INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.
THE RELATIONSHIP BETWEEN HUMAN RESOURCE MANAGEMENT AND ORGANIZATIONAL EFFECTIVENESS IN NON-PROFIT SPORT ORGANIZATIONS: A MULTI-LEVEL APPROACH

DISSEMINATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Marlene A. Dixon, M.Ed.

*****

The Ohio State University
2002

Dissertation Committee:

Professor Donna L. Pastore, Adviser
Professor Packianathan Chelladurai
Professor Janet S. Fink

Approved by:

Donna L. Pastore
Adviser

College of Education
ABSTRACT

Non-profit organizations are increasingly concerned with the effectiveness of their organizations. As limits are imposed, administrators must make the most effective use of the resources at their disposal. The connection between human resource management (HRM) practices and firm performance has been well established in a variety of for profit settings. Although some work related to sport has been conducted, Doherty (1998) suggested that much work remains including the investigation of more practices and more levels of analysis. The purposes of this study were to propose a model describing the critical pathways for the relationship between HRM system sophistication and organizational effectiveness and to test this model in a specific setting: NCAA Division III athletic departments.

A cluster random sample of 1702 coaches and 100 Athletic directors were asked to complete the questionnaires. A total of 47 (47%) athletic director and 393 (22%) usable coach responses were received. The coaching questionnaire contained a previously developed satisfaction scale, and a modification of Meyer and Allen's (1991) affective commitment scale. The athletic director questionnaire contained a modification of Huselid and Becker's (1998) High Performance Work Practices Index. Organizational effectiveness was assessed in terms of athletic achievement (Sears Cup points) and academic achievement (graduation rates).
ANOVA and MANOVA were utilized to examine the relationship between HRM sophistication groups and individual, group, and organizational-level outcomes. Results supported previous findings in that HRM sophistication was related to athletic achievement at the organizational level. It was not, however, related to academic achievement. Furthermore, HRM grouping was not significantly related to individual-level outcomes. Within and between analysis showed that athletic departments could be conceptualized as “parts” or heterogeneous groups. Using the departmental averages for outcome variables, MANOVA results revealed that HRM sophistication was not significantly related to group-level outcomes.

Multiple regression analysis indicated that both individual and group outcomes explained a very small, but significant amount of variance in organizational effectiveness. Furthermore, the relationship between attitudes and athletic achievement was completely mediated by performance at both the individual and group level. The discussion presents both practical and research implications from the findings as well as limitations and directions for future research.
“Lord, you established peace for us;
all that we have accomplished you have done for us.”

--Isaiah 26:12
ACKNOWLEDGMENTS

I wish to thank my adviser, Donna Pastore, for encouragement, support, and assistance throughout this project and the entire Ph.D. process. Those who suggested I come to Ohio State to work with you could not have steered me on a better course.

I thank the other members of my committee, Dr. Chelladurai and Dr. Janet Fink, for additional assistance and suggestions on this and other projects. I look forward to further research endeavors with you both.

I am grateful to Dr. Ray Noe for intellectual and financial assistance on this project. The ideas for this dissertation largely came from discussions in your HR seminars.

Thanks also go to my graduate student colleagues at Ohio State, especially Harry Kwon and George Cunningham for conceptual and statistical advice on this project. I also thank Susan Brown for your amazing friendship and hospitality (and for enduring countless hours of WABA discussions) and my classmates Jackie Shao, John Singer, Matt Whisenant, and Robert Morris for helping me survive the entire graduate school experience.

I am forever grateful to my family for a lifetime of challenges and encouragement. You always push me to be my best and forgive me when I'm at my worst. Thanks to my brothers for making sure I stay tough and reminding me where I
come from. Thanks to my nieces and nephews for unconditional love and hugs. You
make me forget all the troubles. And amazing thanks to my parents. Our
accomplishments are but a small testament to your commitment and perseverance to the
lifelong challenge of parenting. Thanks for packing my parachute.

And, most of all, I am thankful to my husband and best friend Stuart. To a man of
ew few words: Thank you for giving up so much to travel through this wilderness together. I
think we both learned more than we ever imagined.
VITA

October 4, 1970 .................... Born – Wheatridge, Colorado

1993 ................................. B.A. Biology, Trinity University

1998 ................................. M.Ed., Sport Management, The University of Texas

1999 – 2001 ......................... Graduate Teaching Associate,
   The Ohio State University

2001 – present ..................... Lecturer, Rice University

PUBLICATIONS

Research Publications


FIELDS OF STUDY

Major Field: Education

(Sport Management)
TABLE OF CONTENTS

Abstract ............................................................................................................................... ii
Dedication ........................................................................................................................... iv
Acknowledgments ........................................................................................................... v
Vita ..................................................................................................................................... vii
List of Tables .................................................................................................................... x
List of Figures .................................................................................................................. xiii

Chapters

1. Introduction .................................................................................................................... 1
   Human Capital as a Critical Resource ........................................................................ 2
   Role of Human Resource Management ................................................................. 5
   Models of HRM-OE Relationship ........................................................................... 8
   Proposed Multi-Level Model ...................................................................................... 12
   Research Questions ................................................................................................... 20
   Importance of the Study ............................................................................................... 30
   Limitations ................................................................................................................... 31
   Delimitations ............................................................................................................... 31
   Definition of Terms ..................................................................................................... 32

2. Review of Literature ................................................................................................... 37
   Human Resource Management Systems ..................................................................... 37
   Background .................................................................................................................. 37
   Previous Models ......................................................................................................... 40
   Proposed Multi-Level Model .................................................................................. 50
   Research Questions ................................................................................................... 58
   Organizational Effectiveness ...................................................................................... 68
   Review of Literature ................................................................................................... 69
   Proposed Decision Model of OE Assessments ......................................................... 79
   Specific Application of the Model ........................................................................... 86

   - viii -
# Method

- Overview of Research Methodology ........................................... 91
- Sampling Method and Subject Description .......................... 95
- Instrumentation ....................................................................... 101
- Pilot Study .............................................................................. 119
- Data Collection Procedures .................................................. 121
- Data Analysis Procedures ....................................................... 121

# Results

- Scale Reliabilities ................................................................. 130
- Response Rates ....................................................................... 131
- Descriptive Characteristics ................................................... 133
- Bivariate Correlations .............................................................. 137
- Analysis of Direct Pathway ...................................................... 138
- Analysis of Individual Mediated Pathway .......................... 143
- Analysis of Group Mediated Pathway .................................. 151

# Discussion

- Direct Pathway ........................................................................ 160
- Individual Mediated Pathway ..................................................... 162
- Group Mediated Pathway .......................................................... 165
- Implications ............................................................................. 168
- Limitations ............................................................................. 170
- Directives for Future Research ................................................ 171

# Bibliography

- ................................................................. 173

# Appendices

- Previously Utilized High Performance Practices .................. 184
- HRM Sophistication Instrument ................................................. 188
- Coach Attitudes and Behaviors Instrument ........................... 191
- Athletic Director Cover Letter .................................................. 196
- Coach Cover Letter .................................................................. 198
- Email Pre-Notification .............................................................. 200
- Email/Postcard Reminder ............................................................ 202
- Sears Cup Scoring Structure ....................................................... 204
- Item-to-Total HRM Index ......................................................... 210
- Comparison of Early to Late Respondents .......................... 213
- Bivariate Correlations ............................................................... 220
LIST OF TABLES

Table | Page
--- | ---
| 4.1 | Descriptive Characteristics of Coaching Sample (n=373) | 134 |
| 4.2 | Descriptive Characteristics of Athletic Director Sample (n=47) | 135 |
| 4.3 | Descriptive Characteristics of Athletic Departments (n=47) | 136 |
| 4.4 | Descriptive Statistics for HR Groups | 140 |
| 4.5 | ANOVA Results: HR Group x Sears Cup Points with Scheffe’s Post-Hoc Analysis | 141 |
| 4.6 | ANCOVA Results: HR Group x Sears Cup Points | 142 |
| 4.7 | MANOVA of Individual-Level Variables by HR Grouping | 144 |
| 4.8 | Summary of Multiple Regression Analysis for Individual Level Variables Predicting Sears Cup Standings (n=373) | 146 |
| 4.9 | Summary of Multiple Regression Analysis for Individual Level Variables Predicting Graduation Rates (n=373) | 147 |
| 4.10 | Summary of Multiple Regression Analysis for Variables Predicting Individual Performance (Average Win/Loss Record) (n=373) | 148 |
| 4.11 | Multiple Regression of Individual Performance on Sears Cup Points (n=373) | 149 |
| 4.12 | Multiple Regression of Individual Performance on Graduation Rates (n=373) | 149 |
| 4.13 | Summary of Multiple Regression Analysis for Mediated Pathway of Variables Predicting Sears Cup Points | 150 |
4.14 WABA and ICC (2) for determining Aggregation of Individual Outcome Variables .......................................................... 153
4.15 MANOVA of Group-Level Variables by HR Group .................................................. 155
4.16 Summary of Multiple Regression Analysis for Group Level Variables Predicting Sears Cup Points (n=44) .................................................. 157
4.17 Summary of Multiple Regression Analysis for Organizational Size and Group-Level Performance on Sears Cup Points (n=44) .................................................. 158
4.18 Summary of Multiple Regression Analysis for Group Level Variables Predicting Graduation Rates (n=44) .................................................. 159
A.1 Previously Utilized High Performance Practices ............................................. 185
H.1 Sears Cup Team Scoring Structure .......................................................... 205
H.2 Sears Cup Individual Scoring Structure ................................................. 206
J.1 Chi-Square Comparison of Early to Late Coach Respondents by Gender (n=373) .................................................. 214
J.2 Chi-Square Comparison of Early to Late Coach Respondents by Sport (n=373) .................................................. 215
J.3 T-Tests Comparing Early to Late Coach Respondents on Age, Satisfaction, Commitment, Tenure, and Performance (n=373) .................................................. 217
J.4 T-Tests Comparing Early to Late Athletic Director Respondents on Average Budget, Importance of the Sears Cup, Sears Cup Points, Graduation Rates, and HR Index (n=47) .................................................. 219
K.1 Coach Sample: Point Bi-serial Correlations: Gender x Dependent Variables .................................................. 221
K.2 Coach Sample: Pearson’s Correlations: Age x Dependent Variables ........ 221
K.3 Coach Sample: ANOVA: Sport x Dependent Variables ................................ 222
K.4 Athletic Director Sample: Point Bi-Serial Correlations: Gender x Independent and Dependent Variables .................................................. 223
K.5 Athletic Director Sample: Pearson’s Correlations: Avg. Budget x Independent and Dependent Variables .................................................. 223
K.6 Athletic Director Sample: Pearson's Correlations: Total Sports x Independent and Dependent Variables. ................................. 224
LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Doherty's (1998) Model of Managing Human Resources in Sport Organizations</td>
<td>11</td>
</tr>
<tr>
<td>1.3</td>
<td>A Multilevel Model of HRM Systems and Organizational Effectiveness in Sport</td>
<td>13</td>
</tr>
<tr>
<td>1.4</td>
<td>HRM System Sophistication and Organizational Effectiveness: Direct Pathway</td>
<td>23</td>
</tr>
<tr>
<td>1.5</td>
<td>HRM Systems and Organizational Effectiveness: Individual Mediated Pathway</td>
<td>26</td>
</tr>
<tr>
<td>1.6</td>
<td>HRM Systems and Organizational Effectiveness: Group Mediated Pathway</td>
<td>29</td>
</tr>
<tr>
<td>2.1</td>
<td>Ostroff and Bowen's (2000) Multi-Level Model Linking HR Systems to Firm Performance</td>
<td>42</td>
</tr>
<tr>
<td>2.2</td>
<td>Doherty's (1998) Model of Managing Human Resources in Sport Organizations</td>
<td>48</td>
</tr>
<tr>
<td>2.3</td>
<td>A Multilevel Model of HRM Systems and Organizational Effectiveness in Sport</td>
<td>51</td>
</tr>
<tr>
<td>2.4</td>
<td>HRM System Sophistication and Organizational Effectiveness: Direct Pathway</td>
<td>60</td>
</tr>
<tr>
<td>2.5</td>
<td>HRM Systems and Organizational Effectiveness: Individual Mediated Pathway</td>
<td>64</td>
</tr>
<tr>
<td>Section</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>2.6</td>
<td>HRM Systems and Organizational Effectiveness: Group Mediated Pathway</td>
<td>67</td>
</tr>
<tr>
<td>2.7</td>
<td>A Systems View of Models of Organizational Effectiveness</td>
<td>70</td>
</tr>
<tr>
<td>2.8</td>
<td>A Proposed Decision Model of Organizational Effectiveness Assessments</td>
<td>80</td>
</tr>
<tr>
<td>3.1</td>
<td>HRM System Sophistication and Organizational Effectiveness: Direct Pathway</td>
<td>121</td>
</tr>
<tr>
<td>3.2</td>
<td>HRM Systems and Organizational Effectiveness: Individual Mediated Pathway</td>
<td>123</td>
</tr>
<tr>
<td>3.3</td>
<td>HRM Systems and Organizational Effectiveness: Group Mediated Pathway</td>
<td>126</td>
</tr>
<tr>
<td>4.1</td>
<td>HRM System Sophistication and Organizational Effectiveness: Direct Pathway</td>
<td>138</td>
</tr>
<tr>
<td>4.2</td>
<td>HRM Systems and Organizational Effectiveness: Individual Mediated Pathway</td>
<td>143</td>
</tr>
<tr>
<td>4.3</td>
<td>HRM Systems and Organizational Effectiveness: Group Mediated Pathway</td>
<td>151</td>
</tr>
</tbody>
</table>
CHAPTER 1

STATEMENT OF THE PROBLEM

Non-profit organizations are increasingly concerned with the performance and effectiveness of their organizations (Bozzo, 2000; Fine, Thayer & Coghlan, 2000). Universities, operating as non-profit institutions, share this concern (Millet, 1998). They are asked by the public, their governing boards, students, parents and/or faculty to demonstrate the effectiveness not only of their academic programs but also their extra-curricular activities including intercollegiate athletics (Trail & Chelladurai, 2000). Furthermore, concern with the rising costs of education force administrators to tightly control their operating budgets. As limits are imposed, administrators must make the most efficient and effective use of the resources at their disposal.

Athletic departments, as members of the larger institution, must also be concerned with producing quality outputs. This concern reaches beyond individual coach and team performance to the overall effectiveness of the athletic department—including fiscal responsibility, conference and national competitiveness, and academic progress (Wolfe, Hill, & Babiak, 2000). However, athletic departments, like the universities in which they are housed, do not have unlimited resources at their disposal in order to produce these outcomes. They must make the most efficient use of the resources available to them.

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
This argument is particularly valid at the National Collegiate Athletic Association (NCAA) Division III level, where departments do not have access to the financial revenues from television, athletic companies, or extensive ticket sales that are available to NCAA Division I schools. Thus, at a very broad level, the problem faced by athletic directors at the Division III level is: given limited resources, how can those resources best be managed to achieve optimal organizational effectiveness?

Human Capital as a Critical Resource

The first area that must be addressed regards the critical resources available to the athletic director. According to the resource-based view (Barney, 1991), organizations attempt to exploit distinct competencies that are under their control in order to sustain a competitive advantage. These competencies can include facilities, monetary resources, and human capital. Facilities can be a competitive advantage for schools in that they are attractive to potential athletes and, in some cases, may be a source of revenue production. Monetary resources can be a competency; schools that are able to secure more funding may be able to pay higher coaches’ salaries, provide more athlete services, and/or play more attractive schedules, all of which may give that institution a competitive advantage. Human capital as a competency, can take the form of athletes or coaches and support staff. For example, at the NCAA Division I level, it has been argued that recruiting and securing the best athletes is the key to success (Trail & Chelladurai, 2000). In fact, this pursuit of the best athletes has been the major focus of many studies regarding cheating and unethical behavior in athletics (Dixon, 2000; Mahony, Fink, & Pastore, 2000). Coaches appear to feel so strongly that these athletes will give them a competitive edge, that they are willing to circumvent recruiting rules in order to secure them.
In a case study of Penn State University, an NCAA Division I program, Smart and Wolfe (2000) argued that the athletes were not, in fact, the most important source of a sustained competitive advantage. They argued instead that the "history, relationships, trust and culture that have developed within the program's coaching staff over a number of years" was the source of Penn State's sustained competitive advantage in football (Smart & Wolfe, 2000, p. 144). In other words, it is not the staff itself, but the management of that staff that has created Penn State's ability to exploit its environment better than other competing institutions.

This argument that the management of athletic staff can be a factor related to success in athletics can be extended to other NCAA divisions as well. At the NCAA Division III level, athletes are not allowed to receive athletic scholarships. Therefore, while securing the best athletes may be a correlate of success, coaches have even less control (than Division I coaches) over who they can recruit to their programs. In Division III, then, the athletes cannot be the key to success because attaining them is somewhat out of the coaches' control. Procuring and retaining quality coaches who can best develop the athletic talent, then, becomes an even more important factor in sustaining a competitive advantage at this level. Further, while Smart and Wolfe (2000) investigated a single athletic program (football), they suggested that their analysis could be extended to the departmental level. In other words, the history, relationships, trust, and culture developed among an entire departmental coaching staff could be related to superior performance of that entire department.

Moreover, in Division III, the philosophical emphasis of athletic programs is that they augment the academic experience and exist to develop a well-rounded individual.
Thus, the department is not as highly focused on winning, but on developing the academic, character, and athletic skills of individuals. This focus does not mean that winning is not important, but that the focus tends to be broader such that the overall success of the department rests more heavily on departmental employees’ (especially coaches) contributions than on the recruitment of highly prized athletes.

Human capital theory (Becker, 1964) provides further support to the argument that management of coaches (in an athletic department context) is related to departmental performance. According to this theory, humans comprise a valuable resource to organizations. The effective management of this human resource is important to the performance and even survival of organizations (Becker & Gerhart, 1996; Doherty, 1998; Thompson, 1967; Welbourne & Andrews, 1996). According to Thompson (1967) human resource management can create a buffer that protects an organization’s core resource (humans) from the outside labor market. Chelladurai (2001) has noted that, “Management of human resources becomes very critical because only people implement organizational policies and procedures. Further, money and material become resources only when people use them effectively in the production of goods and services” (p. 4).

Becker and Gerhart (1996) suggested that HR systems can operate as a core competency (Prahalad & Hamel, 1990) within an organization—creating value as it is embedded in the organizations operating systems. McMahan, Virick, and Wright (1999) explained the relationship this way:

This present-day human resources management approach is different from traditional personnel management as it considers employees as assets that have value and can be managed to increase their value to the organization. People acquire useful skills and knowledge that constitute a form of capital. Human resource practices can therefore be seen as a deliberate
investment in human capital, which aims at improving existing levels of
skill, knowledge, and ability of the employees, and thereby increasing
productivity and firm performance (p. 144-145).

At a more narrow level, the challenge of human resource managers (athletic directors) is
to obtain and develop human resources (coaches) so that they maximally utilize the other
organizational resources (money, physical facilities) in order to have an impact on
organizational effectiveness (Doherty, 1998).

The Role of Human Resource Management

Following Jackson and Schuler (1995) human resource management (HRM) is
defined as “An umbrella term that encompasses (a) specific human resource practices
such as recruitment, selection, and appraisal; (b) formal human resource policies, which
direct and partially constrain the development of specific practices, and (c) overarching
human resource philosophies, which specify the values that inform an organization’s
policies and practices” (p. 238). These three levels combine into an overall system that
helps attract and develop employees who can then make the organization function
efficiently and effectively.

The most current area of research concerning HRM practices is in the area of
strategic human resource management (SHRM). SHRM has been defined as “the pattern
of planned human resource deployment and activities intended to enable the firm to
achieve its goals” (Wright & McMahan, 1992, p. 298). SHRM practices are more recent
innovations such as team-based job designs, flexible workforces, employee
empowerment, profit sharing, and internal career opportunities (Delery & Doty, 1996;
Huselid, Jackson & Schuler, 1997; Whitener, 1997).
The connection between human resource management practices and firm performance has been well established in a variety of settings including manufacturing, banking, steel mills, and other industrial settings (e.g., Arthur, 1994; Becker & Gerhart, 1996; Becker & Huselid, 1998; Delaney, 1996; Delaney, Lewin, & Ichniowski, 1989; Gerhart, 1999; Huselid, 1995; Huselid et al., 1997; Ichniowski, Shaw, & Prennushi, 1997; MacDuffie, 1995). In sport, human resource strategy (in recruiting athletes) has been linked to team performance (Wright, Smart & McMahan, 1995). Doherty (1998) conducted a review of the work that has been completed regarding organizational behavior and human resource management in sport. She reported that a few human resource practices such as job design, staffing, personnel evaluation, rewards, communication, leader behavior, power, and conflict resolution have been linked to both affective (satisfaction, commitment, and motivation) and behavioral (turnover, productivity) outcomes in sport settings.

Although some work related to sport has been conducted in this area, Doherty (1998) suggested that much work remains. She commented,

> It would seem that we know relatively little about organizational effectiveness (OE), including the contribution of human resources. The importance of human resources to OE is implied by a few studies that found little or no effect of leader behaviour on OE, without taking into account the intervening attitudes and behaviours of individuals and groups” (Doherty, 1998, p. 18).

In particular, she suggested three important limitations. First, the field has been limited in the number of human resource practices that have been investigated. Almost all of the studies conducted have focused on job design or leader behavior. Little is known about other important human resource functions such as training and development,
compensation, and performance evaluations. Furthermore, all the studies in sport have been conducted on one or a few practices. No study has investigated whole HRM systems as they relate to organizational effectiveness. Second, more work should be conducted at different levels of analyses. For example, most of the studies regarding job satisfaction have focused on athletic directors at the exclusion of coaches or other departmental staff. Third, more work is necessary at the outcome level. We know relatively little about how HRM systems effect outcomes (Ferris, Arthur, Berkson, Kaplan, Harrell-Cook, & Frink, 1998). In other words, the link between intermediate and organizational outcomes must be more clearly explored (Kozlowski & Klein, 2000; Ostroff & Bowen, 2000). For example, it has not been clearly established whether individual level outcomes such as satisfaction and commitment operate as separate indicators or mediators of organizational level effectiveness. Mowday (1998) in a review of organizational commitment commented,

> There appears to be clear and compelling evidence linking specific human resource management systems with overall organizational performance and with affective commitment at the level of the individual employees. What remains to be demonstrated in a single study, however, is whether employee affective commitment is a critical intervening variable linking human resource management systems and organizational performance (p. 395).

In other words, it is important not only to discover the potential performance gains associated with more sophisticated HRM systems, but also to explain potential relationships between individual and organizational level outcomes.

To summarize, HRM systems have been linked to increased and sustained organizational performance. Although the impact of HRM systems has been explored in

7

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
the business literature, little investigation has been conducted in sport organizations. Furthermore, much remains to be learned regarding the critical processes by which HRM impacts organizational effectiveness (Ferris et al., 1998; Mowday, 1998).

PURPOSE STATEMENT

This study seeks to extend prior research by investigating HRM systems as correlates of departmental level effectiveness. The first purpose of this study is to propose a model describing the critical pathways for the relationship between HRM system sophistication and organizational effectiveness. The second purpose of this study is to test this model in a specific setting: NCAA Division III athletic departments.

MODELS OF HRM AND ORGANIZATIONAL EFFECTIVENESS

Ostroff and Bowen’s (2000) Multi-level Model

While much research exists concerning the conceptual and empirical relationship of various human resource management practices to individual and organizational level outcomes (e.g., Becker & Gerhart, 1996; Becker & Huselid, 1998; Gerhart, Wright, McMahan, & Snell, 2000; Huselid, 1995; Huselid & Becker, 2000; Snell, Youndt & Wright, 1996; Wright & McMahan, 1992), the need for a comprehensive framework integrating the multiple levels and perspectives is certainly evident. Ostroff and Bowen (2000) have provided an excellent example of such a framework that suggests that HRM systems have both a direct and an indirect effect on organizational effectiveness. Figure 1.1 shows a diagrammatic representation of their model.

Essentially they argue that at the individual level HRM systems work to change individual attitudes and behaviors such as satisfaction, commitment, turnover, and
performance. These behaviors then lead to increased individual performance, which contributes to the overall performance of the organization. At the group level, HRM systems create a collective atmosphere whereby individuals working under the same system will display similar attitudes and values. These collective attitudes and behaviors impact firm performance. At the organizational level, HRM systems create process efficiencies and operational structures that directly enhance organizational effectiveness. A more thorough review of each pathway is discussed in chapter two.

Figure 1.1: Ostroff and Bowen's (2000) Multi-Level Model Linking HR Systems to Firm Performance

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Doherty’s Model of HRM in Sport

In contrast to the general business literature, the sport management research in the area of HRM practices and systems is much less developed. While others (e.g. Chelladurai, 1999; Slack, 1997) have developed frameworks for organizational behavior and for particular aspects of HRM, Doherty (1998) developed an integrated model linking HRM and organizational effectiveness in sport organizations. Figure 1.2 shows a diagrammatic representation of her model. The model proposed that the organization’s goals, structure, resources, and culture effect and determine the organizational processes. Then, these processes interact with individual attributes (values, needs, personality) and group attributes (composition, norms) to form the internal work environment. It is this internal environment that is important to human resource managers because the management practices utilized within this environment interact with individuals and groups to create critical work outcomes.

At the outcome level, Doherty (1998) suggested that individual outcomes are comprised of attitudes and behaviors such as job satisfaction, motivation, commitment, turnover, and performance. Group outcomes are comprised of attitudes and behaviors such as cohesion, conflict, turnover and performance. These outcomes, at the individual and group level, mediate the relationship between the internal work environment and organizational effectiveness (operationalized as goal attainment, acquisition of resources, efficient organizational processes and/or participant satisfaction). In her conceptualization, HRM practices work to shape individual and group attitudes and behaviors such that they contribute to organizational effectiveness. While she maintained that the individual and group processes interact, she did not specify how they are
distinguished from each other, or which ones (individual or group) contributed more to organizational effectiveness. Further, she did not include a direct relationship between HRM practices and organizational effectiveness, all organizational level outcomes are mediated by individual attitudes and behaviors.

Figure 1.2: Doherty's (1998) Model of Managing Human Resources in Sport Organizations
The strengths of Doherty's (1998) model are similar to those of Ostroff and Bowen's (2000) model. First, it includes several processes and interactions, thereby acknowledging the complexity of the HRM—organizational effectiveness relationship. Second, it accounts for individual level and group outcomes as mediators of the HRM—organizational effectiveness relationship. Third, it accounts for the organizational context as a potential influence on the internal work environment. The weaknesses of the model are first, that it does not distinguish between HRM practices and systems. The implication of the model is that the emphasis is on practices, although neither position is clearly articulated. Second, the model contains so many interactions that it is not testable in its present form. The model, like Ostroff and Bowen’s would need to be broken into separate pathways for empirical examination.

A Proposed Model:

A Multi-Level Model for the HRM-OE Relationship in Sport Organizations

After reviewing both business (Ostroff & Bowen, 2000) and sport (Doherty, 1998) models of HRM and organizational effectiveness, a new multi-level model of this relationship is proposed. Although the sport and business models contain several similarities, including organizational context and an individual level pathway that mediates organizational outcomes, several critical differences exist in the models. This section compares and contrasts the models in an effort to propose a new model regarding HRM and organizational effectiveness in sport. Figure 1.3 shows a diagrammatic representation of the proposed conceptual model.
Figure 1.3: A Multilevel Model of HRM Systems and Organizational Effectiveness in Sport

Systems vs. Individual Practices

One major difference between the two HRM models is the emphasis on individual HRM practices versus HRM systems. Doherty (1998) implied an emphasis on individual practices, while Ostroff and Bowen (2000) embraced a systems perspective. In the HRM literature, there is considerable debate regarding whether individual practices (Delery & Doty, 1996) or overall systems (Arthur, 1994; Becker & Huselid, 1998; Huselid, 1995; Ichniowski et al., 1997; MacDuffie, 1995) contribute more to organizational effectiveness. Becker and Huselid (1998) provide an excellent overview of this problem. They argue that while assessing the effects of individual practices adds some insight, testing these individual effects apart from the entire system may lead to erroneous
conclusions for two reasons. First, focusing on a single practice may overestimate its impact on the outcomes (Huselid, 1995). Second, the entire system of practices would be a stronger indicator of an investment in human capital. This overall investment would more likely be a source of competitive advantage for firms than would use of any individual practice. They contended,

The overwhelming preference in this literature has been for a unitary index that contains a set (though not always the same set) of theoretically appropriate HRM practices derived from prior work. . . . While not without its limitations, we agree with the extant practice in the empirical literature that an index derived from the prior empirical work is the more appropriate measure of the HRM system. First, a single index reflects the notion of a single HRM system as a strategic asset. Second, since the typical index is a summation of individual element of the HRM system, it implies that within the broad middle range of the index there are multiple ways to increase its value (Becker & Huselid, 1998, p. 63).

In other words, practitioners can still focus on adding or improving individual HRM practices within the index, but the research does not purport to suggest which items would add the most value. While practitioners may be interested in what specific practices would enhance performance the most, it is inappropriate to suggest effects that are overestimated due to measurement error.

Instead, Becker and Huselid (1998) argued for an additive or “sophistication” approach whereby performance could be predicted on the basis of how many practices were used and how broadly they were implemented. More sophisticated systems are those where more high performance work practices or utilized or the practices are implemented across a greater percentage of the workforce. More sophisticated systems lead to better performance (Delaney et al., 1989). The proposed multi-level model for sport organizations in the current study also adopts this system sophistication perspective.
whereby HRM practices are not viewed as separable, but as part of a complete HRM framework. The practices work in concert to add to the sophistication level of the entire system, thereby enhancing performance.

Ostroff and Bowen (2000) contended that the strength of the HRM system moderates the relationship between the HRM system and the individual and group outcomes. They defined a strong HRM system as, "one in which HR practices create a situation, a social structure, in which there is little ambiguity concerning what the organization is like in terms of organizational goals and routines (that is, climate perceptions) and in terms of the exchange between employee and employer (that is, contract beliefs)" (Ostroff & Bowen, 2000, p. 236). In their conceptualization, a strong system determines whether or not collective meanings will be evoked. Their framework assumes that different but equally effective HRM systems exist. Thus, both the strength of the HRM system, and the type of system relate to firm performance.

This argument, however, is somewhat in contrast to Becker and Huselid's (1998) and Delany et al.'s (1989) conceptualization of HRM sophistication. These authors argued that the more HR practices implemented, the higher the sophistication level and the better the performance, regardless of HRM system type (and regardless of external fit). Using this conceptualization, HRM system strength is not a moderator, but a critical and inseparable part of the HRM input variable. In other words, HRM system sophistication becomes the sole independent variable, because the strength of the system is implied in the conceptualization of sophistication (i.e. stronger equals more sophisticated). The proposed model for sport adopts a sophistication approach, whereby HRM system sophistication is viewed as the only independent variable.
Organizational Context: Universalistic vs. Fit approaches

Both the business and the sport models contain elements of the organizational context for understanding the HRM—organizational effectiveness relationship. In the SHRM literature, three main theoretical perspectives have been proposed to explain differences in SHRM and performance. The first is a contingency approach or external fit. This approach suggests that firms will achieve higher performance gains if they match their HRM practices with their overall strategy (Delery & Doty, 1996). Some, albeit limited, support has been demonstrated for this perspective (Wright & Sherman, 1999). For example, Delery and Doty (1996) found that participation, results-oriented appraisals, and internal career opportunities all explain significant variation in performance when matched with organizational strategy. Huselid (1995) found some significant gains when strategies and practices were matched. However, these gains showed no incremental validity over the basic use of high performance work practices.

In other words, different firms may adopt different practices according to their strategy. A firm focused on growth may rely heavily on high performance staffing practices, whereas a firm focused on stability may rely heavily on performance incentives and voice mechanisms (which enhance retention). Both firms, while adopting different practices and strategies, could have equally sophisticated HRM systems, and could be performing equally well. Thus, as suggested by Huselid (1995), matching practices and strategy may be valuable in a prescriptive sense (i.e. informing managers as to which high performance practices they may want to add in their specific situation to enhance performance). From a HRM system standpoint, however, it is not specific practices
and/or strategy, but an overall sophisticated system (regardless of strategy) that leads to high performance.

The second approach is a configurational approach or internal fit. This approach suggests that firms whose SHRM practices fit together into appropriate bundles or systems will achieve higher performance gains (Delery & Doty, 1996). For example, Huselid (1995) found a link between systems of thirteen practices and organizational performance, including financial performance, in a wide variety of industries. Delery and Doty (1996) however, found that individual practices explained more variance in outcomes than either system utilized in their study. Becker and Gerhart (1996) suggested that firms may first need to adopt and develop some best practices, then they can combine practices into systems to achieve additional performance gains or competitive advantage. Becker and Huselid (1998), while finding considerable support for an overall systems approach, were unable to find “bundles” or individual configurations of practices that predicted performance better than others.

Configurational systems can also be extended to the strategic level where the whole system of HRM practices must fit with the organizational strategy in order to achieve the desired performance gains. This perspective initially received considerable attention and support. For example, Arthur (1994) found that firms with commitment systems had higher performance than those with control systems. MacDuffie (1995) also found that flexible, “high commitment” systems showed greater performance than more rigid, control systems. Most studies, however, (e.g., Becker & Huselid, 1998; Delery & Doty, 1996; Huselid, 1995) have failed to confirm the link between matching the HR system with overall organizational strategy, leading most reviewers (Becker & Gerhart,
1996; Becker & Huselid, 1998; McMahan, Virick, & Wright, 1999; Wright & McMahan, 1992; Wright & Sherman, 1999) to argue that support for the configurational approach matching HR practices to firm strategy is weak.

The third approach is the universalistic or best practices approach. This approach suggests that certain SHRM practices should be designated as best practices and will improve organizational performance regardless of the firm’s strategy or other HR practices (Delery & Doty, 1996). This approach is has consistently received the most support (Delery & Doty, 1996; Huselid, 1995; Pfeffer, 1994). In fact a number of methodological pieces have developed over why researchers have failed to find fit in the SHRM studies (e.g., Gerhart, 1999; Wright & Sherman, 1999). For example, staffing practices (Terpstra & Rozell, 1993) and compensation policies (Gerhart & Milkovich, 1990) have both been linked to financial performance. Huselid (1995) found that the simple utilization of high performance practices explained more variance than fitting those practices externally or internally.

Because of consistent support for the universalistic/best practices approach, the current model also adopts that perspective. Following the universalistic/best practices approach and the concept of HRM sophistication, the current model does not include strategy or HRM strength as moderators of the HRM—organizational effectiveness relationship. While acknowledging that different firms will adopt different configurations of practices according to such factors as their size, strategy or life cycle, the current model is interested only in the overall sophistication of the HRM system. In contrast to both of the described models, the proposed model is only concerned with how
many practices are utilized, not configurations of practices or the fit of the practices with organizational strategy.

**Three Potential Pathways**

Doherty's (1998) model suggested that satisfaction, commitment, motivation, conflict and burnout exist at the individual level and that cohesion and conflict exist at the group level. However, turnover and performance both can be conceptualized as either individual or group level outcomes. Ostroff and Bowen (2000) argued that any of these outcomes can exist at the individual or the group level. Furthermore, Doherty (1998) maintained a fully mediated model whereby there is no direct relationship between HRM practices and organizational effectiveness, except through individual and/or group behavior (Baron & Kenny, 1986). This fully mediated model eliminates the possibility for enhanced process effectiveness, which could directly relate to organizational effectiveness. Ostroff and Bowen (2000), however, suggested that both a mediated relationship and a direct HRM—organizational effectiveness relationship exists through the enhancement of internal processes and work structures.

The proposed multi-level model for the HRM-OE relationship in sport organizations agrees with the arguments of Ostroff and Bowen (2000). In the proposed multi-level sport model, HRM systems operate on three levels to increase athletic department effectiveness. First, HRM systems mold individual satisfaction and commitment, such that individuals exposed to a more sophisticated HRM system will reflect higher satisfaction, commitment and tenure. Higher satisfaction, commitment and tenure will translate into increased individual performance. Increased individual performance will contribute to departmental effectiveness. At the group level, HRM
systems create collective organizational climates, whereby patterns of group-level outcomes can be identified between organizations with different HRM systems. In general, organizations with more sophisticated HRM systems will show higher group levels of satisfaction and commitment, and lower group turnover, which will lead to increased organizational effectiveness. Finally, HRM systems create efficient internal processes such that departments with more sophisticated HRM systems will be more effective than those with less sophisticated systems regardless of individual or group level outcomes.

Summary

In sum, a substantial body of evidence exists to suggest that HRM systems can affect not only individual performance, which leads to increased organizational effectiveness, but also group climate such that individuals operating under one HRM system will feel and act differently than individuals operating under a different HRM system, and important task processes such that departments who operate more efficiently will be more effective. The proposed conceptual model for HRM systems in sport settings (Figure 3) includes the three pathways from Ostroff and Bowen (2000), yet eliminates strategy and context, which were included in both of the reviewed models.

A Testable Model and Research Questions

Like both of the previous models, the proposed conceptual model, as is, would be difficult to test in its entirety. However, it can be divided into three pathways, each of which can be tested individually. In this section, the organizational, individual, and
group pathways will be discussed along with their appropriate levels of analysis for measurement and research questions for testing of the model.

HRM System Sophistication and Organizational Level Outcomes

As explained earlier, HRM systems have been shown to be related to firm performance in a variety of settings. At the organizational level, evidence for the relationship between HRM systems and organizational outcomes is highly supported in the business literature. Arthur (1994) found that the use of control systems was positively related to productivity and negatively related to turnover and scrap rates (an indicator of waste) in steel mills. Huselid et al. (1997) and Becker and Huselid (1998) found that HRM systems were positively related to firm level financial performance in a wide variety of industries. Ichniowski et al. (1997) found that innovative practices were positively related to levels of productivity in steel production lines. MacDuffie (1995) found that individual bundles "flexible" and "team-based" work systems were linked to plant-level productivity in motor vehicle assembly plants. Welbourne and Andrews (1996) linked human resource commitment level to organizational survival in initial public offering companies.

A problem that arises is that most of the outcomes mentioned are related to financial performance and DIII athletic departments are not necessarily concerned with financial performance. However, Becker and Gerhart (1996) argued that the dependent variable in HRM studies will differ among levels and industries, but should be appropriate to the particular context. Based on a review of the literature, two appropriate firm level outcomes in athletic departments are academic performance and athletic performance. Although very few, if any, sport management studies have investigated the
relationship between HRM and effectiveness at the organizational level, it is reasonable to predict that a direct relationship exists in sport organizations just as it does in other industries.

In athletic departments, HRM systems that create more efficient on-the-job processes would also be expected to create more effective departments. For example, salient recruiting and selection processes may decrease time-delays in hiring, which may influence recruiting strategies and team cohesion. Ongoing employee evaluations create systems whereby coaches learn to collect information and data through the year, which avoids significant time demands away from their normal routine at the time of evaluation. Training and development activities may equip coaches with more efficient methods of performing the same tasks, which would eventually translate into higher productivity.

Figure 1.4 shows a representation of this pathway. Specifically, this model pathway tests whether a direct relationship between organizational level HRM systems and organizational level performance measures exists regardless of any individual or group level outcomes. Based on Ostroff and Bowen’s (2000) argument, a direct relationship is assumed to operate via enhanced processes and structures, although these processes and structures are not actually measured in the current study. The direct pathway portion of the model lead to the first question for investigation in this study:

1. Does HRM sophistication level directly relate to the effectiveness of NCAA Division III athletic departments?
HRM System Sophistication and Individual Outcomes

The impact of HRM systems has been investigated extensively with regard to individual levels of satisfaction, commitment and turnover. In both the business and the sport management literatures, the relationship between individual job satisfaction and job performance has overall been fairly small (Iaffaldano & Muchinsky, 1985; Li, 1993). However, the relationship is positive and may indicate that increased individual satisfaction at least somewhat influences job performance.

In a similar manner, the relationship between job and organizational commitment and job performance in the form of “task efficiency” has been mixed (Angle & Lawson, 1994; Becker, Billings, Eveleth, & Gilbert, 1996; Meyer & Allen, 1991; Meyer, Paunonen, Gellatly, Goffin & Jackson, 1989; Mowday, 1998; Somers & Birnbaum, 1998). Meyer and colleagues (1989) suggested that it was the nature of the commitment that explained the relationship to job performance. Affective commitment or the employee’s desire to stay with the organization because they want to (Meyer & Allen, 1991) has consistently shown stronger links to performance than continuance commitment—stay because they need to—or normative commitment—stay because they...
ought to (Angle & Lawson, 1994; Becker et al., 1996; Meyer et al., 1989; Mowday, 1998; Somers & Birnbaum, 1998). In fact, continuance commitment has often been linked to decreased job performance (Sommers & Birnbaum, 1998). In addition, a number of scholars have strongly questioned normative commitment as a separate component of organizational commitment (Angle & Lawson, 1993; Morrow, 1993). Instead, they suggested that it is strongly related to and can be an antecedent of both affective and normative commitment (Angle & Lawson, 1993).

Others have argued that not only is the type of commitment important, but so is the type of performance (Angle & Lawson, 1994; Somers & Birnbaum, 1998). Somers and Birnbaum (1998) found that organizational commitment was not related to "task efficiency" types of performance, but was strongly related to other beneficial outcomes such as client satisfaction. Angle and Lawson (1994) found that continuance commitment was not related to any job performance measures and that affective commitment was only related to supervisor ratings of dependability and initiative (not accomplishment or judgment). Similar to the satisfaction argument, these authors argue that increased affective commitment to the organization produces individual pro-social behaviors that eventually benefit the entire organization (Organ, 1988). These benefits may not be noticed with a very narrow, task-type performance dependent variable, but when other types of performance are included, commitment becomes an important predictor.

Because of the largely unresolved criticisms regarding normative and continuance commitment as separate dimensions, and because affective commitment has the most consistent ties to both performance and citizenship behaviors, affective commitment will
be the only facet of organizational commitment included in the current study. Following the Meyer and Allen (1991) conceptualization, coaches' affective organizational commitment, if it increases pro-social and helping behaviors should be positively related to individual performance and perhaps also to organizational level performance.

Employee retention and turnover are additional variables that have been investigated in relation to HRM systems and organizational effectiveness. The concept of turnover can be placed within the larger umbrella of job withdrawal (Hulin, 1991). It represents a physical withdrawal from the organization that is often a result of dissatisfaction and/or a lack of commitment (Currivan, 1999; Gaertner, 1999; Mowday, Koberg, & McArthur, 1984). As suggested in Ostroff and Bowen's (2000) model, HRM systems that promote security and opportunities for job advancement have been shown to decrease turnover. Although poor performance can also lead to turnover, in general, turnover also negatively affects performance, such that individuals who have not experienced a long tenure with the organization are lower performing than those who have. In the present study, more sophisticated HRM systems should be positively related to coach retention such that coaches with longer tenure in the organization are expected to perform higher than those with shorter tenure.

In addition to individual attitudinal outcomes, as Ostroff and Bowen (2000) explained, previous research suggests that improving the skills, knowledge, and abilities of employees within the firm leads to greater performance of individual members, which will then translate to overall firm performance (Huselid, 1995; McMahan et al., 1999; Pfeffer, 1982). Since the skills and abilities of coaches are related to coaching performance and developing athletes, it would be likely that individual coaching
performance would be strongly related to overall departmental athletic and academic performance.

Figure 1.5 displays the proposed relationships between HRM systems, individual level attitudes/behaviors, and firm performance in athletic departments. Specifically, this portion of the model tests three relationships. First, it tests if HRM system sophistication shows an impact only on individual level attitudes and behaviors, but does not translate into increased individual performance (Arrow 1). Second, it tests if individual attitudes and behaviors predict individual coaching performance, but not overall organizational effectiveness (Arrow 2). Third, it tests if individual performance relates to overall organizational effectiveness (Arrow 3). The HRM system sophistication is measured at the organizational level. Coach attitudes and behaviors (including performance) are measured at the individual level and not aggregated. Organizational effectiveness is measured at the organizational level. The individual level pathway of organizational effectiveness leads to the second research question:

2a. Does HRM sophistication level directly relate to the individual level satisfaction, commitment, tenure, and performance of coaches in NCAA Division III athletic departments?

2b. Is the HRM sophistication—Organizational Effectiveness relationship mediated by individual level outcomes?

Figure 1.5: HRM Systems and Organizational Effectiveness: Individual Mediated Pathway
HRM Sophistication and Group Level Outcomes

While the relationship between HRM systems and individual attitudes/behaviors is fairly well established, the relationship between aggregate attitudes/behaviors and organizational effectiveness is less understood. This relationship has direct relevance to the current study. Increases in employees' job satisfaction may lead to increased collaborative effort and extra-role behaviors (Organ, 1988; Ostroff, 1992; Ostroff & Bowen, 2000). However, as Ostroff and Bowen (2000) suggested, the impact of these behaviors may not be noticed on an individual level. Instead, collective attitudes and behaviors may be required to produce overall organizational effects. HRM systems that promote group-wide satisfaction may be positively related to academic and athletic achievement, based on the department working together more strongly to provide a supportive environment for the athletes to achieve their goals.

No studies specifically linking increased group commitment to firm performance could be identified. However, if commitment increases pro-social and helping behaviors, it would be reasonable to expect that it would operate in a similar manner to group satisfaction such that increased group commitment creates a positive environment where the group is highly committed to achieving collective departmental goals. Thus, increased group commitment should be positively related to organizational effectiveness.

Regarding retention and tenure, Huselid (1995) found that aggregate employee motivation and turnover mediated the relationship between HRM systems and firm financial performance. More sophisticated systems may lead to decreased turnover, which then enhances organizational productivity. HRM practices such as increased employee voice, fair evaluation procedures, and some incentives may lead to a longer
tenure with the organization. Just as turnover hurts organizational performance because of increased costs of hiring and training new employees, increased departmental tenure may lead to higher performance because of the synergistic effects of people who have spent time working together. It has been suggested that individuals who work together over time exhibit not only better group processes but also better group performance (Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000). That group cohesion is related to both process and product, suggests that employee tenure may be related to specific skill-related performance and other more socially related performance measures such as client satisfaction. Coaches who have spent more time working together in a department (higher average tenure of the coaches in the department), are expected to be higher performing than coaches who have spent less time together (departments with lower average tenure of the coaching staff).

In sport management, there is some research concerning the antecedents of coach retention (Inglis, Danylchuk, & Pastore, 1996), but there are no studies concerning the relationship between coaching tenure and organizational effectiveness (Doherty, 1998), especially as influenced by the HRM system. Because the relationship intuitively exists and has been linked to organizational performance in other settings (Huselid, 1995), departmental coaching staff tenure is examined as a mediator between HRM system sophistication and organizational effectiveness.

Figure 1.6 shows the group level pathway regarding the relationship between HRM system and organizational effectiveness. Specifically, this part of the model tests whether groups operating under one HRM system are significantly different from groups operating under a different system (Arrow 1). While data is collected at the individual
level, it is subjected to aggregation procedures to assess if the individuals can be conceptualized appropriately as a group. If the individuals aggregate, then the data can be considered at the group level (Dansereau & Yammarino, 2000). Then, the model tests if group level outcomes translate into organizational performance (Arrow 2). The group level pathway of organizational effectiveness leads to the third research question:

3a. Does HRM sophistication level directly relate to group level satisfaction, commitment, tenure, and performance of coaches in NCAA Division III athletic departments?

3b. Is the HRM sophistication—Organizational Effectiveness relationship mediated by group level outcomes?

Figure 1.6: HRM Systems and Organizational Effectiveness: Group Mediated Pathway

Summary

Each of the three model components will be tested independently to determine their ability to explain differences in organizational effectiveness based on HRM system sophistication. Although the components are presented as competing with each other, it is likely that more than one pathway may be validated. A finding of multiple pathways would be consistent with the overall multi-level model for HRM-OE in sport organizations, suggesting that HRM systems are related to effectiveness through several mediums. In other words, this study is not interested in choosing the one model that best
fits the data. Rather, it is interested in any and all pathways by which HRM systems relate to organizational effectiveness.

**IMPORTANCE OF THE STUDY**

HRM sophistication has been consistently linked to enhanced organizational performance particularly in for-profit firms. This relationship is also expected to hold in non-profit organizations, especially those that rely heavily on human resources for their success and even survival. This study presents a model that shows not only how the HRM systems enhance organizational effectiveness, but also presents how organizational effectiveness can be measured meaningfully in different organizations.

For athletic directors, the study has practical implications regarding enhanced academic and athletic performance. The HRM index provides a useful tool for athletic directors to assess the sophistication level of their HRM system. If their sophistication level is low, they can address areas within the index that will improve their departmental performance. The HRM index does not imply what specific practices should be improved, but shows athletic directors a number of areas they can choose from to enhance performance.

If the model holds for athletic departments, further testing could demonstrate its usefulness in other sport and non-profit organizations. As a sport organization, Division III athletic departments operate similarly to other non-profit sport organizations such as the YMCA, recreation centers, the Special Olympics, and/or community youth sport programs. As a non-profit entity in a university setting, Division III athletic departments operate similarly to other educational or service-providing organizations. Given the
appropriate measures of organizational effectiveness, the model could be applied quite broadly to a number of non-profit organizations. Humans comprise an invaluable resource to service-oriented organizations. The effective systematic management of this resource can become a critical asset to enhanced performance not only in for-profit, but in non-profit organizations as well.

LIMITATIONS

Several limitations of the study, due to methodological choices, must be noted. First, this study is conducted in a specific setting. While implications can be made, the results are not directly generalizable to other organizations. Further testing of the model would be needed to confirm the relationship in other settings.

Second, the human resource practices utilized in the athletic department may not be under the control of the athletic director. In other words, departmental performance may be affected by constraints outside the department's control.

Third, specific facets of satisfaction and commitment have been chosen for study because of their particular relevance to HRM practices and performance. It is possible that other facets of satisfaction and/or commitment would reflect different results.

DELIMITATIONS

This study is designed to test a proposed model in a specific setting: NCAA Division III athletic departments. Responses are restricted to athletic directors and head coaches at these institutions, and do not include the responses of other administrators, assistant coaches, or other support staff.
DEFINITION OF TERMS

Because each variable is a representation of a concept or construct, they must be carefully defined for the purpose of each study. A constitutive definition is "a formal definition in which a term is defined by using other terms (Ary et al., 1996, p. 28). It is likened to a dictionary definition (Fraenkel & Wallen, 2000). The operative definition is one that ascribes meaning to the variable by specifying the concept in observable terms (Fraenkel & Wallen, 2000). In other words, an operational definition describes how the variable will be observed and measured in the particular study. The following section provides both constitutive and operational definitions for the variables in the current study. The instrumentation section specifies how each variable will be measured.

Study Variables

HRM System Sophistication

Following Delany et al. (1989) and Becker and Huselid (1998), the current study utilizes human resource management system sophistication as the primary independent variable. The study is concerned with assessing the departmental performance impact of utilizing systems of various sophistication levels. HRM sophistication is defined as the number and breadth of implementation of specified high performance work practices. As Becker and Huselid (1998) have stated, "A strong emphasis on one or two policies will have the same index value as more modest attention to a wide range of policies" (p. 64). In other words, more sophisticated systems are those where more practices are utilized and/or implemented across a greater percentage of the coaching staff. The sophistication
level provides a single comprehensive measure of the HRM system (Becker & Huselid, 1998).

Control Variables

Previous studies have suggested that organizational size and operating budget must be controlled for across organizations because of their influence not only on the HRM system but also on organizational structure, efficiency, and productivity (e.g., Amis & Slack, 1996; Arthur, 1994; Delery & Doty, 1996; Huselid, 1995; Huselid et al., 1997; MacDuffie, 1995). These same important controls will be included in the current study.

Organizational Size

Constitutively, organizational size refers to the dimensions or largeness of an organization. Operationally, organizational size can be reflected in the physical capacity of the organization, the volume of an organization's inputs or outputs, the organization's wealth, or the number of personnel within an organization (Amis & Slack, 1996). In the current study, organizational size will refer to the number of coaches in the athletic department.

Operating Budget

A second measure of organizational size is the organization's wealth. The annual operating budget (in dollars) for each department will be utilized as a measure of organizational wealth.
Dependent Variables

Coach Job Satisfaction

In a general sense, job satisfaction can be defined as a “pleasurable feeling that results from the perception that one’s job fulfills or allows for the fulfillment of one’s important job values” (Noe, Hollenbeck, Gerhart, & Wright., 1994, p. 281). More specifically, coaching satisfaction has been defined as “a positive affective state resulting from a complex evaluation of the structures, processes, and outcomes associated with the coaching experience” (Chelladurai & Ogasawara, 1997, p. 6). This study, utilizes the more specific definition of coaching satisfaction.

Coach Organizational Commitment

Following Meyer and Allen (1991), coach’s affective organizational commitment is defined as the coach’s “emotional attachment to, identification with, and involvement in the organization” (p. 67).

Coach Tenure

Coaching tenure refers to the number of years the coach has been employed in his/her current position.

Coach Performance

Generally, coaching performance is defined as the degree to which the coach works toward the attainment of organizational goals (Chelladurai, 1999). In the current study, coaching performance is operationally defined as the coach’s average win/loss percentage over a three year time period.
**Organizational Athletic Performance**

As with coaching performance, athletic performance generally refers to the degree to which the athletic teams in the department reach departmental goals.

**Organizational Academic Performance**

In the current study, academic performance will refer to "improvement and achievement in academics" (Trail & Chelladurai, 2000, p. 160).

**Sears Directors' Cup**

The Sears Directors' Cup is a national-level award that is co-sponsored by the National Association of Collegiate Directors of Athletics (NACDA) and Sears, Co., which honors "institutions maintaining a broad-based program, achieving success in many sports, both men's and women's" (NACDA, 2001). It is awarded annually to the NCAA Division I, II and III level and NAIA schools who finish with the most collective points in national tournament play (i.e., the school or individual must reach their sport's national tournament seeding to score points in the Sears Cup Standings). Twenty-five sports are acknowledged at the Division III level, and each school is allowed to choose its eighteen best sports (nine men's and nine women's) to be tabulated for the final scores. The NACDA publishes seasonal and final standings in the cup for all schools who earn points. In 2001, 270 of the 395 Division III schools earned points in the Sears Cup standings.

**OVERVIEW OF REMAINING CHAPTERS**

Chapter 2, the review of the literature, contains a thorough review of previously published work pertaining to HRM systems and work performance, as well as models and
measurement regarding organizational effectiveness. This chapter provides critical background information regarding the use and measurement of the models presented in the current research design.

Chapter 3 provides a complete description of the methodology employed in the study. In addition to describing the type of research employed, it explains potential sources of error and how those will be minimized. It also provides a rationale for the subjects and instruments utilized in the current study. Finally, it provides a description of the statistical methods employed to analyze the data.

Chapter 4 presents the results of the study, both statistically and inferentially. It presents the raw data, analysis and interpretations of the findings. Chapter 5 presents a discussion of the findings. In this section, results are interpreted in light of the proposed model. Then, implications for scholars, practitioners, and future studies are given.
CHAPTER 2

REVIEW OF LITERATURE

The purpose of this study is to investigate the relationship between human resource management (HRM) system sophistication and organizational effectiveness (OE). To accomplish this end, the review of the literature aims to provide a rationale for the proposed multi-level model of the HRM-OE in non-profit sport organizations and a rationale for assessing organizational effectiveness. This chapter is divided into four sections: (a) review of the prominent business and sport models of HRM and OE, (b) an explanation and defense of the proposed model, (c) a review of the organizational effectiveness literature, and (d) an explanation and defense of a proposed decision model for organizational effectiveness assessments.

Background of HRM systems

Following Jackson and Schuler (1995) human resource management (HRM) is defined as “An umbrella term that encompasses (a) specific human resource practices such as recruitment, selection, and appraisal; (b) formal human resource policies, which direct and partially constrain the development of specific practice, and (c) overarching human resource philosophies, which specify the values that inform an organization’s
policies and practices” (p. 238). These three levels combine into an overall system that helps attract and develop employees who can then make the organization function efficiently and effectively.

The most current area of research concerning HRM practices is in the area of strategic human resource management (SHRM). SHRM has been defined as “the pattern of planned human resource deployment and activities intended to enable the firm to achieve its goals” (Wright & McMahan, 1992, p. 298). SHRM practices are more recent innovations such as team-based job designs, flexible workforces, employee empowerment, profit sharing, and internal career opportunities (Delery & Doty, 1996; Huselid, Jackson, & Schuler, 1997; Whitener, 1997).

The connection between human resource management practices and firm performance has been well established in a variety of settings including manufacturing, banking, steel mills, and other industrial settings (e.g., Arthur, 1994; Becker & Gerhart, 1996; Becker & Huselid, 1998; Delaney, 1996; Delaney, Lewin, & Ichniowski, 1989; Gerhart, 1999; Huselid, 1995; Huselid et al., 1997; Ichniowski, Shaw, & Prennushi, 1997; MacDuffie, 1995). In sport, human resource strategy (in recruiting athletes) has been linked to team performance (Wright, Smart & McMahan, 1995). Doherty (1998) conducted a review of the work that has been conducting regarding organizational behavior and human resource management in sport. She reported that a few human resource practices such as job design, staffing, personnel evaluation, rewards, communication, leader behavior, power, and conflict resolution have been linked to both affective (satisfaction, commitment, and motivation) and behavioral (turnover, productivity) outcomes in sport settings.
Although some work related to sport has been conducted in this area, Doherty (1998) maintained that much work remains. She commented,

> It would seem that we know relatively little about organizational effectiveness (OE), including the contribution of human resources. The importance of human resources to OE is implied by a few studies that found little or no effect of leader behaviour on OE, without taking into account the intervening attitudes and behaviours of individuals and groups” (Doherty, 1998, p. 18).

In particular, she suggested three important limitations. First, the field has been limited in the number of human resource practices that have been investigated. Almost all of the studies conducted have focused on job design or leader behavior. Little is known about other important human resource functions such as training and development, compensation, and performance evaluations. Furthermore, all the studies in sport have been conducted on one or a few practices. No study has investigated HRM systems as a whole as related to organizational effectiveness. Second, more work should be conducted at different levels of analyses. For example, most of the studies regarding job satisfaction have focused on athletic directors at the exclusion of coaches or other departmental staff. Third, more work is necessary at the outcome level. We know relatively little about how HRM systems affect outcomes (Ferris, Arthur, Berkson, Kaplan, Harrell-Cook, & Frink, 1998). In other words, the link between intermediate and organizational outcomes must be more clearly explored (Kozlowski & Klein, 2000). For example, it has not been clearly established whether individual level outcomes such as satisfaction and commitment operate as separate indicators or mediators of organizational level effectiveness. Mowday (1998) in a review of organizational commitment commented,
There appears to be clear and compelling evidence linking specific human resource management systems with overall organizational performance and with affective commitment at the level of the individual employees. What remains to be demonstrated in a single study, however, is whether employee affective commitment is a critical intervening variable linking human resource management systems and organizational performance (p. 395).

In other words, it is important not only to discover the potential performance gains associated with more sophisticated HRM systems, but also to explain potential relationships between individual and organizational level outcomes.

To summarize, human resource management (HRM) systems have been linked to increased and sustained organizational performance. Although the impact of human resource systems has been explored in the business literature, little investigation has been conducted in athletic departments, particularly at the NCAA Division III level. Furthermore, much remains to be learned regarding the critical processes by which HRM effects OE (Ferris et al., 1998; Mowday, 1998). This study seeks to extend prior research by investigating human resource systems as correlates of departmental level effectiveness.

Previous Models of the HRM-OE Relationship

Ostroff and Bowen’s (2000) Multi-level Model

While much research exists concerning the conceptual and empirical relationship of various human resource management practices to individual and organizational level outcomes (e.g., Becker & Gerhart, 1996; Becker & Huselid, 1998; Gerhart, Wright, McMahan, & Snell, 2000; Huselid, 1995; Huselid & Becker, 2000; Snell, Youndt & Wright, 1996; Wright & McMahan, 1992), the need for a comprehensive framework
integrating the multiple levels and perspectives is certainly evident. Ostroff and Bowen (2000) have provided an excellent example of such a framework that suggests that HRM systems have both a direct and an indirect effect on firm performance. Figure 2.1 shows a diagrammatic representation of their model. Essentially they argue that at the individual level HRM systems work to change individual attitudes and behaviors such as satisfaction, commitment, turnover, and performance. These behaviors then lead to increased individual performance, which contributes to the overall performance of the organization. At the group level, HRM systems create a collective atmosphere whereby individuals working under the same system will display similar attitudes and values. These collective attitudes and behaviors impact firm performance. At the organizational level, HRM systems create process efficiencies and operational structures that directly enhance organizational effectiveness. Each of these pathways is discussed below.

**Individual Level Outcomes**

Individual level outcomes have been a main focus of previous HRM studies. For example, Huselid (1995) found that a two-factor system of thirteen practices was positively related to individual performance and negatively related to turnover. Ostroff and Bowen (2000) compiled a review of twenty-five different HRM practices and their relationship to individual-level outcomes such as knowledge and skills, satisfaction, motivation, and citizenship.
They suggest that some practices such as recruitment, selection and training can increase the overall ability level of the employees. This increased ability level should directly translate to increased individual performance, a relationship that should hold regardless of industry. In other words, HRM practices that increase the skill level of coaches in athletic departments, should also translate into them demonstrating increased individual performance.
Other practices increase the individuals’ identification and commitment to the organization. Employee assistance, job security, and profit-sharing plans work to increase individual commitment by ensuring the employee of the organization’s commitment to them. While profit-sharing plans and stock-options are not relevant in non-profit university settings, other HRM practices such as job security and internal labor markets may work to increase coach’s commitment to the department. This commitment level may also translate into longer tenure for each coach in the department.

Practices such as voice mechanisms, team collaboration, and participation in decisions help create a positive work environment that contributes to employee satisfaction. Again, this relationship would logically hold in athletic departments as well. Coaches within departments that utilize these types of practices would be expected to have higher satisfaction levels than coaches in other departments.

Overall, Ostroff and Bowen (2000) make a compelling argument that the direct relationship between HRM practices and individual level attitudes and behaviors is very firmly established. Further, they argue that individual level skills and abilities lead to enhanced individual performance. However, while the intuitive connection exists, the satisfaction—performance and commitment—performance relationships have been rather small (Iaffaldano & Muchinsky, 1985; Li, 1993). Thus, while their model contains both skills and attitudes, the attitudinal outcome—individual performance relationships require further empirical tests.

Finally, their model contests that as each individual increases performance, the overall organizational performance rises. However, the relationship between individual level performance and organizational performance is subject to a number of confounding
variables that weaken the effect sizes. Therefore, Ostroff and Bowen (2000) suggest two other pathways by which HRM systems may relate to overall performance.

**Group Level Outcomes**

At the group level, HRM systems work to create a climate where groups of individuals exposed to the same HRM system will collectively display increased performance, attachment, and citizenship (Ostroff & Bowen, 2000). This overall group performance translates into organizational performance. While individual level attitudes and behaviors have displayed a rather weak relationship to organizational outcomes, the collective pathway may display a stronger relationship to performance.

Ostroff and Bowen (2000) argued that even though the relationship between individual job satisfaction and organizational effectiveness has been fairly small, some studies have shown that aggregate job satisfaction is more strongly related to organizational effectiveness (Ostroff, 1992). Specifically, in a sample of 298 schools, teacher job satisfaction was strongly related to student satisfaction and student academic achievement. In this study increased job satisfaction may have led to increased attachment and citizenship behaviors (Organ, 1988), which then enhanced the overall effectiveness of the school. This relationship is difficult to detect in any one individual because of the presence of multiple confounding variables (e.g., budget support, administrative support, time availability). Investigating the relationship between the group’s job satisfaction and organizational level effectiveness, however, takes into account the synergies of the bulk of employees being satisfied or dissatisfied.

In the collective pathway, organizational performance is not simply a sum of individual contributions, but a product of collective attitudes and behaviors. In a group
setting, HRM practices have a stronger relationship to organizational performance because they "foster salient productivity-related behaviors" such as performance, citizenship, and attachment (Ostroff & Bowen, 2000, p. 227). They establish shared meanings among group members regarding valued attitudes and behaviors. For example, HRM systems that increase one individual act of a citizenship behavior may demonstrate a very weak relationship to overall organizational performance. However, HRM systems that create a collective atmosphere focused on helping behaviors and collaborative effort may lead to multiple acts of citizenship that have a substantial impact on organizational performance. HRM systems may work to create such an atmosphere, such that “individuals’ attitudes and behaviors combine to emerge into a collective effort that is greater than the simple additive effect across individuals” (Ostroff & Bowen, 2000, p. 229).

The contribution of the collective pathway is probably the most unique and valuable aspect of Ostroff and Bowen’s model. It demonstrates an attractive alternative to the previously conceived notion of simply adding individual performances in order to predict organizational level performance. The main weakness of the pathway, however, is that it lacks empirical testing. The authors reported that the evidence is strongly supportive of the relationship between collective attitudes and firm performance, but very few studies have investigated relationships at this level.

Organizational Level Outcomes

A third pathway of relating HRM systems is the direct impact pathway. As suggested earlier, HRM systems have been shown to have a direct impact on firm financial performance in a variety of settings. This model, however, attempts to explain...
how the HRM systems work to produce this performance. In the direct pathway, Ostroff and Bowen (2000) argued that HRM systems create efficient internal processes and structures that increase efficiency and overall firm performance. For example, Ichniowski et al. (1997) found that flexible and more team-based systems allowed for more time actively engaged in work activities. This increased engagement time led to increased productivity.

As examples, Ostroff and Bowen (2000) proposed that systems that include extensive training and skill-based pay, may promote flexibility and innovation in the workforce such that the organization can easily adapt to environmental changes. Or, selection processes that create a diverse workforce can help the organization take advantage of a wide variety of perspectives and knowledge bases. The use of teams and empowerment practices can create operational efficiencies such that supervision and approval of management is not as critical. Decisions can be made on a timely basis, thereby increasing productivity. Finally, systems that include practices such as job-based appraisals, and well-articulated grievance systems promote standardized procedures that aid in guiding worker behavior such that it contributes to organizational performance. Employees understand their expectations and rewards for meeting them. The procedures enhance performance by eliminating confusion regarding the organizational goals and preferable means for achieving them.

The strengths of this model are that it demonstrates a number of ways the HRM systems can impact organizational effectiveness and performance. Further, it explicates the ways that HRM systems are interpreted by organizational members (i.e., psychological and normative contracts) such that the practices influence and mold
behaviors within the organization. Finally, the model accounts for elements of the external context that can influence internal processes. The major weaknesses of the model are first, that some of the pathways lack empirical support. For example, the relationship between collective attitudes and behaviors and organizational performance has yet to be tested in a number of studies. Second, the model, in its current form, is not testable. The number of pathways and mediators make it too complex for validation.

**Doherty’s Model of HRM in Sport**

Doherty (1998) proposed a model for HRM in sport organizations. Figure 2.2 shows a diagrammatic representation of her model. The model proposed that the organization’s goals, structure, resources, and culture affect and determine the organizational processes. Then, these processes interact with individual attributes (values, needs, personality) and group attributes (composition, norms) to form the internal work environment. It is this internal environment that is important to human resource managers because the management practices utilized within this environment interact with individuals and groups to create critical work outcomes. For example, Li (1993) found that job influence, incentive system, and leader behavior were significant predictors of job satisfaction and job performance of volunteer coaches. Another study found compensation and job position to be related to job satisfaction in collegiate sport marketers (Barr, McDonald, & Sutton, 2000). Further, leader behavior and job design may influence group make-up and productivity (Doherty, 1998).
At the outcome level, Doherty (1998) suggested that individual outcomes are comprised of attitudes and behaviors such as job satisfaction, motivation, commitment, turnover, and performance. Group outcomes are comprised of attitudes and behaviors such as cohesion, conflict, turnover and performance. These outcomes, at the individual
and group level, mediate the relationship between the internal work environment and organizational effectiveness (operationalized as goal attainment, acquisition of resources, efficient organizational processes and/or participant satisfaction). In her conceptualization, HRM practices work to shape individual and group attitudes such that they contribute to organizational effectiveness. While she maintained that the individual and group processes interact, she did not specify how they are distinguished from each other, or which ones (individual or group) contributed more to organizational effectiveness. Further, she did not include a direct relationship between HRM practices and organizational effectiveness; all organizational level outcomes are mediated by individual attitudes and behaviors. The lack of a direct relationship is consistent with findings in sport settings that enhanced processes affect individual but not organizational outcomes (Chelladurai & Haggerty, 1991). It is also consistent with previous conceptualizations of organizational effectiveness in sport where satisfaction and performance of individuals were considered indicators of organizational effectiveness (Li, 1993).

Her model and subsequent review of literature demonstrate that in sport management research the relationship between HRM and individual outcomes is fairly well established (e.g., Cleave, 1993; Koehler, 1988; Lambrecht & Hutson, 1997; Li, 1993; Wallace & Weese, 1995). What is sorely lacking in the sport management literature, however, is empirical support for the relationship between: a) individual level and organizational level outcomes (e.g., Chelladurai & Haggerty, 1991), and b) HRM and organizational level outcomes that are measured at the organizational level, not implied by individual outcomes (e.g., Li, 1993).
The strengths of Doherty's (1998) model are similar to those of Ostroff and Bowen's (2000) model. First, it includes several processes and interactions, thereby acknowledging the complexity of the HRM—organizational effectiveness relationship. Second, it accounts for individual level and group outcomes as mediators of the HRM—organizational effectiveness relationship. Third, it accounts for the organizational context as a potential influence on the internal work environment. The weaknesses of the model are first, that it does not distinguish between HRM practices and systems. The implication of the model is that the emphasis is on practices, although neither position is clearly articulated. Second, the model contains so many interactions that it is not testable in its present form. The model, like Ostroff and Bowen's would need to be broken into separate pathways for empirical examination.

A Proposed Model:

A Multi-Level Model for the HRM-OE Relationship in Sport Organizations

After reviewing both business (Ostroff & Bowen, 2000) and sport (Doherty, 1998) models of HRM and organizational effectiveness, a new multi-level model of this relationship is proposed. Although the sport and business models contain several similarities, including organizational context and an individual level pathway that mediates organizational outcomes, several critical differences exist in the models. This section compares and contrasts the models in an effort to propose a new model regarding HRM and organizational effectiveness in sport. Figure 2.3 shows a diagrammatic representation of the proposed conceptual model.
One major difference between the two HRM models is the emphasis on individual HRM practices versus HRM systems. Doherty (1998) implied an emphasis on individual practices, while Ostroff and Bowen (2000) embraced a systems perspective. In the HRM literature, there is considerable debate regarding whether individual practices (Delery & Doty, 1996) or overall systems (Arthur, 1994; Becker & Huselid, 1998; Huselid, 1995; Ichniowski et al., 1997; MacDuffie, 1995) contribute more to organizational effectiveness. Becker and Huselid (1998) provide an excellent overview of this problem. They contended that while assessing the effects of individual practices adds some insight, testing these individual effects apart from the entire system may lead to erroneous conclusions for two reasons. First, focusing on a single practice may overestimate its
impact on the outcomes (Huselid, 1995). Second, the entire system of practices would be a stronger indicator of an investment in human capital. This overall investment would more likely be a source of competitive advantage for firms than would use of any individual practice. They explained,

The overwhelming preference in this literature has been for a unitary index that contains a set (though not always the same set) of theoretically appropriate HRM practices derived from prior work. . . . While not without its limitations, we agree with the extant practice in the empirical literature that an index derived from the prior empirical work is the more appropriate measure of the HRM system. First, a single index reflects the notion of a single HRM system as a strategic asset. Second, since the typical index is a summation of individual element of the HRM system, it implies that within the broad middle range of the index there are multiple ways to increase its value (Becker & Huselid, 1998, p. 63).

In other words, practitioners can still focus on adding or improving individual HRM practices within the index, but the research does not purport to suggest which items would add the most value. While practitioners may be interested in what specific practices would enhance performance the most, it is inappropriate to suggest effects that are overestimated due to measurement error.

Instead, Becker and Huselid (1998) argued for an additive or “sophistication” approach whereby performance could be predicted on the basis of how many practices were used and how broadly they were implemented. More sophisticated systems are those where more high performance work practices or utilized or the practices are implemented across a greater percentage of the workforce. More sophisticated systems lead to better performance (Delaney et al., 1989). The proposed multi-level model for sport organizations in the current study also adopts this system sophistication perspective whereby HRM practices are not viewed as separable, but as part of a complete HRM
framework. The practices work in concert to add to the sophistication level of the entire system, thereby enhancing performance.

Ostroff and Bowen (2000) contended that the strength of the HRM system moderates the relationship between the HRM system and the individual and group outcomes. They defined a strong HRM system as, “one in which HR practices create a situation, a social structure, in which there is little ambiguity concerning what the organization is like in terms of organizational goals and routines (that is, climate perceptions) and in terms of the exchange between employee and employer (that is, contract beliefs)” (Ostroff & Bowen, 2000, p. 236). In their conceptualization, a strong system determines whether or not collective meanings will be evoked. Their framework assumes that different but equally effective HRM systems exist. Thus, both the strength of the HRM system, and the type of system relate to firm performance.

This argument, however, is somewhat in contrast to Becker and Huselid’s (1998) and Delany et al.’s (1989) conceptualization of HRM sophistication. These authors argued that the more HR practices implemented, the higher the sophistication level and the better the performance, regardless of HRM system type (and regardless of external fit). Using this conceptualization, HRM system strength is not a moderator, but a critical and inseparable part of the HRM input variable. In other words, HRM system sophistication becomes the sole independent variable, because the strength of the system is implied in the conceptualization of sophistication (i.e. stronger equals more sophisticated). The proposed model for sport adopts a sophistication approach, whereby HRM system sophistication is viewed as the only independent variable.
Organizational Context: Universalistic vs. Fit approaches

Both the business and the sport models contain elements of the organizational context for understanding the HRM–organizational effectiveness relationship. In the SHRM literature, three main theoretical perspectives have been proposed to explain differences in SHRM and performance. The first is a contingency approach or external fit. This approach suggests that firms will achieve higher performance gains if they match their HRM practices with their overall strategy (Delery & Doty, 1996). Some, albeit limited, support has been demonstrated for this perspective (Wright & Sherman, 1999). For example, Delery and Doty (1996) found that participation, results-oriented appraisals, and internal career opportunities all explain significant variation in performance when matched with organizational strategy. Huselid (1995) found some significant gains when strategies and practices were matched. However, these gains showed no incremental validity over the basic use of high performance work practices.

In other words, different firms may adopt different practices according to their strategy. A firm focused on growth may rely heavily on high performance staffing practices, whereas a firm focused on stability may rely heavily on performance incentives and voice mechanisms (which enhance retention). Both firms, while adopting different practices and strategies, could have equally sophisticated HRM systems, and could be performing equally well. Thus, as suggested by Huselid (1995), matching practices and strategy may be valuable in a prescriptive sense (i.e. informing managers as to which high performance practices they may want to add in their specific situation to enhance performance). From a HRM system standpoint, however, it is not specific practices
and/or strategy, but an overall sophisticated system (regardless of strategy) that leads to high performance.

The second approach is a configurational approach or internal fit. This approach suggests that firms whose SHRM practices fit together into appropriate bundles or systems will achieve higher performance gains (Delery & Doty, 1996). For example, Huselid (1995) found a link between systems of thirteen practices and organizational performance, including financial performance, in a wide variety of industries. Delery and Doty (1996) however, found that individual practices explained more variance in outcomes than either system utilized in their study. Becker and Gerhart (1996) suggested that firms may first need to adopt and develop some best practices, then they can combine practices into systems to achieve additional performance gains or competitive advantage. Becker and Huselid (1998), while finding considerable support for an overall systems approach, were unable to find “bundles” or individual configurations of practices that predicted performance better than others.

Configurational systems can also be extended to the strategic level where the whole system of HRM practices must fit with the organizational strategy in order to achieve the desired performance gains. This perspective initially received considerable attention and support. For example, Arthur (1994) found that firms with commitment systems had higher performance than those with control systems. MacDuffie (1995) also found that flexible, “high commitment” systems showed greater performance than more rigid, control systems. Most studies, however, (e.g., Becker & Huselid, 1998; Delery & Doty, 1996; Huselid, 1995) have failed to confirm the link between matching the HR system with overall organizational strategy, leading most reviewers (Becker & Gerhart, 1996).
1996; Becker & Huselid, 1998; McMahan, Virick, & Wright, 1999; Wright & McMahan, 1992; Wright & Sherman, 1999) to argue that support for the configurational approach matching HR practices to firm strategy is weak.

The third approach is the universalistic or best practices approach. This approach suggests that certain SHRM practices should be designated as best practices and will improve organizational performance regardless of the firm's strategy or other HR practices (Delery & Doty, 1996). This approach is has consistently received the most support (Delery & Doty, 1996; Huselid, 1995; Pfeffer, 1994). In fact a number of methodological pieces have developed over why researchers have failed to find fit in the SHRM studies (e.g., Gerhart, 1999; Wright & Sherman, 1999). For example, staffing practices (Terpstra & Rozell, 1993) and compensation policies (Gerhart & Milkovich, 1990) have both been linked to financial performance. Huselid (1995) found that the simple utilization of high performance practices explained more variance than fitting those practices externally or internally.

Because of consistent support for the universalistic/best practices approach, the current model also adopts that perspective. Following the universalistic/best practices approach and the concept of HRM sophistication, the current model does not include strategy or HRM strength as moderators of the HRM—organizational effectiveness relationship. While acknowledging that different firms will adopt different configurations of practices according to such factors as their size, strategy or life cycle, the current model is interested only in the overall sophistication of the HRM system. In contrast to both of the described models, the proposed model is only concerned with how
many practices are utilized, not configurations of practices or the fit of the practices with organizational strategy.

Three Potential Pathways

Doherty’s (1998) model suggests that satisfaction, commitment, motivation, conflict and burnout exist at the individual level and that cohesion and conflict exist at the group level. However, turnover and performance both can be conceptualized as either individual or group level outcomes. Ostroff and Bowen (2000) argued that any of these outcomes can exist at the individual or the group level. Furthermore, Doherty (1998) maintained a fully mediated model whereby there is no direct relationship between HRM practices and organizational effectiveness, except through individual and/or group behavior (Baron & Kenny, 1986). This fully mediated model eliminates the possibility for enhanced process effectiveness, which could directly relate to organizational effectiveness. Ostroff and Bowen (2000), however, suggested that both a mediated relationship and a direct HRM—organizational effectiveness relationship exists through the enhancement of internal processes and work structures.

The proposed multi-level model for the HRM-OE relationship in sport organizations agrees with the arguments of Ostroff and Bowen (2000). In the proposed multi-level sport model, HRM systems operate on three levels to increase athletic department effectiveness. First, HRM systems mold individual satisfaction and commitment, such that individuals exposed to a more sophisticated HRM system will reflect higher satisfaction and commitment. Higher satisfaction and commitment will translate into increased individual performance. Increased individual performance will contribute to departmental effectiveness. At the group level, HRM systems create
collective organizational climates, whereby patterns of group-level outcomes can be identified between organizations with different HRM systems. In general, organizations with more sophisticated HRM systems will show higher group levels of satisfaction and commitment, and lower group turnover, which will lead to increased organizational effectiveness. Finally, HRM systems create efficient internal processes such that departments with more sophisticated HRM systems will be more effective than those with less sophisticated systems regardless of individual or group level outcomes.

Summary

In sum, a substantial body of evidence exists to suggest that HRM systems can affect not only individual performance, which leads to increased organizational effectiveness, but also group climate such that individuals operating under one HRM system will feel and act differently than individuals operating under a different HRM system, and important task processes such that departments who operate more efficiently will be more effective. The proposed conceptual model for HRM systems in sport settings (Figure 2.3) includes the three pathways from Ostroff and Bowen (2000), yet eliminates strategy and context, which were included in both of the reviewed models.

A Testable Model and Research Questions

Like both of the previous models, the proposed conceptual model, as is, would be difficult to test in its entirety. However, it can be divided into three pathways, each of which can be tested individually. In this section, the organizational, individual, and group pathways will be discussed along with their appropriate levels of analysis for measurement and research questions for testing of the model.
HRM System Sophistication and Organizational Level Outcomes

As explained earlier, HRM systems have been shown to be related to firm performance in a variety of settings. At the organizational level, evidence for the relationship between HRM systems and organizational outcomes is highly supported in the business literature. Arthur (1994) found that the use of control systems was positively related to productivity and negatively related to turnover and scrap rates (an indicator of waste) in steel mills. Huselid et al. (1997) and Becker and Huselid (1998) found that HRM systems were positively related to firm level financial performance in a wide variety of industries. Ichniowski et al. (1997) found that innovative practices were positively related to levels of productivity in steel production lines. MacDuffie (1995) found that individual bundles “flexible” and “team-based” work systems were linked to plant-level productivity in motor vehicle assembly plants. Welbourne and Andrews (1996) linked human resource commitment level to organizational survival in initial public offering companies.

A problem that arises is that most of the outcomes mentioned are related to financial performance and DIII athletic departments are not concerned with financial performance. However, Becker and Gerhart (1996) argued that the dependent variable in HRM studies will differ among levels and industries, but should be appropriate to the particular context. Based on a review of the literature, two appropriate firm level outcomes in athletic departments are academic performance and athletic performance. Although very few if any sport management studies have investigated the relationship between HRM and effectiveness at the organizational level, it is reasonable to predict that a direct relationship exists in sport organizations just as it does in other industries.
In athletic departments, HRM systems that create more efficient on-the-job processes would also be expected to create more effective departments. For example, salient recruiting and selection processes may decrease time-delays in hiring, which may influence recruiting strategies and team cohesion. Ongoing employee evaluations create systems whereby coaches learn to collect information and data through the year, which avoids significant time demands away from their normal routine at the time of evaluation. Training and development activities may equip coaches with more efficient methods of performing the same tasks, which would eventually translate into higher productivity.

Figure 2.4 shows a representation of this pathway. Specifically, this model pathway tests whether a direct relationship between organizational level HRM systems and organizational level performance measures exists regardless of any individual or group level outcomes. Based on Ostroff and Bowen’s (2000) argument, a direct relationship is assumed to operate via enhanced processes and structures, although these processes and structures are not actually measured in the current study. The direct pathway portion of the model lead to the first question for investigation in this study:

1. Does HRM sophistication level directly relate to the effectiveness of NCAA Division III athletic departments?

Figure 2.4: HRM System Sophistication and Organizational Effectiveness: Direct Pathway

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
HRM System Sophistication and Individual Outcomes

The impact of HRM systems has been investigated extensively with regard to individual levels of satisfaction, commitment and turnover. In both the business and the sport management literatures, the relationship between individual job satisfaction and job performance has overall been fairly small (Iaffaldano & Muchinsky, 1985; Li, 1993). However, the relationship is positive and may indicate that increased individual satisfaction at least somewhat influences job performance.

In a similar manner, the relationship between job and organizational commitment and job performance in the form of “task efficiency” has been mixed (Angle & Lawson, 1994; Becker, Billings, Eveleth, & Gilbert, 1996; Meyer & Allen, 1991; Meyer, Paunonen, Gellatly, Goffin & Jackson, 1989; Mowday, 1998; Somers & Birnbaum, 1998). Meyer and colleagues (1989) suggested that it was the nature of the commitment that explained the relationship to job performance. Affective commitment or the employee’s desire to stay with the organization because they want to (Meyer & Allen, 1991) has consistently shown stronger links to performance than continuance commitment—stay because they need to—or normative commitment—stay because they ought to (Angle & Lawson, 1994; Becker et al., 1996; Meyer et al., 1989; Mowday, 1998; Somers & Birnbaum, 1998). In fact, continuance commitment has often been linked to decreased job performance (Sommers & Birnbaum, 1998). In addition, a number of scholars have strongly questioned normative commitment as a separate component of organizational commitment (Angle & Lawson, 1993; Morrow, 1993). Instead, they suggested that it is strongly related to and can be an antecedent of both affective and normative commitment (Angle & Lawson, 1993).
Others have argued that not only is the type of commitment important, but so is the type of performance (Angle & Lawson, 1994; Sommers & Birnbaum, 1998). Somers and Birnbaum (1998) found that organizational commitment was not related to “task efficiency” types of performance, but was strongly related to other beneficial outcomes such as client satisfaction. Angle and Lawson (1994) found that continuance commitment was not related to any job performance measures and that affective commitment was only related to supervisor ratings of dependability and initiative (not accomplishment or judgment). Similar to the satisfaction argument, these authors argue that increased affective commitment to the organization produces individual pro-social behaviors that eventually benefit the entire organization (Organ, 1988). These benefits may not be noticed with a very narrow, task-type performance dependent variable, but when other types of performance are included, commitment becomes an important predictor.

Because of the largely unresolved criticisms regarding normative and continuance commitment as separate dimensions, and because affective commitment has the most consistent ties to both performance and citizenship behaviors, affective commitment will be the only facet of organizational commitment included in the current study. Following the Meyer and Allen (1991) conceptualization, coaches’ affective organizational commitment, if it increases pro-social and helping behaviors should be positively related to individual performance and perhaps also to organizational level performance.

Employee retention and turnover are additional variables that have been investigated in relation to HRM systems and organizational effectiveness. The concept of turnover can be placed within the larger umbrella of job withdrawal (Hulin, 1991). It
represents a physical withdrawal from the organization that is often a result of
dissatisfaction and/or a lack of commitment (Currivan, 1999; Gaertner, 1999; Mowday,
systems that promote security and opportunities for job advancement have been shown to
decrease turnover. Although poor performance can also lead to turnover, in general,
turnover also negatively affects performance, such that individuals who have not
experienced a long tenure with the organization are lower performing than those who
have. In the present study, more sophisticated HRM systems should be positively related
to coach retention such that coaches with longer tenure in the organization are expected
to perform higher than those with shorter tenure.

In addition to individual attitudinal outcomes, as Ostroff and Bowen (2000)
explained, previous research suggests that improving the skills, knowledge, and abilities
of employees within the firm leads to greater performance of individual members, which
will then translate to overall firm performance (Huselid, 1995; McMahan et al., 1999;
Pfeffer, 1982). Since the skills and abilities of coaches are related to coaching
performance and developing athletes, it would be likely that individual coaching
performance would be strongly related to overall departmental athletic and academic
performance.

Figure 2.5 displays the proposed relationships between HRM systems, individual
level attitudes/behaviors, and firm performance in athletic departments. Specifically,
this portion of the model tests three relationships. First, it tests if HRM system
sophistication shows an impact only on individual level attitudes and behaviors, but does
not translate into increased individual performance (Arrow 1). Second, it tests if
individual attitudes and behaviors predict individual coaching performance, but not overall organizational effectiveness (Arrow 2). Third, it tests if individual performance relates to overall organizational effectiveness (Arrow 3). The HRM system sophistication is measured at the organizational level. Coach attitudes and behaviors (including performance) are measured at the individual level and not aggregated. Organizational effectiveness is measured at the organizational level. The individual level pathway of organizational effectiveness leads to the second research question:

2a. Does HRM sophistication level directly relate to the individual level satisfaction, commitment, tenure, and performance of coaches in NCAA Division III athletic departments?

2b. Is the HRM sophistication—Organizational Effectiveness relationship mediated by individual level outcomes?

Figure 2.5: HRM Systems and Organizational Effectiveness: Individual Mediated Pathway

HRM Sophistication and Group Level Outcomes

While the relationship between HRM systems and individual attitudes/behaviors is well established, the relationship between aggregate attitudes/behaviors and organizational effectiveness is less understood. This relationship has direct relevance to the current study. Increases in employees' job satisfaction may lead to increased collaborative effort and extra-role behaviors (Organ, 1988; Ostroff, 1992; Ostroff &
Bowen, 2000). However, as Ostroff and Bowen (2000) suggested, the impact of these behaviors may not be noticed on an individual level. Instead, collective attitudes and behaviors may be required to produce overall organizational effects. HRM systems that promote group-wide satisfaction may be positively related to academic and athletic achievement, based on the department working together more strongly to provide a supportive environment for the athletes to achieve their goals.

No studies specifically linking increased group commitment to firm performance could be identified. However, if commitment increases pro-social and helping behaviors, it would be reasonable to expect that it would operate in a similar manner to group satisfaction such that increased group commitment creates a positive environment where the group is highly committed to achieving collective departmental goals. Thus, increased group commitment should be positively related to organizational effectiveness.

Regarding retention and tenure, Huselid (1995) found that aggregate employee motivation and turnover mediated the relationship between HRM systems and firm financial performance. More sophisticated systems may lead to decreased turnover, which then enhances organizational productivity. HRM practices such as increased employee voice, fair evaluation procedures, and some incentives may lead to a longer tenure with the organization. Just as turnover hurts organizational performance because of increased costs of hiring and training new employees, increased departmental tenure may lead to higher performance because of the synergistic effects of people who have spent time working together. It has been suggested that individuals who work together over time exhibit not only better group processes but also better group performance (Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000). That group cohesion is
related to both process and product, suggests that employee tenure may be related to specific skill-related performance and other more socially related performance measures such as client satisfaction. Coaches who have spent more time working together in a department (higher average tenure of the coaches in the department), are expected to be higher performing than coaches who have spent less time together (departments with lower average tenure of the coaching staff).

In sport management, there is some research concerning the antecedents of coach retention (Inglis, Danylchuk, & Pastore, 1996), but there are no studies concerning the relationship between coaching tenure and organizational effectiveness (Doherty, 1998), especially as influenced by the HRM system. Because the relationship intuitively exists and has been linked to organizational performance in other settings (Huselid, 1995), departmental coaching staff tenure is examined as a mediator between HRM system sophistication and organizational effectiveness.

Figure 2.6 shows the group level pathway regarding the relationship between HRM system and organizational effectiveness. Specifically, this part of the model tests whether groups operating under one HRM system are significantly different from groups operating under a different system (Arrow 1). While data is collected at the individual level, it is subjected to aggregation procedures to assess if the individuals can be conceptualized appropriately as a group. If the individuals aggregate, then the data can be considered at the group level (Dansereau & Yammarino, 2000). Then, the model tests if group level outcomes translate into organizational performance (Arrow 2). The group level pathway of organizational effectiveness leads to the third research question:
3a. Does HRM sophistication level directly relate to group level satisfaction, commitment, tenure, and performance of coaches in NCAA Division III athletic departments?

3b. Is the HRM sophistication—Organizational Effectiveness relationship mediated by group level outcomes?

![Figure 2.6: HRM Systems and Organizational Effectiveness: Group Mediated Pathway](image)

**Summary**

While the relationship between SHRM systems and firm performance has been well established in the business literature, a need exists for examining similar relationships in sport organizations. The current study draws on both literatures to develop a multi-level model of the relationship between HRM system sophistication and organizational effectiveness in sport settings. The model argues for a best practices approach whereby organizations can increase their performance by use of designated practices regardless of their environment or organizational strategy. Further, the model contends that organizational effectiveness may be achieved through enhanced individual performance, internal processes, and/or group climate. Research questions are provided regarding each of the proposed pathways. This model represents a beginning effort to understand the relationship between SHRM systems and organizational effectiveness in sport.
Each of the three model components will be tested independently to determine their ability to explain difference in organizational effectiveness based on HRM system sophistication. Although the components are presented as competing with each other, it is likely that more than one pathway may be validated. A finding of multiple pathways would be consistent with the overall multi-level model for HRM-OE in sport organizations, suggesting that HRM systems are related to effectiveness through several mediums. In other words, this study is not interested in choosing the one model that best fits the data. Rather, it is interested in any and all pathways by which HRM systems relate to organizational effectiveness.

ORGANIZATIONAL EFFECTIVENESS

Overview

According to Forbes (1998), organizational effectiveness (OE) is a powerful yet problematic concept. "It is powerful in the sense that it represents a useful tool for critically evaluating and enhancing the work of organizations; it is problematic in the sense that it can means different things to different people" (p. 183). Acknowledging the difficulties of defining and measuring effectiveness, Miles (1980) argued that the difficulties did not diminish the usefulness or centrality of the concept in the study of organizational behavior. Currently, no definition or measurement of organizational effectiveness is universally adopted by organizational researchers. Instead, several authors have maintained that effectiveness does not exist apart from the context of the organization, therefore, it should be defined and measured contextually not universally, even if doing so limits comparisons between studies (Becker & Gerhart, 1996; Ferris et
al., 1998; Rogers & Wright, 1998). In other words, effectiveness measures need to fit the research interest, the organizational purpose, and the needs of important stakeholders (Ferris et al., 1998; Rogers & Wright, 1998). Thus, the purpose of this review is not to provide a new conceptualization of effectiveness or to argue for superior methods of measurement. Instead, it aims to argue for appropriate conceptualization and measurement for a particular context. To this end, this review seeks to provide 1) an overview of the major theories regarding organizational effectiveness, along with different ways the concept has been measured, 2) a proposed model for sport organizations, and 3) a specific model for assessing organizational effectiveness in NCAA Division III athletic departments. Noting that the level of analysis for the concluding portion of the study is the athletic department (not the entire university), the term “organizational effectiveness” will be referred to in relation to the athletic department. Any outcomes will be measured at this level and generalizations also implied at the departmental, not the university, level.

Review of Literature

Following an open systems approach, the major theories of organizational effectiveness can be grouped according to inputs, throughputs and outputs (Chelladurai, 1985; Steers, 1977). Thus, system-resource model relates to inputs, the process models relate to throughputs, and the goals model relates to outputs. Finally, the multiple-constituency approach applies to all levels as it indicates that evaluations of organizational effectiveness are dependant upon who is making the assessment (Zammuto, 1984). The open systems organizing framework developed by Chelladurai (1985) (see Figure 2.7) will guide the review of previous literature.

69
Figure 2.7: A Systems View of Models of Organizational Effectiveness (Chelladurai, 1985, p. 172)
The system resource model was originally developed by Yuchtman and Seashore (1967). They defined organizational effectiveness as "the ability (of an organization) to exploit its environment in the acquisition of scarce and valued resource to sustain its functioning (Seashore & Yuchtman, 1967, p. 393). It represents an argument against goals theory, where attainment of one main goal is not seen as sufficient or desirable. It is also an argument against functional theories where the goal of the organization is seen as subservient to the ends of the higher system. At a very basic level, this model proposes that organizational effectiveness can be ordered into a hierarchy of ultimate criteria, penultimate criteria, and subsidiary variables. The ultimate criteria cannot actually be measured, but represents a net performance outcome of the organization over a long period of time (Seashore & Yuchtman, 1967). It is essentially an ideal performance state. The penultimate criteria are the focus of the systems resource model. They are results-oriented criteria that are conceptually linked to the ideal ultimate criteria. The penultimate criteria are measurable and distinct, yet are often related in observation. Finally, the subsidiary variables are distinguishable, yet related subsets of the penultimate criteria. They represent sub-goals or processes that are necessary for achieving the penultimate criteria.

Seashore and Yuchtman (1967) identified 10 penultimate criteria, including business volume, market penetration, youthfulness of members, and business mix, that were stable over the eleven-year period in which they had data available. The ten criteria became the basis for measuring organizational effectiveness. These outcomes were considered indicators of organizational effectiveness in that differences in the outcomes
would indicate differences in the effectiveness of organizations. For example, an organization with higher market penetration would be considered more effective at exploiting its environment than an organization with less penetration. Hall (1996) argued that while the system resource model is appealing in that it provides objective criteria for effectiveness, it does have some problems such as distinguishing the criteria as process or goals (e.g., market penetration). He also suggested that Seashore and Yuchtman were unable to order their penultimate criteria into levels of importance, such that an organization would have difficulty when forced with choices as to which criterion they would pursue if they could not pursue all of them. Cameron (1978, 1981) further criticized the model because, he argued, it places more emphasis on inputs than outputs, and outputs should always be the preferred measure of effectiveness.

**Process Model**

The throughput measures of organizational effectiveness largely follow the process model. The basic premise of this model is that good processes lead to good outputs (Pfeffer, 1982). In other words, effective and efficient use of the resources acquired, should indicate that the organization is operating effectively. Pfeffer (1982) argued that environmental cues regarding output effectiveness or goal attainment were ambiguous and non-satisfying. Instead, he argued that organizations should be judged by their ability to develop effective internal decision-making processes and operating procedures that guide their daily behavior. These processes are the only realm over which the organization has control and which give the organization accurate feedback as to its accomplishments. In his conceptualization, organizations with better processes will be more effective than organizations with less well-developed ones.
The process model has been applied effectively in studies of industrial productivity relative to HRM systems. Ichniowski, Shaw, and Prennushi (1997) demonstrated that efficient operations (under innovative HRM systems) were directly related to firm performance. In their study, process effectiveness was measured as production line uptime and performance was measured as overall plant productivity in quantity and quality. The process model worked well in this situation because efficiency on production lines was naturally related both conceptually and empirically to the performance measure.

Chelladurai and Haggerty (1991) utilized the process model in their study of Canadian National Sport Organizations. They measured process effectiveness as volunteer and professional employees’ perceptions of the organization, decision-making, personnel relations, and boundary spanning activities. In their study, process effectiveness was positively related to job satisfaction. In general, however, process ratings were not congruent with objective measures of sport performance. The authors reasoned that the outcome measures of interest were also influenced by the external environment and “the two measures need not converge” (Chelladurai & Haggerty, 1991, p. 133). In this study, the processes and outcomes were not related, so the process model was not as useful in predicting overall organizational effectiveness in a broader environment (i.e., comparing similar organizations).

As these two examples demonstrate, the process model, while highly intuitively appealing, is predicated on the ability to show linkages between the processes and the outcomes (Chelladurai, 1987). Steers (1977) argued that goal attainment in organizations was ultimately dependent on human behavior. Effective organizations are, therefore,
dependent on transforming human behavior such that it contributes to organizational goal attainment (Ostroff & Bowen, 2000). The relationship between human behavior and organizational performance, however, must be empirically supported. The process model is most useful for evaluating internal effectiveness usually is reflected in employee outcomes. However, other measures may be necessary for determining overall organizational effectiveness especially when comparing several organizations competing in the same environment.

Three other criticisms of the process model have been offered. First, organizations with poor internal health may still be quite effective by other measures (Cameron, 1981). In fact, organizations often rely on some internal “slack” to ensure long-term survival (Cameron, 1981; Miles, 1980). Another problem with the process model is that measurement of organizational processes has been a rather difficult task, often relying on computer simulated models of behavior and processes within organizations (Pfeffer, 1982). Finally, while processes are viewed as important by a number of scholars, most argue that they must be used as one indicator, not the sole indicator of organizational effectiveness (Chelladurai & Haggerty, 1991; Connolly, Conlon, & Deutsch, 1980; Hall, 1996; Steers, 1977).

Outputs

Finally, organizations are evaluated by their outputs. One of the earliest and most widely utilized approaches to organizational effectiveness was the goals approach (Etzioni, 1964). According to this approach organizations are effective to the extent that they meet their defined organizational goals (Cameron, 1978; Etzioni, 1964; Hall, 1996). Etzioni argued (1964) that organizational goals were important guides for the
organization in that they focused on a future state and informed the organization as to its status relative to that ideal state. The major strength of this approach is that it provides a somewhat objective measure of effectiveness, assuming that the goals are well defined and measurable. For example, a school could set a goal to be nationally ranked in the top three schools for sport management within three years. If the school met that criteria, the goal would have been achieved. Or, on a broader level, a school's rankings relative to other schools, may be an indication of that school's effectiveness compared to other schools (assuming that all schools are competing for the ranking). The major weakness of this approach, however, is that organizations often have multiple and conflicting goals (Cameron, 1978; Hall, 1996; Quinn & Rohrbaugh, 1983). Thus, in order to measure effectiveness, one must not only assess which goals are important, but also to whom they are important.

A beginning point to address this weakness is to distinguish between official and operative goals (Chelladurai, Inglis & Danylchuk, 1984). Official goals are those expressed by the policy makers of the institution. They legitimize the existence of the organization and are often the basis for securing resources for survival (particularly in non-profit settings). Operative goals comprise the specific quantitative and qualitative measures of the official goals. They specify tradeoffs between subsets of the official goals. For example, if one official goal of athletic departments is to promote athlete development, then one school may do so by promoting physical development, whereas another department may emphasize academic maturity. The achievement of the operative goals provides an estimate of organizational effectiveness for each department.
However, questions regarding the priority of each operational goals and of who
determines the priority order remain unaddressed under the goals approach.

Several alternatives, then, have emerged in reaction to the goals theory. Most
notable, perhaps, are the competing values and the multiple-constituency approaches.
Quinn and Rohrbaugh (1983) maintained that organizations have multiple, conflicting
goals, processes, and values. Operating along the dimensions of flexibility/control, and
internal/external, they proposed four major organizational value types: human relations,
open systems, internal process, and rational goal. According to this model, organizations
essentially decide which dimensions are most important, and guide their measurement of
effectiveness accordingly. While it may be more appropriately viewed as a process,
rather than a goals model, the competing values approach demonstrates the
multidimensionality of effectiveness and argues for multiple assessments thereof. This
framework has received support as a viable and useful tool for measuring organizational
effectiveness (Kalliath, Bluedorn, & Gillespie, 1999). The weakness of the model,
however, is that it relies largely on management’s interpretation regarding the importance
of the four dimensions, which ignores the potentially important input of other
organizational actors. Furthermore, if each organization simply chooses one aspect of
effectiveness, then comparisons between organizations are difficult to make.

The multiple-constituency approach (Cameron, 1978; Herman & Renz,
1997, 1998, 1999; Tsui, 1990; Zammuto, 1984) argues that different groups of
stakeholders (e.g. participants, managers, board members, investors) have different
conceptions of the importance of organizational goals and the extent to which the
organization is meeting them. It has been widely utilized especially in studies of non-
profit organizations (Herman & Renz, 1999), where research has supported the idea that, indeed, different stakeholders form largely independent and varying conceptions of organizational effectiveness (Cameron, 1978; Herman & Renz, 1997, 1998, 1999; Tsui, 1990). Herman and Renz (1998) argued, therefore, that single, objective measures of organizational effectiveness from one source were not appropriate. They argued, “Given the nature of non-profit organizations, the multiple constituency model must be part of any approach to understanding their effectiveness” (p. 26). Proponents of this view argue that several criteria should be chosen to measure effectiveness, including employee attitudes and behaviors, and firm-level measures of performance (Connally, et al., 1980; Ferris et al., 1998).

Other approaches, however, contend that stakeholder needs must be prioritized and effectiveness judgments tailored appropriately. Miles (1980) argued that to ensure long-term organizational survival, the most powerful constituents necessarily must be satisfied. Miles defined organizational effectiveness as “the ability of the organization to minimally satisfy the expectations of its strategic constituencies” (p. 375). The strategic constituencies were ones on which the organization was critically dependent for survival. Thus, for example, meeting managerial goals was not sufficient for determining organizational effectiveness, unless those goals were also important to such stakeholders as major stockholders, owners, key resource suppliers, and perhaps output recipients. The strength of this perspective is that it provides the organization with a practical means of ensuring organizational survival—i.e., if the powerful are satisfied, they continue to support the organization and the organization survives. The ecological model, however, has received criticism primarily for being narrow in focus (Zammuto, 1984) and for
ignoring other important stakeholders, especially the less powerful and the participants (Cummings, 1977; Chelladurai, 1987).

Another perspective on relative stakeholder importance is that of Cummings (1977), who developed the participant satisfaction model, which focuses on the human side of effectiveness. According to this model, the most effective organizations are ones in which the “greatest percentage of participants perceive themselves as free to use the organization and its subsystem as instruments for their own ends” (Cummings, 1977, p. 59). In other words, acquisition of organizational resources and efficiency of the workforce are not necessarily indicators of effectiveness. Instead, they only exist to allow participants to continue to utilize the organization. If the resources are not acquired or managed properly, the participants will not be satisfied, and the organization will not be effective (Hall, 1996). This perspective is valuable as a partial measure of organizational effectiveness. However, it remains a rather micro-level perspective and does not capture other objective measures of organizational effectiveness (Hall, 1996).

A final perspective on the multiple-constituency approach is Chelladurai’s (1987) conceptualization of the prime beneficiary. In contrast to Miles (1980) who argued that the most powerful constituent should have the most influence, Chelladurai (1987), following Blau and Scott (1962) reasoned that the prime beneficiary, “the group whose benefit is the primary reason why the organization exists,” (Chelladurai, 1987, p. 45) should be the most important provider of assessments regarding organizational effectiveness. This approach has received some support in the literature. For example, Weese (1997) utilized the evaluations of student-participants as part of his Target Population Satisfaction Index—a measure of the effectiveness of campus recreation.
In sum, inputs, throughputs, and outputs are all important components of organizational functioning. Thus, it may be appropriate and important to evaluate effectiveness in each of these areas, especially since most scholars agree that one statement regarding the overall effectiveness of the organization is neither feasible nor desirable (Connally et al., 1980).

**A Proposed Decision Model for Organizational Effectiveness Assessments**

While the above-mentioned open systems model may apply to organizations in general, some modifications of the model may be necessary to apply it to sport organizations, particularly non-profit sport organizations. The following section offers such modifications in proposing a conceptual model of organizational effectiveness for sport. Figure 2.8 shows a summary of the decision processes utilized in choosing effectiveness evaluations in sport.
Figure 2.8: A Proposed Decision Model of Organizational Effectiveness Assessments
Overview of the Decision Model

Inputs

In applying systems-resource model to non-profit organizations such as intercollegiate athletics, one must consider what resources are essential and how their resources are obtained. Two critical resources are financial and human. Organizations that can secure and effectively utilize more financial resources and higher quality human resources (coaches) will be more effective than organizations with fewer financial and lower quality human resources. Regarding financial resources, Chelladurai (1987) contended that if the organization does not have to secure its own financial resources (e.g., it is allotted funds from the government), then systems resource model is not appropriate. Different sport organizations secure funding in different ways. If the organizations of interest do not secure funding through similar mechanisms, then it is not appropriate to compare their effectiveness by their ability to secure funding. If, however, the organizations operate independently of “assistance” programs, then securing funding in order to provide for firm survival may be an important indicator of organizational effectiveness.

Human resource acquisition, on the other hand, is comparable across organizations as each department must hire its own employees. To the extent that quality human resources are critical to organizational goal achievement, input measures of effectiveness may need to be retained in the model. For example, if winning an NCAA basketball championship is a function of the talent of the athletes on the team, then the ability to acquire better talent than other schools may serve as a measure of organizational effectiveness. Certainly, the acquisition of talent does not ensure success,
but may be a critical advantage over other programs. However, if the goal is academic achievement, then securing the best athletes may not be critical to attainment of that goal.

In the sport model, acquisition of resources is included as one measure of organizational effectiveness when two conditions are met. One condition is that the acquisition of the resource must be comparable across organizations. For example, all the relevant firms must acquire financial resources from non-institutional funding sources (e.g., not the university or the government). The second condition is that the input variable must be directly linked to outcome production. For example, athletic talent is tied to athletic performance, not academic performance; coaching quality is tied to game outcomes, not necessarily financial prosperity. If the two conditions are not met, then input measures of effectiveness are not included.

Throughputs

In spite of criticisms of the process model, it seems clear that studying organizational processes provides at least some indication of organizational effectiveness. Echoing Steers (1977), Ostroff and Bowen (2000) contended that employee knowledge, skill, and motivation impact firm performance. Thus, assessing individual level outcomes may contribute to an understanding of organizational effectiveness. These outcomes may be measured as perceptions of process effectiveness (Chelladurai & Haggerty, 1991) or as individual attitudes and behaviors such as satisfaction, commitment, and/or turnover (Ferris et al., 1998). However, as with the input measure, there are boundary conditions for including process measures of effectiveness. First, measures of process effectiveness, under most conditions, should not be the sole indicator of organizational effectiveness (Chelladurai & Haggerty, 1991; Connally et al., 1980).
As suggested earlier, process measures may indicate internal effectiveness but are limited when comparing organizations on external effectiveness. Second, the processes under consideration be conceptually and empirically linked to organizational inputs and outputs. For example, if one is interested in the relationship between HRM practices and firm performance, and human resources are directly related to performance outcomes, then measures of human skills and motivation are appropriate to include. However, if one is interested in the impact of physical facilities on firm performance, then the process measure would have to relate to the effective management of those facilities, not the people. In sum, the process model is included as a measure of organizational effectiveness provided that 1) the processes are related to the organizational outcome of interest, and 2) outcome measures will also be utilized.

**Outputs**

The general consensus regarding outcome measures of organizational effectiveness is that it is not desirable to use only one measure of effectiveness (Cameron, 1981; Chelladurai & Haggerty, 1991; Connally et al., 1980; Zammuto, 1984). Recognizing this challenge, the proposed model for sport suggests the use of one of three approaches. The first approach is to utilize evaluations from multiple constituents (Cameron, 1981; Zammuto, 1984). The second is to utilize measures that are agreed upon by various constituents (Chelladurai et al., 1984; Chelladurai & Danylchuk, 1984; Putler & Wolfe, 1999; Trail & Chelladurai, 2000; Wolfe, Hill & Babiak, 2001). The third approach is to use the effectiveness evaluations of the prime beneficiary (Chelladurai, 1987). The choice of measures is dependent on the research purpose (Ferris et al., 1998).
First, if the purpose of the research is to legitimate existence of the programs or provide favorable information to a number of constituents, then multiple assessments from a number of stakeholders would be the preferred approach. Herman and Renz (1997, 1999) maintained that instead of using a single effectiveness measure, managers “should find out what criteria are important to the different constituencies and provide favorable information on how their organizations are doing on those criteria” (Herman & Renz, 1997, p. 202). They think managers can provide favorable information to each constituent without being dishonest. This approach is consistent with Connally et al. (1980) who argued that organizations need not make a broad statement regarding organizational effectiveness, nor choose a primary constituent. Instead, they should present the information to the various groups, and let them evaluate effectiveness on their own. In sport, this approach is attractive because of the multiple and often conflicting desires of stakeholders. For example, Putler and Wolfe (1999) found that ethics, winning, education and revenue may be conflicting goals, held in different regard by different stakeholders. In this example, demonstrating effectiveness in each of these areas would be the most desirable approach.

Second, one could utilize objective measures of effectiveness that have been agreed upon by various constituents. The strength of this approach is that it provides rather objective criteria that can be compared across organizations. If the purpose is to explain differences between institutions or predict performance given a set of conditions, then this may be the preferred approach. In the sport management literature, Chelladurai, Inglis and Danylchuk (1984) determined that athletic administrators ranked transmission of culture, athlete’s personal growth, public relations, and prestige as the most important
goals. Students ranked athlete's personal growth and public relations as most important. Trail and Chelladurai (2000) found that university faculty and students rated developmental goals such as academic achievement, student-athlete health, and social/moral citizenship as more important than performance goals such as winning and financial security. However, at least two departmental goals have received consistent support in the literature (Chelladurai et al., 1984; Putler & Wolfe, 1999; Trail & Chelladurai, 2000). One is a developmental goal—academic achievement—and the other a performance goal—athletic achievement (Trail & Chelladurai, 2000). Although different stakeholders place different importance on these goals, they have consistently been identified as important indicators of success in athletic departments by students, faculty, administrators, alumni, and athletic department personnel. These goals are not the only ones that could be utilized in a sport model, but provide an example of objective criteria that represent various stakeholders, and that are comparable across institutions.

The third approach is the prime beneficiary (Blau & Scott, 1962) assessment of effectiveness. This approach is similar to that advocated by Rogers and Wright (1998). They argue that "there is really no such thing as organizational performance without organizational purpose and that there is no meaningful purpose apart from some specific stakeholder" (p.324). Thus, if the evaluation is going to be used to legitimize the primary purpose of the organization, then this measure is most appropriate. Chelladurai (1987) argued that athletes are the primary beneficiary in sport, in that they are the reason the organization exists. He acknowledged the need to satisfy the wishes of other stakeholders (that may be responsible for the financial survival of the organization), yet maintained that, "to keep the prime beneficiary in perspective is to kept he ultimate
purpose of the organization in perspective" (p. 45). In other words, if the purpose of the effectiveness measure is to evaluate progress toward the primary stated mission of the organization (especially in non-profit organizations), then the prime beneficiary approach is preferred.

A Specific Sport Setting: NCAA Division III

The review of the major models of organizational effectiveness has lead to the development of a model for sport organizations. Following the assertion that no specific criteria is necessarily superior to another, but that measures of effectiveness must be appropriate to the context and the variables of interest (Becker & Gerhart, 1996; Cameron, 1981; Connolly et al., 1980; Ferris et al., 1998; Rogers & Wright, 1998), the model for sport organizations basically establishes conditions and choices for organizational effectiveness measures in sport. Utilizing these conditions, a model is now proposed for a specific sport entity, namely NCAA Division III athletic departments. Although less visible and perhaps less financially lucrative than their Division I counterparts, schools competing at the Division III level comprise the largest division in terms of number of schools in the NCAA. Three hundred and ninety-five schools and approximately 135,961 athletes currently compete at this level (NCAA, 2001). Thus, the effectiveness of these organizations for providing quality athletic experience for the participants and promoting physical fitness on educational campuses is important to examine.
Inputs

The sport model of organizational effectiveness reasoned that input measures of organizational effectiveness were appropriate if the acquired resource were comparable across organizations, and if the input variable was directly linked to outcome production. In terms of finances, many DIII athletic departments are fully funded by the university. However, many departments require that their teams raise funds to cover at least some of their expenses. These funds can come from boosters, alumni, or fundraising activities such as product sales or community activities. Because these organizations employ a wide range of acquiring financial resources, this measure of organizational effectiveness is not meaningful or appropriate for comparing institutions. Thus, it will not be included in the model.

The acquisition of human resources is comparable across organizations and is conceptually related to athletic and academic outcomes in a university setting. However, from a HRM system perspective, the ability of the department to obtain quality coaches is probably more an indicator of the effectiveness of individual HRM practices (i.e., recruitment and selection) than it is of the overall operation of the department. In other words, acquiring quality resources is not sufficient to assess organizational effectiveness, the management of these resources such that they produces quality outputs provides a much broader picture of organizational effectiveness. Since this study is largely concerned with HRM systems (as opposed to individual practices) as they relate to athletic department effectiveness, human resource acquisition will be viewed as a contributor to, not an indicator of organizational effectiveness. Consequently, it is also not included in the model.
Throughput

In the sport model, the use of process measures of effectiveness was deemed desirable and appropriate if 1) the processes were related to the organizational outcome of interest, and 2) outcome measures would also be utilized. The purpose of the current study is to examine the relationship between strategic human resource management (SHRM) systems and organizational effectiveness. One area where the process model has been specifically applied is human resource management. Individual level affective and behavioral outcomes such as employee satisfaction, commitment, and turnover have been shown to be indicative of the effectiveness of the organization’s human resource management (Doherty, 1998). Ostroff and Bowen (2000) contend that HRM systems impact individual knowledge, skills and abilities, which then impact firm performance. Thus, the first condition for inclusion is met: human resource management processes are directly related to organizational level outcomes. As will be explained next, the current study will also utilize other measures of organizational effectiveness, thus meeting the second criteria for inclusion in the model. In the current study, coach (employee) satisfaction, commitment, performance, and tenure will be treated as indicators of departmental process effectiveness.

Outputs

The sport model offered three choices for measuring outcome effectiveness in sport organizations, the choice of measure being predicated on the purpose of its use. The purpose of the current study is to explain differences between institutions who utilize various SHRM systems. Because of this purpose, it is necessary to choose effectiveness measures that can be compared across organizations, so comparisons can be made. Thus,
the current study follows the model of objective criteria that is agreed upon by a number of constituents. As proposed earlier, two departmental goals have received consistent support in the literature (Chelladurai et al., 1984; Putler & Wolfe, 1999; Trail & Chelladurai, 2000). One is a developmental goal—academic achievement—and the other a performance goal—athletic achievement (Trail & Chelladurai, 2000). The current study will utilize these goals as objective indicators of organizational effectiveness. This approach is consistent with Rogers and Wright (1998) who suggested the use of a “balanced scorecard” for assessing organizational effectiveness. They argued, “This balanced scorecard approach entails identifying the 3-4 major stakeholder groups, and then developing objective indicators of performance with regard to each group” (p. 323). While the choice of this approach may seem to dismiss the role of the athlete as the primary beneficiary (by not including separate athlete satisfaction evaluations), by choosing goals that the athletes have deemed important, their view is undoubtedly included in the measurement. Operationally, graduation rates will be used as an objective measure of goal attainment in the area of academic achievement. Final Sears Directors’ Cup standings will be an objective measure of goal attainment in the area of departmental performance.

Conclusion

Organizational effectiveness remains an elusive concept when attempts are made to apply it universally or to compare studies that utilize it differently. However, as suggested by a number of scholars, the difficulty in definition and measurement of the concept need not bar its usefulness as an outcome variable in organizational behavior.
research. Although organizational effectiveness can mean different things to different people, criteria can be chosen for each study that are appropriate to the study's purpose and design. This review sought to establish some guidelines for choosing particular effectiveness models in sport, and argued for a specific model regarding NCAA Division III athletic departments. This model demonstrates the flexibility and usefulness of organizational effectiveness as an outcome variable and represents a starting point for other applications in sport management research.
CHAPTER 3

METHOD

This chapter outlines the procedures utilized to assess the relationship between human resource management (HRM) systems and various individual and departmental outcomes including satisfaction, commitment, tenure, and performance. This chapter is organized into six sections: (a) overview of research methodology, (b) sample, (c) instrumentation, (d) pilot study, (e) data collection, and (f) data analysis.

Overview of Research Methodology

Types of Research

At a very broad level, two major types of scientific research are generally recognized (Ary, Jacobs, and Razavieh, 1996; Fraenkel & Wallen, 2000). These two types are qualitative and quantitative. Qualitative research focuses on an in-depth understanding of the phenomenon of interest through such methodology as case studies, in-depth interview, or participant observation. Quantitative research is more concerned with questions of how much, or how well, or to whom does the phenomenon of interest apply (Fraenkel & Wallen, 2000). Since the purpose of the current study was to describe HRM systems in athletic departments and
explain performance outcomes related to them across a wide number of institutions, this study falls under the general purview of quantitative research.

**Types of Quantitative Research**

A number of research types fall within the confines of quantitative research. These types include descriptive, associational, and intervention-type studies (Fraenkel & Wallen, 2000). Descriptive research is utilized to explore and describe the problem of interest. It is aimed at summarizing characteristics of a sample, or general attitudes or behaviors related to the problem. Descriptive information can be garnered through a number of methods including content analysis (which describes the contents of written or verbal communication), survey research (systematically assessing the self-reported attitudes and behaviors of a population), or qualitative methods.

Survey research is probably the most utilized descriptive method in educational and social sciences (Ary et al., 1996). It is effective for garnering data from a rather large population (especially when compared to qualitative methods). Dillman (2000) suggested, however, that in using survey research, the investigator must be careful to avoid four common errors:

1. Sampling error: the result of surveying only some, and not all, elements of the survey population.
2. Coverage error: the result of not allowing all members of the survey population to have an equal or known nonzero change of being sampled for participation in the study.
3. Measurement error: the result of poor question wording or questions being presented in such a way that inaccurate or uninterpretable answers are obtained.
4. Nonresponse error: the result of people who respond to a survey being different from sampled individuals who did not respond, in a way relevant to the study (p. 11).
Associational research is interested in investigating relationships between variables of interest (Fraenkel & Wallen, 2000). For example, this type of research could be employed to answer the question of whether HRM systems are related to organizational effectiveness and to explain the nature and direction of this relationship (Ary et al., 1996). Instead of simply describing the variables in and of themselves with descriptive research, associational research goes a step further to investigate relationships between the variables.

The two types of associational research are correlational and causal-comparative (Ary et al., 1996; Fraenkel & Wallen, 2000). Correlational research essentially involves examining a set of data to see if any relationships exist. The researcher does not attempt to manipulate the environment or the people in it, but only examines relationships that already exist in their natural state. In this design, data is often collected through the survey method where items on a questionnaire are correlated with other items (Fraenkel & Wallen, 2000).

Causal-comparative research is quite similar, yet attempts to determine or isolate the reason for the difference between two groups of people. It involves the careful selection of groups with known differences and attempts to control for extraneous variables that may cause the difference. This design is often used in situations where experimental designs are not feasible or ethical. For example, it is unlikely that several athletic directors would allow a researcher to manipulate their HRM systems to determine effects on performance. Thus, one might employ the causal-comparative design to examine differences between schools.
with known differences in HRM systems to make limited inferences about the relationship between HRM systems and various outcomes.

The third general category of quantitative research is manipulation or experimental studies (Fraenkel & Wallen, 2000). This type of research allows the investigator to introduce changes in people or environments that presumably effect outcomes of interest. This method is excellent for confirming causation and for testing theoretical models (Fraenkel & Wallen, 2000). The drawback to the design, however, is that it is limited to problems that allow external manipulation.

To summarize, a number of methodologies are available to examine the problem of HRM systems and organizational effectiveness in NCAA Division III athletic departments. Survey research, in the form of mailed questionnaires was utilized in the current study because experimental designs were not appropriate and because of the ability it provided to garner data from a rather large sample. Further, the current study also fell under the category of correlational research because it was concerned with the relationships between several variables. As will be described in subsequent sections, sampling error was controlled by using a random sample of sufficient size to make reasonable inferences to the population at large. Coverage error was controlled by utilizing a sample frame that was identical to the population. Measurement error was controlled through careful selection and ordering of questions, then subjecting the instrument to a number of procedures to enhance its validity and reliability. Finally, non-response error was controlled by following a modification of Dillman’s (2000) total design method
including follow-up procedures for data collection, and respondent comparisons. Each of these procedures is discussed in the following sections.

**Sampling Method and Subject Description**

Sampling refers to the process of selecting individuals from a population to participate in a study (Fraenkel & Wallen, 2000). The purpose of sampling is to gather a representative group from a population to which the researcher wants to generalize or infer the results (Ary et al., 1996). The current study utilized a cluster random sampling method.

Cluster random sampling involves the random selection of groups of individuals rather than the individuals themselves. After clusters are selected, each individual within the cluster is included in the sample. Since the groups are chosen randomly, it is reasonable to assume that the individuals within the groups that are chosen are not significantly different from individuals in groups that are not chosen. In other words, a representative sample is chosen. This method can be problematic if the number of groups is very small. However, if the number of groups is sufficient, it offers an effective method of generating a representative sample.

The respondents in this study were athletic directors, senior women's administrators, and coaches from randomly selected NCAA Division III institutions. All NCAA Division III schools comprised the population from which the sample was chosen and to which the results are generalized. Since all of these schools were potentially available for inclusion, the target and accessible populations were identical (Ary et al., 1996).
The population was further broken down into three strata—high, medium, and low performance schools as determined by their Sears Cup standings. Schools that earned 300 or more points were considered high performers (L. Garrison, personal communication, August 28, 2001). Schools that earned 50-299.5 points were considered middle performers. Schools that earned 0-49.5 points were considered low performers. From each strata, a ranked listing of schools was generated from the Sears Director's Cup standings, and the schools were numbered 1 through 271. In addition, since only 271 schools earned Sears points an additional alphabetical listing of the remaining 133 schools were generated. The alphabetical list was numbered from 272 through 405. These two lists comprised the sampling frame (Ary et al., 1996). Then, using a computer-generated list of random numbers, the desired number of schools was selected. Each school (cluster) within each stratum, therefore, had an equal and independent chance of being selected.

Then, all coaches from each school were asked to complete the coaching responses. The coaches represent employees of the university who are directly impacted by the HRM practices utilized by the department. The athletic director at each school was asked to complete the HRM system instrument. The athletic director represents the expert regarding which HRM practices are utilized. This person was chosen because he/she possesses the most knowledge regarding these practices and how they are implemented in the department (Wright & Sherman, 1999). A number of authors have suggested problems associated with having a single respondent report on the HRM practices utilized in the firm (Becker & Gerhart, 1996; Wright & Sherman, 1999). In
order to investigate this potential response bias on an exploratory level, the same instrument was given to a second person at the institution that was deemed, like the athletic director, to possess an understanding of the organizational processes and policies. Within the department, the senior women’s administrator was selected as the most appropriate source for this information, because the person is in an administrative position, is readily identifiable (unlike assistant athletic directors) and because the position should exist in all Division III athletic departments. The senior women’s administrator was asked to complete the same questionnaire as the athletic director such that inter-rater agreement could be calculated. Finally, as Becker and Gerhart (1996) pointed out, “Another form of specification error, commonly referred to as method bias, can occur if one respondent from each firm provides information on both HR and performance, and firm performance is measured subjectively” (p. 795). This study addressed these concerns by 1) having different respondents report on HRM system and various outcome measures, and 2) utilizing objective measures for firm outcomes.

The strength of this study’s sampling design was that it provided a representative sample of athletic directors and coaches from Division III athletic departments. Because every school had an equal and independent chance of being included, the design minimized coverage error. Further, by utilizing a stratified sample, representatives from each performance category were included, which provided a wider range in the outcome variables. Because several respondents were utilized, the design also minimized method bias.
Sample Size

While researchers should attempt to generate the largest sample size possible when conducting survey research, time and financial constraints often make obtaining large samples difficult (Dillman, 2000). Thus, it is more critical to obtain a representative sample, than to obtain a large one. Dillman (2000) suggested that sample size is based on a) tolerance for sampling error, b) the population size from which the sample is drawn, c) the homogeneity of the population, and d) the confidence level chosen (the confidence one wishes to have that the estimates made from the sample reflect true population values). As the size of the sample increases, the sampling error decreases because there is less variation about the mean from one random sample to another (Ary et al., 1996). Further, as the population size decreases, in general, fewer responses are needed to make the same inferences as for larger populations. Populations that are more homogeneous require smaller sample sizes, because the responses are more likely to reflect the true population mean (Ary et al., 1996). More heterogeneous populations are more likely to produce more varied samples. Finally, the more confident one wants to be that the sample mean reflects the true population mean, the larger the required sample.

In the current study, the tolerance for sampling error was set at 5%. The population size from which the sample was drawn was 395 schools (NCAA, 2000). The level of homogeneity of the schools was unknown, thus a more conservative 50/50 split was utilized (Dillman, 2000). A typical confidence level of 95% was chosen for the current study.
Another decision process in determining sample size is to establish the probability of making a Type I or Type II error. A Type I error is the probability of rejecting the null hypothesis when the null hypothesis is true (Ary et al., 1996; Hair, Anderson, Tatham, & Black, 1998). In other words, it is the chance of determining that a statistically significant relationship exists when it does not. The researcher determines the level of risk he/she is willing to take in making this conclusion by setting the statistical significance or Alpha level (Ary et al., 1996). If the consequences of making an incorrect conclusion are great, then the researcher should probably choose a very stringent level, for example a= .001. This significance level means that the researcher would have a one in one thousand chance of making a Type I error. Because the consequences of the current study are not as critical, (as for example, in a pharmaceutical study), the alpha level will be set at 0.05 (Cohen, 1977).

The other error is a Type II error. A Type II error, or Beta (B), is the probability of retaining the null hypothesis when the null is false (Ary et al., 1996; Hair et al., 1998). In other words, it is the chance of not detecting an effect, when in fact an effect exists. Related to a Type II error, is the power of the statistical test. Power is the ability to correctly reject the null when the null is false (Hair et al., 1998). It is the ability to detect statistically significant differences when those differences exist. If the power is too sensitive, then any effect size may be detected, even when it is not of any practical meaning. If the power is insufficient, then meaningful effect sizes may not be detected. Cohen (1977) suggested that when the researcher has no other criteria for establishing power, a power level of .80 should be utilized.
Hair et al. (1998) provided further guidelines for choosing a sample size when utilizing multiple regression analysis. First, they argued that the number of independent variables be determined. The current study utilized two independent variables—HRM sophistication, and organizational size. Next, they recommended that the researcher obtain at least five responses for each independent variable, although fifteen to twenty are more desirable. In the current study, then, at least forty observations were required, for a twenty to one ratio. Further, they provided a table (Hair et al., 1998, p. 165) for determining effect sizes ($R^2$) that can be found statistically significant for various alpha and power levels. For two independent variables, an alpha level of .05, and with power of .80, a small effect size such as .04 or .05 can only be detected with a sample size of 250. Effect sizes of .10 - .12 can be detected, however, with a sample size of 100. Because effect sizes in the SHRM literature have tended to be rather small (e.g., Huselid, 1995 explained 1-3% of the variance in firm performance, Delery & Doty, 1996 explained 6-11% of the variance in firm performance), a sample size of at least 100 was desirable. Based on the population size, the established alpha and power levels, and the desire to detect small effect sizes, the current research utilized a sample of 100 Division III institutions. Thirty-three schools were drawn from each performance strata as specified in the previous section.
Instrumentation

Definition of Terms

In general, the research process is concerned with the relationships that exist between different variables. A variable expresses some concept or construct (Ary et al., 1996). It takes on different values or meanings depending on the study, but always varies between individuals or groups. Independent variables are the antecedents in the study. They are the presumed “cause” of the action. Dependent variables are the consequence of the independent variables. They are the “effect” of the action.

Because each variable is a representation of a concept or construct, every one must be carefully defined for the purpose of each study. A constitutive definition is “a formal definition in which a term is defined by using other terms (Ary et al., 1996, p. 28). It is likened to a dictionary definition (Fraenkel & Wallen, 2000). The operative definition is one that ascribes meaning to the variable by specifying the concept in observable terms (Fraenkel & Wallen, 2000). In other words, an operational definition describes how the variable is observed and measured in the particular study. The following section provides both constitutive and operational definitions for the variables in the current study.

Independent Variables

HRM System Sophistication

Following Delany et al. (1989) and Becker and Huselid (1998), the current study utilized human resource management (HRM) system sophistication as the primary independent variable. The study was concerned with assessing the departmental performance impact of utilizing systems of various sophistication levels. HRM
sophistication is defined as the number and breadth of implementation of specified high performance work practices. In other words, more sophisticated systems are those where more practices are utilized and/or implemented across a greater percentage of the coaching staff. HRM sophistication was determined by an index of high performance work practices, such that higher sophistication was reflected in a higher index value.

**Organizational Size**

Constitutively, organizational size refers to the dimensions or largeness of an organization. Operationally, organizational size can be reflected in the physical capacity of the organization, the volume of an organization's inputs or outputs, the organization's wealth, or the number of personnel within an organization (Amis & Slack, 1996). In the current study, organizational size refers to the number of coaches in the athletic department. A second measure of organizational size is the organization's wealth. The annual operating budget (in dollars) for each department was utilized as a measure of organizational wealth. This budget included all operating expenses including equipment, capital expenses, travel, training, and facility costs. It did not include coaching salaries.

**Dependent Variables**

**Coach Job Satisfaction**

In a general sense, job satisfaction can be defined as a “pleasurable feeling that results from the perception that one's job fulfills or allows for the fulfillment of one's important job values” (Noe et al., 1994, p. 281). More specifically, coaching satisfaction has been defined as “a positive affective state resulting from a complex evaluation of the structures, processes, and outcomes associated with the coaching experience” (Chelladurai & Ogasawara, 1997, p. 6). This study, because it was interested in an
overall evaluation of job satisfaction, utilized the broader definition and was measured with five questions from the Brayfield and Rothe (1951) Job Satisfaction Index. Coaches with higher scores were deemed to be more satisfied than coaches with lower scores.

Coach Organizational Commitment

Following Meyer and Allen (1991), coach's affective organizational commitment is defined as the coach's "emotional attachment to, identification with, and involvement in the organization" (p. 67). It was observed by responses to the affective portion of Allen and Meyer's (1990) organizational commitment scale (seven items).

Coach Tenure

Coaching tenure refers to the number of years the coach has been employed in his/her current position in his/her current department.

Coach Performance

Generally, coaching performance is defined as the degree to which the coach works toward the attainment of organizational goals (Chelladurai, 1999). In the current study, coaching performance was operationally defined as the coach's average win/loss percentage over a three year time period.

Organizational Athletic Performance

As with coaching performance, athletic performance generally refers to the degree to which the athletic teams in the department reach departmental goals. Operationally, in this study organizational athletic performance was defined as the average annual national ranking of the department in terms of number of points received in the Sears Directors' Cup Standings for NCAA Division III institutions over a three-year period. More points accumulated was indicative of higher athletic performance.
Organizational Academic Performance

Academic performance refers to “improvement and achievement in academics” (Trail & Chelladurai, 2000, p. 160). It was operationalized as the departmental graduation rate as reported in the 2001 NCAA Graduation Rates Report (NCAA, 2001) over a three-year period. Higher graduation rates were indicative of higher academic performance.

Instruments

HRM System

The use of individual HR practices and the overall HRM sophistication was assessed with a modification of Becker and Huselid's (1998) HRM sophistication index. Appendix B, items 1-22 constitute the final questionnaire items. The questionnaire was completed by the athletic director and the senior women’s administrator (Becker & Gerhart, 1996; Gerhart, 1999). Since there has been little agreement as to which practices are important (Gerhart, 1999; Wright & Sherman, 1999), the following section delineates what specific practices were included in the Becker and Huselid (1998) instrument and their application to the current study.

Schuler and Jackson (1987) suggested that the critical areas of HRM are 1) planning, 2) staffing, 3) training and development, 4) compensation, and 5) evaluation. In addition, a number of researchers (Osterman; 1994; Pfeffer, 1994; Welbourne & Andrews, 1996) have suggested that the overall philosophy is important to firm performance. Table A.1 (Appendix A) lists the HRM practices utilized in ten key studies over the past six years. The table provides an overview of the various operationalizations
of each practice and gives examples of HR practices that fall under each of the categories suggested by Schuler and Jackson (1987) and Osterman (1994). Following this categorization, Becker and Huselid (1998) developed a 24-item index of HRM sophistication. Their index was derived from previous work and has shown considerable reliability (Cronbach's $a = .75$) and predictive validity for firm performance across a number of industries. Rather than argue for the importance of each scale item, the following section includes a description of practices that flow from each area of HR as suggested by Schuler and Jackson (1987) as well as previous research that may add insight as to why it is related to organizational effectiveness.

**Overall philosophy**

Becker and Huselid (1998) included five items that could be regarded as overall HRM philosophy. These are 1) the proportion of the workforce that is promoted due to merit versus seniority, 2) the number of jobs filled internally, 3) the proportion of the workforce included in information sharing, 4) the proportion of the workforce included in quality of life circles, and 5) the proportion who has access to formal grievance procedures. Virtually every study (in Appendix A) also examined these practices. Although their use may vary, these practices, with the exception of quality of life circles, are certainly applicable in athletic departments.

The overall HR philosophy relates to the idea that higher commitment from the employer will lead to higher commitment from the employee (Arthur, 1994; MacDuffie, 1995; Mowday, 1998). Arthur (1994) explained that commitment oriented HR systems motivate employees by empowering them to achieve their personal goals. Because they are committed to the organization, the employees, in turn, are trusted to use their
knowledge, skills, and abilities to achieve organizational goals. Further, higher commitment is often related to reduced turnover and the presence of extra-role behaviors that may enhance employee performance. Thus, practices that demonstrate the organization has a high commitment to human resources will be related to both individual and firm level outcomes (Arthur, 1994; Delery & Doty, 1996; MacDuffie, 1995).

Appendix B, questions 7-11 comprised the items regarding philosophy utilized in the current study.

**Planning**

The two items contained in Becker and Huselid (1998) related to planning are: 1) the proportion of the workforce included in a formal written plan, and 2) the proportion of jobs that have been subjected to a formal job analysis. A job analysis is the gathering of information about a specific job. It is critically important to effective HR functioning because it informs every other process what is required for that job (Noe et al., 1994). For example, the job analysis informs the staffing function what the critical competencies are for performing the job. Then it informs the performance appraisal function, at what level the person needs to perform the job. While no recent work has specifically measured the impact of job analysis on firm performance, it is considered absolutely essential to effective functioning of every other HR process. Appendix B, item 6 assessed the use of job analysis in athletic departments.

A written plan specifies what employees are needed, what skills those employees will need, and how the human resources fit with the overall firm strategy. In sport, coaches who implement recruiting plans that match the skills of the athletes to their preferred strategy, have demonstrated higher effectiveness than coaches who do not
match the skills (Wright et al., 1995). Apparently, not only matching the skills, but also knowing the skills to be matched are important elements. This may also be true at the coaching level where it is important to evaluate how many and what type of coaches are needed for high departmental performance. Often, organizations will also utilize succession planning, targeting individuals to fill key roles pending the departure of current key employees. Considering the frequent movement of coaches from one organization to another, the importance of succession planning is apparent. The empirical relationship between planning and athletic department effectiveness, however, has yet to be explored. Appendix B, item 5 assessed the use of written HR plans in athletic departments.

Staffing

The items regarding staffing on the HRM index are 1) selection ratios, and 2) the use of validated selection tests (Becker & Huselid, 1998). Huselid (1995) argued that “recruiting procedures that provide as large pool of qualified applicants, paired with a reliable and valid selection regimen, will have a substantial influence over the quality and type of skills new employees possess” (p. 637). This proposition has received support in the literature regarding firm-level outcomes. Terpstra and Rozell (1993) found that the use of five staffing practices was related to annual profit and profit growth across a number of industries. Specifically, the staffing practices were: 1) the use of follow-up studies of recruiting practices, 2) the use of validation studies for selection tools, 3) the use of structured, standardized interviews, 4) the use of cognitive aptitude and ability tests, and 5) the use of weighted application blanks or biographical information blanks. Interestingly, they found the strongest relationship between staffing practices and

107
organizational performance in the service industry. This finding has direct relevance to the current study since athletic departments are definitely a part of that industry.

Furthermore, recruiting studies, structured interviews, and cognitive tests were most strongly related to organizational outcomes. The Becker and Huselid (1998) instrument contains both of these dimensions. One question addresses the number of qualified applicants who apply per position. A second question assesses the use of validated selection tools. The second item reads: “What proportion of all new hires have been selected based primarily on the results of a validated selection test.” Based on comments from the panel of experts regarding some confusion with the term “validated selection test” this item was expanded to three items to assess the selection processes utilized in athletic departments. The expanded items more closely resemble the terminology used in athletic departments. However, the items were re-combined on the final index because evidence in the selection literature suggests the importance of using some type of validated selection test, but not that more selection tests are necessarily better (Hunter & Hunter, 1984). For example, selection reviews suggest that panel interviews and individual interviews have comparable, but not additive predictive validity (Dixon et al., In Press). Thus, selection decisions should be based on a structured individual or a structured panel interview, but using both will not necessarily enhance the selection decision. Appendix B, items 1-4, contained the final items utilized to assess selection practices.

Training and Development

Three items on the Becker and Huselid (1998) instrument directly relate to training and development: 1) hours of training for a first year employee, 2) hours of
training for an experienced employee, 3) the proportion of the workforce capable of performing more than one job. The role of training and development in organizational effectiveness is two-fold. First, training programs enhance employee skills and abilities such that they become more productive workers and the firm, in turn becomes more productive (Goldstein, 1990). For example, Bartel (1994) demonstrated that the implementation of formal training programs increased labor productivity in a variety of industries. Training and development also serve a latent function of communicating to employees (especially new ones) that they are valuable to the organization (Moreland & Levine, 2001). These employees, in turn, show a greater commitment to the organization. In fact, participation in required training and development programs has been empirically linked to higher job satisfaction and organizational commitment (Birdi, Allan, & Warr, 1997).

The impact of training and development in athletic departments has yet to be investigated. However, based on the rationale in other organizations, it follows that training and development of coaches would enhance both their coaching skills (e.g., tactical, technical, recruiting) and their commitment to the organization. Appendix B, items 12-14 assessed the use of training and development in athletic departments.

Compensation

Eight items on the Becker and Huselid (1998) scale fall under the category of compensation: 1) percentile comparison of salary levels, 2) the total compensation that is cash and bonuses, 3) the proportion eligible for cash incentive plans, 4) the proportion eligible for deferred incentive plans, 5) the proportion who would lose incentives based on company performance, and 6) the proportion who would gain incentives based on
company performance, 7) the percentage of a merit increase or decrease an employee could receive as a result of their performance review, and 8) the proportion who owns company stock shares.

Performance-based compensation has been linked to firm performance in a variety of industries (Banker, Lee, Potter & Srinivasan, 1996; Gerhart & Milkovich, 1990). Because athletic departments operate as non-profit entities, some of these practices are not applicable. Employees of non-profit organizations would not be eligible for gain-sharing plans, and universities do not offer stock. However, there are some athletic department employees who receive cash incentives based on winning their conference or post-season play. Furthermore, some employees receive compensation in the form of cars or country club memberships. Thus, some questions were slightly reworded or deleted to be applicable in the current setting. Items 15-18 in Appendix B comprise the final questions for the current study.

Evaluation/ Appraisal

Evaluation and appraisal can take place at both the individual and the departmental level. Three items relate to individual performance evaluation: 1) the proportion of the workforce that receives a regular formal performance appraisal, 2) the proportion that has merit or pay increases tied to their performance appraisals, and 3) if the basis for the performance appraisal is an objective measure. One additional item relates to departmental evaluation: the proportion of the workforce who regularly receives attitude surveys.

Delery and Doty (1996) demonstrated that results-oriented appraisals were positively related to firm performance. While no other studies have confirmed these
specific results, work in the area of performance management has confirmed that the introduction of feedback systems (appraisals from multiple sources, or upward feedback from subordinates) is related to enhanced individual performance (e.g., Johnson & Ferstl, 1999; Smither et al., 1995; Walker & Smither, 1999) especially by those who were initially the lowest performers. Johnson and Ferstl (1999) found that the overall firm performance gains were positive, yet small (d=.05) largely because gains by some were offset by other’s losses. However, Kluger and DeNisi (1996) in their meta-analysis, found an overall performance gain of .41 in groups that received feedback, versus those that did not. Thus, the basic use of performance evaluations may enhance individual and overall firm performance and should be included in an HRM system.

Second, performance appraisals that include a voice mechanism for the ratee may enhance perceptions of trust in the organization (Cropanzano & Greenberg, 1997; Greenberg, 1982), which may enhance satisfaction and commitment. Voice mechanisms may also serve to reduce negative employee behaviors such as absenteeism, theft, and turnover.

The use of performance appraisals works on two levels. They enhance employee productivity by holding employees accountable for their performance (Walker & Smither, 1999). They aid employees in seeing where their performance can be enhanced (Kluger & DeNisi, 1996; Walker & Smither, 1999), and they provide employees with a voice such that they feel more valued and appreciated in the organization. Little research has investigated the effects of performance appraisals that are used for development versus those used for administrative decisions (e.g., compensation). Therefore, the current study included both a general assessment of performance appraisal use, and a
question regarding the use for compensation decisions. Questions 19-22 of Appendix B addressed evaluation and appraisal in athletic departments.

Responses to all items are converted to standardized scores. Then, these scores are summed to produce the overall HRM index (sophistication) score. The only exception pertains to items 17 and 18 regarding merit raises. The value of question 18 is subtracted from the value on question 17, then the final value is added into the overall index.

Organizational Attributes

Organizational Size

Organizational size, operationalized as the number of full-time coaches (FTC) in the department, was determined from self-reports by the athletic directors (see Appendix B, questions 24 and 25). Full-time head or assistant coaches were assigned a value of one FTC. Part-time head coaches were assigned a value of .75 FTC. However, after reviewing the responses from athletic directors regarding the additional duties of head coaches (Appendix B, questions 26 and 27), it became apparent that this measure was quite inconsistent across organizations. For example, some departments considered all of their coaches full-time, even though they also had duties for teaching classes whereas other departments considered their coaches to be part-time if they also had teaching responsibilities. Other employees were full-time employees of the university, but only part-time coaches in the athletic department. Due to these inconsistencies, number of coaches was eliminated as a control variable, and total number of sports offered was substituted as a measure of organizational size (Amis and Slack, 1996). This measure
also gives an indication of the largeness of the department, but is equally comparable across organizations.

**Operating Budget**

Departmental budgets were assessed by asking the athletic director to report the annual operating budget for the department for the 1998-1999, 1999-2000 and 2000-2001 school years (see Appendix B, question 29). The three-year average budget was utilized as the final measure of the departmental operating budget (Amis & Slack, 1996).

**Coach satisfaction**

In order to assess overall job satisfaction, a five item subset of the Brayfield and Rothe (1951) Job Satisfaction Index was utilized. This subset has been employed in other studies when an overall satisfaction index is required (e.g., Judge & Bono, 1998). Appendix C, questions 1-5 comprised the items for measuring coach satisfaction.

**Organizational commitment**

Individual organizational commitment was assessed through the eight items of Allen and Meyer’s (1990) affective commitment scale. Their entire scale was created through a principle components factor analysis, with varimax rotation. The twenty-four original items loaded on three factors, which they named affective, continuance, and normative commitment. All three subscales showed strong reliability with Cronbach’s alphas of .87, .75, and .79 respectively. As argued in previous chapters, affective commitment has shown the strongest relationship to performance (Angle & Lawson, 1994; Becker et al., 1996; Meyer et al., 1989; Mowday, 1998; Somers & Birnbaum, 1998). Therefore, in this study, the sub-scale is preferred over the full scale (Judge &
Appendix C, questions 6-13 were the final items regarding organizational commitment.

**Individual performance**

This variable was assessed through coach self-reports of win/loss record for the past three seasons (see Appendix C, question 14 for individual and team sports). The record was aggregated and transformed into a win/loss percentage for each coach. If the coach had been in place less than three years, he/she was asked to report his/her team’s win/loss record for each of the years he/she had coached at that school, not including any results from previous institutions. For sports that compete in multi-team tournaments or meets (e.g., golf, cross-country, track and field), coaches were asked to report their place finish in each contest. First place finishes were given a score of 5 points, second place were given a score of 4 points, third place was given a score of 3 points, fourth place was given a score of 2 points, and fifth place was given a score of 1 point. Then, total points possible was determined by taking the number of meets/tournaments times 5. Finally, the win/loss percentage was calculated by dividing the total points earned by the total points possible. For example, if a team competed in 5 meets and finished first in all 5, they would have earned 25 points out of a possible 25, or 100%. If a team placed fifth in all five meets, they would have earned 5 points out of a possible 25 or 20%. Converting to percentages allows the ability to account for differences across sports in number of contests. It also provides a comparable measure across organizations, which has been a problem in previous research (Wright & Sherman, 1999).
Organizational Effectiveness

A review of the organizational effectiveness literature in sport, reveals two goals for athletic departments that are generally agreed upon by a number of stakeholders associated with the athletic department, including coaches, athletic administrators, athletes, students and faculty (Chelladurai, Inglis, & Danylchuk, 1984; Putler & Wolfe, 1999; Trail & Chelladurai, 2000). One is a developmental goal—academic achievement—and the other a performance goal—athletic achievement (Trail & Chelladurai, 2000). The current study utilized these goals as objective indicators of organizational effectiveness.

Academic Achievement

Student-athlete graduation rates were obtained through the 2001 NCAA Graduation Rates reports. These reports provide an objective, comparable measure of academic achievement, and avoid self-report bias from the athletic directors (Gerhart, 1999; Wright & Sherman, 1999). A potential problem with the reports, however, is that unlike Divisions I and II, Division III athletic departments are not required to report separate graduation rates for athletes and non-athletes. Thus, for most of the schools, the reported graduation rates are for the entire student body, not just the athletes.

Athletic Achievement

Athletic achievement was measured by points earned in the 2000-2001 Sears Directors’ Cup. The Sears Directors’ Cup is a national-level award that is co-sponsored by the National Association of Collegiate Directors of Athletics (NACDA) and Sears, Co., which honors “institutions maintaining a broad-based program, achieving success in many sports, both men’s and women’s” (NACDA, 2001). It is awarded annually to the
NCAA Division I, II and III level and NAIA schools who finish with the most collective points in national tournament play (i.e., the school or individual must reach their sport’s national tournament seeding to score points in the Sears Cup Standings). Twenty-five sports are acknowledged at the Division III level, and each school is allowed to choose its eighteen best sports (nine men’s and nine women’s) to be tabulated for the final scores. The NACDA publishes seasonal and final standings in the cup for all schools who earn points. In 2001, 270 of the 395 Division III schools earned points in the Sears Cup standings.

The Director’s Cup rating takes into account performance by 18 different sports, and includes both men’s and women’s and individual and team sports (see Appendix H, especially Tables H.2 and H.3, for included sports and scoring structure). Furthermore, the formula includes points for entering the NCAA tournament and successively more points for each round advanced. Thus, a national championship team receives significantly more points than a first-round entrant. This measure is preferred to simply aggregating individual team performances because it gives a measure of performance at the national level, not just conference or local level. Finally, it recognizes schools that excel in a number of sports, which gives an indication of departmental-level effectiveness (as opposed to individual coaching effectiveness).

**Instrument Reliability and Validity**

**Validity**

Several different types of validity are commonly recognized in the field. These are face, content, construct, and criterion validity (Ary et al., 1996; Borg & Gall, 1983; Fraenkel & Wallen, 2000). The instruments utilized in the current study have established
validity. Therefore, where necessary, the current study sought mainly to establish that the items were also appropriate for coaches and athletic directors.

The face and content validity of the athletic director instrument was determined through the use of a panel of experts. The panel of experts was comprised of eight individuals familiar with human resource management and intercollegiate athletics. Four individuals were athletic directors at Division III institutions and the other four were human resource management or survey design experts. A few changes to the original questionnaire were made on the basis of comments from the panel of experts. These changes were noted in the previous section regarding the measurement of HRM practices. Because the commitment questions have already been employed with Division III coaches (Turner, 2001) and the job satisfaction instrument is very general (not industry or job specific), a panel of experts was not utilized for the coaching instrument.

Furthermore, although Becker and Huselid (1998) have argued for the validity of a single unitary index as a measure of the HRM system, the uniformity of this index has not been tested in a sport setting. Therefore, item-to-total correlations and exploratory factor analysis (Hair et al., 1997) were employed to test whether or not the instrument contains one or multiple factors regarding HRM systems.

A field test was utilized for both instruments to strengthen the evidence for face and content validity. A group of forty upper-level sport management undergraduate students were asked to review the instrument and assess problematic items, and/or discuss whether they thought the instrument would produce the desired responses (Ary et al., 1996). Minor revisions were made to clarify any questions or respond to any concerns of the field test subjects.
Reliability

Reliability refers to how consistently the instrument measures whatever it measures (Ary et al., 1996; Fraenkel & Wallen, 2000). Reliability is concerned with decreasing random error in measurement.

In this study, several sources of reliability were utilized. First, for exploratory purposes, interrater reliability was utilized because of its particular importance to HRM system measurement. A number of HRM researchers have indicated that a major source of error in past studies is a lack of interrater reliability (Becker & Gerhart, 1996; Gerhart, 1999; Gerhart, Wright, McMahan, & Snell, 2000; Huselid & Becker, 2000; Wright & Sherman, 1999). Interrater reliability assesses the degree to which two different respondents will provide similar information when asked the same questions. In the SHRM research, different sources of information (e.g., the CEO, human resource manager, or unit level manager) often provide very different responses regarding the number and breadth of use of different HRM practices. This response bias is problematic because it provides an inaccurate picture of what practices are being utilized. To address this issue, Becker and Gerhart (1996) suggested that multiple raters within each organization should provide information regarding the HRM system. Then, Gerhart (1999) argued that the appropriate measure for assessing the interrater reliability is the intraclass correlation. For a design that employs several raters, Gerhart recommends the use of the ICC (1,k) method of calculating interrater reliability.

The second method of reliability that was utilized is known as internal consistency of measures. This form of reliability measures the consistency of responses of a single individual on a given instrument. For non-standardized continuous item
measures, Cronbach’s alpha is usually the preferred method of assessing internal consistency (Ary et al, 1996). However, for standardized measures, Spearman-Brown is often utilized because it is based on correlations rather than variances and co-variances (Ary et al, 1996; Gerhart et al., 2000; Huselid, 1995; Becker & Huselid, 1998). Therefore, Cronbach’s alpha was utilized to assess the internal consistency of the non-standardized scales (satisfaction, commitment), while Spearman-Brown was utilized to assess the reliability of the standardized scales (HRM sophistication index).

Pilot Study

Interrater reliability and internal consistency measures were assessed using a pilot study. The pilot study was administered to a stratified random sample of twenty schools, six from the high performance list, seven from the medium performance list, and seven from the low performance list. Questionnaires were mailed to athletic directors, coaches, and senior women’s administrators. Subjects were directed, via cover letter, to complete the instrument and return in the provided self-addressed, stamped envelope. Non-responding athletic directors were then contacted by telephone. Replacement surveys were sent and returned via facsimile. A total of twenty athletic directors were surveyed and seven responded for a response rate of 35%. Twenty senior women’s administrators were surveyed and five responded for a response rate of 25%. Two hundred ninety-three coaches were surveyed and 118 responded for a response rate of 36%. The overall response rate for the pilot study (n=333) was 35%.

Cronbach’s alphas were calculated to determine the internal consistency of the sub-scales on the coaching instruments. The coaching job satisfaction scale (5 items) had
an internal consistency of $\alpha = .77$. The coaches affective commitment scale (8 items) had an internal consistency of $\alpha = .84$. Both of these alpha levels were considered acceptable (Ary et al, 1996) thus the scales were not modified.

Because the number of subjects who answered the HRM instrument was so low, responses from athletic directors and senior women’s administrators were combined to assess the reliability of the HRM index ($n=13$). The item regarding grievance procedures was omitted from the index reliability computation because it showed no variance. Cronbach’s alpha for the HRM instrument was .71, again an acceptable level for a summated scale (Spearman-Brown could not be calculated because of the low sample size). While these reliability estimates should be interpreted with caution due to a small number of subjects, they provide initial evidence that the scales demonstrate an acceptable level of internal consistency. Furthermore, these reliabilities were calculated with the final sample as well.

Item-to-total correlations of the six potential sub-scales were also computed using the combined responses of athletic directors and senior women’s administrators. The results are displayed in Appendix I. Again, while a very low number of subjects warrants extreme caution in interpreting the results, preliminary analysis indicates that the items do not categorize into the six sub-scales, suggesting they should be retained instead as a single index as in the original Becker and Huselid (1998) instrument. Finally, because of an insufficient number of responses from athletic directors and senior women’s administrators on the HRM system instrument, interrater reliability could not be calculated on the pilot study, but was computed for the final sample.
Data Collection Procedures

Data collection procedures followed a modification of Dillman's (2000) total design method for mixed-mode survey data. Before data collection began, the researcher ensured the protection of human subjects by gaining approval for the study through The Ohio State University Institutional Review Board. Following approval, email pre-notification was sent to each participant one week before the questionnaires were mailed (see Appendix F). Next, a package was sent to each athletic director, senior women's administrator, (the athletic director and senior women's administrators were sent identical cover letters and questionnaires) and coach in the sample. The packet contained: 1) a cover letter describing the importance and purpose of study, and soliciting their support (see Appendices D and E), 2) the appropriate questionnaire with instructions for completion (see Appendices B and C), and 3) a self-addressed stamped return envelope. The respondents were asked to reply within two weeks. A reminder card was sent two weeks after the initial mailing (see Appendix G). Finally, a second packet was sent to subjects who had not responded within a month after the mailings were sent.

Data Analysis Procedures

Research Question One

1. Does HRM sophistication level directly relate to the effectiveness of NCAA Division III athletic departments?

Figure 3.1: HRM Systems and Organizational Effectiveness: Direct Relationship Model

121
The first research question addressed whether a direct relationship between organizational level HRM systems and organizational level performance measures existed regardless of any individual or group level outcomes (see Figure 3.1). This type of relationship represents a single level analysis (Dansereau & Yammarino, 2000). Based on Ostroff and Bowen’s (2000) argument, a direct relationship is assumed to operate via enhanced processes and structures, although these processes and structures are not actually measured in the current study. In nearly all studies of this type, multiple regression analysis is utilized to study the relationship with a separate regression for each dependent variable (Hair et al., 1998; Stevens, 1996). After controlling for size (by entering them into the regression equation before HRM system) a significant $R^2$ change, would signal that HRM systems had a relationship to the dependent variable of interest.

In the current study, however, the assumptions for regression (namely linearity and normal distribution of the variables), were violated, leading to a change in the data analysis (Hair et al., 1998). Instead, HR index scores were utilized to place departments into four groups, low, below average, above average, and high. Departments that were more than two standard deviations below the mean were categorized as low. Departments that were within two standard deviations below the mean were categorized as below average. Departments that scored within two standard deviations above the mean were categorized as above average. Finally, departments that were more than two standard deviations above the mean were categorized as high. While no previous HR study has grouped HR index scores, standard deviations were chosen as the grouping factor because much of the HR literature discusses performance outcomes relative to one
standard deviation departures from the norm (Delery & Doty, 1996; Gerhart et al., 2000; Huselid, 1995; Huselid & Becker, 1998; Huselid et al., 1997).

After departments were grouped into HR index sophistication levels, One-Way ANOVA was utilized to detect significant differences in the dependent variables based on group membership (Hair et al., 2000). Scheffe’s post-hoc test was utilized to test individual differences in the groups (Hair et al., 1998). Finally, ANCOVA was utilized to test significant group differences while controlling for organizational size.

Research Question 2

2a. Does HRM sophistication level directly relate to the individual level satisfaction, commitment, tenure, and performance of coaches in NCAA Division III athletic departments?

2b. Is the HRM sophistication—Organizational Effectiveness relationship mediated by individual level outcomes?

Figure 3.2: HRM Systems and Organizational Effectiveness: Individual Mediated Pathway

Research question two was concerned with the relationship between HRM systems and individual level outcomes (see Figure 3.2). Both HRM system sophistication and organizational effectiveness (Sears Cup points) were measured at the organizational level, and conferred to each individual within the group. While some multi-level researchers caution the de-aggregation of group level data to the individual,
Kozlowski and Klein (2000) suggest that global properties may be attributed to each individual in the group because they are combined or emerged from an aggregate perception or shared values/experiences. Each individual need not report on these global properties, but only the individual best suited to give the most accurate response. In this case, while the athletic director provided the response to the HR practices utilized, this index value conceivably can be conferred on each individual within that department. Likewise, Sears Cup points were garnered through objective reports and also conferred on each individual within that organization. Coach attitudes and behaviors (including performance) were measured at the individual level and not aggregated.

The original research design (using HR index values instead of HR index groups) called for the use of multiple regression to test the relationship between a) HR sophistication and individual attitudes (Arrow 1), b) individual attitudes and individual performance (Arrow 2), c) individual performance and organizational effectiveness (Arrow 3), and d) all mediating pathways. Because the HR index was converted to HR groups (as explained in research question one), the HR index, individual attitudes, and individual performance pathway (Arrows 1 and 2) could not be tested using multiple regression. Instead, in keeping with Ostroff and Bowen’s (2000) model which contends that HR systems should affect individual attitudes and behaviors such as satisfaction, commitment, and tenure, MANOVA was utilized to assess the relationship of HR index group to these variables of interest. In other words, even though the relationship between HR systems and organizational effectiveness through individual outcomes cannot be tested, the relationship between HR systems and individual outcomes may still be important and need not be completely eliminated due to statistical design constraints.
In the MANOVA, satisfaction, commitment, and tenure comprised the dependent variate, while HR group was the independent or factor variable (Hair et al., 1998). If the entire MANOVA equation showed significant differences based on group, then univariate ANOVAs were conducted to examine the impact of each dependent variable.

Then, multiple regression (Hair et al., 1998, Stevens, 1992) was utilized to assess the relationship between the individual outcome variables and organizational effectiveness (Arrows 2 and 3). Again, even though the relationship between HR index group and departmental performance could not be tested, the relationship between individual level attitudes, individual performance, and organizational performance is still important to investigate. The relationships between these variables give insight into organizational processes regardless of whether or not the individual attitudes (satisfaction, commitment, and tenure) are influenced by the HRM system.

To investigate this pathway, first, satisfaction, commitment and tenure were regressed (separately) on Sears Cup points and graduation rates. Next, satisfaction, commitment and tenure were regressed on individual performance. Then, individual performance was regressed on Sears Cup points and graduation rates. If both relationships were significant (Arrow 2 and Arrow 3), a mediating effect was tested by regressing satisfaction, commitment and tenure on Sears Cup points and graduation rates while controlling for individual performance.

This process is based on Baron and Kenny's (1986) explanation of mediation effects in multiple regression. According to their arguments, a variable can be considered a mediator if it "accounts for the relation between the predictor and the criterion" (Baron & Kenny, 1986, p.176). In other words, the mediator explains how and why the predictor
and criterion are related. If individual performance functions as a mediator, it means that satisfaction, commitment, and tenure impact organizational effectiveness only through the performance of individuals. Baron and Kenny (1986) suggested that a mediation relationship exists only if a) the independent variable and the mediator are significantly related, b) the mediator and the dependent variable are significantly related, and c) when the mediator is controlled, no relationship (or a significantly reduced relationship) is observed between the independent and the dependent variables (which were previously related).

**Research Question Three**

3a. Does HRM sophistication level directly relate to group level satisfaction, commitment, tenure, and performance of coaches in NCAA Division III athletic departments?

3b. Is the HRM sophistication—Organizational Effectiveness relationship mediated by group level outcomes?

![Figure 3.3: HRM Systems and Organizational Effectiveness: Group Mediated Pathway](image)

The third research question addressed the group level pathway regarding the relationship between HRM system and organizational effectiveness (see Figure 3.3). Specifically, this part of the model tested whether groups operating under one HRM
system were significantly different from groups operating under a different system (Arrow 1). Data was collected at the individual level and subjected to within and between analysis (WABA) to assess if the individuals should be conceptualized appropriately as independent individuals (equivocal), as a group (wholes), or as a heterogeneous collection of interdependent individuals (parts) (Klein et al., 1994; Dansereau, Alluto, & Yammarino, 1984; Dansereau & Yammarino, 2000). At a very basic level, WABA uses the principles of one-way ANOVA to test differences between and within groups. Then using both E and F statistics, aggregation decisions are made.

Various patterns exist among aggregated data, depending on the independence of tasks and the interdependence of individual contributions to the overall outcomes (Kozlowski & Klein, 2000). WABA is an aggregation technique developed by Dansereau and Yammarino (1984) as part of their “variant paradigm” (see Dansereau et al., 1984 for a defense of the paradigm and specific calculations of WABA; see Dansereau and Yammarino, 2000 for an explanation of the paradigm, WABA analysis, and examples of applications thereof). Essentially, the variant paradigm was developed so that multiple variables and relationships between them could be tested at multiple levels of analysis. This process aids in theory building by providing the ability to rule out possible alternatives.

According to the variant paradigm, within organizations, people may behave as separate individuals. Their individual attitudes and behaviors are not dependent or related to the attitudes and actions of others. This condition is termed equivocal, and individual scores must stand on their own. They are not aggregated nor are they represented by the mean response of the group.

127
In other situations, people within a group may act in a generally similar manner, where most people in the department report, for example, a similar level of satisfaction or a similar level of performance. This condition is known as wholes. In this situation, the average of group scores is seen as representative of any and all individuals within the group.

Finally, in some situations, people within a group may operate as heterogeneous collections or “frog ponds” (Dansereau et al., 1984; Firebaugh, 1980), where the attitudes and actions of individuals within the group are dependent upon each other. For example, if one person receives a pay raise, they may become more satisfied, while at the same time another person in the group becomes less satisfied because they did not receive a pay raise. This condition is known as parts. Group scores can be represented by the average, but the average does not necessarily represent the value for any given member of the group, it only represents the point around which the group is centered (F. Yammarino, personal communication, January 29, 2002).

A number of other aggregation methods are available including $r_{wg}$ and intraclass correlations (ICC 2) (Klein et al., 2000). In the current study WABA is the preferred approach. It is preferred to $r_{wg}$ because $r_{wg}$ only indicates within group agreement, and does not test for between group variance. In other words, this study was seeking not only to test if the individuals within a department were similar, but also if they were different from individuals in other departments. WABA allows one to test whether the departments are different, even if variance within each department is fairly high. Furthermore, because the attitudinal and behavioral outcomes of interest are related constructs, it may be more appropriate to test differences in the overall model, rather than
on specific variables. WABA, in contrast to $r_{wg}$ and ICC (1) and ICC (2), allows this type of testing (Klein et al., 2000). However, as an additional test, the ICC (2) method will also be utilized to assess aggregation patterns.

If the data are appropriate for aggregation, then the individual outcome variables can be considered group level data. As such, they are the same level of analysis as the departmental level outcomes and analysis can proceed as such. This type of analysis followed the same MANOVA and multiple regression procedures as explained for research question two. If the individual level data did not aggregate, the group mediated pathway was ruled out.
CHAPTER 4

RESULTS

This chapter outlines the results from the analysis of data collected from the subjects. It is divided into seven sections: (a) reliabilities for each of the scales utilized in the analysis, (b) response rates and comparison of respondents, (c) overview of the descriptive characteristics for the coaches, athletic directors and athletic departments in the sample, (d) overview of the bivariate correlations between descriptive characteristics and the dependent variables, (e) analysis of direct pathway, (f) analysis of individual mediated pathway, and (g) analysis of group mediated pathway.

Reliability

Three summed scales were utilized in the analysis. Cronbach’s alpha was used to determine the internal reliability of the satisfaction and commitment scales, while the Spearman-Brown split-half method was utilized for the HR index. First, coaches’ job satisfaction consisted of five items and produced a reliability of \( \alpha = .78 \). Coaches’ commitment to their department was assessed with an eight-item modification of Meyer and Allen’s (1991) occupational commitment scale. It produced a reliability of \( \alpha = .83 \). The HR index was summed using a 20-item scale modified from Becker and Huselid.
(1998). The internal consistency of this scale was 0.68. All of these scales show sufficient internal reliability for research purposes (Nunnally, 1967).

Furthermore, because the 20-item index had not been utilized in a sport setting, it was necessary to investigate the potential dimensionality of the index via factor analysis. However, when data from the final sample were analyzed, both Barlett's test of sphericity and the measure of sampling adequacy (Hair et al., 1998) were violated, indicating that factor analysis was not appropriate. Based on the factor analysis and the sufficient internal consistency (Nunnally, 1967), the HR index was summed as a unitary index as it has been in previous applications.

For exploratory purposes, interrater agreement between athletic directors and senior women’s administrators was to be calculated with the ICC (2) method. However, only five schools returned responses from both the athletic director and senior women’s administrator. Thus, interrater agreement could not be calculated. Instead, athletic director responses were the only ones utilized in the study.

Before proceeding with the descriptive findings, data were examined and analyzed for each variable and scale. Where statistical assumptions were met, analysis was conducted as prescribed. Where assumptions were not met, procedures were modified accordingly. Each modification is explained where necessary.

Response Rates

A total of one hundred athletic directors, sixty-one senior women’s administrators, and seventeen hundred and two coaches were sent an initial questionnaire. Forty-seven athletic directors returned usable responses for a response rate of 47%. Sixteen senior women’s administrators returned responses for a response rate of 16%.
Six-hundred and ninety-three coaches returned usable responses for a total initial response rate of 40.7%. However, because the research design called for nested schools, only those coaches from departments who also returned an athletic director response were included. Thus, the final number of coaches was three-hundred and seventy three or 22% response rate. An average of eight coaches responded per school, with a range of one to seventeen.

In order to further assess any response error, a comparison of early to late respondents was conducted (Ary et al., 1996). Because late respondents tend to be similar to non-respondents, this method allows the researcher to assess if any significant differences exist on the given responses. This method is preferable to comparing respondents and non-respondents on known characteristics, because it utilizes information from actual responses, not simply demographic variables.

Chi-square tests showed that the coaching sample demonstrated no significant differences between early and late respondents on the variables of gender and sport (see Tables J.1 and J.2 in Appendix J). T-tests showed that the coaching sample showed no significant differences between early and late respondents on the variables of age, satisfaction, commitment, tenure, or performance (see Table J.3 in Appendix J). Further, t-tests showed that early and late athletic director respondents were not significantly different in terms of their average departmental budget, perceived importance of the Sears Cup, Sears points earned, or graduation rates (see Table J.4 in Appendix J). However, the early respondents tended to have significantly higher HRM index scores than late respondents (Table J.4, Appendix J), indicating the presence of some potential response bias, a consistent methodological challenge in studies of this type (Becker &
Huselid, 1998; Gerhart, 1999; Gerhart et al., 2000). While Becker and Huselid (1998) argued that the sum of evidence in the HRM-performance literature neither confirms nor denies a problem with response bias, they did suggest that previous studies that have reported response differences in HRM practices do not necessarily show bias on other external measures of performance, which indicates that the HRM-performance relationship tends to hold across performance ranges (low to high) and situations.

**Descriptive Characteristics**

**Coaches**

The descriptive characteristics for the coaches (n=373) are reported in Table 4.1. The sample was comprised of 73% males (n=272) and 27% females (n=101). They ranged in age from 23 to 71 years and reported employment with the department ranging from 1 to 40 years. The mean scores for satisfaction and commitment levels were 6.08 and 5.02 respectively. The average win/loss record for the entire sample was 56%, with a range from 0-100%.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Min- Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>23-71</td>
<td>41 years</td>
<td>9.92</td>
</tr>
<tr>
<td>Tenure</td>
<td>1-40</td>
<td>8.4 years</td>
<td>7.5</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>2-7</td>
<td>6.08</td>
<td>0.87</td>
</tr>
<tr>
<td>Commitment</td>
<td>1-7</td>
<td>5.02</td>
<td>1.06</td>
</tr>
<tr>
<td>Performance</td>
<td>0-100%</td>
<td>0.56</td>
<td>.211</td>
</tr>
</tbody>
</table>

Table 4.1: Descriptive Characteristics of Coaching Sample (n=373)

**Athletic Directors**

The descriptive characteristics for the athletic directors are reported in Table 4.2.

Males comprised 75% of the AD sample (n=35), while females comprised 25% (n=12).

Of the 45 athletic directors who answered the question, all reported that they were aware of the Sears Director’s Cup. Eleven percent of the athletic directors reported that the Sears Cup was not at all important to them, 49% reported that it was slightly important, 21% reported that it was of intermediate importance, and 15% reported that the Sears Cup standings were very important to them.
<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>47</td>
<td>1</td>
<td>2</td>
<td>1.26</td>
<td>0.44</td>
</tr>
<tr>
<td>Awareness of S.C.</td>
<td>45</td>
<td>1</td>
<td>1</td>
<td>1.00</td>
<td>0.00</td>
</tr>
<tr>
<td>S.C. Importance</td>
<td>45</td>
<td>1</td>
<td>4</td>
<td>2.42</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Table 4.2: Descriptive Characteristics of Athletic Director Sample (n=47)

**Athletic Departments**

The descriptive characteristics of the athletic departments are reported in Table 4.3. The departments ranged in sports offered from 4 to 31, with an average of 20 sports offered per school. The number of full time head coaches ranged from 1 to 22 with an average of 12 per school, while the number of part time head coaches ranged from 0-30 with an average of 4 per school. The departments were supported by an average of 7 support staff. On average, they operated on an annual budget of $704,848.00, but showed a large range in this area from $163,000.00 to $3.35 million (missing values (n=8) on this variable were substituted using the mean of the entire sample (Hair et al., 1998)). The departments had accumulated anywhere from 0-729 Sears Cup points and reported graduation rates from 37% to 90%, with a mean graduation rate of 65%. The average satisfaction of athletes in the departments (as reported by coaches) was 5.61, with a range of 2 to 7. The summed HR index (produced by summing the z-scores from the 20-item high performance work scale) showed that the departments ranged in index scores from −14.85 to 13.81.
<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men's Sports</td>
<td>47</td>
<td>2</td>
<td>17</td>
<td>9.94</td>
<td>2.83</td>
</tr>
<tr>
<td>Women's Sports</td>
<td>47</td>
<td>2</td>
<td>16</td>
<td>10.09</td>
<td>2.68</td>
</tr>
<tr>
<td>Total Sports</td>
<td>47</td>
<td>4</td>
<td>31</td>
<td>20.02</td>
<td>5.24</td>
</tr>
<tr>
<td>F.T. Head Coaches</td>
<td>47</td>
<td>1</td>
<td>22</td>
<td>11.91</td>
<td>5.05</td>
</tr>
<tr>
<td>P.T. Head Coaches</td>
<td>47</td>
<td>0</td>
<td>30</td>
<td>4.3</td>
<td>5.51</td>
</tr>
<tr>
<td>Support Staff</td>
<td>47</td>
<td>2</td>
<td>36</td>
<td>7.09</td>
<td>5.3</td>
</tr>
<tr>
<td>Average Budget</td>
<td>47</td>
<td>$163,333</td>
<td>$3,350,000</td>
<td>$704,878</td>
<td>$571,523</td>
</tr>
<tr>
<td>Sears Cup Points</td>
<td>47</td>
<td>0</td>
<td>729</td>
<td>198.94</td>
<td>195.32</td>
</tr>
<tr>
<td>Graduation Rates</td>
<td>47</td>
<td>37</td>
<td>90</td>
<td>65.26</td>
<td>14.76</td>
</tr>
<tr>
<td>Athlete Satisfaction</td>
<td>373</td>
<td>2</td>
<td>7</td>
<td>5.61</td>
<td>1.06</td>
</tr>
<tr>
<td>HR Index</td>
<td>47</td>
<td>-14.85</td>
<td>13.81</td>
<td>9.99E-16</td>
<td>6.1929</td>
</tr>
</tbody>
</table>

Table 4.3: Descriptive Characteristics of Athletic Departments (n=47)
Bivariate Correlations

Coaches

Next, bivariate correlations were examined to determine if any demographic variables were significantly related to the outcome variables (such that they may need to be controlled for in subsequent analysis. Point-biserial correlations were utilized to determine the relationship between gender and satisfaction, commitment, tenure, and performance. Pearson’s correlations were used to analyze the relationship between age and satisfaction, commitment, tenure, and performance. One-way ANOVAs were utilized to examine group differences between sport and satisfaction, commitment, tenure, and performance.

Results for the bivariate correlations are reported in Appendix K. No differences were found on the dependent variable by gender (Table K.1) or sport (Table K.2). However, age was significantly correlated with commitment, performance and tenure, such that older coaches reported higher values on these variables than younger coaches (Table K.3). No age differences were found on the satisfaction scale.

Athletic Directors and Departments

Correlations between demographic characteristics and both independent and dependent variables were also conducted for the athletic directors and departments. Point bi-serial correlations were utilized to analyze the relationship between athletic director gender and Sears Cup points, graduation rates, and HR index. Pearson’s correlations were utilized to assess the relationship between a) department budget and Sears Cup points, graduation rates, and HR index, and b) total number of sports and Sears Cup points, graduation rates, and HR index.

137
Results of these analyses are found in Appendix K. No significant relationships were found based on gender (Table K.4). Average departmental budget was significantly related to HR index score, such that departments with higher budgets also reported higher HR index scores (Table K.5). Total number of sports was moderately and significantly related to both Sears Cup points and graduation rates (Table K.6). Thus, both measures of organizational size were retained as control variables in subsequent analysis.

Direct Relationship Pathway

The first research question addressed whether a direct relationship between organizational level HRM systems and organizational level performance measures existed regardless of any individual or group level outcomes.

1. Does HRM sophistication level directly relate to the effectiveness of NCAA Division III athletic departments?

Figure 4.1: HRM Systems and Organizational Effectiveness: Direct Relationship Model
First, HR index scores were utilized to place departments into four groups, low, below average, above average, and high. Table 4.4 reports descriptive statistics for each HR group.

After grouping into HR index sophistication levels, One-Way ANOVA was utilized to detect significant differences in the dependent variables based on group membership (Hair et al., 1998). Because ANOVAs are highly sensitive to outliers, data were examined to reveal their existence (Hair et al., 1998). Box plots showed the existence of two significant outliers (in terms of Sears Cup points), which were subsequently removed from the analysis. Scheffe’s post-hoc analysis was utilized to test individual differences in the groups (Hair et al., 1998). ANOVA results (see Table 4.5) showed differences in Sears Cup points based on HR index grouping that were significant at the \( a=0.05 \) level. Scheffe’s tests showed significant sub-group differences between low performers (Group 1), and below average performers (Group 2), and between low performers and above average performers (Group 3). No other sub-group differences were significant. Furthermore, no significant relationships were found between HR index grouping and graduation rates.

Finally, ANCOVA was utilized to test significant group differences while controlling for organizational size. Results (see Table 4.6) revealed that the whole model was significant at the \( a=0.05 \) level. Individually, none of the variables (number of sports, average budget, HR group) were significant at the \( a=0.05 \) level, but HR group was significant in explaining Sears differences at the \( a=0.10 \) level.
<table>
<thead>
<tr>
<th>HR Group</th>
<th>N</th>
<th>HR Index</th>
<th>Total Sports</th>
<th>Budget</th>
<th>Sears Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6</td>
<td>-8.64</td>
<td>15</td>
<td>$413,293</td>
<td>15.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 2.54</td>
<td>6.96</td>
<td>$202,001</td>
<td>24.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Min. -12.53</td>
<td>4</td>
<td>$163,333</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max. -6.15</td>
<td>23</td>
<td>$656,213</td>
<td>57</td>
</tr>
<tr>
<td>2</td>
<td>19</td>
<td>-2.23</td>
<td>20.78</td>
<td>$685,125</td>
<td>219</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 1.57</td>
<td>5.33</td>
<td>$524,855</td>
<td>172.51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Min. -5.12</td>
<td>11</td>
<td>$199,000</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max -.13</td>
<td>31</td>
<td>$2,550,000</td>
<td>473</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>2.51</td>
<td>20</td>
<td>$762,129</td>
<td>226.13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 1.74</td>
<td>2.86</td>
<td>$417,284</td>
<td>168.93</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Min. 0.06</td>
<td>14</td>
<td>$193,333</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max 5.22</td>
<td>24</td>
<td>$1,520,000</td>
<td>474</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>9.35</td>
<td>19.38</td>
<td>$891,530</td>
<td>118.88</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SD 3.01</td>
<td>4.9</td>
<td>$1,025,755</td>
<td>111.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Min. 6.4</td>
<td>14</td>
<td>$185,667</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max 14.84</td>
<td>27</td>
<td>$3,350,000</td>
<td>312</td>
</tr>
</tbody>
</table>

Table 4.4: Descriptive Statistics for HR Groups
### Table 4.5: ANOVA Results: HR Group x Sears Cup Points with Scheffe's Post-Hoc Analysis

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ss</th>
<th>ms</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3</td>
<td>251598.871</td>
<td>83866.29</td>
<td>3.682**</td>
</tr>
<tr>
<td>Within Groups</td>
<td>41</td>
<td>933809.929</td>
<td>22775.852</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>1185408.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: ** p < .05,
Dependent Variable: SEARS

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III ss</th>
<th>df</th>
<th>ms</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>328309.416</td>
<td>5</td>
<td>65661.883</td>
<td>**2.988</td>
</tr>
<tr>
<td>Intercept</td>
<td>948.16</td>
<td>1</td>
<td>948.16</td>
<td>0.043</td>
</tr>
<tr>
<td>Average Budget</td>
<td>5357.679</td>
<td>1</td>
<td>5357.679</td>
<td>0.244</td>
</tr>
<tr>
<td>Total Sports</td>
<td>58866.102</td>
<td>1</td>
<td>58866.102</td>
<td>2.679</td>
</tr>
<tr>
<td>HR Group</td>
<td>146803.35</td>
<td>3</td>
<td>48934.45</td>
<td>*2.227</td>
</tr>
<tr>
<td>Error</td>
<td>857099.384</td>
<td>39</td>
<td>21976.907</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2575108</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>1185408.8</td>
<td>44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R Squared = .277 (Adjusted R Squared = .184)

Note: ** p < .05  
* p < .10

Table 4.6: ANCOVA Results: HR Group x Sears Cup Points
Individual Mediated Pathway

Research question two concerned the relationship between HR index group and individual outcome variables, namely satisfaction, commitment, tenure, and performance. As explained in Chapter 3, due to data analysis modifications, the mediated pathway (Research question 2b) could not be assessed.

2a. Does HRM sophistication level directly relate to the individual level satisfaction, commitment, tenure, and performance of coaches in NCAA Division III athletic departments?

First, MANOVA was utilized to assess the relationship between HR Group and the individual outcomes of satisfaction, commitment, and tenure. Assumptions for MANOVA were assessed including independence of observations, equal variance, normality, multicollinearity, linearity and outliers. No violations were found in terms of independence, equal variance, linearity or multicollinearity. Shapiro-Wilkes tests showed that satisfaction and tenure were significantly negatively skewed. While this is a violation of the normality assumption, Hair and colleagues (1998) argue that
MANOVA's are robust to minor violations of this assumption, if the non-normality results from skewness. Box plots also revealed several outliers for each dependent variable. Since no conceptual rationale could support their removal, all responses were retained for analysis. Furthermore, based on the number of dependent variables (3), and groups (3), each group contains an acceptable sample size for the power of the test to be at the recommended .80 level (Hair et al., 1998, p. 353). Results showed that the overall model was not significant at the α=0.05 level (see Table 4.7).

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>51</td>
<td>171</td>
<td>102</td>
</tr>
<tr>
<td>Mean Satisfaction</td>
<td>6.26</td>
<td>6.07</td>
<td>5.97</td>
</tr>
<tr>
<td>Mean Commitment</td>
<td>5.25</td>
<td>5.02</td>
<td>4.87</td>
</tr>
<tr>
<td>Mean Tenure</td>
<td>8.44</td>
<td>8.839</td>
<td>8.054</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>F</th>
<th>Num DF</th>
<th>Den DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks' Lambda</td>
<td>0.9734</td>
<td>0.82</td>
<td>9</td>
<td>868.64</td>
</tr>
</tbody>
</table>

Note: F not significant at p < 0.05

Table 4.7: MANOVA of Individual-Level Variables by HR Grouping
Next, multiple regression was utilized to determine the relationship between individual outcome variables and organizational effectiveness (Arrows 2 and 3). First, individual satisfaction, commitment, and tenure were regressed on Sears Cup standing. As shown in Table 4.8, the relationship between these variables was statistically significant, but the practical significance was negligible. The three variables explained only 2% of the variance on Sears Cup points ($R^2 = 0.02$). Table 4.9 shows the same variables as they relate to Graduation Rates. Again, the overall model is statistically significant, but the variables only explain 3% of the variance in Graduation Rates ($R^2 = 0.03$).
<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>236.424</td>
<td>82.634</td>
<td></td>
<td>2.861</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>-15.132</td>
<td>15.906</td>
<td>-0.059</td>
<td>-0.951</td>
</tr>
<tr>
<td>Commitment</td>
<td>12.685</td>
<td>11.629</td>
<td>0.068</td>
<td>1.091</td>
</tr>
<tr>
<td>Tenure</td>
<td>3.342</td>
<td>1.37</td>
<td>0.128</td>
<td>*2.439</td>
</tr>
</tbody>
</table>

Note: ** p < 0.05, Overall Model $R^2 = 0.023$**

Table 4.8: Summary of Multiple Regression Analysis for Individual Level Variables

Predicting Sears Cup Standings (n=373)
### Correlations

<table>
<thead>
<tr>
<th></th>
<th>Tenure</th>
<th>Satisfaction</th>
<th>Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.138</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>-0.194</td>
<td>-0.551</td>
<td>1.00</td>
</tr>
</tbody>
</table>

### Model Results

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>51.056</td>
<td>6.15</td>
<td></td>
<td>8.302</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>2.828</td>
<td>1.184</td>
<td>0.146</td>
<td><strong>2.389</strong></td>
</tr>
<tr>
<td>Commitment</td>
<td>-1.041</td>
<td>0.865</td>
<td>-0.074</td>
<td>-1.202</td>
</tr>
<tr>
<td>Tenure</td>
<td>0.31</td>
<td>0.102</td>
<td>0.159</td>
<td>*<strong>3.041</strong></td>
</tr>
</tbody>
</table>

Note: ***p < 0.01, ** p < 0.05, Overall Model R² = 0.03**

Table 4.9: Summary of Multiple Regression Analysis for Individual Level Variables

Predicting Graduation Rates (n=373)
Next, satisfaction, commitment and tenure were regressed on individual performance. As shown in Table 4.10, only tenure explained a significant portion of variance in individual performance. Satisfaction and commitment did not explain a significant portion of variance in individual performance. Again, although it was statistically significant, the amount of variance in performance ($R^2=0.051$) explained by the entire model was negligible.

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Tenure</th>
<th>Satisfaction</th>
<th>Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.138</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>-0.194</td>
<td>-0.551</td>
<td>1.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>0.367</td>
<td>0.087</td>
<td></td>
<td>4.216</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>1.78E-02</td>
<td>0.017</td>
<td>0.065</td>
<td>1.061</td>
</tr>
<tr>
<td>Commitment</td>
<td>7.44E-03</td>
<td>0.012</td>
<td>0.037</td>
<td>0.606</td>
</tr>
<tr>
<td>Tenure</td>
<td>5.73E-03</td>
<td>0.001</td>
<td>0.205</td>
<td>***3.964</td>
</tr>
</tbody>
</table>

Note: *** $p < 0.01$, Overall Model $R^2 = 0.051$***

Table 4.10: Summary of Multiple Regression Analysis for Variables Predicting Individual Performance (Average Win/Loss Record) (n=373)
Third, individual performance was regressed on Sears Cup standing and graduation rates. Individual performance explained 10% of the variance on Sears Cup standing ($R^2 = 0.10$), and the relationship was significant at the $a=0.05$ level (Table 4.11). The individual B weight for performance was also significant ($B=0.315$). The relationship between individual performance and graduation rates was not statistically significant (Table 4.12) (which also meant that it could not be a mediating variable between individual attitudes and graduation rates).

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>70.742</td>
<td>27.607</td>
<td>2.562</td>
</tr>
<tr>
<td></td>
<td>Performance</td>
<td>294.666</td>
<td>46.024</td>
<td>0.315 **6.402</td>
</tr>
</tbody>
</table>

Note: ** $p < 0.05$, Overall Model $R^2 = 0.10**

Table 4.11 Multiple Regression of Individual Performance on Sears Cup Points (n=373)

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>65.403</td>
<td>2.179</td>
<td>30.021</td>
</tr>
<tr>
<td></td>
<td>Performance</td>
<td>0.423</td>
<td>3.632</td>
<td>0.006</td>
</tr>
</tbody>
</table>

Note: *** $p < 0.01$, Overall Model $R^2 = 0.000***

Table 4.12: Multiple Regression of Individual Performance on Graduation Rates (n=373)
Finally, to complete the mediation analysis, satisfaction, tenure and performance were regressed on Sears Cup while controlling for performance (the mediating variable). After adding individual performance, no additional variance in Sears Cup performance ($R^2$ Change $= 0.01$ non significant.) was explained by adding satisfaction, commitment, and tenure to the regression equation (see Table 4.13). Therefore, even though the relationships between the independent variable and the dependent variable as well as the independent variable and the mediator are very weak, individual performance does appear to mediate the relationship between individual attitudes and organizational performance.

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>294.666</td>
<td>46.024</td>
<td>0.315</td>
<td>***6.402</td>
</tr>
<tr>
<td>2 (Constant)</td>
<td>132.765</td>
<td>80.878</td>
<td></td>
<td>*1.642</td>
</tr>
<tr>
<td>Performance</td>
<td>282.084</td>
<td>47.176</td>
<td>0.302</td>
<td>***5.979</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>-20.156</td>
<td>15.229</td>
<td>-0.078</td>
<td>-1.323</td>
</tr>
<tr>
<td>Commitment</td>
<td>10.587</td>
<td>11.122</td>
<td>0.057</td>
<td>0.952</td>
</tr>
<tr>
<td>Tenure</td>
<td>1.725</td>
<td>1.338</td>
<td>0.066</td>
<td>1.29</td>
</tr>
</tbody>
</table>

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$; Overall Model 1 $R^2 = 0.10$ ***; Overall Model 2 $R^2 = 0.11$, $R^2$ Change $= 0.01$ non significant

Table 4.13: Summary of Multiple Regression Analysis for Mediated Pathway of Variables Predicting Sears Cup Standing (n=373)
Group Mediated Pathway

Research question three concerned the relationship between HR sophistication and group level outcomes. Similar to research question two, the analysis method was changed from straight multiple regression to a combination of MANOVA and multiple regression, thereby eliminating testing of the mediation effect.

3a. Does HRM sophistication level directly relate to group level satisfaction, commitment, tenure, and performance of coaches in NCAA Division III athletic departments?

![Diagram of HRM Systems and Organizational Effectiveness: Group Mediated Pathway]

Figure 4.3: HRM Systems and Organizational Effectiveness: Group Mediated Pathway

First, data was collected at the individual level and subjected to within and between analysis (WABA). Table 4.14 shows the results of this analysis. The F test showed that performance differences were statistically significant at α= 0.10. All other between differences were significant at least α=0.05. The ICC (2) correlations suggest that none of the variables should be aggregated as they all fall below the conventionally accepted 0.70 level (Klein, et al., 2000).

The WABA analysis suggests that when between variance is greater than within variance, a groups condition is warranted. Using the 15° rule, the wholes condition is
argued when the E ratio is greater than or equal to 1.41, and the between component is statistically significant (Dansereau et al., 1984; Dansereau & Yammarino, 2000). According to this decision rule, no variables in Table 4.14 should be viewed as wholes.

In the equivocal condition, between and within variance are equal. Using the $15^0$ rule, the equivocal condition is argued when the E ratio is greater than 0.77, but less than 1.41, and the F ratio is at or near zero (Dansereau et al., 1984; Dansereau & Yammarino, 2000). In the present analysis, no variables in Table 4.14 result in the equivocal condition.

In the parts condition, within variance is greater than between variance. Using the $15^0$ rule, the parts condition is argued when the E ratio is greater than zero, but less than 0.77, and the within component is statistically significant (Dansereau et al., 1984; Dansereau & Yammarino, 2000). Both average win/loss and years employed clearly meet the parts condition. Commitment and satisfaction meet the E ratio requirements, but are only significant at the $a=.10$ level, not the more stringent $a=.05$ level. Based on the argument that a parts condition is warranted for all the variables (noting the significance level of satisfaction and commitment), subsequent analysis utilized departmental averages for each of the variables.
<table>
<thead>
<tr>
<th></th>
<th>S.S.</th>
<th>df</th>
<th>M.S.</th>
<th>Eta</th>
<th>F^</th>
<th>F Ratio</th>
<th>ICC (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>34.503</td>
<td>44</td>
<td>0.784</td>
<td>0.397</td>
<td>*0.72</td>
<td>0.433</td>
<td>0.26</td>
</tr>
<tr>
<td>Within Groups</td>
<td>184.519</td>
<td>327</td>
<td>0.564</td>
<td>0.917</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>219.022</td>
<td>371</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commitment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>63.267</td>
<td>44</td>
<td>1.438</td>
<td>0.393</td>
<td>*0.75</td>
<td>0.428</td>
<td>0.248</td>
</tr>
<tr>
<td>Within Groups</td>
<td>353.118</td>
<td>327</td>
<td>1.08</td>
<td>0.919</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>416.385</td>
<td>371</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>3.826</td>
<td>44</td>
<td>8.70E-02</td>
<td>0.491</td>
<td>***0.44</td>
<td>0.564</td>
<td>0</td>
</tr>
<tr>
<td>Within Groups</td>
<td>12.662</td>
<td>327</td>
<td>3.87E-02</td>
<td>0.871</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16.487</td>
<td>371</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tenure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>4004.902</td>
<td>44</td>
<td>91.02</td>
<td>0.434</td>
<td>**0.58</td>
<td>0.482</td>
<td>0.418</td>
</tr>
<tr>
<td>Within Groups</td>
<td>17314.838</td>
<td>327</td>
<td>52.951</td>
<td>0.901</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>21319.739</td>
<td>371</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: F^ = inverse of F. Used to assess the significance of the within component.

*** p < 0.01, ** p < 0.05, * p < 0.10

Table 4.14: WABA and ICC (2) for determining Aggregation of Individual Outcome Variables

153
Using these averages, MANOVA was utilized to assess the relationship of HR group membership and the group variables. As in the individual pathway, assumptions for MANOVA were assessed including independence of observations, equal variance, normality, multicollinearity, linearity and outliers. No violations were found in terms of independence, equal variance, normality, linearity or multicollinearity. Box plots revealed very few outliers for each dependent variable. Again, since no conceptual rationale could support their removal, all responses were retained for analysis. Based on number of groups (3) and number of dependent variables (4), the sample size per group is below the recommended level to detect results with sufficient (0.80) power. Table 4.15 shows the results from this MANOVA. The overall model was not significant at the \( \alpha=0.05 \) level.
<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
<th>F</th>
<th>Num DF</th>
<th>Den DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wilks’ Lambda</td>
<td>0.8394</td>
<td>0.59</td>
<td>12</td>
<td>103.48</td>
</tr>
</tbody>
</table>

Note: F not significant at p < 0.05

Table 4.15 MANOVA of Group-Level Variables by HR Group
Multiple regression was utilized to assess the relationship of the four group outcome variables and organizational effectiveness. The results of the Sears Cup measure are displayed in Table 4.16 and the graduation rates measure in Table 4.18. Overall, the group level variables explained almost a third of the variance in Sears Cup points ($R^2 = .328$). Coaching performance, however, was the only group variable significantly related to Sears Cup points. Group satisfaction, commitment and tenure were not significantly related to Sears Cup points. In fact, if a confirmatory regression analysis is conducted using only coaching performance and the control variables for size are utilized in a multiple regression to predict Sears Cup points, these three variables alone explain 35% of the variance ($R^2 = 0.355$), and both total sports and performance show significant B weights (Table 4.17).

Table 4.18 shows the results of the multiple regression analysis of group level variables and graduation rates. Together, the four predictors explained about 17% of the variance in graduation rates ($R^2 = 0.168$). Group tenure was the only single variable that showed a significant relationship to graduation rates.
Correlations

<table>
<thead>
<tr>
<th></th>
<th>Tenure</th>
<th>Performance</th>
<th>Satisfaction</th>
<th>Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance</td>
<td>-0.067</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>0.112</td>
<td>0.012</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>0.111</td>
<td>0.039</td>
<td>-0.428</td>
<td>1.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-78.365</td>
<td>435.923</td>
<td>-0.18</td>
<td>-0.18</td>
</tr>
<tr>
<td></td>
<td>Satisfaction</td>
<td>-55.475</td>
<td>75.44</td>
<td>-0.109</td>
<td>-0.735</td>
</tr>
<tr>
<td></td>
<td>Commitment</td>
<td>41.296</td>
<td>47.939</td>
<td>0.127</td>
<td>0.861</td>
</tr>
<tr>
<td></td>
<td>Performance</td>
<td>631.112</td>
<td>160.719</td>
<td>0.518</td>
<td>***3.927</td>
</tr>
<tr>
<td></td>
<td>Tenure</td>
<td>6.449</td>
<td>4.727</td>
<td>0.184</td>
<td>1.364</td>
</tr>
</tbody>
</table>

Note: Note: *** p < 0.01, Overall $R^2 = 0.328$***

Table 4.16: Summary of Multiple Regression Analysis for Group Level Variables
Predicting Sears Cup Points (n=44)
<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-78.131</td>
<td>107.438</td>
<td>-0.727</td>
</tr>
<tr>
<td></td>
<td>Total Sports</td>
<td>12.097</td>
<td>5.32</td>
<td>**2.274</td>
</tr>
<tr>
<td></td>
<td>Av. Budget</td>
<td>0</td>
<td>0</td>
<td>0.071</td>
</tr>
<tr>
<td>2</td>
<td>(Constant)</td>
<td>-330.085</td>
<td>115.532</td>
<td>***-2.857</td>
</tr>
<tr>
<td></td>
<td>Total Sports</td>
<td>9.938</td>
<td>4.676</td>
<td>**2.125</td>
</tr>
<tr>
<td></td>
<td>Av. Budget</td>
<td>0</td>
<td>0</td>
<td>-0.011</td>
</tr>
<tr>
<td></td>
<td>Performance</td>
<td>593.103</td>
<td>159.087</td>
<td>.487</td>
</tr>
</tbody>
</table>

Tenure

Note: *** p < 0.01, ** p < 0.05, * p < 0.10; Overall Model 1 $R^2 = 0.13$ ***; Overall Model 2 $R^2 = 0.355$, $R^2$ Change = 0.224***

Table 4.17: Summary of Multiple Regression Analysis for Organizational Size and Group-Level Performance on Sears Cup (n=44)
<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>-3.77</td>
<td>43.476</td>
<td>-0.087</td>
<td>-0.087</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>10.271</td>
<td>7.524</td>
<td>0.224</td>
<td>1.365</td>
</tr>
<tr>
<td>Commitment</td>
<td>-0.369</td>
<td>4.781</td>
<td>-0.013</td>
<td>-0.077</td>
</tr>
<tr>
<td>Performance</td>
<td>-4.94</td>
<td>16.029</td>
<td>-0.045</td>
<td>-0.308</td>
</tr>
<tr>
<td>Tenure</td>
<td>1.218</td>
<td>0.471</td>
<td>0.387</td>
<td><strong>2.584</strong></td>
</tr>
</tbody>
</table>

Note: ** p < 0.05, Overall R² = 0.168**

Table 4.18: Summary of Multiple Regression Analysis for Group Level Variables

Predicting Graduation Rates (n=44)
CHAPTER 5

DISCUSSION AND CONCLUSIONS

This chapter presents the discussion of findings and implications for both the researcher and practitioner regarding the relationship between HRM systems and organizational effectiveness. This chapter is divided into seven sections: (a) the direct pathway, (b) the individual mediated pathway, (c) the group mediated pathway, (d) implications, (e) limitations, and (f) recommendations for future research.

Direct Pathway

Results from the current study involving athletic departments support previous findings in other industries that HRM sophistication is related to organizational effectiveness. After controlling for size, ANCOVA results revealed significant differences in Sears Cup points between departments with differing levels of HRM sophistication. These differences were not found, however, in graduation rates, according to level of HRM sophistication.

Although post-hoc tests were not available in the ANCOVA, sub-group differences in the ANOVA revealed that the low HR index group produced significantly fewer Sears points than the below average and the above average group. The high group,
however, did not differ significantly from any of the other three groups. This finding shows similarities to Huselid et al.'s (1997) argument that HRM systems may follow an S-curve pattern. That is, very low performers may be able to enhance their performance by increasing their HRM practices. At some point, however, the addition of new practices does not enhance performance because the returns may be off-set by the costs of implementing the more sophisticated system (both in terms of money and time), or more sophisticated practices cannot be added until a sufficient base of more technical practices has been achieved. In either case, once a certain level of HRM sophistication is reached, it appears that other factors are responsible for explaining performance differences.

No significant differences between the highest and lowest performing groups was also an interesting finding. The reason for this finding may be due in part to the potential ceiling effect mentioned above or may also be related to a small sample size (Group 1 only included 6 schools while Group 4 only included 8). The small sample size decreases the power of the test and increases the probability of a Type II error, or the inability to detect statistically significant relationships when those relationships exist in the population (Cohen, 1977).

HRM sophistication did not significantly relate to graduation rates, an indicator of departmental academic performance. The reason for this finding probably lies in the measure of graduation rates. That is, most of the graduation rates reflect the rates of the entire school, not just the athletic department. HRM systems were only measured at the departmental level, and it is not likely that HRM systems in the athletic department would reflect on graduation rates of the entire school. Although athletic directors seem reluctant to share this information in survey form, future studies may want to improve on
the measure of academic performance to overcome limitations of the Division III graduation rates reported by the NCAA.

Individual Mediated Pathway

The proposed multi-level model suggested that HR systems would influence individual attitudes, which would then impact individual performance and enhance organizational effectiveness. Previous studies have found a positive relationship between HR sophistication and individual performance, and a negative relationship between HR sophistication and turnover (Huselid, 1995; Ostroff & Bowen, 2000). The current study, however, did not find a relationship between HR sophistication group and any individual level variable.

Several explanations are offered for this finding. First, the impact of HRM systems on firm performance may be through enhanced structural and operational processes (as found in research question one) and not through individual attitudes. Second, the overall sophistication level of HR systems in this setting may not be strong enough to impact individual attitudes. For example, virtually none of the firms offered direct performance bonuses to their employees—a practice which has been related to increased employee motivation and commitment (Ostroff & Bowen, 2000). Becker and Huselid (1998) have utilized their index in a variety of settings and developed comparisons of index levels between different industries. However, because the index was slightly modified for this setting, it would be inappropriate to draw comparisons between this non-profit setting and other previously studied entities. Third, on variables such as satisfaction, the individuals in the study reported very high values. In fact, the
overall mean for the study on satisfaction (n=374) was 6.08 on a seven point scale (S.D. 0.86), and for commitment was 5.02 (S.D. 1.06). These range restrictions may have reduced the ability to detect differences in values based on HR group membership.

On the performance side of the pathway, the impact of individual attitudes on individual performance in previous studies has been quite small (Iaffaldano & Muchinsky, 1985; Li, 1993). This relationship was also quite small in the current study. Satisfaction, commitment, and tenure explained only 5% of the variance on individual performance. In addition, only tenure was significantly related to performance.

Ostroff and Bowen (2000) contend that although previous studies have demonstrated some relationship between individual and organizational performance, confounding variables have weakened effect sizes. In the current study, individual performance (win/loss record) was predictive of organizational athletic performance/achievement ($R^2=0.10$), but not organizational academic performance. Because individual performance was measured in terms of athletic achievement, the non-significant relationship with academic performance is expected. The two measures are not conceptually related. The finding does support, however, that the two performance goals tend to be exclusive of each other and both should probably continue to be included in assessments of effectiveness (Cameron, 1981; Chelladurai & Haggerty, 1991; Connally et al., 1980; Trail & Chelladurai, 2000; Zammuto, 1984). The relationship between individual performance and organizational athletic achievement supports Ostroff & Bowen’s (2000) contention that a relationship exists, but may be weakened by confounding variables.
The relationship between individual attitudes and organizational performance has received very little empirical attention especially in sport management (Chelladurai & Haggerty, 1991). In the current study, effect sizes were statistically significant, but practically negligible ($R^2 = 0.02$ for athletic achievement, and $R^2 = 0.03$ for academic achievement). Only tenure was significantly related to athletic achievement. Tenure and satisfaction were significantly related to academic achievement. Furthermore, the small relationship between individual attitudes and athletic performance was completely mediated by individual performance. Thus, it seems that individual attitudes have little impact on organizational performance. They have a direct impact on academic achievement, but impact athletic achievement only through enhanced individual performance.

In summary, due to design limitations, the mediating effect of individual attitudes and performance in the relationship between HR sophistication and organizational effectiveness could not be tested. From what could be analyzed, it appears that HR sophistication was not related to individual attitudes. Thus, this pathway was not supported. Further, individual attitudes had a very small impact on both measures of organizational effectiveness, and the relationship between these attitudes and the athletic achievement measure was completely mediated by individual performance. Contrary to previous theory, enhancing individual attitudes, whether through HR systems or other means, seems to have some, but very limited impact on organizational effectiveness.
Group Mediated Pathway

At the group level, the proposed multi-level model argued that HRM systems work to create a climate where groups of individuals exposed to the same HRM system will collectively display increased performance, satisfaction and commitment (Ostroff & Bowen, 2000). This overall group performance translates into organizational performance. The model, following Ostroff and Bowen (2000), argued that even though the relationship between individual job satisfaction and organizational effectiveness has been fairly small, aggregate job satisfaction could be more strongly related to organizational effectiveness (Ostroff, 1992). Again, due to design limitations, the mediating effect of group variables could not be assessed. Thus, analysis was limited to the relationship between HRM sophistication and group outcomes and between group outcomes and organizational effectiveness.

First, using WABA, the individual level satisfaction, commitment, tenure, and performance variables demonstrated a parts condition of aggregation. In a parts situation, individuals within a department show similar patterns of variation to individuals within other departments such that the variation within departments reveals itself as greater than that between departments. The within group variation is sufficiently large to suggest that a single value (the average) would not appropriately represent the response of any given member of that group. Thus, the group average in a parts condition represents only the point around which the members are aggregated. It does not represent the response of any given individual within the group.

Furthermore, a parts condition suggests that increases in some individuals are automatically offset by decreases in other individuals (Dansereau & Yammarino, 2000;
Klein et al., 1994). For example, if one coach receives a pay increase, he/she may become more satisfied. At the same time, another coach who did not receive that same increase, consequently becomes less satisfied. When an average is utilized to represent the group, then, changes in one person do not affect the group average because those changes are negated by contrasting changes in other group members. In the parts condition, only changes that affect all members of the group will effectively raise the average of that group.

In contrast, in a wholes condition, the average represents the response of any given member of the group. The members have demonstrated sufficient agreement on the variable and sufficient differences from other groups to be considered a single entity. In the wholes condition, changes in any individual will affect the group average. If one coach becomes more committed, the entire group will demonstrate (empirically) more commitment.

Again, the individuals in the current study demonstrated a parts condition. This finding is important for several reasons. First, from a theoretical standpoint, no previous sport management studies have conceptualized departments as “parts” or what some researchers term “frog ponds” (Firebaugh, 1980). This conceptualization suggests that the people within the department operate interdependently and changes in one person affect other members of that department. Intuitively, this relationship makes sense, but has not been empirically verified. Theoretical relationships, therefore, must be built with this conceptualization in mind. Second, from a practical standpoint, if department members are interdependent, then imposed influences on that department must be implemented with caution. In other words, department leaders cannot simply attempt to
change the attitudes or behaviors of one person in the department, because other members will consequently be affected by that change. The group must be viewed from an overall standpoint.

Regarding the relationship of group attitudes and behaviors, the current study, did not support previous arguments that HR systems will influence collective attitudes and behaviors. MANOVA results showed no difference on these group-level variables based on HR index group. Thus, the group pathway was not supported.

On the performance side of the pathway, Ostroff (1992) found that aggregate teacher satisfaction more strongly predicted student achievement than did individual teacher satisfaction. The current study did not support this finding in relation to satisfaction alone, but did find that group-level attitudes more strongly predicted graduation rates and Sears Cup points than did individual level attitudes. However, the group level regression analysis on Sears Cup included group performance, whereas the individual level regression analysis only included satisfaction, commitment, and tenure. Thus, an additional regression was computed, controlling for group level performance. When group level performance was controlled, group satisfaction, commitment and tenure did not significantly relate to Sears Cup.

In summary, group satisfaction, commitment and tenure explained more variance in academic achievement than did individual levels of these variables. This finding may suggest that the atmosphere created in athletic departments contributes to the overall graduation rates. However, the factors that created that atmosphere are undetermined. Based on the current study, HR sophistication did not seem to be a contributing factor.
Similar to the individual pathway, group performance completely mediated the relationship between group attitudes and athletic performance. After controlling for organizational size, group performance was still the strongest predictor of athletic achievement. This finding suggests, a) in-season performance of individual teams combines to enhance national-level performance (Sears Cup standings), and b) group attitudes only affect athletic achievement through group performance.

Implications

The practical implications of this study are far reaching. Initial results suggest that increasing the sophistication of the HRM system in athletic departments can increase departmental athletic performance. The nature of the changes, however, are largely left to the discretion of each department (Huselid & Becker, 1998).

It also appears that most departments utilize a given practice for all of their employees or none of them. For example, 40% of the athletic directors reported no job planning, while 38% reported that all of their jobs were included in a formal plan. Only 12% reported any values in between 0 and 100. Twenty-seven percent of athletic directors reported that no coaches received pay on the basis of a performance appraisal, whereas 62% said that all of their jobs were addressed in this manner. Only 11% reported any values in between. It seems, therefore, that coaches are treated quite equally in terms of the application of HRM practices. Following this pattern of responses, and based on the principles of a “frog pond” aggregation model, athletic directors may wish to focus on adding practices that can be implemented department-wide, such as
performance appraisals or selection testing, rather than those that are more likely to affect only a certain percentage of the department such as merit bonuses or promotions.

On the performance side, neither individual nor group-level attitudinal variables had a practically significant impact on individual, group or organizational performance. However, both individual and group level performance were strongly correlated with organizational athletic performance. This finding suggests that attempts to increase worker satisfaction and commitment in Division III athletic departments may do little to increase overall departmental effectiveness. While not ignoring these outcomes, athletic directors’ emphasis should probably be placed on increasing worker performance, perhaps through the hiring or training process or by decreasing the amount of “additional duties” required of many Division III coaches. Workers can also impact their own performance levels through recruiting skilled athletes, hiring skilled staff, and scheduling comparable opponents.

From a research standpoint, this study represents an initial attempt to apply for-profit principles in a non-profit setting, specifically a sport setting. It greatly expands the HRM concept that has been previously utilized in sport management literature by 1) utilizing HRM systems rather than individual practices, and 2) investigating the relationship of HRM systems to individual, group and organizational level outcomes.

Ostroff and Bowen (2000) argued that HRM systems create efficient internal processes and structures that increase productivity and overall firm performance. Practices such as extensive training, skill-based pay, teams, and job-based appraisals create an environment where a skilled, innovative work force not only understands their jobs, but can perform them optimally. Their argument is supported in this study, as the
organizational level pathway was the only one validated. While the results of the study suggest that HRM systems do not impact individual employee attitudes or the collective atmosphere in the department, athletic departments with more sophisticated systems (utilization of more high performance work practices) appear more effective that those with less sophisticated systems. Efficient internal processes in these departments may manifest themselves in a variety of mechanisms. For example, salient recruiting and selection processes may decrease time-delays in hiring, which may influence recruiting strategies and team cohesion. Ongoing employee evaluations could create systems whereby coaches learn to collect information and data through the year, which avoids significant time demands away from their normal routine at the time of evaluation. Training and development activities may equip coaches with more efficient methods of performing the same tasks, which would eventually translate into higher productivity.

Limitations

Several limitations of the study, due to methodological choices, must be noted. First, this study was conducted in a specific setting. While implications can be made, the results are not directly generalizable to other organizations. Further testing of the model would be needed to confirm the relationship in other settings.

Second, the human resource practices utilized in the athletic department may not be under the control of the athletic director. In other words, departmental performance may be affected by constraints outside the department’s control.
Third, specific facets of satisfaction and commitment have been chosen for study because of their particular relevance to HRM practices and performance. It is possible that other facets of satisfaction and/or commitment would reflect different results.

Several design limitations were also apparent in the study. First, although athletic directors seem reluctant to share this information in survey form, future studies may want to improve on the measure of academic performance to more accurately reflect the academic achievements of student-athletes rather than the whole student body (as in the Division III graduation rates reported by the NCAA). Second, the findings in this study would be enhanced with a larger sample size. As mentioned earlier, small sample sizes affect the power of statistical tests, thereby increasing the probability of a Type II error (Cohen, 1977). The power of the tests was particularly problematic in the group-level MANOVA. It is possible that larger sample sizes would allow the detection of significant differences in group-level outcomes based on HRM index. Also, a larger sample would assist in determining whether true differences in HRM index values exist in the population between respondents and non-respondents.

Directions For Future Research

Future studies should investigate other factors related to departmental performance such as academic rigor, financial aid availability, or cost of the school; it is clear that a number of factors still exist to explain differences particularly at the higher end of sophistication levels. Individual and group attitudes and behaviors seem to exhibit some relationship to organizational outcomes. Although these relationships were weak,
they were statistically significant. Future studies need to investigate factors other than the HRM system that might impact individual attitudes and behaviors, especially individual performance. Perhaps more research should be conducted on individual practices that contribute the most to these outcomes. Although Becker and Huselid (1998) caution against suggesting practices that are overestimated due to measurement error, in sport, especially non-profit sport, this focus could aid in the refinement of indices where the use of some practices produces better results than the use of others. The primacy of the overall system need not preclude the continuing development of the most appropriate practices to include in a department and in the measurement model. The refined model could be replicated in other non-profit settings to develop an industry profile much like Becker and Huselid (1998) have developed for other industries.

Future studies should also focus on the athletic department as a “frog pond.” In other words, researchers may want to investigate the how departmental members interact, and how changes in individual members affect changes in others and in the group as a whole.

Previous research asserts that humans are a valuable resource in organizations and have the potential to create a competitive advantage for organizations that value and develop this resource. This study supports this assertion, suggesting that departments with higher HRM sophistication may achieve higher athletic performance than those with lower sophistication. Although further study is needed to expand and enhance these findings, this study represents an initial inquiry for sport management into high performance work practices and their relationship to effectiveness in sport organizations.


APPENDIX A

Previously Utilized High Performance Practices
<table>
<thead>
<tr>
<th>Table A.1: Previously Utilized High Performance Work Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Training and Development</strong></td>
</tr>
<tr>
<td>Training systems</td>
</tr>
<tr>
<td>cross-utilization &amp; cross training % in cross-training</td>
</tr>
<tr>
<td>Compensation</td>
</tr>
<tr>
<td>Profit sharing plans</td>
</tr>
<tr>
<td>compensation</td>
</tr>
<tr>
<td>wage compression</td>
</tr>
<tr>
<td>high wages</td>
</tr>
<tr>
<td>pay for skill, wage premium</td>
</tr>
<tr>
<td>wages</td>
</tr>
<tr>
<td>compensation</td>
</tr>
<tr>
<td>compensation</td>
</tr>
<tr>
<td>incentives</td>
</tr>
<tr>
<td>bonus</td>
</tr>
<tr>
<td>benefits</td>
</tr>
<tr>
<td>-day-care programs</td>
</tr>
<tr>
<td>-paternity leave programs</td>
</tr>
<tr>
<td>-employee counseling services</td>
</tr>
<tr>
<td>Evaluation/Appraising</td>
</tr>
<tr>
<td>performance appraisal</td>
</tr>
<tr>
<td>performance appraisal</td>
</tr>
<tr>
<td>performance appraisal</td>
</tr>
<tr>
<td>productivity and quality measures, attitude surveys</td>
</tr>
<tr>
<td>measurement of practices</td>
</tr>
<tr>
<td>attitude surveys</td>
</tr>
<tr>
<td>formal evaluation of HR policies</td>
</tr>
<tr>
<td>formal evaluation of HR policies</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
<table>
<thead>
<tr>
<th>Table A.1 (Continued): Previously Utilized High Performance Work Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Philosophy</strong></td>
</tr>
<tr>
<td><strong>Internal career opportunities</strong></td>
</tr>
<tr>
<td><strong>Employment security</strong></td>
</tr>
<tr>
<td><strong>Voice mechanisms</strong></td>
</tr>
<tr>
<td><strong>Employee and manager communication, employees relations</strong></td>
</tr>
<tr>
<td><strong>Full-time employers</strong></td>
</tr>
<tr>
<td><strong>Climate ratings</strong></td>
</tr>
<tr>
<td><strong>Planning</strong></td>
</tr>
<tr>
<td><strong>Job definition (tight or narrow)</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Staffing</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>social</td>
</tr>
<tr>
<td>responsibility</td>
</tr>
<tr>
<td>programs</td>
</tr>
<tr>
<td>safety and</td>
</tr>
<tr>
<td>health</td>
</tr>
<tr>
<td>supervisor</td>
</tr>
<tr>
<td>social</td>
</tr>
<tr>
<td>union-management</td>
</tr>
<tr>
<td>relations</td>
</tr>
<tr>
<td>union-management</td>
</tr>
<tr>
<td>relations</td>
</tr>
</tbody>
</table>
APPENDIX B

HRM System Sophistication Instrument
Part II: General Information

23. How many varsity sports does your department currently offer? (M)

24. How many full-time head coaches do you currently employ? (M)

25. How many part-time head coaches do you currently employ? (M)

26. What percentage of your head coaches only have duties related to their primary sport? __________%

27. Of the coaches who have secondary responsibilities, what percentage have responsibilities for a) teaching classes? __________% b) administrative duties? __________% c) assisting another sport? __________% d) head coaching another sport? __________%

28. How many full-time support staff (secretaries, SID, facility manager, equipment manager, trainers, etc.) does your department currently employ? (M)

29. Please indicate your entire departmental operating budget for the past three years (not including coaching salaries).

1998-1999 __________________________

1999-2000 __________________________

2000-2001 __________________________

30. What is your gender? (M) (F)

31. Are you aware of the NACDA/Sears Directors' Cup? (Y) (N)

32. How important are the Sears Cup standings to your department? (Circle One) Very Intermediate Slightly Not at all

If you'd like, you can use the space below to write any additional comments.

THANK YOU. PLEASE PLACE IN ENVELOPE AND RETURN IMMEDIATELY.

Mariana A. Dixon
Department of Kinesiology—MS 545
Rice University
P.O. Box 1892
Houston, TX 77251
mdixon@rice.edu

Correlates of Performance: Human Resource Management In Division III Athletic Departments

Instructions: On the following pages you will find twenty-two questions related to the human resource management practices utilized in your athletic department. Please indicate your responses to each item on the blank beside the question as it relates to the full-time coaches in your department. If you do not have exact data available, use your best estimate. The second part of the questionnaire contains ten items regarding the make-up of your department. It will take approximately 10-15 minutes to complete the entire questionnaire. THANK YOU FOR YOUR ASSISTANCE.
Part I: Human Resources

SECTION 1: STAFFING

1. For the last five coaching positions you have filled in the department, how many qualified applicants have you had per position (on average)? (\(\text{___(q)}\))

2. What proportion of all new coaching hires have been selected based primarily on the results of a validated selection test in the form of a cognitive or skills assessment? (\(\text{___%}\))

3. What proportion of all new coaching hires have been selected on the basis of a structured individual interview (i.e. every applicant is asked the same questions in the same order by the same person)? (\(\text{___%}\))

4. What proportion of all new coaching hires have been selected on the basis of a structured panel interview (i.e. every applicant is asked the same questions in the same order by the same group of people)? (\(\text{___%}\))

SECTION 2: PLANNING

5. What proportion of the coaching jobs are included in a formal written human resource or staffing plan that includes recruitment strategies for obtaining new and/or replacement coaches? (\(\text{___%}\))

6. What proportion of the coaching staff holds jobs that have been subjected to a formal job analysis? (\(\text{___%}\))

SECTION 3: OVERALL PHILOSOPHY

7. What proportion of non-entry level positions have been promoted from within (as opposed to hired from outside the department) in the past five years? (\(\text{___%}\))

8. What proportion of the coaching staff is promoted based primarily on merit (as opposed to seniority)? (\(\text{___%}\))

9. What proportion of the coaching staff is included in a formal information sharing program in the form of a newsletter or email that provide information on a wide variety of topics relevant to the department and its operations? (\(\text{___%}\))

10. What proportion of the coaching staff is included in a formal information sharing program in the form of regular departmental meetings that provide information on a wide variety of topics relevant to the department and its operations? (\(\text{___%}\))

SECTION 4: TRAINING AND DEVELOPMENT

12. How many hours of training are typically received by a new coach in the first year of employment? (\(\text{___(q)}\))

13. How many hours of training per year are typically received by an experienced coach (i.e. someone employed more than one year)? (\(\text{___(q)}\))

14. What proportion of the coaching staff is qualified and capable to perform more than one job? (\(\text{___%}\))

SECTION 5: COMPENSATION

15. What proportion of the average coach's total compensation is accounted for by cash (as opposed to stocks or other investment options)? (\(\text{___%}\))

16. What proportion of the coaching staff is eligible for cash (bonus) incentive plans? (\(\text{___%}\))

17. What percentage merit increase could a high performing coach normally expect as a result of a good performance review? (\(\text{___%}\))

18. What percentage merit increase could a low performing coach expect as a result of a poor performance review? (\(\text{___%}\))

SECTION 6: EVALUATION/APPRaisal

19. What proportion of the coaching staff regularly receives a formal performance appraisal? (\(\text{___%}\))

20. What proportion of the coaching staff has their merit increase or incentive pay determined by a performance appraisal? (\(\text{___%}\))

21. What proportion of the coaching staff holds jobs where an employee's performance appraisal is primarily determined by an objective measure of individual performance (e.g., win/loss record)? (\(\text{___%}\))

22. What proportion of the coaching staff is regularly administered attitude or quality surveys soliciting their input on departmental operations? (\(\text{___%}\))
APPENDIX C

Coach Attitudes and Behaviors Instruments
SECTION 4: JOB AND DEMOGRAPHICS
Please fill in the appropriate numbers to indicate your present job duties and demographic information.

16. What percentage of your total work time do you spend on the following tasks? (total should equal 100%)

- On-field/court coaching
- Recruiting
- Scouting/ film review
- Academic monitoring
- Athlete counseling
- Administrative tasks (including scheduling and travel planning)
- Secondary duties
- Other

17. How long have you been employed as a head coach with your current college/university?

_______ (Years)

18. Gender (check one)

- Male
- Female

19. What is your current age?

_______ (Years)

Thank you for participating in our study by completing this brief questionnaire. Your responses are extremely valuable in helping us understand how human resource management practices relate to coach's perceptions about their jobs.

This questionnaire has four parts, and contains 19 questions overall. Please complete each answer according to your current feelings toward your job or athletic department. It should take approximately 5-10 minutes to complete all of the questions.

When you have finished, please enclose in the included self-addressed stamped envelope. Thank you for your assistance!

If you'd like, you can use this space for any additional comments.
SECTION 1: COACHING SATISFACTION
Please circle the response that most closely represents your agreement with the following statements regarding job satisfaction.

1. I feel fairly satisfied with my present job.
   1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

2. Most days I am enthusiastic about my work.
   1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

3. Each day at work seems like it will never end.
   1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

4. I consider my job to be rather unpleasant.
   1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

5. I find real enjoyment in my work.
   1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

SECTION 2: COMMITMENT
Please circle the response that most closely represents your level of agreement or disagreement with the following statements.

6. I would be very happy to spend the rest of my career with this athletic department.
   1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

7. I enjoy discussing my department with people outside it.
   1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

8. I really feel as if this department's problems are my own.
   1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

9. I think that I could easily become as attached to another department as I am to this one.
   1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

10. I do not feel like I am part of this department.
    1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

11. I do not feel 'emotionally attached' to this department.
    1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

12. This department has a great deal of personal meaning for me.
    1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

13. I do not feel a strong sense of belonging to my department.
    1 strongly disagree 2 disagree 3 somewhat disagree 4 neutral 5 somewhat agree 6 agree 7 strongly agree

SECTION 3: PERFORMANCE AND ATHLETE SATISFACTION

14. Overall, how satisfied do you feel your athletes are with their athletic experience at your institution?
    Not Satisfied Very Satisfied
    1 2 3 4 5 6 7

15. For the past year, please indicate your finish at each meet/tournament in which you participated during your regular competitive season. (If you competed in more than 10 meets, please complete results on the back page).

<table>
<thead>
<tr>
<th>Men's</th>
<th>Women's</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Please Proceed to the Back Page . . . →
SECTION 4: JOB AND DEMOGRAPHICS
Please fill in the appropriate numbers to indicate your present job duties and demographic information.

16. What percentage of your total work time do you spend on the following tasks? (total should equal 100%) On-field/court coaching ______% Recruiting ______% Scouting/ film review ______% Academic monitoring ______% Athlete counselling ______% Administrative tasks (including scheduling and travel planning) ______% Secondary duties ______% Other ______% ______%

17. How long have you been employed as a head coach with your current college/university? _______ (Years)

18. Gender (check one)
   ________ Male
   ________ Female

19. What is your current age? _______ (Years)

If you'd like, you can use this space for any additional comments.

Thank you for your assistance!

Rice University

Correlates of Performance Coaching Salatiation and Commitment in Division III Athletic Departments

Instructions
Thank you for participating in our study by completing this brief questionnaire. Your responses are extremely valuable in helping us understand how human resource management practices relate to coach's perceptions about their jobs. This questionnaire has four parts, and contains 19 questions overall. Please complete each answer according to your current feelings toward your job or athletic department. It should take approximately 5-10 minutes to complete all of the questions.

When you have finished, please enclose in the included self-addressed stamped envelope. Thank you for your assistance!

Marlene A. Dixon
Dept. of Kinesiology—MS 545
Rice University
PO Box 1892
Houston, TX 77251
mdixon@rice.edu

Please Proceed to Final Page . . .
SECTION 1: COACHING SATISFACTION
Please circle the response that most closely represents your agreement with the following statements regarding job satisfaction.

1. I feel fairly satisfied with my present job.
   1 = strongly disagree
   2 = disagree
   3 = somewhat disagree
   4 = neutral
   5 = somewhat agree
   6 = agree
   7 = strongly agree

2. Most days I am enthusiastic about my work.
   1 = strongly disagree
   2 = disagree
   3 = somewhat disagree
   4 = neutral
   5 = somewhat agree
   6 = agree
   7 = strongly agree

3. Each day at work seems like it will never end.
   1 = strongly disagree
   2 = disagree
   3 = somewhat disagree
   4 = neutral
   5 = somewhat agree
   6 = agree
   7 = strongly agree

4. I consider my job to be rather unpleasant.
   1 = strongly disagree
   2 = disagree
   3 = somewhat disagree
   4 = neutral
   5 = somewhat agree
   6 = agree
   7 = strongly agree

5. I find real enjoyment in my work.
   1 = strongly disagree
   2 = disagree
   3 = somewhat disagree
   4 = neutral
   5 = somewhat agree
   6 = agree
   7 = strongly agree

SECTION 2: COMMITMENT
Please circle the response that most closely represents your level of agreement or disagreement with the following statements.

6. I would be very happy to spend the rest of my career with this athletic department.
   1 = strongly disagree
   2 = disagree
   3 = somewhat disagree
   4 = neutral
   5 = somewhat agree
   6 = agree
   7 = strongly agree

7. I enjoy discussing my department with people outside it.
   1 = strongly disagree
   2 = disagree
   3 = somewhat disagree
   4 = neutral
   5 = somewhat agree
   6 = agree
   7 = strongly agree

8. I really feel as if this department's problems are my own.
   1 = strongly disagree
   2 = disagree
   3 = somewhat disagree
   4 = neutral
   5 = somewhat agree
   6 = agree
   7 = strongly agree

9. I think that I could easily become as attached to another department as I am to this one.
   1 = strongly disagree
   2 = disagree
   3 = somewhat disagree
   4 = neutral
   5 = somewhat agree
   6 = agree
   7 = strongly agree

10. I do not feel like I am part of this department.
    1 = strongly disagree
    2 = disagree
    3 = somewhat disagree
    4 = neutral
    5 = somewhat agree
    6 = agree
    7 = strongly agree

11. I do not feel 'emotionally attached' to this department.
    1 = strongly disagree
    2 = disagree
    3 = somewhat disagree
    4 = neutral
    5 = somewhat agree
    6 = agree
    7 = strongly agree

12. This department has a great deal of personal meaning for me.
    1 = strongly disagree
    2 = disagree
    3 = somewhat disagree
    4 = neutral
    5 = somewhat agree
    6 = agree
    7 = strongly agree

13. I do not feel a strong sense of belonging to my department.
    1 = strongly disagree
    2 = disagree
    3 = somewhat disagree
    4 = neutral
    5 = somewhat agree
    6 = agree
    7 = strongly agree

SECTION 3: PERFORMANCE AND ATHLETE SATISFACTION

14. Overall, how satisfied do you feel your athletes are with their athletic experience at your institution?
    Not Satisfied     Very Satisfied
    1 2 3 4 5 6 7

15. What is your win/loss record for the past three years at your current institution? If you have not been at the school for three years, indicate your record for the years you were there.
    Men's
    1998-1999   (W)/   (L)
    1999-2000   (W)/   (L)
    2000-2001   (W)/   (L)
    Women's
    1998-1999   (W)/   (L)
    1999-2000   (W)/   (L)
    2000-2001   (W)/   (L)

Please Proceed to the Back Page...
APPENDIX D

Athletic Director Cover Letter
Current research in business suggests that the use of certain human resource management practices may improve the bottom line in for-profit organizations. These practices increase employees' positive attitudes and performance, which helps the firm be more productive. **The same may be true in sport organizations, where the use of certain practices may relate to enhanced coaching and athlete outcomes.** I am soliciting your input as a practitioner regarding the human resource management practices utilized in your department. Your responses will help us understand the relationship between these practices and department performance. The information will be utilized to inform athletic directors about how they can continue to manage their coaches in such a way as to maximize individual and departmental athletic and academic performance.

Your participation is completely voluntary and your responses will be **strictly confidential.** You may notice a code number on your questionnaire. This code number is used to match responses from coaches and athletic directors at each school. It is also used to track who has and has not responded. This code number will not identify you in any way regarding the study. The study has been reviewed by a human subjects board, indicating there are no known risks or hazards associated with participation.

Please complete the enclosed questionnaire and return in the included self-addressed stamped envelope. It will only take about 10-15 minutes to complete.

If you have any questions or concerns regarding the purpose or outcomes of the study, or you would like a copy of the results, please feel free to contact me at the above address or via email at mdixon@rice.edu.

**Thank you for participating in the study. Your insights and views as an expert in the field of athletic administration are invaluable and very much appreciated.**

Sincerely,

Marlene A. Dixon
Dear Coach,

Attitudes and behaviors of coaches are essential determinants of success in any athletic program. In an effort to understand elements that contribute to personal, team and departmental performance, I am soliciting your participation in my current study regarding human resource management, coaching outcomes, and athletic and academic performance in NCAA Division III athletic departments. Your input as a coach is invaluable in helping to increase our understanding of how certain management practices relate to your attitudes about your job and ultimately to departmental performance. The information you provide will help inform athletic directors about how they can continue to better manage department personnel in such a way as to maximize team and departmental performance.

Your participation is completely voluntary and your responses will be strictly confidential. You may notice a code number on your questionnaire. This code number is used to match responses from coaches and athletic directors at each school. It is also used to track who has and has not responded. This code number will not identify you in any way regarding the study. The study has been reviewed by a human subjects board, indicating there are no known risks or hazards associated with participation.

Please complete the enclosed questionnaire and return in the included self-addressed stamped envelope as soon as possible.

If you have any questions or concerns regarding the purpose or outcomes of the study, or you would like a copy of the results, please feel free to contact me at the address below or via email at mdixon@rice.edu.

Thank you for participating in the study. Your insights and views as a coach are invaluable and very much appreciated.

Sincerely,

Marlene A. Dixon
APPENDIX F

Email Pre-Notification
Dear Division III Athletic Director—

Division III is unique in the college athletic world, a concept that is misunderstanding and often represented inadequately by researchers interested in intercollegiate athletics. As a former Division III athlete and coach, I am aware of the unique issues in Division III and some of the challenges faced by administrators at this level.

In approximately one week, you will be receiving a questionnaire from me regarding the human resource practices utilized in your department. I realize you receive numerous surveys each week and must often decide to file them all in the garbage can. May I ask you to consider filling out this one for at least three reasons:

1) It is specifically aimed at Division III problems and solutions. For example, given a limited budget and other resources, how can we enhance both the satisfaction level of our athletes and our departmental performance?
2) It is one part of a two-part study, including information from athletic directors AND coaches at the same institutions. Responses from both sides are necessary to provide complete information.
3) The information garnered is of TRUE PRACTICAL SIGNIFICANCE, it will be used to make suggestions to YOU, the practitioner, not stuffed away in some academic journal.

If you would like to receive a copy of the results, I am happy to make them available to you, or if you would like further information on the topic of human resource management in non-profit organizations, please email me at mdixon@rice.edu or call me at 713-348-5769.

Thank you in advance for your participation. Your insights and expertise are invaluable to the theory and practice of sport management.
APPENDIX G

Email/Postcard Reminder
November 21, 2001

Dear Coach or Administrator,

Last week a questionnaire was mailed to you seeking your feedback regarding your current attitude towards various aspects of your coaching job. Administrators, you were asked to respond to a questionnaire regarding the human resource practices utilized in your department.

If you've already completed the questionnaire, please accept my sincere appreciation for your time and energy. If not, please do so today, and return in the envelope provided. I am especially grateful for your help, because the information you provide helps us understand personnel management at the Division III level, and how to optimize individual and departmental performance.

If you did not receive a questionnaire, or misplaced it, please email me at mdixon@rice.edu, or call me at 713-348-5769 so I can send you a replacement.

Thanks again for your assistance!

Marlene A. Dixon
Dept. of Kinesiology
Rice University
APPENDIX H

Sears Cup Scoring Structure
**Point Determinations - Team Sports**

Standings for the 2000-01 Sears Directors' Cup will be based upon the size of the bracket. The largest bracket size counted is a 65-team bracket for Division I men's basketball. The largest bracket size for all other sports is 64 teams. First place for all brackets and all sports is 100 points. (See accompanying chart.)

**Team Sports Bracket**

<table>
<thead>
<tr>
<th>Place</th>
<th>65</th>
<th>64</th>
<th>48</th>
<th>32</th>
<th>16</th>
<th>12</th>
<th>8</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2nd</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>70</td>
</tr>
<tr>
<td>3-4</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>55</td>
<td>20</td>
</tr>
<tr>
<td>5-8</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>50</td>
<td>40</td>
<td>40</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>9-16</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>30</td>
<td>20</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-32</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33-64</td>
<td>25</td>
<td>20</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*3</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>60</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>*4</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>50</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Table H.1: Sears Cup Team Scoring Structure

**Point Determinations - Individual Sports**

There is a separate point structure for individual sports (those in which teams are not placed into brackets). The brackets have been established for the individual sports in a manner similar to the team sports. However, rather than grouping the places, points will be awarded to each individual place. The breakdown is for championships with 64, 48, 32, 16, 12 and 8 teams. First place will receive 100 points, while the last place in each bracket will receive 20 points. (See accompanying chart.)
### Table H.2: Sears Cup Individual Scoring Structure

<table>
<thead>
<tr>
<th>Place</th>
<th>64-Team</th>
<th>48-Team</th>
<th>32-Team</th>
<th>16-Team</th>
<th>12-Team</th>
<th>8-Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>3</td>
<td>83</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>4</td>
<td>80</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>5</td>
<td>79</td>
<td>73</td>
<td>71</td>
<td>70</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>6</td>
<td>78</td>
<td>71</td>
<td>68</td>
<td>65</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>7</td>
<td>77</td>
<td>69</td>
<td>65</td>
<td>60</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>8</td>
<td>76</td>
<td>67</td>
<td>62</td>
<td>55</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>9</td>
<td>75</td>
<td>65</td>
<td>59</td>
<td>50</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>10</td>
<td>74</td>
<td>63</td>
<td>56</td>
<td>45</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>11</td>
<td>73</td>
<td>61</td>
<td>53</td>
<td>40</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>12</td>
<td>72</td>
<td>59</td>
<td>50</td>
<td>36</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>13</td>
<td>71</td>
<td>57</td>
<td>47</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>70</td>
<td>55</td>
<td>44</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>69</td>
<td>54</td>
<td>41</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>68</td>
<td>52</td>
<td>38</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>67</td>
<td>51</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>66</td>
<td>50</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>65</td>
<td>49</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>64</td>
<td>48</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>63</td>
<td>47</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>62</td>
<td>46</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>61</td>
<td>45</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>60</td>
<td>44</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>59</td>
<td>43</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>58</td>
<td>42</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>57</td>
<td>41</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>56</td>
<td>40</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>55</td>
<td>39</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>54</td>
<td>38</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>53</td>
<td>37</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>52</td>
<td>36</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>51</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>50</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>49</td>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>48</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>47</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>46</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>45</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>44</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Continued)
(Table H.2 Continued)

<table>
<thead>
<tr>
<th>41</th>
<th>43</th>
<th>41</th>
<th>27</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>42</td>
<td>42</td>
<td>26</td>
</tr>
<tr>
<td>43</td>
<td>41</td>
<td>43</td>
<td>25</td>
</tr>
<tr>
<td>44</td>
<td>40</td>
<td>44</td>
<td>24</td>
</tr>
<tr>
<td>45</td>
<td>39</td>
<td>45</td>
<td>23</td>
</tr>
<tr>
<td>46</td>
<td>38</td>
<td>46</td>
<td>22</td>
</tr>
<tr>
<td>47</td>
<td>37</td>
<td>47</td>
<td>21</td>
</tr>
<tr>
<td>48</td>
<td>36</td>
<td>48</td>
<td>20</td>
</tr>
<tr>
<td>49</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table H.2: Sears Cup Individual Scoring Structure

When a tie occurs, the average of the places the teams occupy is taken and given to all of the teams that are tied. For example, if three teams tied for 30th place in a 64-team event, the average of the points given to places 30-32 (54 pts., 53 pts., 52 pts.) will be given to all three teams. In this case, each team would receive 53 pts. \((54+53+52)/3=53\).

Sport Breakdown

The following sports will be scored with the team bracket method.

Division III - field hockey, football, women's and men's soccer, women's volleyball, women's and men's basketball, men's ice hockey, baseball, women's and men's lacrosse, softball and women's and men's tennis.

National Collegiate - women's and men's water polo, men's volleyball and women's ice hockey.

The following sports will be scored with the individual point method:

Division III - women's and men's cross country, women's and men's swimming, women's and men's indoor and outdoor track and field, men's wrestling and women's and men's golf.
National Collegiate - fencing, women's and men's gymnastics, rifle, skiing and women's rowing.

Tiebreakers
If two teams tie for first place in the final spring standings, the determination to break the tie is the number of national championships won. The second tiebreaker is the most number of second place finishes. Thus, if two teams have the same number of points, the team that wins the most national championships will win the Sears Directors' Cup. Ties will only be broken for first place in the final spring standings.

Division III -- Sports Included
There will be 18 sports counted in the standings -- the top nine (9) scoring sports for men and the top nine (9) scoring sports for women. Sports that may count in the standings include:

Men -- Baseball, Basketball, Cross Country, Football, Golf, Gymnastics, Ice Hockey, Lacrosse, Soccer, Swimming & Diving, Tennis, Track & Field (indoor/outdoor), Volleyball, Water Polo and Wrestling

Women -- Basketball, Cross Country, Field Hockey, Golf, Gymnastics, Ice Hockey, Lacrosse, Rowing, Soccer, Softball, Swimming & Diving, Tennis, Track & Field (indoor/outdoor), Volleyball and Water Polo

Coed -- Fencing, Rifle and Skiing

All Divisions -- Points for track and field will be awarded for the season in which the highest finish is gained. Thus, points will automatically be awarded to the top 64 institutions in indoor track and field championships. In the spring, points will only be awarded if the finish is higher than in the winter. If this occurs, the indoor season points will be removed from the institution's total and the outdoor points will be awarded to the total. If the outdoor finish is lower than the indoor finish, no points will be awarded in the spring.

Institutions will use the top 10 sports for each gender in Division I; the top seven sports for each gender in Division II; the top nine sports for each gender in Division III; and the top six sports for each gender in the NAIA. For example, in Division I, points will automatically be awarded to an institution in the first 10 sports per gender in which it scores. If an institution scores in more than 10 sports per gender, points will be awarded for the sport which recorded a higher finish. Thus, if an institution scores in men's tennis as its 11th sport, but the points for men's tennis are greater than men's basketball, the points for basketball will be removed from the institution's total and the points for tennis will be added to the total. If the finish in tennis is lower than the finish in basketball, no points will be awarded to the total.

Since the men have more possible sports in which to score, fencing and skiing will initially be counted in the women's tally. However, these sports can be switched into the men's tally if the women score in more than their permissible number of sports. This
scoring will be determined by the NACDA office so as to give the institution the most points possible.

The scoring for rifle will be determined by the structure of the team. Rifle will be counted for the gender that has a higher percentage of members on the team. Thus, if 55 percent of the team is male, it may only be used as a men's sport.

Sports Not Included
Sports that will not be included in the Sears Directors' Cup standings are any sports not included in the divisional lists.

Field Sizes
The maximum field size for Division I men's basketball is 65 teams and for all other sports, 64 teams. (See accompanying chart.)

If there are more than 64 institutions at a championship, only the top 64 will be included. If two or more teams tie for the 64th spot (i.e., as in track and field or wrestling), then only the top 63 teams will receive points. If there are less than 64 teams at a championship, all teams that compete at the championship may receive points in the Sears Directors' Cup standings.

Conference Championships/National Polls
An institution's finish in conference championships or ranking in national polls, with the exception of the I-A football poll (USA TODAY/ESPN Coaches' Poll), will not count toward the point tally in the Sears Directors' Cup standings. All points are based on an institution's finish in the NCAA or NAIA championships.
<table>
<thead>
<tr>
<th>Zscore (QAPP)</th>
<th>Cor. Item</th>
<th>t Total</th>
<th>SUMSTAFF</th>
<th>SUMPLAN</th>
<th>SUMPHIL</th>
<th>SUMTRA1</th>
<th>N</th>
<th>SUMCOMP</th>
<th>SUMEVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>-.1101</td>
<td></td>
<td>.292</td>
<td>.191</td>
<td>.191</td>
<td>.263</td>
<td>.304</td>
<td>.064</td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.357</td>
<td>.553</td>
<td>.552</td>
<td>.408</td>
<td>.337</td>
<td>.843</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zscore (SELTEST)</td>
<td>.2689</td>
<td></td>
<td>.618</td>
<td>-.101</td>
<td>-.064</td>
<td>-.318</td>
<td>-.422</td>
<td>.286</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.032</td>
<td>.754</td>
<td>.842</td>
<td>.313</td>
<td>.172</td>
<td>.364</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zscore (SELIND)</td>
<td>.4936</td>
<td></td>
<td>.764</td>
<td>.175</td>
<td>.210</td>
<td>.263</td>
<td>-.132</td>
<td>.571</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.004</td>
<td>.587</td>
<td>.513</td>
<td>.408</td>
<td>.683</td>
<td>.053</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zscore (SELFANL)</td>
<td>.6250</td>
<td></td>
<td>.837</td>
<td>.090</td>
<td>.347</td>
<td>.365</td>
<td>-.126</td>
<td>.480</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.780</td>
<td>.270</td>
<td>.243</td>
<td>.695</td>
<td>.115</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zscore (PLAN)</td>
<td>.282</td>
<td></td>
<td>.114</td>
<td>.801</td>
<td>.356</td>
<td>.152</td>
<td>.063</td>
<td>-.112</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.724</td>
<td>.002</td>
<td>.256</td>
<td>.636</td>
<td>.846</td>
<td>.728</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zscore (JOBANAL)</td>
<td>.282</td>
<td></td>
<td>.112</td>
<td>.801</td>
<td>.425</td>
<td>.044</td>
<td>.182</td>
<td>-.299</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.729</td>
<td>.002</td>
<td>.168</td>
<td>.892</td>
<td>.572</td>
<td>.344</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zscore (PROMW)</td>
<td>.0433</td>
<td></td>
<td>.104</td>
<td>-.309</td>
<td>.373</td>
<td>.168</td>
<td>.278</td>
<td>.393</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.748</td>
<td>.329</td>
<td>.232</td>
<td>.602</td>
<td>.382</td>
<td>.206</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zscore (PROMMT)</td>
<td>.7059</td>
<td></td>
<td>.478</td>
<td>.707</td>
<td>.853</td>
<td>.487</td>
<td>.394</td>
<td>.044</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.116</td>
<td>.010</td>
<td>.000</td>
<td>.108</td>
<td>.205</td>
<td>.893</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zscore (INFEML)</td>
<td>.7254</td>
<td></td>
<td>-.069</td>
<td>.547</td>
<td>.864</td>
<td>.329</td>
<td>.744</td>
<td>-.172</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.831</td>
<td>.066</td>
<td>.000</td>
<td>.297</td>
<td>.006</td>
<td>.592</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zscore (INFMTG)</td>
<td>.8210</td>
<td></td>
<td>.304</td>
<td>.520</td>
<td>.915</td>
<td>.354</td>
<td>.574</td>
<td>.003</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.336</td>
<td>.083</td>
<td>.000</td>
<td>.258</td>
<td>.251</td>
<td>.994</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zscore (GRIEV)</td>
<td>.453</td>
<td></td>
<td>.120</td>
<td>-.051</td>
<td>.105</td>
<td>.841</td>
<td>.176</td>
<td>.498</td>
<td></td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.725</td>
<td>.881</td>
<td>.758</td>
<td>.001</td>
<td>.605</td>
<td>.664</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
<table>
<thead>
<tr>
<th>Zscore (TRNEXP)</th>
<th>Pearson Correlation</th>
<th>Cor. Item to Total</th>
<th>SUMSTAFF</th>
<th>SUMPLA</th>
<th>SUMPHIL</th>
<th>SUMTRAIN</th>
<th>N</th>
<th>SUMCOMP</th>
<th>SUMEVAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.251</td>
<td>.079</td>
<td>.10</td>
<td>.147</td>
<td>.740</td>
<td>.039</td>
<td>-.099</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>11</td>
<td>1</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Zscore (MULTJOB)</td>
<td>Pearson Correlation</td>
<td></td>
<td>-.380</td>
<td>.208</td>
<td>.15</td>
<td>.514</td>
<td>.194</td>
<td>.245</td>
<td>-.076</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.517</td>
<td>.63</td>
<td>.088</td>
<td>.546</td>
<td>.442</td>
<td>.814</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>12</td>
<td>1</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Zscore (COMP$)</td>
<td>Pearson Correlation</td>
<td></td>
<td>.122</td>
<td>.179</td>
<td>.34</td>
<td>.803</td>
<td>.364</td>
<td>.588</td>
<td>-.204</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.577</td>
<td>.27</td>
<td>.002</td>
<td>.244</td>
<td>.044</td>
<td>.524</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>12</td>
<td>1</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Zscore (BONUS$)</td>
<td>Pearson Correlation</td>
<td></td>
<td>-.205</td>
<td>.088</td>
<td>-.13</td>
<td>.084</td>
<td>-.205</td>
<td>.326</td>
<td>.324</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.785</td>
<td>.68</td>
<td>.795</td>
<td>.523</td>
<td>.301</td>
<td>.305</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>12</td>
<td>1</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Zscore (HPERF)</td>
<td>Pearson Correlation</td>
<td></td>
<td>.591</td>
<td>.376</td>
<td>-.06</td>
<td>.367</td>
<td>.353</td>
<td>.850</td>
<td>.234</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.255</td>
<td>.84</td>
<td>.267</td>
<td>.288</td>
<td>.001</td>
<td>.489</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>11</td>
<td>1</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Zscore (LPERF)</td>
<td>Pearson Correlation</td>
<td></td>
<td>.069</td>
<td>-.281</td>
<td>.19</td>
<td>.203</td>
<td>.071</td>
<td>.522</td>
<td>.021</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.403</td>
<td>.56</td>
<td>.548</td>
<td>.835</td>
<td>.100</td>
<td>.951</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>11</td>
<td>1</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Zscore (APPRAISE)</td>
<td>Pearson Correlation</td>
<td></td>
<td>.500</td>
<td>.280</td>
<td>-.30</td>
<td>.034</td>
<td>-.014</td>
<td>.375</td>
<td>.848</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.378</td>
<td>.33</td>
<td>.916</td>
<td>.967</td>
<td>.229</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>12</td>
<td>1</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Zscore (PAYPERF)</td>
<td>Pearson Correlation</td>
<td></td>
<td>-.195</td>
<td>-.134</td>
<td>-.25</td>
<td>-.123</td>
<td>-.291</td>
<td>-.040</td>
<td>.356</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.679</td>
<td>.42</td>
<td>.704</td>
<td>.359</td>
<td>.903</td>
<td>.256</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>12</td>
<td>1</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Zscore (PERFOBJ)</td>
<td>Pearson Correlation</td>
<td></td>
<td>-.283</td>
<td>.680</td>
<td>-.07</td>
<td>-.106</td>
<td>-.274</td>
<td>-.249</td>
<td>.256</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>-.015</td>
<td>.82</td>
<td>.742</td>
<td>.388</td>
<td>.436</td>
<td>.422</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>12</td>
<td>1</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Zscore (SURVEY)</td>
<td>Pearson Correlation</td>
<td></td>
<td>-.169</td>
<td>.109</td>
<td>.16</td>
<td>.356</td>
<td>.547</td>
<td>.222</td>
<td>.383</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.736</td>
<td>.61</td>
<td>.256</td>
<td>.066</td>
<td>.489</td>
<td>.219</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
<td>12</td>
<td>1</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>

Alpha = .7054

SUMSTAFF = Qapp, seltest, selind, selpanl (4 items) Alpha = .487
SUMPLAN = plan, jobanal (2 items) Alpha = .44
SUMPHIL = promwin, prommt, infeml, infmtg, griev (5 items) Alpha = .74
SUMTRAIN = trainnew, trainexp, multjob (3 items) Alpha = .027
SUMCOMP = comp$, bonus$, hperf, lperf (4 items) Alpha = .23
SUMEVAL = appraise, payperf, perfobj, survey (4 items) Alpha = .23
APPENDIX J

Comparison of Early to Late Respondents
<table>
<thead>
<tr>
<th>Gender</th>
<th>Early</th>
<th>Late</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>225</td>
<td>47</td>
<td>272</td>
</tr>
<tr>
<td>Female</td>
<td>84</td>
<td>17</td>
<td>101</td>
</tr>
<tr>
<td>Total</td>
<td>309</td>
<td>64</td>
<td>373</td>
</tr>
</tbody>
</table>

Cramer's V = 0.005

Note: Cramer’s V is non-significant at p< 0.05

Table J.1 Chi-Square Comparison of Early to Late Coach Respondents by Gender (n=373)
<table>
<thead>
<tr>
<th>Sport</th>
<th>Early</th>
<th>Late</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Football</td>
<td>14</td>
<td>7</td>
<td>21</td>
</tr>
<tr>
<td>M. Basketball</td>
<td>12</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>M. Baseball</td>
<td>17</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>M. Cross Country</td>
<td>18</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>M. Crew</td>
<td>5</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>M Golf</td>
<td>17</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>M. Ice Hockey</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>M. LaCrosse</td>
<td>8</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>M. Skiing</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>M. Soccer</td>
<td>22</td>
<td>3</td>
<td>25</td>
</tr>
<tr>
<td>M. Swimming</td>
<td>10</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>M. Tennis</td>
<td>17</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>M. Track &amp; Field</td>
<td>11</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>M. Volleyball</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>M. Wrestling</td>
<td>9</td>
<td>4</td>
<td>13</td>
</tr>
</tbody>
</table>

(Continued)

Table J.2 Chi-Square Comparison of Early to Late Coach Respondents by Sport (n=373)
<table>
<thead>
<tr>
<th>Sport</th>
<th>Early</th>
<th>Late</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>W. Basketball</td>
<td>14</td>
<td>5</td>
<td>19</td>
</tr>
<tr>
<td>W. Cross Country</td>
<td>17</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>W. Cross Country</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>W. Golf</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>W. Gymnastics</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>W. Ice Hockey</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>W. LaCrosse</td>
<td>9</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>W. Skiing</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>W. Soccer</td>
<td>16</td>
<td>5</td>
<td>21</td>
</tr>
<tr>
<td>W. Softball</td>
<td>14</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>W. Swimming</td>
<td>12</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>W. Tennis</td>
<td>18</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>W. Track &amp; Field</td>
<td>10</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>W. Volleyball</td>
<td>17</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>309</td>
<td>64</td>
<td>373</td>
</tr>
</tbody>
</table>

Cramer's V = 0.25

Note: Cramer's V is non-significant at p < 0.05
<table>
<thead>
<tr>
<th>Response Time</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction</td>
<td>0</td>
<td>309</td>
<td>6.08</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>64</td>
<td>6.08</td>
</tr>
<tr>
<td>Commitment</td>
<td>0</td>
<td>309</td>
<td>5.01</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>64</td>
<td>5.04</td>
</tr>
<tr>
<td>Performance</td>
<td>0</td>
<td>309</td>
<td>0.56</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>64</td>
<td>0.59</td>
</tr>
<tr>
<td>Tenure</td>
<td>0</td>
<td>309</td>
<td>8.44</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>64</td>
<td>8.26</td>
</tr>
<tr>
<td>Age</td>
<td>0</td>
<td>309</td>
<td>41.16</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>64</td>
<td>39.91</td>
</tr>
</tbody>
</table>

(Continued)

Table J.3: T-Tests Comparing Early to Late Coach Respondents on Age, Satisfaction, Commitment, Tenure and Performance (n=373)
(Table J.3 Continued)

<table>
<thead>
<tr>
<th></th>
<th>Levene's Test for Eq. of Variances</th>
<th>T-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>t</td>
</tr>
<tr>
<td><strong>Satisfaction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>0.023</td>
<td>-0.016</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td>0.016</td>
</tr>
<tr>
<td><strong>Commitment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>1.983</td>
<td>-0.207</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td>0.223</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>0.254</td>
<td>-1.151</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td>1.113</td>
</tr>
<tr>
<td><strong>Tenure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>0.516</td>
<td>0.170</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td>0.165</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>0.139</td>
<td>0.919</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td>0.932</td>
</tr>
</tbody>
</table>

Table J.3: (Continued) T-Tests Comparing Early to Late Coach Respondents on Age, Satisfaction, Commitment, Tenure and Performance (n=373)
<table>
<thead>
<tr>
<th>Levene's Test for Eq. of Variances</th>
<th>T-test for Equality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Average Budget</td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>0.656</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
</tr>
<tr>
<td>Importance of Sears Cup</td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>0.055</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
</tr>
<tr>
<td>Sears Cup Points</td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>1.363</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
</tr>
<tr>
<td>Graduation Rates</td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>0.244</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
</tr>
<tr>
<td>HR Index</td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>1.219</td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
</tr>
</tbody>
</table>

Note: ** p < 0.05

Table J.4: T-Tests Comparing Early to Late Athletic Director Respondents on Average Budget, Importance of Sears Cup, Sears Cup Points, Graduation Rates, and HR Index (n=47)
APPENDIX K

Bivariate Correlations
<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction</td>
<td>373</td>
<td>-0.045</td>
</tr>
<tr>
<td>Tenure</td>
<td>373</td>
<td>0.03</td>
</tr>
<tr>
<td>Performance</td>
<td>373</td>
<td>-0.004</td>
</tr>
<tr>
<td>Commitment</td>
<td>373</td>
<td>-0.041</td>
</tr>
</tbody>
</table>

Note: No correlations were significant at \( p < 0.05 \)

Table K.1: Coach Sample: Point Bi-Serial Correlations: Gender x Dependent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction</td>
<td>373</td>
<td>0.074</td>
</tr>
<tr>
<td>Tenure</td>
<td>373</td>
<td>**.567</td>
</tr>
<tr>
<td>Performance</td>
<td>373</td>
<td>**0.11</td>
</tr>
<tr>
<td>Commitment</td>
<td>373</td>
<td>***0.166</td>
</tr>
</tbody>
</table>

Note: *** \( p < .01 \), ** \( p < .05 \)

Table K.2: Coaching Sample: Pearson's Correlations: Age x Dependent Variables
<table>
<thead>
<tr>
<th></th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>11.552</td>
<td>28</td>
<td>0.413</td>
<td>0.684</td>
</tr>
<tr>
<td>Within Groups</td>
<td>207.571</td>
<td>344</td>
<td>0.603</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>219.123</td>
<td>372</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tenure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>1695.465</td>
<td>28</td>
<td>60.552</td>
<td>1.059</td>
</tr>
<tr>
<td>Within Groups</td>
<td>19665.406</td>
<td>344</td>
<td>57.167</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>21360.871</td>
<td>372</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>1.63</td>
<td>28</td>
<td>5.82E-02</td>
<td>1.329</td>
</tr>
<tr>
<td>Within Groups</td>
<td>15.061</td>
<td>344</td>
<td>4.38E-02</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16.691</td>
<td>372</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commitment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>26.639</td>
<td>28</td>
<td>0.951</td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>391.264</td>
<td>344</td>
<td>1.137</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>417.902</td>
<td>372</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: No group differences were significant at p<.05

Table K.3 Coaching Sample: ANOVA: Sport x Dependent Variables
### Table K.4: Athletic Director Sample: Point Bi-Serial Correlations: Gender x Independent and Dependent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sears Cup Points</td>
<td>47</td>
<td>-0.13</td>
</tr>
<tr>
<td>Graduation Rates</td>
<td>47</td>
<td>-0.09</td>
</tr>
<tr>
<td>HR Index</td>
<td>47</td>
<td>0.242</td>
</tr>
</tbody>
</table>

Note: No correlations were significant at \( p < 0.05 \)

### Table K.5: Athletic Director Sample: Pearson's Correlations: Avg. Budget x Independent and Dependent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sears Cup Points</td>
<td>47</td>
<td>0.122</td>
</tr>
<tr>
<td>Graduation Rates</td>
<td>47</td>
<td>0.062</td>
</tr>
<tr>
<td>HR Index</td>
<td>47</td>
<td><strong>0.31</strong></td>
</tr>
</tbody>
</table>

Note: ** \( p < 0.05 \)
<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sears Cup Points</td>
<td>47</td>
<td>***0.432</td>
</tr>
<tr>
<td>Graduation Rate</td>
<td>47</td>
<td>***0.569</td>
</tr>
<tr>
<td>HR Index</td>
<td></td>
<td>0.082</td>
</tr>
</tbody>
</table>

Note: *** $p < .01$, ** $p < .05$

Table K.6: Athletic Director Sample: Pearson's Correlations: Total Sports x Independent and Dependent Variables