SHRM Research: Balancing Rigor and Relevance

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HR Practices - Performance

- The relationship between comprehensive sets of HR Practices and Firm Profitability has been frequently demonstrated
  - Huselid (1995)
  - Delery and Doty (1996)
  - Guthrie (2001)
HR Practices - Performance

• How does this sound?

“Based on four national surveys and observations on more than 2,000 firms, our judgment is that the effect of a one standard deviation change in the HR system is 10-20% of a firm’s market value”

Huselid & Becker (2000) (emphasis added)
A Cautionary Tale

• The applied nature of our research encourages us to make statements encouraging certain policies or practices

• The scientific process requires that these statements have a reasonably high level of empirical proof

• Right now, our applied nature seems to be overshadowing our scientific rigor
Scientific Rigor Areas

- Reliability of our measures
- Validity of our measures
- Research Design
  - Common Method Variance
  - Causal Direction
- Multi-level approaches
Reliability

- Reliability deals with consistency over items, time, and raters
- Most of the Macro HRM research has reported internal consistency reliabilities of HR practice measures.
- Interrater reliability is a more appropriate reliability estimate
Interrater Reliability

- Interrater reliability of HR practice measures was found to be low (ICC1,k in the .1-.2 range) (Gerhart, et al., 2001)
- The low reliability of these measures has been replicated in numerous other studies (Wright et al., 2005)
- This has important implications for the effect size (from 20% increase to 80% increase)
Validity of HR

• Construct validity is essential to the scientific process, particularly for understanding substantive relationships
• Schwab (1980) quote
Construct Validity of HR Practices

• Becker and Gerhart (1996) found only one practice (training) that appeared across the studies on the HR – performance relationship.

• Combs et al. (2006) found a significant relationship between systems of HR practices and performance…however, they found considerable variance across studies in how HR practices were operationalized.
HR Operationalizations

• Operationalizations of HR differ by:
  – Practices measured
  – Level of architecture (principles, policies, practices)
  – Scale of measurement (y/n, %, extent, effectiveness)
  – Source of measurement (HR, manager, incumbent)
  – Scope of measure (job, class of jobs, all jobs)
HR Systems Architecture

Principle
- Pay for Performance

Policy
- Merit Pay administered once a year
  - Force Distribution, Supervisor rating,

Practice

Product
- Specific competencies

We say we’re measuring practices, but we’re really measuring principles
Causal Direction

- Research Design
- Instrumental Variables
The Problem:

• How can we know the true causal direction in the HR-Performance Relationship?
Demonstrating Cause:

- Covariation
- Temporal Precedence
- Rule out alternative explanations

Cook and Campbell (1979)
Temporal/Causal Problems

• Most studies have not used designs to adequately infer causation in the HR-profitability relationship
What Designs are Used?

- Post-Predictive (Cross Sectional)
- Contemporaneous
- Retrospective
- Predictive
Post Predictive

\[ T_0 \quad \text{Measures} \quad T_1 \]

\[ X \quad \text{Performance} \]
\[ X \quad \text{HR} \]

Performance – measured over past 3 years

HR – What are current HR practices?

e.g., Delaney & Huselid (1996)
Contemporaneous
Measure of Performance

Jan 1 \[?\] \[?\] Jan 1

Measure HR

E.g., Delery & Doty 1996
Retrospective

\[ T_0 \quad T_1 \]

Measures

\[ X \quad \text{Performance} \]

\[ X \quad \text{HR} \]

Performance – measured over past year

HR – What HR practices existed at \( T_0 \)?

e.g., Guthrie, (2000), Ichniowski et al. (2001)
Predictive

$T_0 \quad T_1$

Measures

$X \quad X$

Performance – time following HR measure

HR – What are current HR practices?

e.g., Huselid (1995), Youndt et al. (1996)
How Popular are These Designs?

• Review of 34 Studies on HR – Performance Relationship
  – Post-Predictive – 28 studies
  – Contemporaneous – 1 study
  – Retrospective – 2 studies
  – Predictive – 3 studies
Problem with Post Predictive

- Ignores Temporal Precedence
- Usually Fraught with Common Method Variance
Common Method Variance

• Definition
• Caused by:
  – Method
  – Implicit Theories
  – Mood
  – Culture/Climate/Shared Theories
Common Method Variance Solutions

- Statistical Tests
- Temporal Separation
- Split Samples
## Statistical Tests

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<th>Variable</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
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<tr>
<td>Y</td>
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<tr>
<td>Z</td>
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<td>.10</td>
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True correlations: There are some, but not strong
## Statistical Tests

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<tr>
<th>Variable</th>
<th>X</th>
<th>Y</th>
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</thead>
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<tr>
<td>Y</td>
<td>.20</td>
<td>-</td>
<td></td>
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<tr>
<td>Z</td>
<td>.30</td>
<td>.25</td>
<td>-</td>
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Inflated correlations: .15 Common Method Variance
Statistical Test

- Statistical tests assume that the common method factor washes out the other relationships.
- To the extent that (a) there are true correlations among the variables, and (b) the common method factor is not profoundly greater, statistical tests will lead to the conclusion that CMV is NOT a problem.
Temporal Separation

• The major problem with CMV is when respondents answer all questions using the same method at the same time (memory, implicit theory, mood, etc. all play in)

• Ostroff et al. showed that separating the times between taking different measures reduced the CMV problem

• The problem is practicality in macro HRM
Split Samples

- Gerhart (2005; in press) suggests that split samples are the solution to common method variance in macro HRM research.
- His conclusion is based on work of Ostroff, Kinicki, & Clark, citing their study as an example of how to solve the CMV problem.
Problem with Split Samples

Is \( a_1 - a_2 \) relationship affected by:
Method?
Mood?
Climate/Culture?
Common Method Variance Conclusion

• Common Method Variance is a problem in all studies using a single respondent for all the variables.
• How much of a problem may depend on the nature of the variables.
• Split samples seems to minimize, but not eliminate the problem.
Causality

• We can’t always design studies that enable us the temporal precedence control
• Even if we could, there is the likely possibility that the causal direction runs both ways.
• Instrumental variables have been suggested as a potential solution
Instrumental Variables

- Instrumental variables are variables that are strongly related to the IV, but conceptually and empirically cannot be caused by the DV.
- The basic idea is to use the instrumental variable to separate out the variance in the IV that is not caused by the DV, then use that variance to predict the DV.
Instrumental Variables for Causality
Process

• Regress Instrument on HR Practices
• Compute a new HR score which is \( \Lambda_{HR} \)
• i.e., the predicted value of HR given the instrument
• Use \( \Lambda_{HR} \) as the new predictor of Performance
Use of Instrument Variables

• It eliminates any variance caused by performance, thus provides an estimate of the variance in HR causing performance.

• The disadvantage is it may either under- or over-estimate the causal effect, depending upon how the instrument is related to both HR and performance.
Instrumental Variables for Causality
Multilevel Approaches

• **Variance as a scientific concept**
  – Goal is to explain variance in interrelated variables
  – **Types of Variance**
    • True
    • Error
      – Systematic
      – Random

• **Importance of Variance in Theory**
Variance and Levels of Analysis

• Empirically, defining the level of analysis tends to assume constancy at other levels
• SHRM research focuses on organization or unit as the level of analysis, and assumes constancy at group/individual
• Research and theory in SHRM assumes, but ignores, individual level processes
Becker et al. (1997)

Business and Strategic Initiatives → Design of Human Resource Management System → Employee Skills and Motivation → Creativity, Productivity, Discretion, Effort → Improved Operating Performance → Profit and Growth → Mkt Value
Becker et al. (1997)

Organization/Unit
- Business and Strategic Initiatives
- Design of Human Resource Management System
- Employee Skills
- Employee Motivation
- Job Design and Work Structures

Individual
- Creativity
- Productivity
- Discretion
- Effort

Organization/Unit
- Improved Operating Performance
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Becker et al. (1997)

Design of Human Resource Management System

Employee Skills
Employee Motivation
Job Design and Work Structures

Creativity
Productivity
Discretion
Effort

Improved Operating Performance
Profit and Growth
Mkt Value

Organization/Unit

Empirical Relationship

Business and Strategic Initiatives

Individual

Cornell University
ILR School
What we need:

• A basic model that illustrates the interplay of concepts across levels of analysis
• Use the linkages among these concepts as means for identifying OB theories that might be integrated into SHRM research/theory in order to improve our understanding
Figure 1: Process Model of SHRM
Figure 1: Process Model of SHRM

Intended HR Practices → Actual HR Practices → Perceived HR Practices → Employee Reaction → Organization Performance

Job Group → Job Group → Individual → Individual → Job Group

Level of Analysis
Within Firm/Unit Variance

None  Some  More  Even More  Some/None

Intended HR Practices → Actual HR Practices → Perceived HR Practices → Employee Reaction → Organization Performance

Level of Analysis

Job Group  Job Group  Individual  Individual  Job Group
Figure 1: Process Model of SHRM

Employment Relationship
- Intended HR Practices
- Actual HR Practices

Psychological Contract
- Perceived HR Practices
- Employee Reaction

Organization Performance

Level of Analysis
- Job Group
- Job Group
- Individual
- Individual
- Job Group
Figure 1: Process Model of SHRM

Employment Relationship

Intended HR Practices → Actual HR Practices

Psychological Contract

Perceived HR Practices → Employee Reaction → Organization Performance

Level of Analysis

Job Group → Job Group → Individual → Individual → Job Group

Implementation

Organization Change
Motivation Theory
Job Group with Multiple Supervisors

Intended HR Practice
(e.g., Performance Feedback)

Actual HR Practice

\( S_1 \rightarrow \) 
\( E_{1.1} \)
\( E_{1.2} \)
\( E_{1.3} \)

\( S_2 \rightarrow \) 
\( E_{2.1} \)
\( E_{2.2} \)
\( E_{2.3} \)

\( S_3 \rightarrow \) 
\( E_{3.1} \)
\( E_{3.2} \)
\( E_{3.3} \)
Job Group with Multiple Supervisors

Intended HR Practice
(e.g., Performance Feedback)

Actual HR Practice
Figure 1: Process Model of SHRM

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Level of Analysis

- Job Group
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- Individual
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Implementation
- Organization Change
- Motivation Theory

Communication
- Schemas/Cognitive Processes
- Social Information Processing
Figure 1: Process Model of SHRM
Job Group with Multiple Supervisors

Intended HR Practice
(e.g., Performance Feedback)

Actual HR Practice
Perceived HR Practice
Employee Reaction
Job Group with Multiple Supervisors

Intended HR Practice (e.g., Performance Feedback)

Actual HR Practice

Perceived HR Practice

Employee Reaction
Figure 1: Process Model of SHRM

Employment Relationship

- Intended HR Practices
- Actual HR Practices

Psychological Contract

- Perceived HR Practices
- Employee Reaction

Organization Performance

Implementation:
- Organization Change
- Motivation Theory

Communication:
- Schemas/Cognitive Processes
- Social Information Processing

Moderation:
- Individual Differences
- Motivation Theory

Coordination:
- Org. Structure/Task Design
- Team/Group Processes

Level of Analysis:
- Job Group
- Job Group
- Individual
- Individual
- Job Group
Research Implications

• Need for multi-level theories of SHRM
  – Grand theories that encompass multiple processes
  – Integration of existing theories across levels

• Need for multi-level research in SHRM
  – Assess and partition variance at different levels
Research Questions

- Are differences in HR practices differences in intended or actual practices (i.e., is it better design of HR strategies, or better implementation of HR strategies)?
- Does the Attraction-Selection-Attrition process help explain organizational differences in HR/Performance? (Consistent practices enable the process)?
Research Questions

• What role does time play in SHRM phenomena? (How long does it take for the system to have an effect?)

• To what extent do individuals enact the HRM systems in organizations? (Do recipients explicitly or tacitly influence the design or implementation?)
Conclusion

• Macro HRM research has become immensely popular
• The first generation research had some interesting revelations and pointed in interesting directions
• The next generation of research has to increase the rigor to ensure that the conclusions/implications are justified
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