architecture and the organizational architecture. We use the term "architecture" to refer to HR practices, not the architecture of human capital. Both architectures have an interrelated set of four hierarchical elements: Principle, Policy, Practice, and Product (Wright & Sherman, 1999). This is a hierarchical architecture with principles that guide the establishment of policies, policies that help in designing and implementing practices, and practices creating products. Figure 1 shows how HPWSs can be broken down into four levels within a high-performance HR architecture.

Alignment exists when there is parallelism between the organization and HR architectures (Delery, 1998). Parallelism occurs when organizational and HR architectures both contain principles, policies, practices, and products that have the same goal or purpose.

Parallelism enables both the organizational and the HR actors to focus their attention on the same strategic objectives (Wright & Boswell, 2002). Parallelism also means that there is a corresponding matching occurring across the different levels of the organization and the HR architectures, so at each level the organizational and the HR systems mutually support each other (Arthur & Boyles, 2007). For example, if a firm uses HPWPs that emphasize pay for skills/knowledge, it encourages sales workers to develop their sales skills and product knowledge. This would match an organizational marketing tactic that focuses on giving customers more sophisticated customer support, which can occur because the sales force has improved their skills and product knowledge.

Firms often develop extensive competency models to create parallelism. These models are used to align the selection, training, appraisal, and reward systems to enhance and reward those competencies. When there is alignment among the HPWPs, they synergistically enhance and reward those competencies. However, it is still necessary that the competencies fit well with the overall firm strategy (Campion, Fink, Ruggeberg, Carr, Phillips, & Odman, 2011).
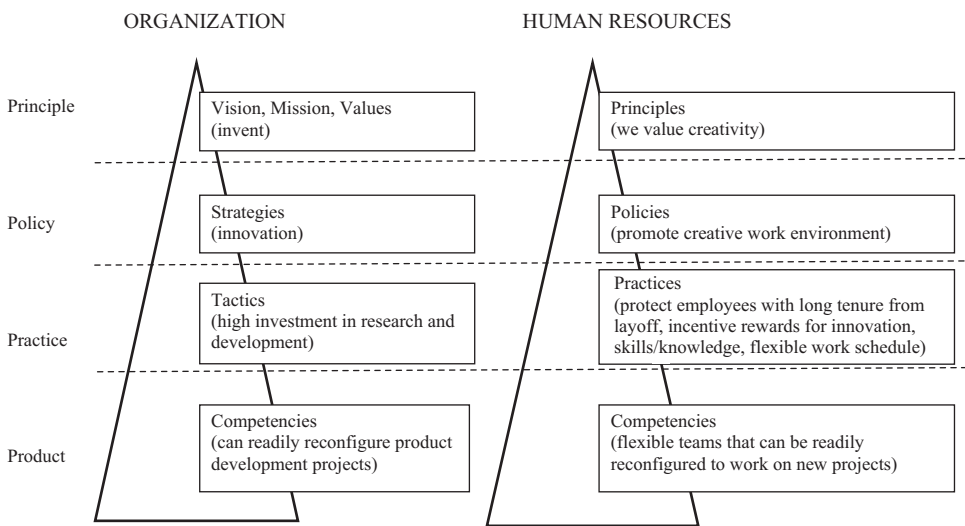
Moreover, when there are parallel system architectures, there can be parallel paths that organizations can take to achieve successful performance. Successful organizational performance can be achieved because either or both the organizational or HR architectures increase firm performance. This can explain why firms can be effective with lower levels of investment in HR practices when they operate in industries where human capital is comparatively less important (e.g., nonmanufacturing; Subramony, 2009), or where the firm's marketing strategy places a lower emphasis on customer service (e.g., Sirmon & Hitt, 2009). In situations that emphasize marketing or operations management strategies, those strategies may function as substitutes for the positive impact of HR systems on firm performance. Conversely, this parallel approach recognizes the possibility that HR, standing alone, could be the unique source of sustained competitive advantage that increases firm performance.

The conceptualization of parallel organizational and HR architectures integrates the alignment or fit theories and helps explain the resulting effects on performance (e.g., Delery, 1998; Wright & Boswell, 2002). The parallel architectures approach also responds to the need to define the "system" part of HPWSs and show how those systems fit into a nomological network (Gerhart, 2012). The HR architecture becomes a high-performance system when the different levels within that system are aligned and the different elements within the system (e.g., practices) are working toward achieving the same goal.

For example, suppose a global organization wants to hire for good fit with a local culture, so the firm recruits local nationals to staff its operations in different countries. However, that firm might use other practices that do not fit the culture. High-involvement work practices such as employee input, suggestion processes, and self-managed teams might not work as well in cultures that have higher acceptance of power distance or hierarchical workplace relationships (e.g., China; Carl, Gupta, & Javidan, 2004). Under this scenario, the hiring practices of good fit with local culture would not be parallel to the high-involvement work practices, and the overall system may not achieve high performance levels.

Figure 2 illustrates the four levels of the HPWSs within parallel organizational and HR system architectures. Explicitly or implicitly the organization and the HR system architectures will exhibit these four levels. Within this diagram, examples from a typical technology innovation firm are shown.

<div align="center">

Figure 2

Integrating High-Performance Principles, Policies, Practices, and Products Within Parallel Organizational and Human Resources Architectures

</div>

	ORGANIZATION	HUMAN RESOURCES
Principle	Vision, Mission, Values (invent)	Principles (we value creativity)
Policy	Strategies (innovation)	Policies (promote creative work environment)
Practice	Tactics (high investment in research and development)	Practices (protect employees with long tenure from layoff, incentive rewards for innovation, skills/knowledge, flexible work schedule)
Product	Competencies (can readily reconfigure product development projects)	Competencies (flexible teams that can be readily reconfigured to work on new projects)

Note: Examples from a technology innovation firm are shown in parentheses.

Levels of System Architectures

Principle. Principles are broad statements that function as guiding values or philosophies for both the organization and the HR system (Wright, 1998; Wright & Sherman, 1999). In the research literature, much of the measurement in the high-performance literature has used terminology that may be more appropriately called principles as opposed to practices because the terminology used is broad and generally not specific. Nevertheless, HR principles are the general philosophy that guides the design of the HR system. In the strategic organizational hierarchy the principles could include mission, vision, and value statements. Often referred to as *guiding principles*, these statements are intended to provide a coherent direction for lower levels of the architectures (Dyer & Ericksen, 2005). Moreover, the identification of principles is important because principles are more generalizable, whereas practices could be industry-specific (Becker & Huselid, 1998; Xiao & Björkman, 2006).

For example, a firm in the information technology industry could adopt a vision that focuses on inventing new products. The following statement would be a guiding principle that would align well with that vision: "We Value Creativity." Within the HR architecture, principles that parallel this organization strategy can then be created to provide guidance and direction for the establishment of policies for the HR function (Buller & McEvoy, 2012; Dyer & Ericksen, 2005; Wright, 1998). For example, an HR principle that parallels the

organization's invention principle would be a statement that indicates HR also values creativity. See Wright and Sherman (1999) for a more extensive analysis of how the HR architecture can be aligned to and fit with the organization by further developing earlier work from the strategic management literature (Venkatraman, 1989).

Policy. Policies are statements that describe how the organization will direct efforts toward enhancing organizational performance (Wright, 1998; Wright & Boswell, 2002). Policies are more specific than principles. Policies should follow general guiding principles. Policies should match strategies that the organization adopts. Continuing with the example above, a high-tech firm might adopt innovation as a key strategy. Within the HR architecture, policy statements would provide guidance on the kinds of practices that will be included within the HR system (Katou & Budhwar, 2010).

For example, a firm could adopt an internally oriented policy to emphasize an employment relationship that is intended to be long-term. This policy would emphasize job security and promote mutual commitments between the employees and the employer so that employees will be more willing to experiment or try new things (Barnard & Rodgers, 2000; Truss, 2001). In turn, policies guide the choice of practices (Lepak, Liao, Chung, & Harden, 2006). In a well-aligned, high-performance system architecture, policies will guide the development and implementation of high-performance practices.

Practice. Practices are the specific methods and procedures that the organization adopts to implement the organization's Principles and Policies. Practices are fundamental building blocks for theory building in this literature (Whetten, 1989). In a high-performance HR architecture, these will be called High Performance Work Practices (HPWPs). Within the organization, architecture practices are often referred to as tactics.

Continuing the example above, practices that would parallel an organization's tactic of high investment in research and development would be a layoff practice that protects those with long tenure or an incentive system that rewards innovation (Hayton, 2005). The taxonomy in this study provides a variety of HPWPs that are likely to be helpful in achieving higher levels of organizational performance. High-performance practices lead to high-performance products.

Product. The products of high-performance systems are the competencies that the organizational and HR architectures have created for the organization. Organizations will often develop rather extensive competency models and then design their recruiting, selection, training, performance management, and reward systems around these models (Campion et al., 2011). When competencies have been identified that fit with organizational strategy, these competencies have the potential to enable the organization to achieve sustained levels of high performance.

Continuing with the example above, high-performance competencies at the product level could include well-functioning product development teams that have a high level of social capital that can readily reconfigure themselves to adapt and innovate (Youndt & Snell, 2004).

Methods

Literature Search

We conducted a thorough search of the peer-reviewed academic literature to find published articles that identified HPWPs. We searched the following databases: Academic Source Complete, Business Source Complete, EconLit, PsycArticles, Psychology and Behavioral Sciences Collection, and PsycInfo. Keywords used in this search included the following: high-performance work systems (organizations, practices), high-commitment management, high-involvement work systems (organizations, practices), human resource systems or best practices, and strategic human resources management. An initial search yielded more than 10,000 citations. Repeated citations, dissertations, popular press articles (newspapers and magazines), and case studies were deleted. The remaining articles were narrowed down by relevance. Then, the articles were screened by reading all the titles and abstracts. Only peer-reviewed academic and practice articles (either conceptual or empirical) that identified multiple practices were selected. Additional articles were identified through cross-referencing. This search yielded a total of 193 articles, of which 181 articles were used to code multiple nonredundant HPWPs. These articles were published during the past 20 years, 1992 through 2011 inclusive. All of these articles were obtained and read in full to code the practices.

To support the conclusion that this sample of articles has generalizability across countries and cultures, we coded the articles by country of the first author or the country of the sample in which empirical data were collected. The result of this analysis showed that 51% of all the articles included in this review came from Anglo-American sources (i.e., Australia, Great Britain, United States, and New Zealand) and 49% came from other countries.

Coding Procedure

We used a combination of logical partitioning and grouping to create a classification schema of HPWPs. In so doing, we read the text of the chosen articles to identify the specific practices included or measured. This information along with the name of the first author of the article and the year of publication was entered in rows on an Excel spreadsheet. The actual text of the words, phrases, or sentences that described each practice that was included or measured in the article was entered in the next column of the spreadsheet. Then, labels that described the different practices were entered as column headings at the top of the spreadsheet. If the text describing the specific practices was in the row that matched the label (e.g., decentralized participative decisions), then a 1 was entered, otherwise a 0. For example, one article mentioned "decentralized participative decisions." In all other columns 0s were entered. Through an iterative process that involved three authors, additional columns representing categories of practices were created and others were eliminated or combined. The final result was that the descriptive labels on the top of the columns became the names of the 61 individual practices.

In creating this taxonomy we sought to achieve balance between the need to be comprehensive and the need to be parsimonious (Whetten, 1989). To be sufficiently comprehensive we sought to ensure that the taxonomy would tap all relevant dimensions of this domain. To accomplish this, we reviewed prior work that identified types, categories, or groups of HPWPs. For example, Delery, Gupta, and Shaw (1997) identified five categories: staffing, training, appraisal, compensation, and participation. Ichniowski, Shaw, and Prennushi (1997) identified six categories: incentive pay, recruiting and selection, teamwork, employment security, flexible job assignment, and labor relations. Wright and Boswell (2002) identified six categories: selection, training and development, recruitment, compensation, performance management, and participation/work design. We used these categories as a guide to create nine HPWPs categories. The 61 practices were sorted into these nine HPWPs categories. Two of the authors independently coded a sample of practices into categories, and the interrater agreement was 91%. This spreadsheet is available to other researchers by contacting the first author.

Results

Table 1 reports the frequencies and percentages of HPWPs. The data in this table represent the number of times that each practice appeared in the peer-reviewed academic and practice literature for the period 1992 through 2011. This table indicates that during this period there were 61 practices mentioned a total of 2,042 times. Each of these practices was given a descriptive label and then grouped into the nine categories. A brief description of each of the nine categories and support for its inclusion is offered below. The table is ordered from the most to least frequently mentioned categories of practices.

In addition, there are two columns on the right side of Table 1 that indicate whether the frequency of the practice is stable or growing over time (temporality) and the degree to which each practice is broadly applicable across different regions of the world (cross-regional generalizability). The data that were used to evaluate temporality and cross-regional generalizability are reported in more detail in Tables 2, 3, and 4.

In this analysis of the literature, we identified core practices that are the most central to this literature. The identification of core practices enables research that will have broader generalizability and will not be limited by temporal and spatial contingency boundary conditions (Bacharach, 1989). These core practices are generalizable because they have significant overlap with the published literature and can thereby be used to facilitate the growth and accumulation of the body of knowledge in this field (Bacharach, 1989).

Table 1 lists a characterization of each practice in terms of what we refer to as its centrality to this literature. The most central practices are called "core." Core practices shown are at the top of the list of practices in each category based on a triangulation of three factors: (a) overall frequency, (b) either stable or growing over time (i.e., increasing percentage or decline of no more than one third), and (c) reported in the top 30 most frequently cited practices in four or five regions of the world. The next most central are called "broad." The broad practices refer to those that are at the top of the list in each category and meet one of two additional criteria. Either they have been stable or growing over time, or they have been

Table 1

Centrality of High Performance Work Practices: Core, Broad, or Peripheral Based on Frequency, Temporality, and Cross-Regional Applicability

		N	$\%$	Stable or Growing	Cross-Regional
Compensation and Benefits					
Core	*Pay for Performance*	77	3.8	*	*
Core	*Formal Appraisal for Pay*	73	3.6	*	*
Core	*External Pay Equity/Competitiveness*	56	2.7	*	*
Core	*Incentive Compensation*	44	2.2	*	*
Broad	Comprehensive Benefits	43	2.1		*
Core	*Profit or Gain Sharing*	35	1.7	*	*
Broad	Group-Based Pay	25	1.2	*	
Broad	Pay for Skills/Knowledge	22	1.1	*	
Broad	Employee Stock Ownership	20	1.0	*	
Peripheral	Bonuses or Cash for Performance	16	0.8		
Peripheral	Equitable Pay Processes	15	0.7		
Broad	Public Recognition/Nonfinancial Rewards	10	0.5	*	
	Subtotal	436	21.4		
Job and Work Design					
Core	*Decentralized Participative Decisions*	101	4.9	*	*
Broad	Project or Other Temporary Work Teams	82	4.0		*
Broad	Job Analysis	69	3.4	*	
Core	*Job Rotation/Cross Functional Utilization*	52	2.5	*	*
Broad	Self-Managed Work Teams (Quality Circles)	40	2.0	*	
Broad	Greater Discretion and Autonomy	28	1.4	*	
Broad	Job Enlargement and Enrichment	16	0.8	*	
Peripheral	Broad Task Responsibilities	15	0.7		
Peripheral	Flexible Work Schedule	13	0.6		
	Subtotal	416	20.4		
Training and Development					
Core	*Training Extensiveness*	99	4.8	*	*
Core	*Use of Training to Improve Performance*	68	3.3	*	*
Core	*Training for Job or Firm Specific Skills*	55	2.7	*	*
Broad	Training for Career Development	36	1.8	*	
Peripheral	Evaluation of Training	24	1.2		
Broad	Cross-Functional or Multiskill Training	15	0.7	*	
Broad	New Employee Training and Orientation	10	0.5	*	
	Subtotal	307	15.2		
Recruiting and Selection					
Core	*Hiring Selectivity or Low Selection Ratio*	50	2.4	*	*
Core	*Specific and Explicit Hiring Criteria*	50	2.4	*	*
Broad	Multiple Tools Used to Screen Applicants	41	2.0	*	
Broad	Employment Tests or Structured Interviews	36	1.8	*	
Broad	Planning Selection Processes and Staffing	23	1.1	*	
Peripheral	Matching Candidates to Firm Strategy	18	0.9		
Peripheral	Innovative Recruiting Practices	12	0.6		
	Subtotal	230	11.2		
Employee Relations					
Core	*Job Security/Emphasis on Permanent Jobs*	71	3.5	*	*
Broad	Low Status Differentials	29	1.4	*	
Peripheral	Complaint or Grievance Procedure	28	1.4		

(continued)

Table 1 (continued)

		N	%	Stable or Growing	Cross-Regional
Peripheral	Measurement of Employee Relations Outcomes	28	1.4		
Broad	Employee Opinion and Attitude Surveys	23	1.1		*
Peripheral	Labor Union Collaboration	16	0.8		
Peripheral	Social and Family Events and Policies	12	0.6		
Peripheral	Diversity and Equal Employment Opportunity	12	0.6		
	Subtotal	219	10.7		
Communication					
Core	*Formal Information Sharing Program*	67	3.3	*	*
Broad	Employees Receive Market, Firm Performance, or Strategic Information	48	2.4	*	
Broad	Employee Input and Suggestion Processes	44	2.2		*
Peripheral	Frequent/Regular Meetings with Employees	33	1.6		
	Subtotal	192	9.4		
Performance Management and Appraisal					
Broad	Appraisals Based on Objective Results/ Behaviors	32	1.6	*	
Broad	Appraisals for Development/Potential	23	1.1	*	
Broad	Frequent Performance Appraisal Meetings	19	0.9	*	
Peripheral	Employees Involved in Setting Appraisal Objectives	13	0.6	*	
Peripheral	Written Performance Plan With Defined Objectives	13	0.6		
Peripheral	Multisource Feedback and Peer Appraisal	12	0.6		
Peripheral	Appraisal Based on Strategic or Team Goals	12	0.6		
	Subtotal	124	6.1		
Promotions					
Broad	Promotions From Within	29	1.4	*	
Broad	Promotions Objectively Based on Merit	25	1.2	*	
Broad	Career Planning	20	1.0	*	
Broad	Promotion Opportunities (e.g., frequency)	18	0.9	*	
Broad	Career Paths and Job Ladders	10	0.5	*	
Peripheral	Succession Planning	5	0.2		
	Subtotal	107	5.2		
Peripheral	Turnover, Retention, and Exit Management	11	0.5		
	Overall Total	2,042	100		

reported in the top 30 most frequent practices in four or five regions of the world. The least central practices are called "peripheral." Those practices do not meet the criteria for being core or broad.

Compensation and Benefits

The Compensation and Benefits category includes practices that deal with the direct and indirect rewards and payments employees receive from their organizations. This area is important because it helps to focus employee energy on specific productive behaviors

Table 2
Temporality: Changes in High Performance Work Practices Over Time

	1992-2005		2006-2011		
	N	%	*N*	%	Change
Compensation and Benefits					
Public Recognition/Nonfinancial Rewards	2	0.20%	8	0.80%	300.00%
Group-Based Pay	9	0.80%	16	1.70%	77.80%
Comprehensive Benefits	17	1.60%	26	2.70%	52.90%
Incentive Compensation	20	1.80%	24	2.50%	20.00%
Pay for Skills/Knowledge	10	0.90%	12	1.30%	20.00%
Formal Appraisal for Pay	36	3.30%	37	3.90%	2.80%
Pay for Performance	40	3.70%	37	3.90%	−7.50%
External Pay Equity/Competitiveness	30	2.80%	26	2.70%	−13.30%
Employee Stock Ownership	11	1.00%	9	0.90%	−18.20%
Profit or Gain Sharing	21	1.90%	14	1.50%	−33.30%
Bonuses or Cash for Performance	12	1.10%	4	0.40%	−66.70%
Equitable Pay Processes	12	1.10%	3	0.30%	−75.00%
Subtotals	220	20.2%	216	22.6%	−1.8%
Job and Work Design					
Greater Discretion and Autonomy	12	1.10%	16	1.70%	33.30%
Job Enlargement and Enrichment	8	0.70%	8	0.80%	0.00%
Decentralized Participative Decisions	53	4.90%	48	5.00%	−9.40%
Self-Managed Work Teams (Quality Circles)	21	1.90%	19	2.00%	−9.50%
Job Rotation/Cross Functional Utilization	29	2.70%	23	2.40%	−20.70%
Job Analysis	39	3.60%	30	3.10%	−23.10%
Project or Other Temporary Teams	52	4.80%	30	3.10%	−42.30%
Broad Task Responsibilities	10	0.90%	5	0.50%	−50.00%
Flexible Work Schedule	9	0.80%	4	0.40%	−55.60%
Subtotals	233	21.4%	183	19.2%	−21.5%
Training and Development					
Cross-Functional or Multiskill Training	5	0.50%	10	1.00%	100.00%
Training for Job or Firm Specific Skills	26	2.40%	29	3.00%	11.50%
Training for Career Development	18	1.70%	18	1.90%	0.00%
Use of Training to Improve Performance	36	3.30%	32	3.40%	−11.10%
Training Extensiveness	56	5.20%	43	4.50%	−23.20%
New Employee Training and Orientation	6	0.60%	4	0.40%	−33.30%
Evaluation of Training	18	1.70%	6	0.60%	−66.70%
Subtotals	165	15.2%	142	14.9%	−13.9%
Recruiting and Selection					
Matching Candidates to Firm Strategy	7	0.60%	11	1.20%	57.10%
Specific and Explicit Hiring Criteria	22	2.00%	28	2.90%	27.30%
Hiring Selectivity or Low Selection Ratio	24	2.20%	26	2.70%	8.30%
Multiple Tools Used to Screen Applicants	21	1.90%	20	2.10%	−4.80%
Planning Selection Processes and Staffing	12	1.10%	11	1.20%	−8.30%
Employment Tests or Structured Interviews	21	1.90%	15	1.60%	−28.60%
Innovative Recruiting Practices	9	0.80%	0	0.00%	−100.00%
Subtotals	116	10.7%	111	11.6%	−4.3%
Employee Relations					
Employee Opinion and Attitude Surveys	11	1.00%	12	1.30%	9.10%
Job Security/Emphasis on Permanent Jobs	34	3.10%	37	3.90%	8.80%
Low Status Differentials	17	1.60%	12	1.30%	−29.40%

(continued)

Table 2 (continued)

	1992-2005		2006-2011		
	N	%	N	%	Change
Complaint or Grievance Procedure	17	1.60%	11	1.20%	–35.30%
Social and Family Events and Policies	8	0.70%	4	0.40%	–50.00%
Labor Union Collaboration	11	1.00%	5	0.50%	–54.50%
Measurement of Employee Relations Outcomes	21	1.90%	7	0.70%	–66.70%
Diversity and Equal Employment Opportunity	10	0.90%	2	0.20%	–80.00%
Subtotals	129	11.9%	90	9.4%	–30.2%
Communication					
Employees Receive Market, Firm Performance, or Strategic Information	26	2.40%	22	2.30%	–15.40%
Formal Information Sharing Program	38	3.50%	29	3.00%	–23.70%
Employee Input and Suggestion Processes	30	2.80%	14	1.50%	–53.30%
Frequent/Regular Meetings with Employees	27	2.50%	6	0.60%	–77.80%
Subtotals	121	11.1%	71	7.4%	–41.3%
Performance Management and Appraisal					
Appraisals Based on Objective Results/ Behaviors	8	0.70%	24	2.50%	200.00%
Appraisal Based on Strategic or Team Goals	4	0.40%	8	0.80%	100.00%
Appraisal for Development/Potential	8	0.70%	15	1.60%	87.50%
Employees Involved in Setting Appraisal Objectives	5	0.50%	8	0.80%	60.00%
Frequent Performance Appraisal Meetings	8	0.70%	11	1.20%	37.50%
Written Performance Plan with Defined Objectives	7	0.60%	6	0.60%	–14.30%
Multisource Feedback and Peer Appraisal	9	0.80%	3	0.30%	–66.70%
Subtotals	49	4.5%	75	7.9%	53.1%
Promotions					
Career Paths and Job Ladders	2	0.20%	8	0.80%	300.00%
Promotions From Within	12	1.10%	17	1.80%	41.70%
Career Planning	9	0.80%	11	1.20%	22.20%
Promotions Objectively Based on Merit	12	1.10%	13	1.40%	8.30%
Promotion Opportunities (e.g., frequency)	10	0.90%	8	0.80%	–20.00%
Succession Planning	5	0.50%	0	0.00%	–100.00%
Subtotals	50	4.6%	57	6.0%	14.0%
Turnover, Retention, and Exit Management	4	0.4%	7	0.7%	75.0%
Totals	1,087	100.0%	955	100.0%	–12.1%

(Sheppeck & Militello, 2000). High-performance compensation and benefits practices include incentive compensation pay plans, bonuses, and others.

Job and Work Design

The Job and Work Design category includes practices that deal with the specific elements of jobs, relationships between jobs, and the organizational structure. This area is important because it relates to employee motivation and satisfaction and influences the degree to which employees are allowed to utilize their skills on the job (Berg, 1999). HP job and work design practices include enriched jobs, use of teams, and others.

Table 3
Cross-Cultural HPWPs, Overall Rank, Percentage, and Regional Frequency

Overall Rank	%	High Performance Work Practices	Regional %					Frequency in Top 30s
			Anglo	Confucian	Latin Europe	Southeast Asian	Eastern Europe	
1	4.9	Decentralized Participative Decisions	4.6	6.0	4.7	—	7.8	4
2	4.8	Training Extensiveness	5.3	6.2	3.1	1.5	—	4
3	4.0	Project or Other Temporary Work Teams	4.9	2.4	2.6	7.5	—	4
4	3.8	Pay for Performance	3.2	4.6	2.6	1.5	7.8	5
5	3.6	Formal Appraisal for Pay	3.3	4.2	4.2	3.0	—	4
6	3.5	Job Security/Emphasis on Permanent Jobs	3.6	2.9	5.8	—	4.7	4
7	3.4	Job Analysis	3.1	5.3	1.6	—	—	3
8	3.3	Use of Training to Improve Performance	2.9	3.8	3.7	3.0	—	4
9	3.3	Formal Information Sharing Program	4.0	2.9	1.6	1.5	—	4
10	2.7	External Pay Equity/ Competitiveness	3.2	2.2	3.7	1.5	—	4
11	2.7	Training for Job or Firm Specific Skills	2.4	2.0	4.2	11.9	—	4
12	2.5	Job Rotation/Cross Functional Utilization	2.5	2.2	2.6	4.5	1.6	5
13	2.4	Specific and Explicit Hiring Criteria	1.8	2.6	4.2	9.0	—	4
14	2.4	Hiring Selectivity or Low Selection Ratio	2.5	2.9	2.1	1.5	—	4
15	2.4	Employees Receive Market, Firm Performance, or Strategic Information	2.6	—	2.1	—	18.8	3
16	2.2	Incentive Compensation	1.8	1.3	5.8	4.5	—	4
17	2.2	Employee Input and Suggestion Processes	2.8	—	2.1	1.5	3.1	4
18	2.1	Comprehensive Benefits	1.6	2.4	2.1	10.4	—	4
19	2.0	Multiple Tools Used to Screen Applicants	1.5	2.4	4.7	—	—	3
20	2.0	Self-Managed Work Teams (Quality Circles)	2.7	—	—	—	1.6	2
21	1.8	Employment Tests or Structured Interviews	2.2	1.5	1.6	—	—	3
22	1.8	Training for Career Development	—	2.6	—	4.5	3.1	3
23	1.7	Profit or Gain Sharing	—	1.5	2.6	3.0	6.3	4
24	1.6	Frequent/Regular Meetings With Employees	2.2	—	—	—	4.7	2
25	1.6	Appraisals Based on Objective Results/Behaviors	—	3.5	1.6	—	—	2
26	1.4	Complaint or Grievance Procedure	2.2	—	—	—	—	1
27	1.4	Greater Discretion and Autonomy	—	2.2	3.1	—	—	2
28	1.4	Low Status Differentials	2.0	—	—	—	—	1
29	1.4	Measurement of Employee Relations Outcomes	1.7	—	—	3.0	1.6	3
30	1.4	Promotion From Within	1.9	—	1.6	1.5	—	3
Total	75.6	Total regional top 30s	72.5	67.6	74.0	74.8	61.1	

Note: A dash (—) indicates not in the list of top 30 most frequent.

Table 4
Region-Specific HPWPs, Overall Rank, Percentage, and Regional Frequency

Overall Rank	%	High Performance Work Practices	Regional %					Frequency in Top 30s
			Anglo	Confucian	Latin Europe	Southeast Asian	Eastern Europe	
31	1.2	Promotion Objectively Based on Merit	1.4	—	—	1.5	—	2
32	1.2	Group-Based Pay	1.8	—	—	—	—	1
33	1.2	Evaluation of Training	—	1.8	—	—	9.4	1
34	1.1	Planning Selection Processes and Staffing	—	1.5	1.6	3.0	—	3
35	1.1	Employee Opinion and Attitude Surveys	1.5	—	1.6	—	—	2
36	1.1	Pay for Skills Knowledge	1.3	—	1.6	4.5	—	3
37	1.1	Appraisals for Development/ Potential	—	—	1.6	1.5	—	2
38	1.0	Career Planning	—	1.5	—	1.5	1.6	3
39	1.0	Employee Stock Ownership	—	—	—	1.5	6.3	2
40	0.9	Frequent Performance Appraisal Meetings	—	1.5	—	1.5	—	2
41	0.9	Matching Candidates to Firm Strategy	—	2.9	—	—	—	1
43	0.8	Bonuses or Cash for Performance	—	—	—	—	6.3	1
45	0.8	Job Enlargement and Enrichment	—	—	—	—	6.3	1
46	0.7	Cross-Functional or Multiskill Training	—	—	—	1.5	—	1
49	0.6	Employees Involved in Setting Appraisal Objectives	—	—	1.6	—	—	1
50	0.6	Written Performance Plan with Defined Objectives	—	1.3	—	—	—	1
51	0.6	Flexible Work Schedule	—	—	1.6	—	—	1
52	0.6	Innovative Recruiting Practices	—	—	—	1.5	—	1
53	0.6	Multisource Feedback and Peer Appraisal	—	—	—	—	7.8	1
54	0.6	Appraisal Based on Strategic or Team Goals	—	2.0	—	—	—	1
57	0.5	Turnover, Retention, and Exit Management	—	—	—	3.0	—	1
59	0.5	Career Paths and Job Ladders	—	1.3	—	—	—	1
60	0.5	Public Recognition/ Nonfinancial Rewards	—	—	—	1.5	—	1
61	0.2	Succession Planning	—	—	—	1.5	1.6	2
		Subtotal percentages for region-specific HPWPs	6.0	13.8	9.6	24.0	37.7	
		Total percentages HPWPs in each region's top 30 (from Table 3 Etics + Table 4 Emics)	78.5	81.4	83.6	98.8	98.8	

Note: A dash (—) indicates not in the list of top 30 most frequent.

Training and Development

The Training and Development category includes practices that deal with teaching employees the competencies that they need for their current and future jobs. This area is important because it is directly linked to the functional capacity of the organization (Truss, 2001). To function optimally, an organization must provide a way for its employees to develop new skills (Ulrich, 1997). HP training and development practices include cross-functional and multiskill training, training for firm-specific skills, and others.

Recruiting and Selection

The Recruiting and Selection category includes practices that deal with locating and recruiting applicants and then choosing whom to hire. This area is important because it can have positive outcomes such as higher profitability and greater labor productivity (Michie & Sheehan, 2005), increased levels of employee commitment (Fiorito, Bozeman, Young, & Meurs, 2007; Taylor, Levy, Boyacigiller, & Beechler, 2008), and higher levels of human capital leading to higher overall performance (Takeuchi, Lepak, Wang, & Takeuchi, 2007). HP recruiting and selection practices include innovative recruiting practices, specific selection criteria based on organizational strategy, and others.

Employee Relations

The Employee Relations category includes practices that deal with the governance of the relationship between employees and the employer. This area is important because it influences the organization's culture and climate, which in turn relates to organizational outcomes (Godard & Delaney, 2000). For example, Kim and Wright (2011) propose that, within a context created through fostering a trusting environment, employees will exhibit more commitment toward the organization, leading to improved firm performance. Also, Wei, Liu, Zhang, and Chiu (2008) found that corporate culture affects the process of HPWP implementation. Chuang and Liao (2010) found that a climate that demonstrates concern for employees mediated the effectiveness of HPWPs practices on employee helping behavior. HP employee relations practices include complaint and grievance procedures, opinion and attitude surveys, and others.

Communication

The Communication category includes those practices that deal with the channels and methods whereby information is exchanged. This area is important because it has shown a positive relationship with organizational performance (Gibson, Porath, Benson, & Lawler, 2007; Gittell, Seidner, & Wimbush, 2010). Information sharing practices can decrease uncertainty, clarify goals, and help connect work with organizational strategy. For example, it has been shown that the number of ties within the social networks of managers linking them to

managers *outside* their organization relates to the adoption of HPWPs (Erickson & Jacoby, 2003). HP communication practices include a formal information sharing program, providing employees with strategic business information, and others.

Performance Management and Appraisal

The Performance Management and Appraisal category includes those practices that deal with measuring and improving individual and team performance. This area is important because it can align individual and team performance with organizational strategies (Zhang & Li, 2009). HP performance management and appraisal practices include frequent feedback based on team and organization goals, managing objectives tied to organizational strategies, and others.

Promotions

The Promotions category includes those practices that deal with opportunities and methods whereby employees can move up to higher level positions within an organization. This category not only ensures that there are candidates for job openings, but it is also a type of extrinsic reward that can motivate employees by providing them with opportunities to advance within the firm (Macky & Boxall, 2008). This opportunity may relate to such outcomes as higher levels of employee commitment and lower levels of turnover. HP promotions practices include using promotions to reward good performance, defined career paths and job ladders, and so forth.

Turnover, Retention, and Exit Management

The Turnover, Retention, and Exit Management category includes those practices that deal with identifying and taking steps to address the reasons for voluntary turnover. This area is important because reducing employee withdrawal and turnover can improve organizational performance (Hausknecht & Trevor, 2011; Huselid, 1995; Wang et al., 2011). Moreover, as HPWSs increase the investment in employees, it becomes even more important to retain those employees (Cappelli & Neumark, 2001). HP turnover, retention, and exit management practices include conducting exit interviews and employee retention strategies.

Analyses of HPWPs

Here we analyze the HPWPs taxonomy to illustrate how it is useful for integrating the research literature and also to illustrate its generalizability. Analyses were conducted to show (a) the changes in HPWPs in the research literature over the past two decades and (b) the frequencies of HPWPs investigated in research across clusters of countries.

Chronological Analysis

Table 2 compares the frequencies of practices reported in the literature over two points in time. This literature review begins in 1992 and continues through 2011. Looking at the frequency of published articles that included multiple practices, we observed that roughly half were published during the first 14 years of this literature (1992-2005), and the other half were published during the most recent 6 years (2006-2011). This most recent time period covers one third of the years in this review. The increase in publications in the most recent period might indicate an increase in interest in this area. We chose to split the time periods based on the midpoint of the frequency of publications to make comparisons of the relative changes in published practices.

Table 2 shows the relative frequencies of practices published during these two time periods. These figures compare the number of practices in each time period to the total pool of practices. We chose this method because the focus of our analysis was on building a taxonomy of practices that appeared in the research literature. If we were preparing a taxonomy of articles we may have analyzed the number of practices per article. A potential disadvantage of our method is that we are not reporting the average number of practices per article. Nevertheless, we note that overall mean number of practices per article over the entire time period (1992-2011) was $M = 11.3$, and the mean number of practices per article was similar across the two time periods (1992-2005, $M = 12.2$; 2006-2011, $M = 10.4$).

The practices are listed by categories. Within each category practices are listed from top to bottom according to the relative rate of change compared to other published practices. This indicates whether the published frequency of each HPWP is in the top one third and growing (>33.3% increase), in the middle one third and stable, or in the bottom one third and declining (>33.3% decline).

These changes are based on the reports of HPWPs in the research literature, but they may also mirror chronological changes in the actual use of HPWPs practices by organizations. The economic or rational actor perspective posits that organizations will adapt and change as they see other organizations' successful use of certain HPWPs (e.g., Kaufman & Miller, 2011). However, other less rational factors (e.g., institutional pressures, risk aversion, mimetic isomorphism) also induce organizations to change their practices (Johns, 1993; Pfeffer, 1996).

Theory building has been described as an evolutionary process having three steps: variation, selection, and retention (Weick, 1989). Variation is the creation of possible alternatives that might survive. Selection is the process whereby certain alternatives are chosen. Unlike natural selection, theory building is an artificial selection process because the theorist uses logical criteria to choose among available alternatives. Yet somewhat like natural selection, the theories that survive are often those adopted by the future theorists. The outcome of the selection process is the retention of some of the alternatives.

The chronological analysis illustrates how the HPWP literature has undergone this artificial selection process. Initially, certain HPWPs were chosen by researchers as possible candidates for inclusion in the group of practices that could be considered as high performance. Weick (1989) suggested that the criteria for creation of possible alternatives should be based on identifying ideas that are appropriate, interesting, or plausible. These criteria

seem to be met by several growing HPWPs (e.g., matching job candidates to firm strategy). Thus, growing practices are possible candidates for inclusion in the high-performance research literature.

Moreover, the breadth of this taxonomy is one of its strengths because the greater the number of plausible possibilities that are created, the more likely it is that some will be selected and retained (Weick, 1989). This variety of choices gives researchers more opportunities to choose among available alternatives. For example, the inclusion of the category of turnover, retention, and exit management as part of the high-performance literature seems appropriate, interesting, and plausible, and it also has empirical support that may induce researchers to include this topic in future research (Hausknecht & Trevor, 2011).

The choice among alternative HPWPs is an artificial selection process that occurs as a result of choices that researchers make to include practices in their own definitions of HPWPs (Weick, 1989). These choices can be influenced by social and normative influences (e.g., fads) or based on rational choices (Abrahamson & Eisenman, 2008). The retention of HPWPs within this literature should be based on rational choices based on sound logic and empirical data.

Moreover, temporal contingencies constitute boundary conditions that limit the generalizability of some HPWPs. This limitation on the temporal generalizability of some HPWPs could occur for practices that are passing fads or limited to contextual conditions that change over time (Bacharach, 1989; Whetten, 1989). The chronological analysis reported in Table 2 identifies core HPWPs that are less likely to be constrained by temporal contingencies.

Growing practices. About one fifth of the HPWPs identified in this taxonomy ($n = 12$) can be classified as growing because the frequency that they have appeared in the literature has increased by more than 33.3% between the two periods we examined. There are several reasons for this growth. Some practices may be growing because researchers believe they are more useful in predicting organizational performance. The growth of group-based pay and the five growing performance management and appraisal practices are examples of HPWPs that are useful in predicting higher performance. These practices are more directly linked to managing and improving employee performance, and therefore are likely to increase organizational performance as well. Other practices may be growing because of changing conditions.

We suspect that the overall growth in some practices may result from the relative increase in the proportion of published research emanating from Confucian and Southeast Asian countries. The contributions to the high-performance literature from these regions have been increasing, and some of the practices in the literature from those regions are more common than those published in other regions (e.g., public recognition and other nonfinancial rewards, cross-functional or multiskill training, and matching candidates to firm strategy).

Stable practices. About half of the HPWPs ($n = 32$) can be classified as stable because the relative frequency that they have appeared in the literature has not varied by more than 33.3% between the two periods we examined. This stability suggests that, for some practices, the field may be converging on an accepted core definition of HPWPs. Nevertheless, since the other half of the HPWPs has not been stable, there has been an astonishing amount of change in the definition and measurement of HPWPs.

HPWPs can be thought of as a broad umbrella construct that has historically been used somewhat loosely to include and account for a diverse set of practices (Hirsch & Levin, 1999). Broad umbrella constructs tend to pass through a three-stage life cycle: emerging excitement, critique, and either transformation or decline (Hirsch & Levin, 1999). These life cycle stages result from the dialectic between two groups of scholars: the umbrella advocates who promote the relevance of their broad ideas and the "validity police" who urge that ideas be subjected to rigorous standards of validity and reliability (Hirsch & Levin, 1999).

One reason for the decline of broad umbrella constructs is that there are too many alternative or ad hoc measures. Because these alternative measures do not overlap conceptually or have a low level of correlation with each other, it is difficult for knowledge in the field to accumulate (Hirsch & Levin, 1999). However, in the taxonomy presented here, 32 of the 61 practices have remained relatively stable over time. Moreover, the core practices tap eight of the nine categories of practices and therefore adequately represent the HPWPs domain. The identification of this stable set of representative HPWPs will enable researchers to continue to overcome the challenges to the validity of this field (Hirsch & Levin, 1999; Kaufman, 2012).

Declining practices. About a quarter of the HPWPs identified in this taxonomy (*n* = 16) can be classified as declining because the frequency that they have appeared in the literature has dropped more than 33.3% between the two periods we examined. As the HPWPs field continues to evolve, some practices may not survive the selection process because they are not useful for predicting organizational performance, or they continue to be useful in predicting organizational performance but there is less interest in studying them. The level of interest by researchers does not necessarily equate to the level of usefulness in predicting organizational performance.

Other practices may be declining because of temporal boundary conditions. For example, the worldwide recession has increased unemployment rates in many countries, and therefore, the usefulness of innovative recruiting practices has declined as employers find it easier to recruit. Nevertheless, this example of a temporal boundary condition suggests an important point about HPWP research. The definition of HPWPs should remain sufficiently flexible so it can adapt to changing market conditions.

Another likely temporal boundary condition is the decline in union membership in many countries. For workers not represented by labor unions, the relevance of some practices is reduced (e.g., labor union collaboration). Yet this practice should not be ignored in heavily unionized industries or countries, where it may logically constitute an important element of an overall high-performance system. However, there is another interesting possibility. The adoption of certain HPWPs could reduce union membership by a process called the union substitution effect (Fiorito, 2001). Thus, the use of HPWPs that reduce union membership (e.g., decentralized participative decisions) may reduce the likelihood that other HPWPs (e.g., labor union collaboration) will be relevant or necessary. Some HPWPs could make other HPWPs unnecessary. One HPWP may substitute for another. However, this substitutionary effect may also have a temporal dimension. It may take time for the effectiveness of some HPWPs to be realized, and as a result they only become substitutes for other HPWPs at a later point in time.

Chronological Future Research Directions

More theory-based research is needed on the processes and pressures that induce organizations to adopt and change their own configuration of HPWPs. The framework presented here may facilitate that research by helping researchers to use consistent measures to track the changes in HPWPs over time.

Scholars have suggested that some of the practices included in the high-performance literature could be merely passing fads. Further empirical research is needed to weed out practices that are passing fads that may have been adopted by scholars or organizations because of nonrational social or normative forces (Abrahamson, 1991; Abrahamson & Eisenman, 2008). Only practices based on sound logic and empirically validated usefulness should be included within the definition of core HPWPs. These core practices can serve as a foundation for the accumulation of general knowledge (Hirsch & Levin, 1999). Nevertheless, it should also be recognized that some peripheral HPWPs may be useful in some circumstances for research that is directed toward understanding why these practices were adopted and whether or not and why they are effective, but only in certain contexts or conditions.

We suspect that the growing research on providing comprehensive benefits may be due to the fact that some firms have cut benefits because of costs. Research should examine whether other high-performance firms provide comprehensive benefits as part of their high-performance system that gives them a competitive advantage in attracting and retaining employees.

Research should examine both contemporary substitution effects that occur simultaneously, and other intertemporal substitution effects that occur over time in a longitudinal fashion. For example, if an organization begins to implement hiring selectivity or low selection ratios, doing so can increase the quality of its workforce. This result can be realized quickly if the firm has a high rate of employee turnover, because new and more qualified employees will rapidly replace less qualified employees. However, the positive effects of this practice may take longer if the organization has low turnover. Moreover, after sufficient time has passed to enable improvement in the quality of the workforce, the usefulness of other HPWPs may then become limited. Eventually, the workforce that was hired using high-performance selection processes will be better qualified, and therefore the usefulness of extensive training may be reduced for those workers. Thus, hiring selectivity may have an intertemporal substitution effect on training extensiveness. The 61 HPWPs in this taxonomy creates further opportunities to explore other examples of both contemporary and intertemporal substitution effects among and between HPWPs that can be explored in future research.

Cross-Cultural Analysis

To assess the cross-cultural generalizability of the HPWPs, we conducted an additional analysis that compared the frequencies of the HPWPs that were published in different countries. We grouped articles by clusters of countries. The country clusters followed those used by other authors (e.g., Ronen & Shenkar, 1985).

We then sorted the reports of HPWPs by country clusters. Five country clusters emerged with 50 or more reports of specific HPWPs. These clusters were Anglo-American (e.g., United States and Australia), Confucian (e.g., China and Taiwan), Latin Europe (e.g., Spain and Italy), Southeast Asian (e.g., India and Thailand), and Eastern Europe (e.g., Russia). The mean number of practices per article were generally similar across regions (Anglo-American: $M = 11.7$, Confucian: $M = 11.9$, Latin Europe: $M = 10.6$, Southeast Asian: $M = 13.4$, Eastern Europe: $M = 9.5$). For each of these clusters, frequencies were calculated based on the published reports of practices. The figures reported in Tables 3 and 4 represent the number of times a practice appeared in the published literature compared to the total pool of practices. We reported these figures because we were building a taxonomy of practices.

The left-hand column of Table 3 shows the 30 most frequent HPWPs for all regions. Table 3 also shows, for the top 30 most frequently cited HPWPs within each region, the frequency that practice was cited in each region. We report the 30 most frequent HPWPs because they account for about one half of all of the 61 practices, 75% of the reports of HPWPs overall, and about 70% of all of the reports of HPWPs within each region. We call these Cross-Cultural HPWPs because they are generally applicable across all countries. The right-hand column of this table reports the sum of the number of regions for which each practice was one of the 30 practices most frequently cited.

For example, the most frequently published HPWP overall (total across all regions) was Decentralized Participative Decisions. The published frequency of this practice within different regions was: Anglo: 4.6%, Confucian: 6.0%, Latin Europe: 4.7%, and Eastern Europe: 7.8%. It was not among the 30 most frequently published practices in Southeast Asia. However, it was one of the most frequent in four out of five regions.

The right-hand column of Table 3 shows that 17 of the top 30 HPWPs are commonly published in four or five regions. We consider HPWPs that appear in four or five regions to be cross-cultural because they are published in many countries and cultures. The most cross-cultural HPWPs were pay for performance and job rotation/cross functional utilization because they appeared in the top 30 list overall and in all five regions.

Table 4 shows the HPWPs that were published less frequently overall but were still in the top 30 most frequent within at least one region. That table reports the overall rank and percentage of each of those HPWPs, the percentage of times published within each region, and the total number of regions that included each practice within the top 30. For example, promotion objectively based on merit was ranked 31st overall in terms of frequency (1.2%), and it appeared in the top 30 most frequent HPWPs in the Anglo region (frequency: 1.4%) and the Southeast Asian region (frequency: 1.5%). However, it appeared on only 2 of the regional top 30 lists. At the bottom of Table 4 is the total for the percentages for these less frequent HPWPs, and below that are sums of the totals from both Tables 3 and 4. These totals show, for example, that the total of the top 30 HPWPs in the Anglo region is 78.5%, Confucian is 81.4%, and so forth.

Cross-Cultural Future Research Directions

Data in these tables indicate several interesting examples of how differences in the reports of HPWPs may be related to differences in national culture. For example, Confucian and

Southeast Asian cultures are more accepting of higher power distances in relationships between those in authority (e.g., managers) and subordinates (Hofstede, 2001). Research should examine whether this aspect of national culture explains why research in those cultures tends not to include egalitarian HPWPs (e.g., giving employees strategic information, soliciting employee opinions and suggestions, letting employees work in self-managed teams, conducting frequent meetings with employees, giving employees a complaint or grievance procedure, and maintaining low status differentials). These egalitarian practices generally do not appear in the top 30 most frequently cited in those regions (Table 3). Future research should examine whether the exclusion of those practices occurs because scholars conducting research in those cultures believe those types of practices are less important, or if those practices are actually less important in enhancing organizational performance in those cultures.

Confucian and Southeast Asian cultures also tend to have more of a long-term orientation (Hofstede, 2001). Researchers should examine if long-term orientation explains why research in those cultures tends to more frequently include HPWPs that incorporate planning (e.g., planning selection processes and staffing, career planning, written performance plan, career paths and job ladders, and succession planning).

Moreover, we encourage researchers to incorporate a variety of culture models in their examination of cross-national differences in HPWPs. The data presented in Tables 3 and 4 suggest the usefulness of these alternative models. For example, the GLOBE project differentiates in-group collectivism from institutional collectivism (Gelfand, Bhawuk, Nishii, & Bechtold, 2004). Future research should examine if these different forms of collectivism explain why, as reported in Tables 3 and 4, Confucian cultures (e.g., China) that have higher institutional collectivism than in-group collectivism are less likely to include group-focused HPWPs (e.g., group-based pay, self-managed work teams) but more likely to include HPWPs that are focused on the institutional level (e.g., matching candidates to firm strategy, appraisals based on strategic goals).

In addition, Inglehart and colleagues proposed that countries that are at earlier stages of development focus more on hard work for survival, whereas more developed countries focus more on self-actualization (e.g., Inglehart & Welzel, 2005). Research should examine if level of development explains why Southeast Asian cultures (more survival-focused) tend to use HPWPs that focus on work-related skills (training for job- or firm-specific skills, cross-functional or multiskill training) whereas Latin Europe cultures (more self-actualization focus) emphasize HPWPs that could enable employees to focus more on their own opinions, growth, and freedom (e.g., employee opinion and attitude surveys, appraisals for potential/development, employees involved in setting appraisal objectives, flexible working schedule).

Other culture models differentiate between nations based on their preferences for achievement (e.g., earning things) versus ascription. This difference could manifest itself in the degree of acceptability of HPWPs related to performance feedback (e.g., Trompenaars & Hampden-Turner, 1998). Research could examine if achievement versus ascription focus explains why frequent performance appraisal meetings are less common in Latin or Eastern Europe (Schneider & Barsoux, 1997).

In addition to explanations based on national culture, research should examine why and when employers use different HPWPs based on local labor market conditions, such as low

wages and an unskilled labor pool (Bae, Chen, & Lawler, 1998). For example, future research should examine whether employers in Southeast Asia emphasize skills training because of culture, local labor market conditions, or both. The labor market explanation would complement the prior research that shows HPWPs in the Job and Work Design and Performance Management and Appraisal categories can enhance firm performance even for low-skilled employees performing simple tasks (Jones, Kalmi, & Kauhanen, 2010).

There are differences in the degree to which the research in some regions (e.g., Southeast Asian and Eastern Europe) tends to focus on a narrower range of HPWPs, whereas other regions includes many different kinds of HPWPs. The overall totals at the bottom of Table 4 indicate that the top 30 HPWPs in Southeast Asia account for all (98.8%) of the variance in reports of HPWPs. In Eastern Europe, 18 HPWPs account for all of the variance (98.8%), and 1 particular HPWP (giving employees market, firm, performance, and strategic information) accounted for about 19% of the total.

There may be deficient measurement of HPWPs in those regions that have included a narrower range of practices. Future research should examine whether there is measurement deficiency, different researcher interests, or whether regions that use a more narrow range of HPWPs have identified a more refined set of practices that account for increased organizational performance in those cultures. Research should study if and why firms in some cultures could increase organizational performance with a narrower range of HPWPs.

Other Future Research Directions

Beyond the chronological and cultural factors discussed above, this section provides a broad overview of our theoretical contributions, suggests future research directions related to architectural alignment and equifinality, and identifies other understudied yet promising topics.

Overview of Theoretical Contributions

The model that we propose here is teleological. In contrast to tautologies that have overlapping constructs (Bacharach, 1989), a teleological perspective only includes distinct nonoverlapping elements that have a design and a purpose with an end goal in mind. The HR and organizational high-performance architectures we describe are teleological because they have distinct nonoverlapping elements and represent an organizational design that has the purpose of achieving the end goal of higher organizational performance.

We also have enabled enhanced theoretical connectivity. Theoretical connectivity exists when one literature logically connects to another (Bacharach, 1989). The 61 HPWPs in this taxonomy each has its own research literature. These HPWPs are boundary spanner constructs that connect those literatures to the high-performance literature. The high-performance literature is an overarching central linchpin or point of connection for these many different literatures. These connections enable intellectual links between researchers who would otherwise be isolated (Hirsch & Levin, 1999). To the extent that each of those literatures demonstrates valid relationships with organizational performance, it tends to enhance the overall validity of the high-performance literature.

Moreover, to the extent that each of the practice literatures create new insights, the scope of the high-performance literature is expanded. We have enhanced the theoretical scope of this literature by providing a broad and comprehensive taxonomy that adds conceptual clarity and enables future research that can examine convergent and discriminant validity (Bacharach, 1989). Relationships among and between the distinct HPWPs can be tested.

We enhanced the parsimony of this field. Parsimony may be enhanced when there is a greater number of hypotheses that is covered by each proposition (Bacharach, 1989; Whetten, 1989). Theoretical propositions based on the proposed architecture can cover many hypothesized relationships among and between the categories of HPWPs in this taxonomy.

We hope to enhance the degree to which future research can avoid underspecification of models. The identification of a broad yet parsimonious domain of practices should encourage future researchers to tap all relevant HPWPs in their research designs and thereby avoid underspecification of research models that would fail to include plausible alternative explanations. For example, we would encourage researchers to include the core HPWPs in future research. Other research, perhaps based on market conditions, could have a theoretical basis for including HPWPs that would be characterized as broad or peripheral HPWPs.

Architectural Alignment

Internal alignment. We need more research on internal alignment. Internal alignment refers to the degree to which different HPWPs are aligned and support each other. Our delineation of multiple practices within nine different categories facilitates insightful research into the possibility that there can be internal alignment or misalignment both within and also across different elements of a high-performance architecture. For example, suppose that an organization uses both individual incentive compensation and group-based pay. When and under what conditions will this internal within-group configuration of practices either lead to synergistic or interference effects in terms of motivating employees? Alternatively, when and under what circumstances will alignment or misalignment across different levels of the HR architecture be important? For example, suppose an HR system espouses a principle such as teamwork, but in actual practice rewards employees based on individual incentives. When and under what circumstances would this misalignment have a negative impact on performance? Moreover, to what extent is alignment across different levels of HR architecture important? Do practices matter much more than principles and policies? Or, alternatively, are the higher level principles and policies the true source of competitive advantage, or are there many possible practices that can be used with equal levels of success?

External alignment. We also need more research on external alignment. External alignment refers to the alignment between HPWPs and firm strategy. Researchers should examine how, why, and to what extent parallel alignment from HR to the organization within and across different levels impacts organizational performance. For example, is it more important that HR principles be aligned with organizational principles or that HR practices be aligned with organizational tactics? How, why, and to what extent does alignment with other functions within an organization matter (e.g., marketing, supply chain, information technology, accounting, finance)?

In addition, although research on alignment has tended to focus within the organization, to what extent does alignment with conditions outside the organization matter? For example, even though HPWPs such as innovative recruiting practices and turnover and retention and exit management are less often mentioned in the research literature, are they more important elements of a high-performance system in tight labor markets? Moreover, do organizations achieve optimal levels of performance when all three of the following conditions are met: (a) the organization's architecture is aligned with external market and economic conditions, (b) the organizational architecture is aligned at all levels with the HR architecture, and (c) the HR architecture is aligned with labor market conditions (e.g., unemployment rates, wage and benefit levels of competitors)?

Alignment types. We need more research on types of alignment. There is comparatively little empirical research that investigates the synergistic or the enhancing effects of aligned systems. More research is needed on the types of alignment by specifying the HPWPs across HR systems to be aligned. Additionally, alignment research can study the ways that HPWPs can act as substitutes for each other. For example, researchers could study whether training that is aligned with selection procedures synergistically enhances organizational performance, or if high-performance selection procedures can be sufficient and less expensive substitutes for high-performance training. Research has suggested some HPWPs may be redundant and unnecessary (Bae, Chuma, Kato, Kim, & Ohashi, 2011; Wood, 1999), yet under what circumstances would organizations retain redundant HPWPs to avoid the negative outcome if one practice fails? For example, if the employee selection system fails to hire the best candidates, can the training and performance management systems address the weaknesses in the employee competencies?

The parallel organizational and HR architectures suggests the possibility that HR may sometimes be the key stabilizing influence within organizations that engage in shifting and sometimes ineffective organizational strategies. Research should examine if and when the HR system may be the stable source of sustained competitive advantage. Research should also compare the degree that different levels of the architecture (principles, policies, practices, products) enhance organizational performance.

Finally, does the frequency of reports of HPWPs in the research literature reflect their impact on actual organizational performance? Do Compensation and Benefits practices, the most frequently reported in the literature, have the biggest impact on performance?

Factors affecting alignment. We need more research on contextual factors that affect alignment. For example, in what contexts do organizations adopt different system architectures for different employee groups (e.g., core employees vs. contractors and temps), and when and how do these different architectures matter? In what contexts are there different principles, policies, practices, and products in these different work arrangements?

Equifinality

Equifinality is a prime area for future research. The concept of equifinality proposes that there are many possible combinations of HPWPs that can be successfully used to reach the

same positive outcome (Delery, 1998). The many possible combinations of HPWPs adds significant complexity for researchers in this field. Yet the complexity of the possible combinations of HPWPs can also make it difficult for some firms to observe, understand, and imitate the practices of other successful firms. Therefore, the complexity of combinations of HPWPs should be studied because it can be a unique source of sustained competitive advantage (Barney, 1991; Lepak et al., 2006). Researchers can study this complexity with the aid of the taxonomy provided in this study because it provides definitional consistency, structure, and clarity.

Understudied yet Promising HPWPs Topics

Here we mention five HPWPs topics that have been studied less often and explain why they show promise for insightful future research. First, organizations often engage in succession planning, and yet research does not specifically provide much in the way of empirical assessment of its effects on organization performance. Do organizations that adopt this practice benefit more substantially than others? Do higher attrition rates and lower lengths of stay mitigate its usefulness? These are among the many questions that need to be answered.

Second, public recognition and other nonfinancial awards is a method by which organizations could foster commitment, motivation, and a sense of culture. This HPWP speaks to the myriad of tools and techniques that can be used in addition to monetary rewards to motivate individuals to be more productive. Yet this practice has garnered very little research attention in the literature. Future research should focus on examining its contingent usefulness and its relative effects when compared to other incentive systems. For example, are these practices less costly yet equally effective in increasing employee commitment and performance when compared to other practices such as profit sharing or bonus systems with small payouts?

Third, the research literature has increasingly looked at the benefits associated with matching job candidates to organization strategy (see Table 2). Is it the case that organizations tend to only look at job requirements when selecting candidates and do not devote enough attention to the connection between that particular job and the organization's strategy? We suspect that this problem becomes less prominent as one moves up the corporate ladder and may also vary by industry. Nevertheless, for most jobs and hiring processes there may be a lack of connection to organizational strategies that should be studied in future research. For example, future research should examine whether hiring for matches to organizational strategy is only relevant for higher level managers and executives.

Fourth, as is apparent in much of the literature on HPWPs, beneficial outcomes are often contingent on high levels of employee commitment. Indeed, an analogous term often used to describe these systems is high-*commitment* work practices or systems. Therefore, it seems important that organizations seeking to improve performance and remain competitive adopt practices that emphasize job security. Future research in this domain should direct attention toward the development of practices that not only increase but also detract from employees' feelings of job security. This type of research may result in commitment-enhancing configurations that may benefit organizations in the long run.

Fifth, most of the literature on employee turnover is conducted at the individual level. More research should examine both positive and negative aspects of turnover and alignment across hierarchical levels (e.g., principle, policy, practice) and with organizational strategies (Hausknecht & Trevor, 2011). For example, could high-tech firms be more competitive by using an innovation strategy along with a lower than market pay policy? Could they reluctantly accept higher levels of turnover, manage turnover using other HPWPs (e.g., extensive training), but increase their innovation competency from the influx of new employees with innovative ideas?

Summary

In this study we analyzed two decades of research literature on HPWPs. We created a taxonomy that identifies core, broad, and peripheral practices that fit within hierarchical and parallel organizational and HR architectures. We illustrated how practices differ in their generalizability across time and across cultures, and how some practices may be useful in specific contexts. We provided theoretical insights and provide numerous suggestions for future research. Research in this field is likely to continue as scholars around the globe see the usefulness of HPWPs for organizations.

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*Indicates article useful in the identification of multiple HPWPs.

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