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# Strategic HRM and Organizational Behavior: Integrating Multiple Levels of Analysis

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## Abstract

[Excerpt] A few trends have emerged in the field of Strategic Human Resource Management (SHRM) over the past few years. First, and most obviously, has been the extensive effort to demonstrate a link between HRM practices and firm performance (Becker & Gerhart, 1996). Researchers such as Huselid (1995), MacDuffie (1995), Delery and Doty (1996), and Guthrie (2000) have published empirical studies showing a statistically significant linkage between HRM practices and some measures of organizational performance. A second trend has been to try to understand the mechanisms through which this relationship takes place. Authors such as Becker & Gerhart, (1996), Dyer and Reeves (1995), Guest, (1997) and Wright and Gardner (2003), have all called for research that uncovers some of the mediating relationships that must exist between the HRM practices and organizational performance. A final trend has been the recent interest in taking a multi-level approach to understanding SHRM. Wright and Boswell (2001) reviewed the SHRM literature and categorized this research as being differentiated along one dimension representing whether the focus was on single or multiple practices, and along a second dimension dealing with the unit of analysis, specifically the individual versus the group or organization. Ostroff and Bowen (2000) and more recently Bowen and Ostroff (2004) have developed the most extensive multi-level model of SHRM to date. Their theoretical approach argues that HR practices serve as communications mechanism signaling employees to engage in certain behaviors; relying on communications theory they contend that different aspects of HRM systems impede or facilitate this communication process. The purpose of this paper is related to these last two trends: we conceptually examine some of the mediating processes that might occur in the HRM – performance relationship, and try to make explicit their multilevel nature. In order to accomplish this, we will first explore the concept of variance, which is crucial to the analysis of any phenomena across multiple levels. We will show how virtually all existing SHRM research focuses on variance at one level of analysis while assuming constancy at other levels. We will next discuss the process through which HRM practices must act, and identify some of the relevant variables that have heretofore been virtually ignored in the empirical SHRM literature, specifically focusing on variance at different (unit vs. individual) levels of analysis. Finally, we will present some implications for theorizing and research in this area.



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**Abstract**

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# Strategic HRM and Organizational Behavior: Integrating Multiple Levels of Analysis

A few trends have emerged in the field of Strategic Human Resource Management (SHRM) over the past few years. First, and most obviously, has been the extensive effort to demonstrate a link between HRM practices and firm performance (Becker & Gerhart, 1996). Researchers such as Huselid (1995), MacDuffie (1995), Delery and Doty (1996), and Guthrie (2000) have published empirical studies showing a statistically significant linkage between HRM practices and some measures of organizational performance.

A second trend has been to try to understand the mechanisms through which this relationship takes place. Authors such as Becker & Gerhart, (1996), Dyer and Reeves (1995), Guest, (1997) and Wright and Gardner (2003), have all called for research that uncovers some of the mediating relationships that must exist between the HRM practices and organizational performance.

A final trend has been the recent interest in taking a multi-level approach to understanding SHRM. Wright and Boswell (2001) reviewed the SHRM literature and categorized this research as being differentiated along one dimension representing whether the focus was on single or multiple practices, and along a second dimension dealing with the unit of analysis, specifically the individual versus the group or organization. Ostroff and Bowen (2000) and more recently Bowen and Ostroff (2004) have developed the most extensive multi-level model of SHRM to date. Their theoretical approach argues that HR practices serve as communications mechanism signaling employees to engage in certain behaviors; relying on communications theory they contend that different aspects of HRM systems impede or facilitate this communication process.

The purpose of this paper is related to these last two trends: we conceptually examine some of the mediating processes that might occur in the HRM – performance relationship, and try to make explicit their multilevel nature. In order to accomplish this, we will first explore the

concept of variance, which is crucial to the analysis of any phenomena across multiple levels. We will show how virtually all existing SHRM research focuses on variance at one level of analysis while assuming constancy at other levels. We will next discuss the process through which HRM practices must act, and identify some of the relevant variables that have heretofore been virtually ignored in the empirical SHRM literature, specifically focusing on variance at different (unit vs. individual) levels of analysis. Finally, we will present some implications for theorizing and research in this area.

**Variance as a Scientific Concept**

The concept of variation, or variance, is central to all scientific endeavors. Virtually all of scientific efforts assume that variation exists in some phenomena, and the research process aims at understanding and/or explaining this variation (Kerlinger, 1973). In fact, Nunnaly and Bernstein (1994) state "One might say that scientific issues are posed only to the extent that they vary with respect to particular attributes…The purpose of a scientific theory is to explain as much variation of interrelated variables as possible" (p. 116). In the context of SHRM research, the basic proposition suggests that variance in performance exists across organizations, and variance also exists in HRM practices (less attention has been paid to variance within organizations). The empirical effort to tie HRM practices to performance that has dominated SHRM research consists of attempting to show that the variance in HRM practices covaries with the variation in performance. However, successfully explaining as much variation as possible in the 2 classes of variables (HR practices and outcomes) requires a more in depth consideration of the sources of variation that exist in and around those variables.

Specifically, understanding variance in this context requires partitioning variance into its various components. Begin with the assumption that any empirical study entails attributing scores to each unit of analysis on each variable which we will call the observed score. For ease of argument, we will also assume that the observed scores on each variable are normally distributed. At the most basic level, variance in observed scores consists of two types: true variance and error variance. True variance represents the variation in true scores on a relevant

variable (in this case, either HRM practices or performance) absent any measurement or other error component. It represents true differences across units or subjects on the relevant construct. Error variance represents the components of a score that are unrelated to the true score (i.e., the true differences across units or subjects), and is due to things such as measurement error. Error variance can be random (i.e., randomly distributed around the true score) or systematic (i.e., exhibiting a consistent upward or downward bias in the observed score).

Thinking about variance as being comprised of both true and error variance is important because it forces us to consider what exactly it is that we conceptually consider to be true versus error sources of variance. For example, what might be considered error variance at the unit or organizational level may represent true variance at the individual-level of analysis. Consider also the possibility that observed variance across organizations on HR practices that is assumed to represent true variance may in fact be error variance if the HR practices being captured represent "actual" HR practices in some organizations but "intended" HR practices in others. A consideration of both the many sources of variance that may exist for HR practices and outcome variables—as well as for the variables that mediate between the two—and the multilevel nature of the relationships among the variables is important because it can deepen our understanding of the HR practices to performance relationship of interest.

To date, SHRM researchers have focused on examining true variance at the organizational level with relatively less attention being paid to variance at other levels of analysis. The implications for the reliability and validity of our science—about which scholars continue to be highly concerned—are two-fold. With regard to validity, can we adequately capture the constructs of primary interest without first considering the variance that exists surrounding each construct? For instance, in the debate regarding the reliability of single rater measures of HR practices, Gerhart, Wright, & McMahan (2001) noted that reliability is a precondition to validity, and that unreliable measures severely limit the validity of those measures.

With regard to reliability, unless we recognize the cross-level nature of these relationships and pay more attention to individual- and group-level responses (variance) within organizations, can we be confident about the reliability with which we are capturing these constructs in our research? Again, Gerhart et al. (2001) noted that there might be real true score variance that exists among respondents within an organization that cannot be captured by single rater measures across job groups.

Because reliability and validity are central to good science, these issues cannot be ignored. However, unreliability, especially interrater reliability, while indicating low validity when aggregating across all respondents (e.g., all employees in an organization), may reveal highly valid measures when aggregating across particular subgroups of respondents (e.g., work groups). It is the interdependence of measurement (reliability and validity), design (particularly levels of analysis) and theory that underlies this examination.

**Variance and SHRM**

As previously discussed, SHRM research has predominantly focused on interrelating variance in HR practices across organizations with variance in performance. Huselid (1995) found that HR practices were significantly related to accounting profits and market values (Tobin's Q) of firms. Delery and Doty (1996) found that HR practices were related to accounting profits among a sample of banks. MacDuffie (1995) found that HR practices were related to operating performance (quality and productivity) among a sample of auto assembly plants. Guthrie (2000) found practices related to profitability of firms in New Zealand. Guest, Michie, Conway, and Sheehan (2003) found that HRM practices were related to both productivity and financial performance in a sample of UK companies. This realm of research is growing, and consistently demonstrates the relationship between HRM practices and measures of organizational performance.

While some of the methodological details vary, most often these studies share a common approach to examining the relationship. It usually entails acquiring an assessment of the HRM practices that exist in the focal unit (usually the firm or plant and usually across jobs

within the unit, although some studies focus on a core job) as well as a measure of the focal unit's performance. These two sets of measures are examined in a multivariate statistical technique, and they are shown to covary.

This approach has revealed consistent relationships between the two focal variables (HR practices and performance), but may not have contributed much to our theoretical understanding of how these two measures relate. For example, one of the more thorough models of SHRM was proposed by Becker & Huselid (1998). This model suggested that the firm's strategy dictates the design of the HR system. The HR system impacts the employee skills and motivation, which, in turn, results in creativity, productivity, and discretionary behavior. Employees' behavior influences the firm's operating performance, which leads to profitability, growth, and market value.

Note that of all these variables, most research has only focused on two that are quite distal from one another in the causal chain (HR practices and performance). Note also that because the level of analysis is the firm (or plant), the model seems to assume uniformity or constancy with regard to each variable (i.e., there is no variation within firm in HR practices, no variation within firm in employee reactions, etc.). This is not to criticize the assumption, because such assumptions are always necessary with regard to one level of analysis. However, in order to increase our understanding of how HR practices impact performance, we might benefit greatly from approaching the issue in a multi-level framework. That is to say that we would benefit from examining the mediating factors more carefully, and to do so using multi-level frameworks that recognize the many levels of analysis at which the mediators may be operating. In the next section we will examine how the basic process must take place across levels, and tie the discussion to some of the theoretical frameworks and concepts that have guided research at these levels.

## SHRM Across Levels of Analysis

To begin, we propose the following rudimentary process that must take place in order for HRM practices to impact organizational performance. In proposing this model, we by no means

argue that we have identified all of the relevant variables. However, we propose the model to provide a framework that allows us to identify some of the relevant theoretical frameworks and research literatures that can shed light on the subprocesses through which HR practices impact organizational performance.

Before describing the model in detail, we note a few assumptions. First, we are focusing on HRM practices at the level of the job group. Lepak and Snell (2000) explicitly noted that firms have different HR systems for different groups of employees depending upon the value and uniqueness of the skills of employees in particular job groups. In addition, researchers such as MacDuffie (1995) and Delery and Doty (1996) have noted the value of focusing assessment of HR practices on "core" job groups in order to more accurately describe the practices that exist. Thus, we strongly agree with the idea that, within a firm, a variety of HRM systems will exist with regard to particular job groups, but for the ease of understanding the process through which HRM impacts performance, our discussion will assume that the practices are intended to be uniform and consistently applied to the focal job group.

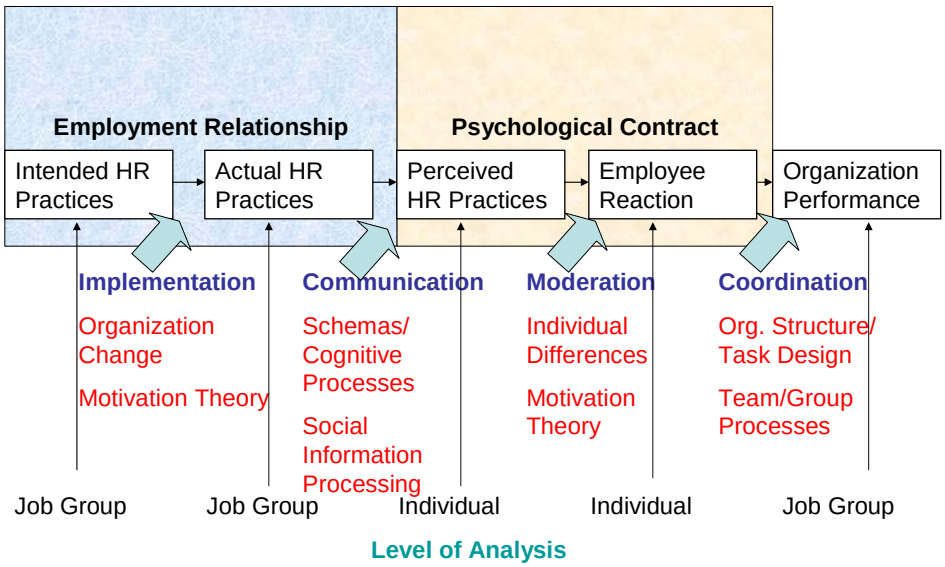
Second, to a large extent we assume business strategy to be largely outside the purview of the model. This does not imply that business strategy is not relevant or does not play an important role in the development of the intended HRM practices. However, business strategy is treated as an exogenous variable.

Figure 1 depicts this model. We describe each of the components to this model in detail below, and in doing so aim to highlight the variability that is likely to exist within each section of the model. Together, the components of this model illustrate that the focal relationship of interest in SHRM research—the HRM practices to performance link—spans multiple levels of analysis, with important variance occurring at each of those levels.

**Intended HRM Practices.** In this figure the first concept is the intended HR practices. These practices represent the outcome of the development of an HR strategy that seeks to design an HRM system or practice that the firm's decision makers believe will effectively elicit the employee responses desired. This may be tied directly to the business strategy or

determined by some other extraneous influences. However, the important point to note is that the decision makers have proactively analyzed the situation and determined that a certain set of HR practices will best elicit the kind of affective, cognitive, and behavioral responses from employees necessary for organizational success.

Figure 1: Process Model of SHRM




**Actual HRM Practices.** Consistent with Truss and Gratton (1994) and Wright and Snell (1998), the next box is labeled "Actual HR Practices." This recognizes that not all intended HR practices are actually implemented, and those that are may often be implemented in ways that differ from the initial intention.

Mintzberg (1978) noted the differences between the espoused strategy of an organization (i.e., what leaders say the strategy is) and the realized strategy (what it is really doing.) He noted that there is a disconnect due to a number of factors, be they political, institutional, or rational. Bringing these concepts into the SHRM literature recognizes that while there may be a designed or intended HR system determined by the decision makers, the system rarely is perfectly applied by those charged with its implementation.

Regarding this conceptual variable, one must understand that the basic level of analysis is the job group, but that some variance will likely exist. This variance stems from the fact that the practices must usually be implemented by multiple individuals (supervisors, interviewers, trainers, etc.) who will not be uniform in their implementation efforts (c.f. Zohar, 2000). Consequently, one could begin to consider actual HR practices as varying across individual implementers.

**Perceived HRM Practices.** According to the model, the actual HR practices exist objectively, yet must be perceived and interpreted subjectively by each employee in the focal group. Consequently, the process then moves down to the level of the individual. At this level considerable variance can occur due to both variation in the actual HR practices which would likely cause valid variance in perceived HR practices, and variation in the schemas individuals employ in perceiving and interpreting HR-related information.

**Employee Reactions.** Based on the perceived HR practices, employees will react in some way. Each employee processes the information in a way that elicits some reactions, be they affective (attitudinal), cognitive (knowledge or skill) and/or behavioral. Affective reactions consist of reactions such as various aspects of job satisfaction and/or organizational commitment (often according to principles of social exchange theory). Cognitive reactions may include increased knowledge or skill. Behavioral reactions can be classified as reactions with regard to task, counterproductive, and discretionary behavior (Lee & Allen, 2002). Task behavior describes the kind of behavior prescribed as part of the job. Increasing job focused behavior aimed at being more productive or making fewer mistakes exemplify task behavior. Counterproductive behavior describes negative behavior aimed at either hurting the organization or at bettering ones' own position at the expense of the organization. Theft of goods, sabotage, or time theft (e.g., spending work time on personal activities) exemplify counterproductive behavior. Discretionary behavior consists of behavior not prescribed by the organization, but which is aimed at benefiting the organization. Going beyond job duties to

satisfy a customer, or performing non-prescribed preventative maintenance on a machine would be examples of discretionary behavior.

In theory, the goal of designing and implementing HR practices is to do so in a way that leads to positive attitudinal reactions, increased cognitive skills relevant to the job and/or organization, and increased productive task and contextual behaviors of employees. The question of interest, then, is whether HR practices successfully do so as intended, and to uncover the factors that explain the variance in the success with which they do so (i.e., the individual employee factors, organizational communication mechanisms, etc.).

**Performance.** Dyer and Reeves (1995) classified the types of performance outcomes examined in SHRM research into employee, organizational, financial, and Market Value outcomes. Employee outcomes reflect such things as absenteeism and turnover. Organizational outcomes consist mostly of operational performance measures such as productivity, quality, and customer satisfaction. Financial outcomes deal with accounting measures of performance such as profits or return on assets (ROA). Finally, Market Value outcomes reflect measures of the value of a firm according to the equity markets.

In our model, in order for organizational-level outcomes to accrue, individuals' reactions must be consistent or complementary enough across one another in order to have a positive outcome at the level of the job group. Because the focus is on the job group, the performance outcomes most relevant are the employee and organizational outcomes. In some cases where employees within a job group have some level of interdependence, (e.g., assembly line workers), the performance outcomes at the job group level are reasonably obvious and objective (e.g., productivity, quality, scrap, etc.). In other cases where there is little interdependence among employees in the job group (e.g., clerical staff), the performance outcomes may be neither obvious nor easily quantified at the group level. In such cases, the performance outcomes expected should be increases in average individual performance.

**Linkages as Avenues for Gaining Increased Understanding**

The model proposed covers some of the basic processes that seemingly have to take place in order for the HR practices to impact performance. However, it is the linkages between the different processes that provide avenues for exploring relevant issues that may help to increase our theoretical and empirical understanding of the process through which HR impacts firm performance. Exploring these linkages elicits a number of questions unaddressed in the SHRM literature. However, many of these questions have been addressed in other literatures, thus providing a framework for integrating some common theories within the Organizational Behavior literature into the Strategic HRM literature. We explore these below.

**Intended -> Actual HRM Practices: Implementation**

Beginning with the assumption that decision makers have designed an intended system of HRM practices they believe will lead to positive organizational outcomes, the next challenge is to actually implement those practices in the organization. In some cases this entails a massive transformation of systems/practices, while in others it simply requires minor changes. In either case, the implementation challenge is not easily addressed because obstacles exist at both the institutional and individual levels.

Many authors have noted that HR practices, once institutionalized, are notoriously intractable (Ferris et al., Snell & Dean, 1994). Institutionally, the challenge is to implement a consistent set of processes in a consistent manner across what may be a large and diverse organization. It may require a coordination of communication, training, incentive, and information technology systems across the firm, for it is the redundancy of mutually reinforcing HR practices that ultimately underlies the impact of HR systems on organizational performance.

At the individual level, the implementation of (new) HR systems is made difficult by the fact that those charged with the actual execution of practices (interviewers in a recruiting context, supervisors in a performance appraisal/feedback context, etc.) develop a comfort that comes with familiarity of behavior and results. New practices threaten that comfort because

individuals must learn new unfamiliar behaviors with unknown effectiveness, and consequently elicit resistance.

In some cases this may be a question of implementing organizational change, an area that has been addressed in the Organizational Behavior literature for decades. Whether the change is massive or minor, theoretical frameworks such as Force Field Analysis (Lewin, 1951), Survey Feedback (Bowers & Franklin, 1972), or other OD-type interventions provide frameworks and tools for implementing HR systems changes.

The ultimate goal in implementing HR practices, hopefully as intended, is to actually institutionalize the new employee behaviors into a regular routine. That is, HR practices play an important role in developing and maintaining organizational routines. These routines in turn help establish connections between employees that enable them to develop shared understandings about what actions to take; these shared understandings are ultimately what enable employees to coordinate their actions (Feldman & Rafaeli, 2002; Gersick & Hackman, 1990). In the aggregate, these coordinated behaviors contribute to organizational-level performance.

This distinction between intended and actual HR practices also raises an interesting measurement issue. Does the existing SHRM research base measure actual or intended HRM practices? The answer might depend on who is being surveyed, such that we may be more likely to measure intended HR practices when we survey single HR representatives, but we may be more likely to measure actual HR practices when employees and line managers are surveyed (Gerhart, Wright, & McMahan, 2001).

**Actual -> Perceived HR Practices: Communication**

The linkage between the actual HR practices and the perceived HR practices represents the communication challenge. Bowen and Ostroff (2004) provide one of the most thorough multi-level frameworks for understanding the SHRM process, and there framework is based on communications theory. Bowen and Ostroff (2004) argue that HR practices are organizational communication devices that aim to communicate to employees certain messages. Ground in

communications theory, these authors explore how different aspects of the HRM systems can either promote or impede the message.

While their analysis provides exciting avenues for exploring the SHRM process, other theories of OB have relevance as well. For instance, at the individual level, significant research attention has been devoted to understanding how individuals' schemas influence the information that they attend to, and how that information is processed. This research has demonstrated how individuals' past histories with similar phenomena can strongly influence their perceptions of a focal phenomenon. For example, in the psychological contracts literature, Rousseau (2001) argues that people's past experiences with HR practices influences the way that they perceive and interpret HR and other organizational practices in their current organization. Considering such information-processing differences among individuals may become even more important with increasing cultural diversity in the workforce, as people's cultural backgrounds also influence the way that they collect, process, store, and use information from their environments (Shaw, 1990).

With regard to SHRM, this highlights the importance of the variation in individuals schemas for influencing how they perceive any given practice or set of practices. For instance, individuals whose past history found them exploited by a company are highly likely to have different perceptions of a participative system than individuals whose history is one of a trusted relationship with their company.

The variance also may be exacerbated or reduced by the social context of the practices. For instance, Salancik and Pfeffer (1977) promoted a "Social Information Processing Approach" to understanding job characteristics. They argued that because individuals' realities are in part socially constructed, exploring Job Characteristics as objective realities apart from the social context misses important determinants of employee reactions. They hypothesized (and significant empirical research has supported) that individuals' perceptions of job characteristics were determined, in part, by how co-workers described the characteristics.

A direct analogy can be applied from this approach to job characteristics (assumed to be objective, but found to be partially subjective) to the HR practice literature (again, assumed to be objective, but almost unarguably partially subjective). When new practices are introduced, there is likely a period of "sensemaking" during which employees seek to understand the goal of the new practices. During this phase, social information may play a significant role in how individuals perceive and interpret the practices.

Again, this linkage elicits a number of interesting questions about the SHRM process, and illustrates the potential for integrating OB theories/literatures into the SHRM literature.

**Perceived HR -> Employee Reactions: Moderation**

Once individuals have processed the information regarding the HR practices, they will have to form some internal strategy for how they will react. In essence, this linkage explores the concept of moderation. Moderated relationships, theoretically, posit that the impact of one variable (in this case, the HRM system) on another variable (in this case, the employee reactions) varies depending upon the level of a third variable (e.g., individual differences). This linkage actually begins to highlight the variation across individuals that exists, yet is assumed to be constant in research conducted at the unit level. This is variance that can provide a much deeper understanding of the phenomena we study.

At one level, much of the OB literature has addressed these issues in a variety of areas. Virtually all of the attitudinal, motivational, and individual differences literatures have been aimed at understanding individual reactions to a variety or organizational stimuli. However, usually this research has been directed at examining the impact of one organizational stimulus (e.g., goal setting, or incentive pay) on individuals' attitudinal (goal commitment, satisfaction with pay) or behavioral (performance) reactions. One area where SHRM tends to differ from OB is the simultaneous consideration of a system of HR practices as opposed to one practice in isolation (Wright and Boswell, 2002).

One exception to this is the Psychological Contract literature (Rousseau, 2001). This literature has tried to explore how individuals develop their beliefs about the "deal" they have

made with the organization in terms of all of the benefits they receive from the organization for all of their inputs, and how they react when they perceive that this "deal" has been broken. As Wright and Boswell (2002) noted, there are considerable contributions that can be made by empirically examining these issues, because this is currently the major literature that examines individuals' reactions to multiple HRM practices.

For example, Nishii (2003) examined the relationship between employees' **attributions** for HR practices (the goals that they perceived as underlying certain HR practices), organizational commitment & satisfaction, OCBs, and ultimately customer satisfaction in a largely unionized sample where the HRM practices were quite uniform across units. At the unit level she found that considerable variance in unit-level customer satisfaction can be explained by differences in HR attributions across units. This suggests that variability in the interpretations and reactions to HR systems can, in fact, be related to organizational outcomes.

This does not preclude useful contributions coming from research arenas that examine more specific, individual issues. For instance, motivation theory provides a strong set of theoretical and empirical analyses to explore how a variety of HRM practices (pay, incentives, job design, empowerment/participation) influence individual motivation. In fact, much of the high performance work systems (HPWS) theorizing is based on individual motivation theory, albeit that the research efforts have been at the unit level.

In addition, the individual differences literature has frequently been tied to interventions as moderators of a particular intervention's impact. For example, early job design researchers (Hackman & Oldham, 1976, 1980; Oldham, Hackman, & Pearce, 1976) hypothesized Growth Need Strength as a moderator of the relationship between job characteristics and employee responses. In support of their theory, research has found that jobs with high motivating potential have a stronger positive effect on internal motivation, satisfaction, and/or performance for individuals with strong growth needs (Hackman & Lawler, 1971; Oldham, 1976; Pierce, Dunham, & Blackburn, 1979). In addition, researchers have suggested that personality characteristics such as Need for Achievement, Conscientiousness, Openness to Experience,

etc. might influence how individuals react to particular organizational practices and interventions. For instance, individuals high in Need for Achievement are more attracted to organizations that reward performance as opposed to seniority (Turban & Keon, 1993), and exhibit higher organizational commitment in response to high job scope than individuals low on Need for Achievement (Steers & Spencer, 1977). Similarly, pay for performance is more strongly associated with motivation for individuals with a higher desire for control (Eisenberger, Rhoades, & Cameron, 1999). As for the Big Five personality factors, a wide range of research focusing on the relationship between employee personality and reactions to organizational practices has been conducted. Examples include research which shows that extroversion and agreeableness interact with job autonomy in predicting contextual performance (Gellatly & Irving, 2001), and that extraversion and conscientiousness are positively associated with self-efficacy for operating successfully in self-managed work groups (Thoms, Moore, & Scott, 1996). Together, this body of research clearly suggests that there is within-organization variance in the way that employees react to perceived HR practices, and that this represents true variance, that when examined explicitly, can enrich SHRM research.

**Employee Reactions -> Performance: Coordination**

Finally, the linkage between employee reactions and unit performance makes another jump across levels of analysis from individual to organizational. Individuals may behave differently as a result of their perceived HR practices, but whether or not the behavioral differences positively impact organizational performance may depend on the level of coordination across them. This leads into exploring the areas of organizational structure/design and team/group processes.

In terms of organizational design, clearly the concept of interdependence has a strong effect on the extent to which positive individual behaviors result in increased aggregated outcomes. Thompson (YEAR) noted that three types of interdependence exist in firms: pooled, sequential, and reciprocal. Pooled interdependence means that each individual's performance is under his or her control, and that the aggregated outcome is simply the sum of the individual

outcomes. Such interdependence requires little coordination across individuals. Under sequential interdependence, the outputs of one individual become the inputs for the next. Consequently, the second individual's performance is limited by the first's, and the aggregated outcome is constrained by the lowest performer. Such interdependence is often coordinated by scheduling. Finally, under reciprocal interdependence, each individual's outputs become the inputs for the others. Such coordination is accomplished through mutual adjustment.

This illustrates that the unit performance outcomes stemming from increased individual performance may depend upon the type of interdependence that exists among the members. When pooled interdependence exists, higher average unit performance will result from any increased individual performance. However, under sequential or reciprocal interdependence, increasing individual performance does not necessarily translate into increased unit performance. Also, level and nature of interdependence will influence group sensemaking (James, Joyce, & Slocum, 1988; Kozlowski & Hattrup, 1992; Kozlowski & Klein, 2000; Weick, 1995).

Finally, the teams and/or group process literatures (see Kozlowski & Bell, 2003 for a review) may also provide insight into the processes through which SHRM impacts performance. What the organization design literature discusses with regard to the task context, the teams/groups literature explores with regard to the social context. Group norms regarding appropriate behavior (Barsade & Gibson, 1998) and productivity may negate or impede the effect of HRM practices. This may be why a significant body of research is evolving within the SHRM literature examining the concept of climate, or shared perceptions regarding the behaviors that are expected and rewarded by HRM practices within an organization, as a predictor of organizational performance (Schneider et al. 2003—write this out. Is this the Mayflower study?). In addition to the potential role of shared climate perceptions, group cohesion (Zaccaro & McCoy, 1988) and a shared understanding of the task, team, equipment and situation influence the extent to which team members coordinate their actions toward the attainment of positive outcomes (Cannon-Bowers, Salas, & Converse, 1993).

## Summary and Conclusions

This paper has argued that existing theory and research in SHRM has ignored (via assumption) the individual variance and processes that are necessary in order for HR practices to impact organizational performance. It has suggested a multi-level framework for examining these issues as a means for increasing our understanding of the phenomena we seek to explain. Such an analysis suggests two important future directions for SHRM research. These are discussed below.

**Develop Multi-level Theories of SHRM.** As previously discussed, Bowen and Ostroff's (2004) multi-level approach to SHRM currently provides the most comprehensive attempt to integrate organizational and individual processes. However, additional theoretical contributions can be made.

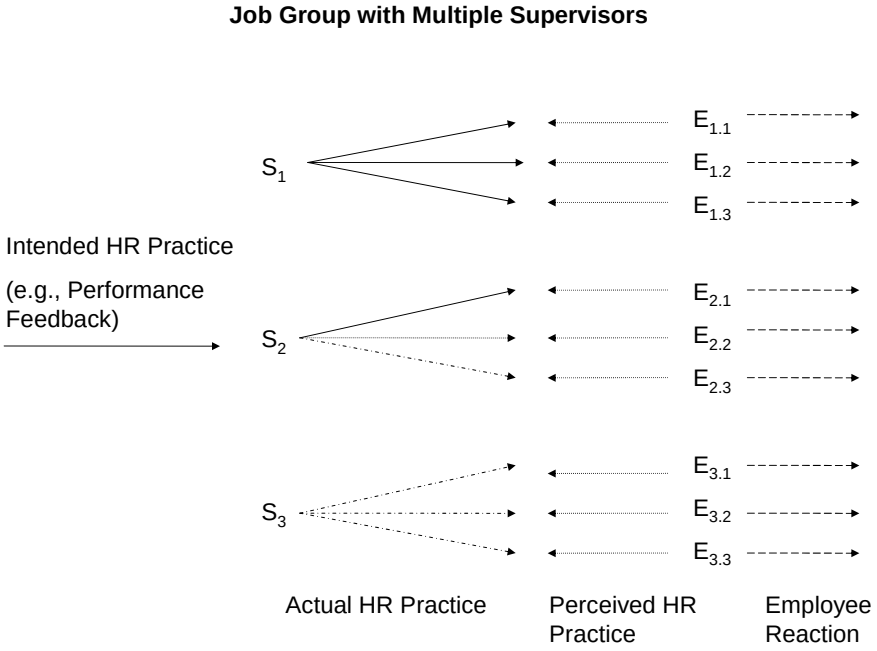
One approach would be to develop comprehensive theories that integrate across levels of analysis. Such a theory would attempt to link organizational concepts to individual concepts back to other organizational concepts. While such an all-encompassing theory would be desirable, it may not be feasible.

Alternatively, one could attempt to develop more specific cross-level theories that explain smaller aspects of the linkage between organizational and individual phenomena. Bowen and Ostroff's (2004) attempt to link HR practices to employee reactions via communications theory illustrates this approach. Some of the theories and literatures discussed above might be likely candidates for providing a deeper understanding of the SHRM process.

**Conduct Multi-level Research.** Multi-level research has been historically constrained by two issues: a lack of willingness on the part of organizations to gather and/or share individual and organizational data, and a lack of data analytic techniques able to synthesize the data. Regarding the former issue, an increasing number of studies have appeared over the years that demonstrate that organizations are more willing to share internal data such as climate and performance with researchers who seek to increase knowledge (Gerhart et al. 2002; Guest et al., 2003; Purcell et al. 2001: Wright et al. 2003). These studies seem to imply that HR

professionals within firms are seeking to be more analytical in their decision making processes, and are reaching out to the academic community to help them. This bodes well for the future.

Regarding the latter constraint, as Wright and Boswell (2001) noted, previous attempts at multi-level research were limited by a lack of statistical techniques to analyze the data. However, recent developments such as Within and Between Analysis (WABA) (Yammarino et al….) and Hierarchical Linear Modeling (…) provide the statistical data analytic tools necessary to empirically assess organizational and individual phenomena simultaneously. Consequently, we seem to be entering an era where data is plentiful, and we finally possess the tools necessary to harvest it. Our belief is that the intersection of these two trends will result in an exponential increase in our understanding of just how HRM practices influence organizational performance.



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