




2021

High Performance: Exploratory Study into the High Performance Model and Qualitative Secondary Analysis of Elite Sport Management in the United States

Jon Gregory Hill

University of Kentucky, coachjonhill@gmail.com

Author ORCID Identifier:

 <https://orcid.org/0000-0003-2906-6321>

Digital Object Identifier: <https://doi.org/10.13023/etd.2021.081>

[Right click to open a feedback form in a new tab to let us know how this document benefits you.](#)

Recommended Citation

Hill, Jon Gregory, "High Performance: Exploratory Study into the High Performance Model and Qualitative Secondary Analysis of Elite Sport Management in the United States" (2021). *Theses and Dissertations--Education Sciences*. 87.

https://uknowledge.uky.edu/edsc_etds/87

This Doctoral Dissertation is brought to you for free and open access by the College of Education at UKnowledge. It has been accepted for inclusion in Theses and Dissertations--Education Sciences by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@sv.uky.edu.

STUDENT AGREEMENT:

I represent that my thesis or dissertation and abstract are my original work. Proper attribution has been given to all outside sources. I understand that I am solely responsible for obtaining any needed copyright permissions. I have obtained needed written permission statement(s) from the owner(s) of each third-party copyrighted matter to be included in my work, allowing electronic distribution (if such use is not permitted by the fair use doctrine) which will be submitted to UKnowledge as Additional File.

I hereby grant to The University of Kentucky and its agents the irrevocable, non-exclusive, and royalty-free license to archive and make accessible my work in whole or in part in all forms of media, now or hereafter known. I agree that the document mentioned above may be made available immediately for worldwide access unless an embargo applies.

I retain all other ownership rights to the copyright of my work. I also retain the right to use in future works (such as articles or books) all or part of my work. I understand that I am free to register the copyright to my work.

REVIEW, APPROVAL AND ACCEPTANCE

The document mentioned above has been reviewed and accepted by the student's advisor, on behalf of the advisory committee, and by the Director of Graduate Studies (DGS), on behalf of the program; we verify that this is the final, approved version of the student's thesis including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Jon Gregory Hill, Student

Dr. Heather Erwin, Major Professor

Dr. Melinda Ickes, Director of Graduate Studies

High Performance: Exploratory Study into the High Performance Model and Qualitative
Secondary Analysis of Elite Sport Management in the United States

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Education
at the University of Kentucky

By
Jon Gregory Hill
Lexington, Kentucky
Director: Dr. Heather Erwin, Department Chair and Professor of Kinesiology and Health
Promotion
Lexington, Kentucky
2021

Copyright © Jon Gregory Hill 2021
<https://orcid.org/0000-0003-2906-6321>

ABSTRACT OF DISSERTATION

High Performance: Exploratory study into the High Performance Model and Qualitative Secondary Analysis of Elite Sport Management in the United States

This dissertation examines the area of high performance in elite sport through high performance professionals' perspectives in the United States Olympic and Paralympic National Governing Bodies. The study's purpose was to establish a shared meaning of the high performance sport management model by its elements in the athletic arena. Interviews with 16 high performance directors and managers were conducted to establish definitions, backgrounds, and anatomy of high performance in sport: high performance, high performance sport, high performance management, high performance model.

A qualitative secondary analysis was conducted to examine the high performance model in the U.S. and explore the job responsibilities of high performance directors in elite sport. In particular to this study, the secondary research questions were a part of the original question script, allowing data analysis from responses within the original interviews.

This paper introduces and recognizes two separate high performance models, an International and a United States model, along with introducing a functional definition of the elements that represent the two models. As part of improving the high performance approach, management and leadership characteristics are presented to strengthen organizations and leaders in elite sport development. A university degree program and internship placement strategies are suggested as a core education and student experience to introduce future elite sports leaders to the high performance environment.

The study's findings show a lack of definition, implementation, and understanding of high performance management and the high performance model in this country. High performance consists of elite-level athletes competing on the professional or world stage, supported by coaches, sport sciences, and a high performance department that assists performance improvement through management and administration, not solely through direct athlete performance services. Establishing a common approach to high performance management is essential for performance development personnel to progress and enhance training quality for the athlete and staff here in the United States.

KEYWORDS: Sport Management, High Performance, Leadership, Model, Olympics

Jon Gregory Hill
(Name of Student)

05/07/2021
Date

High Performance: Exploratory Study into the High Performance Model and Qualitative
Secondary Analysis of Elite Sport Management in the United States

By
Jon Gregory Hill

Dr. Heather Erwin

Director of Dissertation

Dr. Melinda Ickes

Director of Graduate Studies

05/07/2021

Date

ACKNOWLEDGMENTS

The following dissertation would have never been possible without the direction and guidance of several people. First, my Dissertation Chair, Dr. Heather Erwin, your support and constant positivity kept me on track. In addition, Dr. Beth Rous guided and taught me the research process, allowing me to inevitably accomplishing this goal. Next, I wish to thank the complete Dissertation Committee, and outside examiner, respectively: Dr. Mark G. Abel, Dr. Aaron Beighle, Dr. Marc Cormier, and Dr. Chris Morris. Each individual provided insights that guided my research, supported me throughout the process, and collectively are the reasons I am able to produce a finished product.

In addition to the professionals listed above, I received equally important assistance from family and friends. My wife Jamie provided on-going support throughout the dissertation process. Without her love and encouragement, this never would have happened. To my mother, who is the reason I'm here today, I love you more than you will ever know. To my father, Pops, I wish you could have seen this. My sister and brother, you have always had my back, believed I could do anything, and loved me like no other siblings could. You will call me doctor. To all of my family, I have the biggest and strongest fan club a man could possibly ask for. Finally, I wish to thank the participants of my study. The elite sport professionals who took the time to talk to a student and inevitably made this happen. Thank you.

TABLE OF CONTENTS

Acknowledgements	iii
Table of Contents	iv
List of Figures	vi
Chapter 1: Introduction	1
Introduction.....	1
Purpose and Significance of the Study.....	3
Research Questions and Study Design Overview.....	3
Assumptions and Definitions of Terms.....	4
Qualitative Research Methods	4
Definition of Terms.....	5
Research Defined High Performance Management in Sport.....	6
Defining High Performance.....	9
Defining High Performance Management.....	10
Defining the ‘Model’ of High Performance	10
Defining Sport Science(s).....	11
Study Limitations.....	12
Dissertation Organization	13
Chapter 2: A Qualitative Study to Define High Performance in the United States.....	16
Introduction.....	17
Method.....	20
Research Design	20
Research Sample/Data Sources.....	21
Data Collection Instruments and Procedures.....	22
Data Analysis	23
Results	25
High Performance	25
High Performance Sport.....	28
High Performance Management	28
High Performance Model	31
Discussion.....	32
Strengths and Limitations.....	39
Conclusion	40
Chapter 3: Examining the High Performance Sport Leadership Position: A Secondary Data Anyalysis of Interviews.....	42
Introduction.....	43
Study Design.....	46
Theoretical Framework	49
Methods	49

Data Set Evaluations	50
Data Coding and Analysis	52
Results	52
Role and Responsibilities of the High Performance Director.....	53
Administrative.....	53
Performance Support.....	63
Discussion.....	65
Strengths and Limitations.....	72
Conclusion	74
Chapter 4: Moving the Field of High Performance Sport Management in the United States Forward	78
Introduction.....	78
Future of High Performance Sports Management in the United States	80
High Performance 'Model(s)'	81
The International High Performance Model.....	82
The U.S. High Performance Model.....	90
High Performance Management and Leadership.....	97
The Management of High Performance	98
Defining Performance and Success.....	99
Performance Management.....	101
Personnel Management.....	102
Organizational Leadership.....	104
High Performance Leadership	105
Effective Communication.....	105
Talent Identification, Development, and Retention Focused.....	107
Culture Mindset.....	109
Conflict Resolution.....	111
High Performance Model Education and Experience.....	112
High Performance Sport Graduate Degree Program.....	112
Internship Experience and Placement Strategy.....	114
Conclusion	116
Appendices	121
Appendix A.....	121
Appendix B.....	122
Appendix C.....	123
References	125
Vita.....	148

LIST OF FIGURES

Figure 3.1 Administrative.....	54
Figure 4.1 High Performance 'Model(s)'.....	83
Figure 4.2 High Performance Management and Leadership.....	98

CHAPTER 1

Introduction

In recent years, thinking among sport management researchers and sport science professionals has shifted. The previous focus on separating individual areas of performance science integration and management philosophies has begun to be replaced by a new approach. This novel method integrates athlete development principles directed by a management model grounded in organizational leadership theory (Arnold et al., 2015). High performance sport management is a growing sub-category within the sport management field. This approach focuses on the unique blend of management, leadership, and performance development expected for the elite levels of sport competition. Despite growing interest in the topic of high performance sport management, there is much we do not know.

Sotiriadou and De Bosscher (2013) state that the “shifts in industry practices (i.e., hiring high performance directors and placing an emphasis on high performance management practices) have not been matched with an equivalent focus of academic inquiry that would help define the field, distinguish it from other fields and illustrate its significance in empirical ways” (p.xiii). Examined both quantitatively (Armstrong et al., 1991; De Bosscher et al., 2007a; Erickson et al., 2007; Ross et al., 2018) and qualitatively (Arnold et al., 2012; Eubank et al., 2014; Fletcher & Arnold, 2011; Smolianov & Zakus, 2006; Sotiriadou & De Bosscher, 2018), there is a considerable body of research on high performance sports management examining successful practices, traits, characteristics, and management models overseas. Although research and model studies inform sport managers on factors that lead to organizational success and performance development

trends in elite sport, the definition and understanding of high performance sport management here in the United States (U.S.) is virtually nonexistent.

This dissertation reports empirical findings from a study examining high performance professionals' views and experiences within high performance departments in U.S. Olympic and Paralympic sports. This was an explorative study to define high performance elements, review the job role and responsibilities of high performance leadership, and provide recommendations to move the field forward from face-to-face interviews and secondary analysis of document data. Because sport management is understood as a system, there is considerable potential for elite sport organizations to design and provide a positive and purposeful influence on the development of athletes and staff through relevant programs, courses, services, and events. These are intricate sport management systems that integrate business knowledge, performance development, motivation, focus on professional and leadership development, and measures to improve culture, organization, and performance.

This research study also presents discoveries that occurred due to the exploration and application of qualitative secondary analysis. Differences in the high performance director position and management model in the U.S. through secondary analysis of qualitative datasets are described, and suggestions are provided to move the high performance sport management field forward. This chapter outlines the research problem, identifies the study's purpose and significance, introduces research defined terms used in the dissertation, definitions, assumptions, and discusses research questions and study design. The chapter finishes with the study limitations and organization of this dissertation.

Purpose and Significance of the Study

This study focused on examining current high performance sport professionals' perspectives in the U.S. Olympic arena to define the high performance sport model and explore the high performance director position. The study sought to increase understanding of how high performance is regarded in the U.S., how current high performance staff view and experience high performance management, and create a definition for the high performance model. This study employed the qualitative method of face-to-face interviews and secondary data analysis to introduce and further examine a relatively new area of research, contributing to the general body of knowledge of the high performance sport management model and leadership research. Until submitting this dissertation, no published studies have explored the management model, leadership, and development in the U.S. using interviews from current high performance sport practitioners and secondary analysis of qualitative data. Therefore, this study is significant because it (a) establishes the framework of a high performance model in U.S. elite sport, (b) represents high performance sport leaders voices on the concept of high performance management, (c) explores their perspectives of the high performance model and its implementation in the U.S., (d) introduces the job roles and responsibilities of the director position, and (d) identifies ways to move the performance field forward and describes ways to prepare future sport sciences professionals for leadership roles in high performance departments.

Research Questions and Study Design Overview

As this study focused on introducing and defining the components of U.S. high performance, the following research questions were addressed:

1. What is the high performance model, the current practices in high performance departments in the U.S., and how does it compare to research conducted in the area?
2. How do high performance professionals view and implement this form of elite sports performance management?

A qualitative research design using interviews and secondary data analysis was utilized to answer these research questions. Several data collection methods were used, including semi-structured face-to-face interviews, audio transcription analysis, and document review. There were 16 study participants from 14 different U.S. Olympic sports, 10 of whom were high performance directors, four high performance coordinators, and two high performance managers. Participation in the original study was voluntary; the participants were selected based on holding the job title containing high performance within a U.S. Olympic National Governing Body (NGB). The purpose of the original research presented in Chapter 2 was to define key areas of high performance management. Chapter 2 was relevant to the second research study's aims in Chapter 3, which was to describe the work expectations and job role of high performance directors in U.S. elite sport organizations to examine high performance further.

Assumptions and Definitions of Terms

Qualitative Research Methods

This dissertation used interviews and secondary analysis. There was one assumption regarding interviews and face-to-face classification. Conducting interviews during the COVID pandemic, all interviews were done over a video conference application instead of in-person but classified as face-to-face. Regarding the qualitative secondary data analysis, the original data set and the data set used for secondary research

resulted from the initial and only interviews conducted. The limitations and strengths of conducting both qualitative methods will be explored in Chapters 2 & 3.

The term “original study” specifies the study for which the data were primarily collected. The data collected for the original study's purposes (Chapter 2) are referred to as the original data set or primary data (Sherif, 2016).

The term “original researcher” specifies the individual(s) who conducted the qualitative research methods. For this study, the original researcher and the researcher who conducted the qualitative secondary data analysis (Chapter 3) are the same individuals, the author of this dissertation.

Definition of Terms

There is research to define the terms used in the high performance sport spectrum. Establishing definitions was an emphasis of the original study and presented in the first manuscript. The following are terms used throughout the dissertation assumed to be understood without defining within the studies.

The term “high performance professional” refers to individuals who hold a job title of high performance and work in elite sports. For this study, the participants work in a high performance department within a U.S. Olympic or Paralympic sport.

The term “National Governing Body” refers to the organizations that oversee all aspects of their sports. They are responsible for the training, competition, and development of athletes for their sports and nominating athletes to the U.S. Olympic, Paralympic, Youth Olympic, Pan American, and Para-Pan American Teams. There are currently 49 Summer and 15 Winter Olympic NGBs, and 28 Paralympic NGBs (International Paralympic Committee, n.d.; Olympic, 2021).

The term “United States Olympic and Paralympic Committee” refers to the National Olympic Committee and the National Paralympic Committee responsible for supporting and overseeing U.S. teams for the Olympic Games, Paralympic Games, Youth Olympic Games, Pan American Games, and Parapan American Games (United States Olympic & Paralympic Committee, 2021).

The term “Olympic” refers to the modern Olympic Games or Olympics, which are the apex of international sporting events that feature summer and winter sports competitions. Considered the world’s foremost sports competition, the Olympic Games consist of more than 200 nations and thousands of athletes worldwide. The Olympic Games are typically held every four years, alternating between the Summer and Winter Olympics every two years (Olympic Games, 2021).

The term “Paralympic” refers to the Paralympic Games or Paralympics, a series of international multi-sport events involving athletes with a range of disabilities, including physical, vision, and intellectual impairment. The Paralympics consist of Winter and Summer Games and are held following the Olympic Games (Paralympic Games, 2021).

Research Defined High Performance Management in Sport

Over the last decade, the term high performance went from Cold War performance factories to becoming entrenched in the sporting industry's upper echelons and into mass sport vernacular. Particularly here in the U.S., one would be hard-pressed to find a professional sport that does not advertise a high performance approach or have a high performance director. From the Olympics and professional ranks to collegiate athletics, elite sport success is highly sought after. The more wins in a season, the further a team

advances into the playoffs, the longer a university can stay in a tournament, all equate to an increase in revenue streams. The desire solely for-profit margin is not the only driving force to remain relevant in elite athletics. The operating costs to stay current have become even more significant. Talented athletes still compete against each other, but their success has increasingly become dependent on the performance capacity of the system they represent. Elite-level athletes need the skillset to compete at the highest level. However, there has been a steady increase in reliance on a high performance sports staff and associated management model (De Bosscher & van Bottenburg, 2011).

Over the last 20 years, performance departments have grown in size, sophistication, and complexity (Sotiriadou, 2013). This growth has led to the rise of a sub-category of sport management, a business-focused management approach that emphasizes athletic development. High performance sport management has become an area of more significant research. International professional sports and European Olympic organizations began expanding on the Cold War high performance sports model with great success. Traditionally, the sport sciences have been the major contributor to excellence in performance. However, as the world of elite sports became more strategic in producing high-level athletes and teams for competition, their focus began looking beyond the simple application of sports science and coaching as the only baselines for successful performance (Alder, 2015). Research into the needs of elite athletes, and the systems supporting them, have developed into separate domains of expertise such as data science and analytics, skill acquisition, biomechanics, sports psychology, and sports medicine (Baker, 2012). Sport sciences and medicine are essentials for athlete development and success, but successful sport development requires more than science

and medicine experts. The total development of team and athlete starts at an organizational level. It involves sports management with strategic, operational, and financial planning. These plans set goals, objectives, and staff direction. High performance management is a sports management process rather than merely a product of biological, psychological, data analytics, or physical attributes (Sotiriadou & Shilbury, 2013).

Many issues have presented themselves due to a lack of clarity or definition for high performance, the high performance model, and the application of high performance management. Maybe the biggest culprit is viewing the high performance sport position and the high performance sports model as an individual resident expert in every performance improvement discipline, instead of leadership, management, and organizational centered. Lyle (1997) argues that the management system's delivery determines the distinction between the development of excellence and the pursuit of excellence. Thus, it is imperative to establish a shared meaning for a high performance sport management model. Forming a common approach is essential to progress sport itself and the quality of training for the athlete and the staff. In defining high performance sport management, it is crucial to determine the elements of high performance.

The following definitions are elements of high performance sport and management. These terms are defined from research and literature on high performance management. One of the study's overarching purposes was to refine these definitions of common elements further to address gaps in research and move the field forward by establishing a foundation for this emerging area of sport management in the U.S. and the utilization of a high performance model.

Defining High Performance

High performance refers to the process and outcomes in a daily training environment and competition at the elite end of the sport spectrum (Sotiriadou & De Bosscher, 2013). Elite athletes competing at the elite level alone separates a high performance sports program from the mass majority of programs. However, focusing on process and outcomes while emphasizing planning and structure raises the bar in performance development. High performance sport is represented by a wide range of elements outside of elite performance, including coaching, competition, sport science, talent identification, top-notch training facilities and equipment, consisting of athletes of varying ages, development stages, and talent levels.

Sotiriadou and De Bosscher (2013), in their Foundations of Sport Management book, *Managing High Performance Sport*, categorize an elite athlete as someone who has represented his or her country in a major international sporting competition. Therefore, associating this term to the level of athlete in the U.S., there are professional and Olympic athletes, but collegiate athletics would also fall into this category. Outside of high-profile sports, like football and basketball, where hundreds of these student-athletes are a year away from being on a professional roster, Olympians also compete at the collegiate level and their associated championships. Throughout the country, programs recruit and build teams with athletes from overseas, representing their country at varying competition levels. This view is a consensus among high performance professionals within the USOPC and NGB's - An athlete or team that competes at the highest level, on the biggest stage, representing their country, competing for national or international championships.

Defining High Performance Management

Practice, coaching, training, and competition are fundamentals of organized sports. Once athletes are competing at or have the potential to compete at the elite level, they become a part of an athlete development process that encompasses the use of sports science, sports medicine, talent identification, and coaching in multiple performance disciplines (Martin et al., 2005). Research on talent and athlete development distinguishes the role of sports science, sports medicine, and sport management. This is because sports sciences, sports medicine, and sport management are viewed as separate bodies of knowledge, emphasizing the former rather than the latter. Sport scientists, biomechanists, and sports medicine have a role in working with coaches and sport managers to ensure adequate attention is given to key elements of the talent and athlete development process. Hence, a definition of high performance sport management should reflect this combination of science and management for maximizing athlete development (Williams & Reilly, 2000). High performance management is a collection that consists of management, performance, measuring management performance, and excellence in elite sport (Sotiriadou, 2013).

Defining the ‘Model’ of High Performance

High performance management and the catch-all term high performance model is a contention source for its objectives, practices, and who its practitioners are (Sotiriadou & Shilbury, 2013). Forty years ago, when the Cold War raged between the East and the West, high performance sport evolved from being a contest between individuals and teams into a battle between systems. This system battle resulted in a greater need for coordination and control in high performance sport (Ferkins & van Bottenburg, 2013).

The Soviet Union and other communist European countries embraced elite sport and looked to non-traditional sport disciplines for improving performance. A high performance sports model was created to increase mass sport participation, directed towards the systematic identification and nurturing of talented athletes. This model drew a sharp distinction from the rest of the world. The model's success prompted the need for a more strategic, planned, and coordinated approach to high performance sport (Bergsgard et al., 2007). The high performance model is an approach to manage and lead elite sport. The 'model' consists of comparative modeling, management principles, departmental communication, planning, sport sciences, and a holistic approach to athlete development.

Defining Sport Science(s)

From early on, high performance sports organizations recognized the role of coaching, biomechanics, talent identification, performance specialists, and analytics. As sport grew, reaching unprecedented heights in popularity and financial gains, other areas became commonplace in elite sport. Nutrition, physiotherapy, psychology, performance analysis, data mining, and vocational guidance have taken performance development to new heights (Sotiriadou & De Bosscher, 2013). Sports science is a collective term that covers the activity, application of servicing, and research in the scientific disciplines. These include physiology, biomechanics, performance analysis, skill acquisition, decision-making, recovery, psychology, life skills, social workers, and strength and conditioning.

The addition and constant search for outside resources have added value to the elite sport market and sport sciences. With this expansion, the need for a core of full-time

experts to provide specialized skills in response to the increasingly professionalized sports industry has become commonplace to top-tier programs (Jones et al., 2008). A sport scientist is an individual who is a subject matter expert in a particular science in sport—one who contributes to the high performance sports organization, not someone who is the organization. Scientific research and sport science support provide great potential for a better partnership between science, sport, and end-users (athletes and coaches). An accurate high performance sport management model recognizes this, places these areas in a position for the most significant impact, and is coordinated through a separate leadership entity for oversight.

Study Limitations

There are several limitations associated with this study: (a) potential researcher bias, (b) sample demographics, (c) use of primary data, and (d) external validity of research findings. The study is limited by potential researcher bias. Although the data was initially collected and secondary analyzed by the author of this study, several strategies were employed to avoid incorporating personal perspectives into its aspects. Methods included: 1) during the original data collection, the questions for interviews and transcriptions were developed to ensure they did not reflect the researcher's account on the topic; 2) maintaining field notes to record opinions and experiences during the initial data collection process. Another limitation is associated with the specificities of the original study sample.

The selection of study participants was relatively consistent. Those participating in the original study were current high performance professionals in U.S. Olympic or Paralympic sport. While this sample reflects elite sport in this country, future research

should explore high performance sport organizations' perspectives outside of the Olympics. This sample selection process may also reflect the study's strengths because the participating high performance professionals are a small group in this country. They also represent a position held throughout the USOPC, which is not the case for other elite sport organizations or leagues. Since data were collected for different research purposes, a study conducted explicitly to answer research questions on the high performance model or the director position could present additional or different conclusion dimensions. The findings report only repetitive and consistent themes that emerged due to analysis of interview and transcript data.

The data used for this study reflected the perspectives of high performance sport leaders who care about the development of both athletes and staff and foresee the significance of their product in improving every aspect of performance. The data also provided perspectives on how U.S. Olympic and Paralympic high performance directors, managers, and coordinators view their job role and how it compares to the expectations of the USOPC and other high performance departments in elite sport. Last, the analyzed interviews and transcriptions represented voices only of high performance professionals in U.S. Olympic and Paralympic NGBs and those who took part in this research. Since each participant's account of high performance management is subject to the differences in sports and the NGB size, findings are limited to the personal experiences in management and implementation of the model from each participant.

Dissertation Organization

This dissertation is written and organized in an article-style format. The ensuing three chapters are intended to be independent manuscripts ready for publication. The

following is a summary of the objectives of each chapter. Chapter 2 is an explorative study that examines the views of high performance professionals who currently hold a leadership position in U.S. elite sport. The findings result in a presentation defining elements of high performance sport management: 1) high performance, 2) high performance sport, 3) high performance management, and 4) high performance model. Data from the interviews, current research, and literature led to a framework of the high performance model offered in the study.

Chapter 3 reports findings derived from a secondary analysis of qualitative data resulting from interviews conducted with current high performance sport professionals in U.S. Olympic and Paralympic sports. These elite sports personnel's opinions are collected to describe the job role and responsibilities, identify practices that contribute to performance development, and their experiences as leaders in high performance. This chapter also illustrates the use of the methodology of secondary analysis applied to interview and document data. The re-analysis of these data explains how previously collected data can be used to answer new research questions and how the challenges of conducting secondary analysis can be overcome.

Chapter 4 presents two high performance models, the International model and the U.S. model. The U.S. version of the high performance model and the characteristics that define it is a new approach and recognition of separate systems that have never been addressed in research until now. It also addresses essential elements of performance management and successful high performance leadership characteristics, including recommendations for moving the field forward. These findings emerged from the review of existing research on high performance sport management, management principles,

developmental theories, and results from the secondary analysis study presented in Chapter 3. Beyond establishing global definitions, the information provided in Chapter 4 can help novice or experienced practitioners expand their management and leadership approaches in elite sport.

CHAPTER 2

A Qualitative Study to Define High Performance in the United States

Abstract. This paper examines perspectives of high performance in elite sport through the eyes of high performance professionals in the United States Olympic and Paralympic National Governing Bodies. The study's purpose was to explore the high performance model by its elements and provide definitions for those who work in this arena. Individual interviews with 16 high performance directors and managers were conducted to establish definitions, backgrounds, and anatomy of high performance in sport with a specific look at high performance, high performance sport, high performance management, and the high performance model. Establishing a common approach to high performance management is essential for performance development personnel to progress and enhance training quality for the athlete and staff in the United States. The study's findings show a lack of definition, implementation, and understanding of high performance management and the high performance model in this country. High performance consists of elite-level athletes competing on the professional or world stage, supported by coaches, sport sciences, and a high performance department that assists performance improvement through management and administration, not solely through direct athlete performance services.

Keywords: Model, leadership, elite sport, Olympics, management

Introduction

Over the last half-century, the term high performance advanced from Cold War performance factories to becoming entrenched in the sporting industry's upper echelons and into mass sports vernacular. In the United States (U.S.), high performance departments are located throughout the U.S. Olympic and Paralympic Committee (USOPC) and embedded in every Olympic and Paralympic sport's National Governing Body (NGB). One would be hard-pressed to find a professional sport that does not advertise a high-performance approach or have a high performance position. From the Olympics and professional ranks to collegiate athletics, elite sport success is highly sought after. The desire solely for-profit margin is not the only driving force to stay relevant in elite athletics. The operating costs to stay current have become even more significant. Talented athletes still compete against each other, but their success has increasingly become dependent on the performance capacity of the system they represent. Elite-level athletes still need the skillset to compete at the highest level. However, there has been a steady increase in reliance on a high performance sports staff and associated management model (De Bosscher & van Bottenburg, 2011).

A high performance sports model or 'system' is the communication or non-communication and organization of stakeholders (athletes, coaches, staff, organizations) who focus on high performance sport within their given environment (Sotiriadou & De Bosscher, 2013). A system can be defined as "a whole, comprising of interrelated parts that are intended to accomplish a clearly defined objective" (Lyle, 1997, p. 316). This set of interrelated parts function as a whole to achieve a common purpose. A sport 'system' is required as a measure of control and direction. High performance sport systems are

created to guide the programming put in place to develop young talented athletes, elite level athletes and coaches, and organizations based on the belief that athlete success can be advanced and influenced by human intervention (De Bosscher et al., 2008).

However, as international comparisons of high performance systems show, these systems are sport-specific and, most importantly, country-specific and shaped by cultural, economic, and political processes (De Bosscher et al., 2009). It was initially used to increase mass sport participation, directed towards the systematic identification and nurturing of talented athletes. This model drew a sharp distinction from the rest of the world, and its success prompted the need for more strategic, planned, and coordinated approaches (Bergsgard et al., 2007).

The high performance sports model and elite sports management have become an area requiring more significant research because 1) “as a direct result of the increasing complexity of the high performance environment, a whole sub-industry of coaches, agents, managers, advisers, consultants, and trainers” have dramatically increased and require a new approach to being managed, and 2) “the financial incentives associated with the high performance sport sector are stimulating the emergence of highly professional and systematic approaches to the preparation of athletes and teams” (Westerbeek & Hahn, 2013, p.243). In the 1990s, international professional sports and Olympic organizations began expanding on the Cold War high performance sports model with great success. In countries like the U.S., these high-functioning elite sports models have developed much later, at a slower process (Smolianov & Zakus, 2010). Even as an identifiable field of scholarship, it is in its relative infancy (Lavallee, 2013).

Despite the growing research interest in this sub-category of sport management, there remains a lack of a definition of high performance, clarity on the high performance model, and the application of high performance management in the field. The importance of a country's success in international sport showcases like the Olympic games provides widespread recognition and an opportunity to display their elite sport policies and competitive dominance over other nations (Xu, 2006; De Bosscher et al., 2011). Research in sport management has examined the factors shown and required to be successful in elite sport systems across multiple countries and has associated the term high performance to these example models of success (e.g., De Bosscher et al., 2008; Green & Houlihan, 2005; Houlihan & Green, 2008; Oakley & Green, 2001; Sotiriadou & Shilbury, 2009). Previous research on the high performance sport model established the importance of defining the field and elements that make up this elite sport management discipline (e.g., Smolianov & Zakus, 2008; Sotiriadou & De Bosscher, 2013).

What was found was in the aim to produce world-beating athletes, a clear understanding of the attributes required to win at peak competitions became the driving force to examining what made a successful sports organization. Researchers began comparing these successful sport systems, known as comparative modeling, and creating high performance models from their findings. The development of that understanding requires knowledge of current champion characteristics and analysis of performance trends. This understanding enables constructing a blueprint for a successful athlete or team at the elite level (Westbrook & Hahn, 2013). Yet, in the models compared and developed from research, none have included high performance departments in the U.S.

The current study focused on examining high performance in elite sport through the perspectives of high performance professionals (HPP) in U.S. Olympic and Paralympic (USOP) NGBs. The study's purpose was to explore the elements that make up high performance sport management by analyzing the responses from current HPPs in elite athletics. Understanding is not some 'mysterious empathy' between people; instead, it is a shared meaning phenomenon (Bogdan & Biklen, 1992). Establishing a common approach to high performance management and a model or system is essential for performance development personnel to progress and enhance training quality for the athlete and staff in the U.S. The research questions guiding this study were:

- a. What is high performance?
- b. What is high performance management?
- c. What is a high performance model?

Method

Research Design

Due to the paucity of research in high performance sport and management models in the U.S., a qualitative approach was used. Qualitative research is typically characterized by adopting an explorative approach to collect data that displays human experiences (Fletcher & Arnold, 2011) and represents a group of participants who have experience in the area being studied (Flick, 2009). Qualitative research seeks to answer a question and understand a problem from those involved (Mack, 2005). Considering the nature of the topic explored, individual interviews rather than focus groups were deemed more appropriate. Therefore, semi-structured, one-on-one individual interviews were conducted. The interview format encouraged individuals to provide in-depth information

that resonated personally, give the researcher an opportunity for follow-up (Kvale & Brinkmann, 2009), and explore participants' responses for more detail if uncertainty exists (Edwards & Skinner, 2009).

Research Sample/Data Sources

A purposive sampling technique was used to petition participants to address the study's research questions. Purposive sampling is generally used in qualitative research when a limited number of individuals have held a position (Fletcher & Arnold, 2011). Selection criteria consisted of individuals who currently held a position with the job title containing high performance within a USOP sport. There were no limitations to the level of management or leadership of the HPP participant or the type of sport they represented. This allowed insights into the views of various high performance personnel across different NGBs. Upon receiving approval from the ethics review board, interviewees were identified through staff directories on USOP team websites. Contact was established through website-directed media request points of contact or contacting HPPs individually through their email address obtained on the team's websites. Request for participation emails was sent to all individuals in USOP sports.

The sample consisted of 16 HPP (10 Male, 6 Female) from 14 sport disciplines within the USOP NGBs. The participants had worked in high performance sports between three to 23 years ($M = 15.06$, $SD = 09.19$) and held the job position title of high performance from one to 12 years ($M = 6$, $SD = 02.83$). The 16 HPPs were determined to be a sufficient sample when participants began to display similar responses, and further coding was no longer feasible, indicating data saturation was reached (Fusch & Ness, 2015).

Data Collection Instruments and Procedures

The interview guide was created to address the study's research questions. The script of questions was divided into seven sections. The first section provided participants with introductory questions about themselves (e.g., How long have you been in your current role?). This was designed to provide an opportunity for both the interviewer and participant to get comfortable, develop rapport, and gain insight into their backgrounds (Leech, 2002). Section two consisted of questions to determine how long their sport has had a high performance position and how the term high performance was chosen for the organization (e.g., How long has the high performance model been used at your current organization?). Section three focused on definitions of high performance and high performance management (e.g., How would you define high performance management?). Section four consisted of questions to investigate the job roles and responsibilities of HPPs, along with background and experiences that would lead to succeeding at the position (e.g., What is the role of the high performance director; How important is it to have previous experience in the sport?). Section five addresses assumptions about high performance management (e.g., What are some assumptions or misconceptions with high performance?). The sixth section asked participants about their level of involvement in aspects that directors are responsible for according to research on high performance sport directors (e.g., As a high performance leader, what is your involvement in the National Plan and Program?). The seventh and final section asked participants about their views and resources on high performance management in the U.S. (e.g., How do you see the implementation of the high performance management model currently in the U.S.?).

Each HPP received information on the research intent, a request to participate in an online interview, and was provided with potential days and times for the interview. Once HPPs responded with their agreement to participate, a follow-up email was sent with the interview script, consent to participate form, and confirmation of the interviewee's selected time and date. Interviews were conducted online using the video conferencing application Zoom. Participants were greeted, confirmed they received the interview script and informed consent form and asked if they had any questions before conducting the recorded portion of the interview. Consent to participate was provided verbally by the participant at the beginning of the interview after initiating the audio recording. A semi-structured interview format was used, all questions were asked, and the interview script was followed for all participants—only slight variations for the interview flow.

Interviews were recorded in their entirety. Only the audio portion of the interviews was recorded. All names and sports were removed to protect the participant's identities, only identified by the acronym HP # (high performance and the interview number in the sequence). Interview audio recordings and transcriptions were maintained on a password-protected hard drive. If participants addressed a question presented later in the interview script, the interviewer acknowledged the subject had been previously discussed while continuing to ask the questions in order. This allowed participants to extend their responses and for follow-up questions to be asked.

Data Analysis

Upon completion of interviews, audio files were transcribed into word documents using Amazon Transcribe. Field notes were created during and immediately following

completion of the interview then typed into word documents. Once the audio transcription of an interview was completed, results were downloaded into a Microsoft word document. Documents were then examined during playback of audio recordings to ensure the transcription script matched what participants said verbatim. The interviews ranged from 39 to 81 minutes ($M = 59.44$, $SD = 12.73$), yielding 204 pages of single-spaced text. Due to the lack of knowledge and research of high performance sport in the U.S., a thematic content analysis was deemed the most appropriate interview data approach. Thematic analysis is beneficial to research when looking to discover something about the views, opinions, knowledge, and experiences from qualitative data like interview transcripts (Caulfield, 2020). It is also because the use of content analysis demonstrates the potential to provide understanding through the discovery and interpretation of themes from the interview data (Fletcher & Arnold, 2011). Topic summary themes were developed before transcription and data coding due to the interview script's specific data collection questions.

The data analysis initial stage consisted of the researcher becoming intimately familiar with the transcripts and audio recordings. The interviewer highlighted and coded raw data quotes relating to the definition of high performance elements in elite sport. After reading through the transcripts and field notes several times, all documents were uploaded into Dedoose - a "cross-platform app for analyzing qualitative and mixed methods research" inputting research articles, transcripts, and spreadsheets (Dedoose, n.d.). In this app, quotes that answered the specific data collection questions were grouped into the predetermined topic summary themes. Common themes were then grouped as lower-order themes. Once all the lower-order themes were established, they

were pulled and labeled into higher-order themes (Aronson, 1995). The higher-order themes were grouped into the topic summary themes, or dimensions, that address the study's research question.

Results

The analysis process included combined responses from the 16 interviews with HPPs across 14 USOP sports. A total of 158 distinct raw-data codes were analyzed across participants, which resulted in 61 lower-order themes and 15 higher-order themes, which fell under one of the four dimensions (topic summary themes). The four dimensions to define areas of high performance in elite sport were: high performance, high performance sport, high performance management, and high performance model. Participant's responses that were associated with each of the four dimensions were extracted and grouped within each summary theme.

High Performance

High performance consisted of four higher-order themes: characteristics, athletes, planning, and No Answer/Not Sure. In establishing a definition for what constitutes high performance, 11 of the 16 HPPs responded with a No Answer/Not Sure to what exactly defines high performance:

What is high performance? We don't all have a plan for it, let alone a definition. Instead of one NGB doing one thing and everyone else doing something completely different, there needs to be some foundation. We are different sports; I get that. We are different people, making the calls and decisions. I understand that, but I would bet you that 90% of the high performance directors at an NGB would provide different definitions and

views for high performance and what they do. What is high performance?

I haven't found an understanding about what it is and our responsibility to achieve elite performance. Is it just applying any avenue to get that done?

I don't know, maybe that's high performance. (HP12)

Most HPPs responded by stating they did not know exactly what high performance was.

All participants provided how they viewed high performance or how they would define it.

The most frequently cited theme was characteristics. Using Merriam-Webster's definition, characteristics mean individual, distinctive, or exceptional quality or identity; the most frequent aspect of characteristics that HPPs felt defined high performance was team-oriented and culture.

My answer is there are two avenues of high performance. One is implied in the title, the performance of your athlete. How are you going to get him or her there? What is the best way? Factors or variables that go into their performance? The other avenue to meet the high performance is what is your integrity and your morals? What is your mantra? Because you're leading a team as a high-performance manager, and the team is just not the athletes, the team of us as a sport, the team of staff, assistant coaches, the head coaches, and sometimes the performance teams. A focus on the team must be established. No one does this alone. Coach or athlete. (HP5)

HPPs noted that the one constant and necessity in the high performance equation was the athlete. Respondents classified the athlete's level as being "elite" or "best in the world," but also described their characteristics away from competition.

I see high performance not only being at the top of your game athletically but also having excellence. Excellence is a lifestyle in the high performance realm. You have to be really great at your nutrition, your sleep, your mental preparation; it's being committed and really embracing excellence as a part of your lifestyle to stay in the realm of high performance from an athlete standpoint. High performance is a culture in the workplace, at home, any part of your life that you can be excellent.

(HP3)

To provide appropriate support to the NGB, HPPs, and their athletes, the ability to plan ahead effectively was a clear and standard theme. Planning consisted of the upcoming weeks and months for the sport, but what separates high performance was preparing for the sport's future.

The focus is on their development long term. A lot of what we do within our high performance department, of course, we want to be successful on the court, but ultimately our goal is to get them ready for the national team level. Should they reach that someday, it requires a lot of care for the athlete as a person, not just what they are doing on the field. Mentally, physically, you don't want athletes getting burnt out at the age of 15 when they are at prime development stages. Our goal is to help them develop to be the top athletes. They could be at the senior level of the game, same approach. So just being able to understand the full scope and that it's not a short-term thing, it's a long-term thing. That's high performance. (HP13)

High Performance Sport

High performance sport comprised defining the level of competition that distinguished it from all other competition levels. It consisted of the higher-order theme, level of competition, and the lower order themes of amateur, college, national, Olympic, professional, and world. The most elite of athlete represents this showcase of sport, and their arena is on the “world’s stage.” The Olympics themselves are considered the world’s foremost sports competition, with more than 200 nations participating (Young & Abrahams, 2020).

From the athletes that are going to the world and the Olympic Games all the way down to the younger athletes. Those high-level development athletes that we have in our pipeline who are going to their respective age level world championships each year. (HP8)

High Performance Management

High performance management consisted of five higher-order themes: program management, operations, athlete development, finance, and No Answer/Not Sure. In terms of program management, the lower order themes of athlete selection criteria, staff management, and team/athlete management were present. HPPs are heavily involved in developing, communicating, and monitoring each sport’s selection criteria for athletes to be named to an Olympic team:

It’s the main role for the high performance staff and the biggest slice of the management pie. It determines things like team criteria, team naming, team selection, as well as team logistics—also kind of more broadly, we are pretty involved with strategic planning. We have to have as clear of a

selection criterion as possible. It has to be completely understood and committed to memory by everyone associated with the NGB, so there are no grey areas or questions to how someone makes the team. (HP2)

Going beyond determining minimum standards for athlete and team selection, HPPs walk the line of handling the business's operational side along with direct athlete performance development. Increasing an athlete's ability by providing support in sports sciences such as strength and conditioning, sport psychology, sport nutrition, and sport medicine are staples these days for high performance sport departments. The importance of the logistical and administrative responsibilities in high performance management can contribute to an athlete's improvement just as much:

It's a lot to keep track of because there are two sides to everything that we do. There's the directly performance-related side, and then there's the operational side, logistics planning for training camps and before competitions. How do we get to the competition? You travel. All that stuff is just as important and probably impacts performance just as much as the performance development. It's pretty important to be on top of the organizational process. If things start to slip there, then it doesn't really matter how good you are in the performance services leading up to a competition. If everything at the competition is a disaster, you could have had the best performance services in the world-leading up to it. Those performance development pieces really won't matter. (HP10)

Financial management responsibilities involved requesting and prioritizing funding, budget distribution throughout the NGB, adherence to the USOPC rules,

accurate and detailed record-keeping, and investing in innovative projects. Funding was the most cited theme, primarily due to the high performance plan's driving purpose. The HPPs draft and submit high performance plans detailing how much funding they are requesting, how it will be used at their sport, and why it is crucial for success at the next Olympics.

Management in high performance is almost the middleman between the USOPC and the NGB. I have almost daily conversations with the USOPC. I really, I almost talk to them more than my own staff. It's necessary, particularly for smaller NGB's in the sense that a lot of our funding is derived from them. If we want to do particular projects, that usually comes with their approval for the funding. So my role really is to go out and make the connection, ask for, and ultimately prove why resources devoted to us is a good investment. Then once we have those resources, obviously implementing them and making sure they're going to the right place. But I kind of start there, and if we don't get the resource, that's when I try to make up for it by doing any reallocation of sources we already have.

(HP9)

High performance management is made up of a myriad of job roles and responsibilities. Overall, the HPP's views on high performance management depended on the sport, previous work experience in high performance sport, and if they previously worked under a former high performance leader that mentored them. When asked for a definition of high performance management, nine of the 16 responded that they did not know what it was exactly:

This will sound bad, but I'm not really sure exactly. For us, I mean, I think having it started with the USOPC, it is just their management of us and then we manage the sport at the NGB level. (HP14)

High Performance Model

The high performance model consisted of the higher-order themes of resources, communication, leadership, and No Answer/Not Sure. Of the four general dimensions, defining the high performance model was the study's area that participants were the most unsure of, gravitating towards assumptions for answers.

It's a good question. I don't know that I've got an answer. You may have me on that one. Maybe sometimes it might be an example of a particular professional league or team? Maybe look just to see where high performance is used? You know, as far as them using the term. Yeah. Um, so to be honest with you, I have no idea where I would look either. I know we use the term, but how it's used outside of the USOPC? Yeah, sorry, I don't know. We kind of do what we have always done. When we were told to start implementing the term, it's not like a lot of access to resources or anything new came with it. So it's been the same because this is my only experience in high performance. We use the term high performance model, but I can't honestly answer that just because I haven't had much exposure to it. (HP16)

The two most dominant views on a high performance model had to do with resources and communication—both higher-order themes centered around staff and the sport sciences. HPPs stressed the importance of communication between athletes and

coaches, but the sport science staff's communication represents the high performance model. The number of staff and supporting sport science depends on the NGBs funding, prior success in the Olympics, and the number of medal opportunities the sport has at the games:

Work and coordination of and with the high performance team. The sports nutritionist, strength and conditioning coach, sport psychologist, medical staff, and just making sure that all those pieces of the puzzle are working together. That the athletes' wellness areas are taken care of, recorded, and shared between all the areas of performance. No, that's not necessarily what is going on, but, yeah, a lot of people outside of the industry, when they hear high performance model, their first reaction is just that. A lot of times, it's tied directly to who you have and what areas of performance are on hand. (HP8)

Discussion

The findings on high performance show a lack of consensus in defining the term. This study's results displayed that high performance is a personal, team, and organizational commitment to excellence. The emphasis was placed on the organization's management and culture and not solely on athletic performance and competition. The absence of a standard or established view on high performance is not surprising considering the lack of shared meaning in research and literature or even defining it in sport. Sotiriadou and De Bosscher (2013) described high performance as the process and outcomes of athletes and coaches in daily training environments and competition at the elite end of the sports spectrum. High performance management entails detailed planning

and cost assessment of the developmental process and changing the plan to reflect budgetary realities. It is represented by a highly expert support team consisting of coaches, managers, scientists, medical staff, and the identification of talented athletes and the recruitment of those regarded as having the potential to conform to the high performance model. The quality of the outputs from this system is continually evaluated by involving the athletes in competitions of progressively increasing standards and conducting regular sports science testing. The results help guide planning and development procedures for years to come (Westerbeek & Hahn, 2013). This interpretation differs from those interviewed, who viewed high performance as a mindset of the entire organization, not just athletes and coaches. Their focus was more on the harmonious execution of all available resources to support performance, not just athlete monitoring and technology. This approach falls more in line with literature and research from the business world's high performance definition by those who participated. For example, in this study, several participants spoke to the importance of culture and team-first approaches. A standard view in business research is that high performance consists of team members who are intensely focused on the objectives and emotionally connected to the organization's end objective. Their culture consists of accountability and has the frameworks that align experiences, beliefs, and actions with desired team results.

High performance is a constant pursuit of excellence through learning and development (Gleeson, 2019). Defining high performance lays the foundation for a management approach and the associated model. Forming a common understanding of something before managing it develops purpose and establishes the trust of those involved (Darnall & Preston, 2012). Those in the field must form meaning for high

performance to guide proper measuring, assessment, and management. Knowing what we are to measure, whether performance development based or operational management based, prepares teams to create a management and leadership approach model for elite sport.

The second topic summary theme, high performance sport, is represented by the competition level that displays the best athletes and teams. Those championship events are renowned worldwide, and their association as high-level sports was not unexpected. Sotiriadou and Bosscher (2013) classify the level of high performance sport consisting of athletes and events being professional, Olympic and Paralympic Games, and World Championships. Something missing from the research and literature overseas is the inclusion of collegiate athletics. Due to limited research in the U.S. and the vast majority of work done in this area conducted in the Olympic realm overseas, collegiate athletics have yet to be thoroughly examined or associated with high performance sport. This study found that in the U.S., the college system falls into the classification because many university athletic departments expose high-level student-athletes to national championships and provide support resources in various sport sciences. The implications of determining what level of competition constitutes high performance sport can help an organization or staff decide if they are in the appropriate environment to implement this elite sport management model. It will also provide further structure and guidance to staff within high performance departments, leading to continually define or develop separate approaches and models to better support the sporting environments in the U.S.

The examination of the third dimension, high performance management, differs from sport to sport. It depends heavily on the HPP's day-to-day job responsibilities and

how upper management views the high performance department's role in the organization. Overall, it centers around program oversight and staff management, emphasizing logistics and finance. Surprisingly the often-assumed sole focus on athlete development and performance-enhancing responsibilities of this department were minimal or non-existent for some of the HPPs in this study. This sub-category of sport management is still relatively new, but the lack of a referenced guideline or shared approach by the USOPC to the high performance staff leaves them to figure out what works best for their sport. HPPs repeatedly voiced a deficiency in guidance or protocols, noting the only consistency through all of the USOP NGBs was the submission of a high performance plan. The plan was essentially a report that participants viewed as a means to justify and request funding from the USOPC for their sport. This was surprising because there were no standards for managing each sport's high performance components, emphasizing managerial duties and not performance monitoring responsibilities.

High performance sport management is a collection of several disciplines to include management, performance, measuring management performance, and the success in high performance sport (Sotiriadou, 2013). It differs significantly from high performance research and international Olympic high performance systems, mainly due to the USOPC system's decentralized structure. The majority of high performance departments studied overseas are funded and managed by their government. Their elite sport support systems increasingly share the same structures, processes, and methods. Further research is warranted into leading sport systems in the U.S., not just the

Olympics, to build a conceptual framework for a U.S. high performance management system.

The final theme was the high performance model and what it represents. The overarching pattern was the absence of certainty about what it consists of or how it is utilized. Most of the responses were assumptions that others ran some form because they were bigger, successful, possessed immense resources, or were professional sports or large universities. The term high performance model is utilized by researchers who examine high performance sport systems, review their practices, strengths and weaknesses, and compare them to other systems. These “models” are ways to explore and explain the make-up, typically sport policies believed to contribute to successful performance at the highest levels of competition (Hong To et al., 2013). This method contradicts the literature in the U.S., adding to the confusion and varying views of a “high performance model.” Interpretations in the U.S. include a traditional strength and conditioning approach “to control and develop every facet of an athlete’s diet and routine” through data and analytics (Moser, 2016, para. 7). There is also the view that the high performance model is ‘data-driven’ through technology, data analysis, and athlete monitoring systems (Tenney, 2016). Overall, the U.S.’s high performance model is merely identified by which sport science is the spearhead and drives the organization’s performance development decision making. The implications of this to the sports field is a growing absence of the most fundamental element of the high performance model, management. It has become singular in focus to such a degree it is merely a way to position a single individual or a particular sports performance discipline in charge instead

of a leadership and management approach that values leadership, communication, and a growth mindset.

The high performance model is an approach to manage and lead elite sport. The “model” consists of comparative modeling, management principles, departmental communication, planning, sport sciences, and a holistic approach to athlete development.

Comparative Modeling

High performance management uses comparative modeling and analysis to implement best practices and compare a high performance department to others in the field. It allows the organization to evaluate industry results, gauge overall performance, identify competitive positions and performance results over a defined period (The Strategic CFO, 2020). The data received from comparing systems provides the blueprint, or model, to apply to high performance sport programs.

Management Principles

The forward-thinking approach used in the previous century utilizing established sport sciences and exploring experimental disciplines for athlete and team improvement is replicated today with management and leadership strategy. The high performance model applies research-based techniques to the areas that make up high performance management. Staples of the model are event management, personnel management, performance management, and logistics management (Herold et al., 2020).

Departmental Communication

There needs to be strong coordination of all departments involved in the high performance organization; they need to have clear task descriptions and no overlap of tasks (Clumpner, 1994). Therefore, sports systems need long-term strategic planning, a

sound communication system, and administration simplicity through common sporting and leadership boundaries (Oakley & Green, 2001). A high performance model is the communication or non-communication and organization of everyone involved (athletes, coaches, performance staff, management, administration). In elite sport, this is exhibited by interdepartmental communication and interoperability of technology.

Planning

An essential element of the high performance model is planning, specifically the use of strategic planning. In high performance sport, planning consists of preparing for the future through decisions made in the present. This includes selecting the organization's goals, determining the policies and resources necessary to achieve specific objectives, and establishing the methods to ensure policies and strategic programs are implemented (Strategic Planning, 2018).

Sport Sciences

The access to elite resources and staff within the scientific disciplines used in performance development is a part of the comprehensive support provided to athletes and a required element of the high performance model. Elite sport systems are dynamic, complex and can vary from sport to sport. High performance environments are constantly changing, and new sciences can be included, but the model is indicated through the availability and synergistic use of sport sciences.

Holistic Approach to Athlete Development

A holistic approach is a beginning-to-end approach to athlete development. This start to finish plan emphasizes developing an athlete's performance capabilities and abilities to handle life outside of sports. This methodology establishes a system that

maximizes talented athletes' growth to the elite level to sustain superior performances in competition and guides and educates them through the varying challenges elite athletes face during their careers (Wylleman et al., 2013).

Strengths and Limitations

This study is the first of its kind to interview current USOP high performance staff to gain insight into high performance sport environments and the use of high performance management. While this group of participants represents the high performance views from only an Olympic perspective, it is also a strength due to the number of elite performance professionals who participated. Only conducting interviews with USOP high performance staff led to identifiable information such as the sport or previous work experience being extracted. This was to protect the participant's identity, limiting further system comparison between sports or between different organizations. The one-shot interviews prevented any additional follow-ups or possible clarifications post-interviews with participants. This study's interview script limited further questioning due to other sections centered around the job role, responsibilities, and characteristics of the high performance leadership position. The interview divided the participants' attention between defining high performance sport management themes and the high performance job role composition. A multiple interview approach may be better suited, performing one interview to establish high performance views and the second to investigate the high performance leadership position, allowing singular focus on each area of the study.

Further research and interviews with U.S. high performance staff in the professional and collegiate athletic realms would give more insight in conjunction with

this study. Establishing how high performance is defined, the implementation and views of high performance management, and the high performance model at those levels could further develop elite sport system assessments in the country. Further analysis centering on how different sports and competition levels in the U.S. impact and change the high performance management model would be new territory for this area. Future steps into this research will be the secondary analysis of the interview transcripts to analyze the high performance leadership position's job role and responsibilities.

Conclusion

Recent research and literature in high performance sport management suggest as elite sport continues to grow in size, resources, and staff, organizations looking to find even the smallest of edge need to focus on performance leadership and management (Fletcher & Wagstaff, 2009). Over the last decade in sporting professions throughout the U.S., there has been an increasing level of implementation and interest in a management system known as the high performance management model (Smith & Smolianov, 2016). Sport environments, especially elite performance, are riddled with challenges and scenarios uncommon to other businesses. However, their impacts on the organization, culture, and performance are the same as any other team dynamic. Culture is about capturing the essence of the organization's aim and team-oriented spirit through its athlete and staff. Understanding the nature of a high performance environment and looking for individuals who value a team-minded culture should be critical components of a high performance model (Eubank et al., 2014).

This study's findings were surprising in that high performance is a term that is "in the eye of the beholder." It does not exist on a singular defined level on its own but is

created by observers and those in the field (Vocabulary, n.d.). It seems to be an implied meaning that conjures many viewpoints, with most literature and professionals in the U.S. associating it with an athlete-monitoring-based, technology-driven service. What also seems to be the case is this implied meaning is carried over to the associated management model for high performance sport. The current perception of the U.S.'s high performance model does not adequately reflect those HPPs' voices in this study or the research and literature produced overseas.

The difference in views begins with the lack of defining high performance model. A majority of those who participated acknowledged a fundamental deficiency in a definition that caused a ripple effect leaving HPPs to create their own meaning to determine job roles, responsibilities, and the high performance department's focus. The high performance model is much more than a catch-all phrase used to elicit a unique method of developing athletic performance. Sport systems throughout the world have moved beyond the mere application of sport sciences and coaching as a singular platform for elite athlete success. With the work done internationally in this area, there is overwhelming research and evidence that teams' point of difference and competitive advantage is effective management and governance (Sotiriadou, 2013). The framework and elements of a high performance model presented in this study were developed from research in the area and data from the interviews performed. This foundation and presentation of what a high performance model implements research and principles from several areas of management, utilizes the experiences and expertise of those who work in the field, and includes the U.S. perspective that is missing from literature and research area.

CHAPTER 3

Examining the High Performance Sport Leadership Position: A Secondary Data

Analysis of Interviews

Abstract. The purpose of this study was to examine the job role and responsibilities of high performance sport directors. A qualitative secondary analysis was conducted from interview data performed with 16 current high performance professionals within the United States Olympic and Paralympic National Governing Bodies. The interviews consisted of questions regarding the position's expectations, recommended professional experience, skillsets required, and day-to-day duties that define their workloads. Two topic summary themes developed from the secondary analysis of the director's position: (1) administrative duties and (2) performance support. Five higher-order themes emerged from the administrative duties: personnel and organization management, planning, finance, point of contact, and logistics. With the increase in implementation of the high performance sport model and director position at the professional and university levels in the U.S., there is little research or understanding of what this area of sport management details. This study's findings will enable leaders, managers, and sports organizations in the U.S. to effectively define the role, expectations, and issues accompanying the leadership and management of high performance programs.

Keywords: Management, Elite Sport, Leadership, Administration

Introduction

Forty years ago, when the Cold War raged between the East and the West, high performance sport evolved from being a contest between individuals and teams into a battle between systems (Ferkins & van Bottenburg, 2013). The Soviet Union and other communist European countries' systems evolved by looking to sciences that were not traditionally associated with improving athletic performance. These included biomechanics, nutrition, physiotherapy, psychology, strength and conditioning, and more recently, performance analysis, data mining, and life skills (Sotiriadou, 2013). As resources and staff size continually increase, elite sport systems have moved beyond the mere application of sport sciences and coaching as the sole foundation for athlete success. High performance sport has become recognized by the practical unification and synergy of elements, including financial and managerial support, coaching, sport sciences, sports medicine support, talent identification, athlete pathways, training facilities, equipment, and competitions (De Bosscher et al., 2008). A model applying effective management and leadership has been researched and used with great success throughout many international top-tier athletic programs. The model's success prompted the need for a more strategic, planned, and coordinated approach to high performance sport (Bergsgard et al., 2007).

High performance sport management is a billion-dollar industry that continues to grow in size and sophistication. In a constant effort to find the slightest edge, this industry of performance support personnel (e.g., specializing coaches, team directors, performance managers, administrators, researchers, sports and other scientists) is increasingly expanding throughout elite sport (Sotiriadou & Shilbury, 2009). This

expansion has increased the number of staff, not only subject matter experts in performance development, but experts in specialized administrative skills to handle the increasingly commercialized and professionalized high performance sport industry (Thorpe & Holloway, 2008). Countries worldwide have focused on coordinating all high performance facets through a high performance director's leadership position. The genesis of this position is the recognition that "professionalization demands running sport as a business by business-based and experienced professionals" (Sotiriadou, 2013, pg. 2).

Internationally, at the elite level of sport, these highly modernized, scientifically focused business systems have been developed into high performance management models. These models are increasingly being shared throughout nations. Teams and their support staff implement high performance models using the same support structures, processes, and methods (Smolianov & Zakus, 2006). Even after 80 plus years of research and an ever-increasing presence of high performance sport management literature, this high performance model is still considered in its infancy, especially here in the United States (U.S.) (Sausaman & Groodin, 2016; Smith & Smolianov, 2016). The U.S. has long adopted an inward-looking approach when developing cohesive coaching, fitness, nutrition, and management structure. This late acceptance to the high performance model is mainly predicated on the success of the U.S., both financially and through athlete accomplishment, on the world Olympic stage and the professional sports leagues. For years they have led the world in developing professionalism and sophisticated operations (Moser, 2016). The slower adaption in the U.S. has seen a hybrid of high performance models with varying approaches and views, especially with the high performance director position.

While research and overseas practice has seen this role become one focused on management and leadership, the perspective here in the U.S. is one dominated by a singular sports science view and focused solely on performance monitoring. The focus of the high performance model in the U.S. is based on “the traditional strength and conditioning approach,” which controls and influences every facet of an athlete’s diet and routine, down to the inclusion of data and analytics on sleep quality, all to maximize coaching and athletic performance (UOnline News, 2019). This version of the model and director position is currently used throughout the professional sports leagues, within a growing number of university athletic departments, and the United States Olympic and Paralympic Committee (USOPC).

The USOPC, in particular, has instituted the use of the high performance model throughout the organization. The National Governing Bodies (NGBs), the individual sports under the USOPC, have been using a high performance concept and added high performance positions to their staff. According to the Team USA website, the high performance department delivers “focused, applied and performance-impacting sport science and technology” to further athlete development (High Performance Programs, n.d.). The director position is primarily the main point of contact for the USOPC, charged with developing high performance plans for resource allocation and athlete selection. This position is also responsible for providing training and competition support and competitive analysis. This view falls in-line with the model’s performance-focused expectations and position, and it differs significantly from the overseas version and research-based management approach.

There is ample research explaining the concepts of sport management, as well as “overwhelming evidence to suggest that the ‘new’ point of difference and competitive advantage” is effective management and governance of the high performance sport system (Sotiriadou, 2013, pg. 1). The high performance industry and sport practitioners are adopting practices that recognize the significance of managing elite-level sports. A symbol of this recognition is the establishment of the role of high performance directors on athlete performance. Nevertheless, current research inadequately portrays the high performance model and the director role from the U.S. perspective. Additionally, the hiring of directors and emphasizing high performance business management practices have yet to be matched with the focus of academic research that has defined the position, distinguished it from other performance positions, and illustrated its significance in athlete and staff success (Sotiriadou & De Bosscher, 2013). A comprehensive understanding of the high performance management model and its intent allows directors to develop the department and staff’s purpose in performance development. As a result, it becomes possible to measure performance and performance management, address the root causes of existing problems, and develop a framework for future high performance leaders in the U.S. to be better educated and trained for this environment. Thus, the purpose of this study was to examine the elements of high performance and provide a framework and definitions of the high performance management model.

Study Design

This study used secondary analysis of qualitative data to explore the job roles and responsibilities of high performance professionals (HPPs) in the USOPC’s NGBs. Secondary analysis uses existing data to find answers to research questions previously

asked in original research (Long-Sutehall et al., 2010). It can be data collected by someone else other than the researcher and for another purpose (Smith et al., 2011) or further analyses of an existing dataset by the original researchers to answer a different research question from what was previously reported (Vartanian, 2011). Researchers have applied secondary analysis to pursue interests separate from the original study (Hinds et al., 1997); additional analysis of an original dataset (Heaton, 1998); describe the contemporary and historical attributes and behavior of individuals, groups, or organizations (Corti et al., 1995); or to reexplore experiences and perceptions of a targeted population (Ebbinghaus, 2005). The use of qualitative secondary analysis is beneficial when “there is little information known about a phenomenon, the applicability of what is known has not been examined, or when there is reason to doubt the accepted knowledge about a given phenomenon” (Kidd et al., 1996, p. 225).

One of the most common and valuable qualitative secondary analysis purposes is to gain new insights by re-analyzing the data from unique perspectives (Fielding, 2000). Experts believe more precise interpretations or the emergence of new conceptual frameworks become possible, mainly when the primary investigator conducts the inquiry themselves (Windle, 2010). This is primarily due to the extensive familiarity with the original research context, which has typically broadened and deepened the existing knowledge by stimulating a further comprehension of the question (Broom et al., 2009). However, before conducting qualitative secondary analysis, it is necessary to evaluate the data set’s relevance and quality (Notz, 2005). The first step is to approach the study and develop the research questions that can be answered from the original data. As inquiries for qualitative secondary analysis arise, the data and questions should be reasonably

connected and suitable for addressing secondary research needs (Sherif, 2018). While evaluating the data, it is essential to determine the targeted population, wording of interview questions, and context of the original data is meeting the needs of the secondary study (Johnston, 2014).

The subsequent step is to obtain the original study's materials and documents to evaluate the original data's completeness. This should consist of appropriately collected, and stored data with a detailed description of data collection methodologies, field notes, sample recruitment plan, and accurately transcribed interviews (Sherif, 2016). Existing data cannot be thoroughly evaluated without an original study background, especially considering any study perspective issues (Sandelowski, 2011). Therefore, along with the study background, the researcher should collect the original research purpose and questions, processes of data collection and protocols, background characteristics of the original study researcher and subjects, along with the elements of the data collection site, time, and settings (Sherif, 2016). This last one regarding the data time frame is an essential factor, both for the amount of time the original researcher took to obtain the data and the time since the original study collected it. With a more extended period of data collection and analysis, the primary researchers had an opportunity to build a rapport with the study participants. The period following the initial studies research is also significant to ensure that the information is still relevant. The secondary analysis of data and any possible research questions of interest have not already been answered.

Theoretical Framework

This research's theoretical framing was guided by the systems thinking concept. Systems thinking views the whole as a sum of parts, which are dynamically interrelated and cannot effectively function in isolation from the whole (Cabrera & Cabrera, 2015). It is held that systems theory was proposed to unify unrelated elements into a whole by connecting them into a logical, interrelated system (von Bertalanffy, 1968). By defining a system and understanding the connections between its parts and their relationships to function as a whole, it will provide a greater understanding of the organization (Trochim et al., 2006). This perspective emphasizes a shift in awareness from "isolating the effect of a single factor to comprehending the functioning of the system as a whole" (Diez Roux, 2011, p.1627). A more thorough understanding of a system is necessary to shift the perception of high performance as independent disciplines to a system with integrated parts (Dastmalchian et al., 2020).

Methods

This study used secondary data analysis to explore the high performance sport director position. The study's purpose was to understand the high performance director position, their influence on athlete performance, and their experiences working in high performance in the U.S. NGBs. Three secondary research questions were examined: 1) What is the role of the high performance director? 2) What qualities do directors require to lead sport organizations and athletes to success? and 3) What previous professional experience and education background would benefit directors the most in their job role? The secondary researcher of this study was the primary researcher who collected the original data. During the original data collection and secondary data analysis, the

expectations were that study participants were knowledgeable about the high performance director position and that information collected reflected authentic opinions. The HPP's were informed of any possible risks or benefits of participating, and it was strictly voluntary. All names and sports were removed to protect the participant's identity, only identified by the acronym HP# (high performance and the interview number in the sequence).

Data Set Evaluations

The original study examined the area of high performance in elite sport through the HPPs' perspectives in the U.S. Olympic and Paralympic NGBs. The initial research objectives were to establish a shared meaning of the high performance sport management model by its elements to develop definitions, backgrounds, and anatomy of high performance in sport: high performance, high performance sport, high performance management, and the high performance model. The original study examined the research questions of:

- a. What is high performance?
- b. What is high performance management?
- c. What is a high performance model?

The research was conducted through online interviews with current HPPs. The sample consisted of 16 HPP (10 Male, 6 Female) from 14 sport disciplines within the U.S. Olympic and Paralympic NGBs. The participants had worked in high performance sports between three to 23 years and held high performance titles from one to 12 years.

The present study's aim was relevant to the primary research's purpose, which was to examine the high performance model in the U.S. and explore the job

responsibilities of high performance directors in elite sport. In particular to this study, the secondary research questions were a part of the original question script, allowing data analysis from responses within the original interviews. The accuracy and completeness of the data were verified through direct access to background information and research materials. As the researcher has complete access to the original data, detailed documentation was available on the collection methodologies, field notes, interview audio recordings, and transcriptions. The interview audio recordings were checked for transcription accuracy, and all notes were date and time-stamped.

In the original study, semi-structured interviews were conducted using the audio and video conferencing application Zoom (Zoom, 2021) with every participant. The interview questions surveyed: when the high performance director position was created, how the term high performance was chosen, the definitions of high performance management, the HPP's job roles and responsibilities, and what background and experiences would lead to success in the role. Participants were interviewed once, ranging from 39 minutes to 81 minutes ($M=59.43$), totaling 951 minutes of audio data. The original research and study were completed over 12 months, from January 2020 through December 2020, meaning the researcher utilized data no more than two years old.

The final step in data evaluation was to assess the possibility and appropriateness of re-contacting participants from the original study. The review of research material showed interviewees agreed to follow-up communication and voluntarily provided contact information if needed. Although some original participants may no longer hold

the high performance position, quality data were abundant, making secondary analysis possible in this specific topic area.

Data Coding and Analysis

Secondary analysis began with the initial review and organization of interview audio recordings, transcripts, and field notes. For coding, analysis, and data storage, a web-based qualitative and mixed-method data analysis tool Dedoose v.8.3.43. was utilized. Thematic analysis was used, and codes were developed and entered into Dedoose. Thematic analysis is a method for identifying, analyzing, organizing, and reporting themes found within a data set (Braun & Clarke, 2006). Data organization was based on emerging thematic patterns, and the secondary research questions guided coding (Saldana, 2016). In the Dedoose app, individual quotes and data from documents were assigned to preliminary codes (Roberts et al., 2019). Once initial coding was completed, data were grouped into common themes or lower-order themes. Once all the lower-order themes were established, they were assigned into higher-order themes (Aronson, 1995). The higher-order themes were grouped into the topic summary themes that addressed the secondary research questions (Braun et al., 2014).

Results

The HPP's views on the job role and responsibilities and the qualities of a successful director were overall comparable across the study. They emphasized management, especially from a logistic and support perspective, suggesting their presence was oversight, leadership, and communication.

Role and Responsibilities of the High Performance Director

Overall, several prominent themes emerged in examining the director position. Two topic summary themes developed from the data on the high performance director's job role and responsibilities. Those were administrative duties and performance support. These narratives will be presented, through supporting evidence, from the interviews conducted.

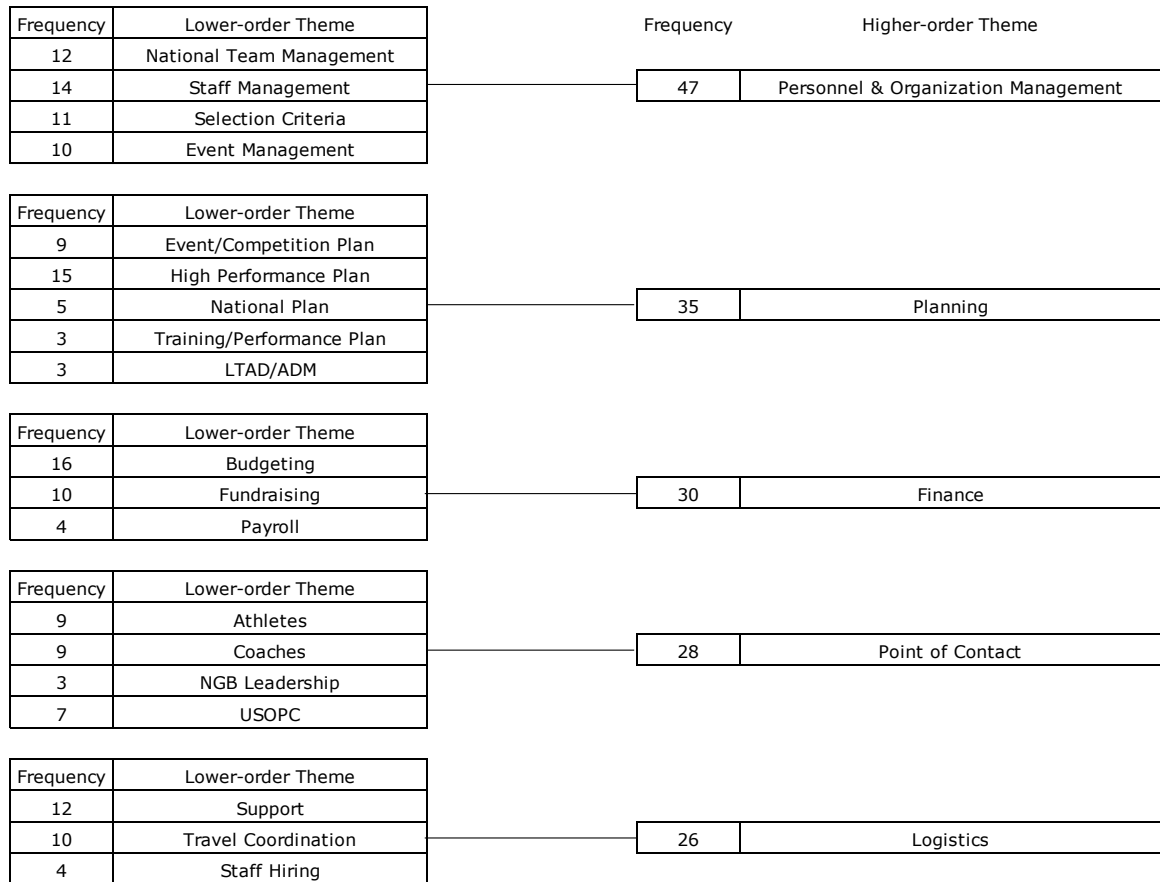
Administrative

Overwhelmingly, the job role and responsibilities of the director consisted of administrative duties and performance support. The high performance directors' administrative tasks, those relating to the arrangements and work needed to control the operation of a plan or organization (Cambridge Dictionary, 2021), consisted of five higher-order themes: personnel and organization management, planning, finance, point of contact, and logistics (Figure 1).

Personnel and Organization Management. Regarding personnel and organization management, HPPs described the director's role as predominantly centered around managing three areas: national team management, staff management, and event and competition management. National teams consist of the athletes that represent the U.S. in international competitions and World championships. High performance directors repeatedly emphasized team and athlete selection criteria, along with the importance of policy writing, as a significant responsibility:

Some of the other roles similar across all the people in my position are selection criteria for the different teams. That's a really big thing with the USOPC. You have to say exactly how you're going to select your

Figure 3.1
Administrative



Note. Frequency and themes from administrative duties of the high performance director.

teams, and really you do that, so you stay out of the court of arbitration at the end of the day when you choose teams. Each NGB may use different ways to select, like having a point system, and if you are in the top four in your points, you're on the team. Some sports it's obviously very much open to coach discretion as is in other team sports, or they actually get their athletes just from a trials perspective. Either way, it has to be clear. Any grey area or confusion on how someone is eligible, and you have a massive mess on your hands (HP1).

Personnel management was also an enormous responsibility of the high performance director. From the national team perspective, they mainly consisted of athletes, coaches, and the overall staff perspective. It differs from NGB to NGB how many staff members the directors were in charge of, usually dictated by the size and funding of the NGB. However, the respondents underscored the importance of focusing on staff management:

I'm in charge of the high performance team. We have a team of nine in high performance, looking over Olympic and Paralympic and the pipelines, so I have the supervisory responsibility for what forms the staff. Then there's a whole cadre of contractors that help support our relationships with our sport and the USOPC. Then, of course, it's managing the dynamics with athletes, coaches and keeping the boat always moving and in the direction we want to move, which is, you know, we are an Olympic and Paralympic medals driven mission (HP12).

Staff management included volunteers, USOPC personnel assigned to assist the NGB, contractors serving in a performance development or sport sciences role, and staff that serviced the younger levels associated with the sport. These personnel would often be involved and onsite at competitions throughout the years leading up to the Olympics and the Olympic Games themselves. Event management, not just during an event or competition, but the process leading up to them, was a responsibility that directors were in charge of or very much associated with:

Most people really underestimate the amount of work that goes on behind the scenes. The communication between coaches, the athletes, the

managers, and then the coordination with the USOPC. We don't just show up and watch practice or analyze performance. There's a lot of things that need to be handled, so the athletes and coaches don't have to worry about it. That can be selecting and setting up where an athlete's warm-up area is, how they are getting fed or shuttled around, or what our staff are doing and monitoring just to keep things from possibly occurring that could end up being a distraction (HP7).

Planning. For HPPs and directors, planning was an intricate part of every aspect of their job, especially when it came to charting the long-term path for the NGB. Participants viewed it as a required skill and an ability one must possess to “build things out and balance different aspects.” Planning consisted of the: high performance plan, event/competition planning, and national plan. The most frequently cited theme within planning was the high performance plan. This plan is a staple of the high performance department and the director position:

That's kind of the crux of my job is making sure that we're providing what individual athletes need. We do that through the high performance plan. It's what we all have to submit. That is kind of what the summary of what the job really is. This high performance plan that we roll out hopefully provides the necessary service to our best athletes (HP10).

Each NGB works closely with the USOPC to develop high performance plans for resource allocation and athlete selection. The high performance director is the primary driver of this product and the sole point of contact for the plan and the USOPC.

The directors also took on the responsibility of developing the event schedule and competition plan. The frequency of feedback and depth of involvement varied between sports, but high performance departments were firmly a part of this area. HPPs recurrently voiced their job roles at these events were very hands-on and behind the scenes. Communication, problem-solving, and multi-tasking were traits commonly referenced to be successful in this aspect:

This position is a lot more than just going as a team leader to the Olympic Games and world championships. It's far from a performance analyzer and spectator during events. You're doing all the logistics on the ground. From a domestic standpoint, it's determining how many senior events domestically, how many for our juniors from a U.S. sport development standpoint, when should those events be held to make sense in the international season, different things like that. There's a lot of crossover with a whole host of entities involved with these competitions. It takes someone with planning skills - long term, short term, and onsite. Planning is just one small piece of the competition responsibilities in this role (HP1).

Planning for these types of environments is fluid and involves directing staff. "Plan for everything to go wrong because most of the time it will—especially overseas at international events. You have to keep any staff that travels with you to be prepared for it" (HP7).

Those interviewed indicated another element requiring attention or contribution from the director was preparing the national plan and program. Participants responded

their involvement consisted mostly of teamwork and collaboration with coaches and NGB leadership. Here multiple perspectives created the year to year and the “quad block,” which builds from one Olympic Games to the next. Long-term planning was a consistent theme throughout the HPP interviews, with some forecasting as much as ten years in advance:

The national plan I work with our coaches regularly on that, so I’m extremely involved in what that looks like from top to bottom. From the athletes that are going to the world and Olympic Games all the way down to the younger athletes, the high-level development athletes that we have in our pipeline that were going to their respective age level world championships each year (HP8).

Finance. Within finance, there were two lower-order themes present throughout the participants interviewed: budgeting and fundraising. Budgeting was unanimous among participants and mostly centered around the amount of funding that the USOPC provides. This administrative duty was a critical element, with HPPs stating that tracking what you spend is essential and being able to justify and report expenditures necessary.

There’s a huge financial component. So being able to manage large sums of money, spend it wisely, track it wisely. I think that gets a lot of people into trouble not being able to manage money. I would say people and money management are probably the two biggest things. Across the board, each of us and our roles are responsible for the national team high performance program budgets (HP4).

Handling the budget and funds for several areas fell in the lane of responsibilities for high performance directors, including athlete stipends, competition travel costs, athlete services (massage, recovery specialists), coach and staff support, training equipment, and training facilities.

Fundraising for directors is another vital piece to supply their athletes, coaches, and performance staff with the resources needed to train at the elite level. There are several ways to raise funds for the sport through applying for grants, resource sharing with other NGB's, partnerships with companies for the use of products, NGB sponsored camps and competitions, and regular fundraising events. Actively seeking and gathering contributions, financial or performance-related tools, is centered around communication and resourcefulness. One HPP explained that “a lot about the financial side of sport is fundraising. Other departments handle the formal black-tie and big-time donor events. I'm advocating for funding and resources. If you need support for something, let's figure it out” (HP9).

Point of Contact. In the U.S., Olympic athletes, coaches, and staff are spread throughout North America. For some sports, throughout the world. Directors serve as a single point of contact for information distribution between those associated with the sport, the USOPC, NGB leadership, and in some cases, athlete's parents. Especially in the Olympic realm of sport where directors have oversight of multiple age groups, varying levels of competition, and different stages of development between their athletes:

I'm a touchpoint to create some cohesion in the pipeline, moving from when they're at the youth and junior national team levels and then before they reach that senior national team level. From a high performance

perspective, we are in charge of staying in contact with the athletes (HP13).

Working in the Olympics arena, athletes compete throughout the year, all over the world. They have coaches and performance support staff, many of whom are not associated with the NGB or USOPC. It is a point of emphasis to stay in contact with the athletes and those around them, not just to see how training is going, but to develop and maintain a connection between all parties involved:

I connect people with various resources, like our nutritionists, our strength and conditioning coaches and physiologists, and our sleep experts. Also, if there isn't a coach for some reason, which often is the case out at the world championships with our Olympic team, everyone's coach isn't there. The constant is me (HP11).

For high performance directors, being the point of contact is more than a systematic way to streamline all communication to a particular person regarding performance and athlete needs. It is a primary responsibility of their job to be the singular point of contact for the USOPC. When the USOPC has a question regarding the director's performance department, selection criteria, or the high performance plan, it is directed to them:

Back in 2008, the USOC wanted to create a one-stop-shop for high performance within an NGB and a point of contact for all things related to high performance and national team information. There was a desire to have a focal person in charge of the national teams in terms of their direction, reporting abilities, and support of their large push into sports

science and the USOPC sports science division. So their incentive for that was if the HPD position were created, they would pay for it or give a portion of money from their performance grant to pay for it. At that point, several NGB's took them up on it, which led us to create the title of high performance director (HP6).

This line of communication works in other ways as well, with directors reaching out to the USOPC for clarification, guidance, funding, grant request, and to work along with their high performance staff who are specialists in the sport sciences:

So at the NGB level, it's kind of unique because high performance is almost the middleman between the USOPC and the NGB. I have almost daily conversations with the USOPC. I really, I almost talk to them more than my own staff. It's necessary, particularly smaller NGB's in the sense that a lot of our funding is derived from them. If we want to do particular projects, that usually comes with their approval for the funding. So my role really is to go out and make the connection to constantly inform, request, and justify what our athletes and coaches need for success at the games (HP9).

Logistics. The final higher-order theme in administrative duties was logistics. HPPs overwhelmingly used the word logistics to summarize their day-to-day roles within the NGB. Logistics, being the detailed organization and implementation of a complex operation. It centers around managing the flow of things between the point of origin and point of execution to meet their customers' requirements (Logistics, 2021). Within logistics, support and travel coordination presented themselves as lower-order themes.

For a high performance director, support can be accomplished in a myriad of ways. For many, it's the core of the job:

I'm here to support and provide, and I think they lean on me for support when they need it. So it's a role where you wear many different hats, and you have a lot of things on your plate. I support, however, whoever I can, if it could lead to improving the chances of an athlete, coach, or even staff to develop further (HP16).

Logistic support from the HPP's responses referred to both personnel and equipment. Equipment for high performance directors consists of the tools athletes need to practice, train, and compete. They spoke of managing how resources are acquired, distributed, and transported.

Regarding the transportation aspect, a director's level of involvement varies from NGB to NGB. Whatever their role is in managing transportation, all HPPs who participated in this study stressed its importance on the team and performance:

There's the directly performance-related side, and then there's the operational side, like logistics planning for training camps and before competitions. How do we get to the competition? You travel. All that stuff is just as important and probably impacts performance just as much as the performance development. It's pretty important to be on top of the organizational process. If things start to slip there, then it doesn't really matter how good you are in the performance services leading up to a competition. If everything at the competition is a disaster, you could have

had the best performance development services in the world leading up to it, those performance development pieces really won't matter (HP10).

They hold responsibilities in selecting events, nationally and internationally, along with which staff and athletes attend in some cases. No matter the destination, it is far more involved than just booking airline tickets with any travel:

Organizing, planning our actual training camps, airfare, getting everybody set-up. I'm the one that books all the tickets, does all the planning, not only for training sessions but when we're going to a competition. I am the actual liaison between the tournament director and our group (HP16).

Overwhelmingly, the participants spoke of their involvement in the process from beginning to end, and it didn't stop upon arrival at the destination. Several aspects away from the competition can affect performance:

We give a lot of thought to, especially with our higher profile athletes, safety, security, and comfort when we travel internationally. So how do we secure our hotel facilities, our training facilities? How do we ensure that they can move around easily and comfortably? How do we maintain the privacy of our workouts? Focusing on things like the elements that exist on the road, especially internationally, that could negatively impact performance and how do we mitigate those before they negatively affect the athletes or staff (HP2).

Performance Support

HPPs saw their role, and the director's, as supporting performance development through resource procurement and coach education. In helping athletes and coaches train,

develop, and prepare for competition, the director's role is focused on researching and providing what will help improve performance at the Olympics:

A big part of my relationship with the elite athletes is "I'm your salesman." So if you don't tell me what it is that you need, what's going to help you, I can't go out and make those things happen. I think to me, the definition of high performance is really broad, but it's really about the procurement, and ultimately, the implementation, and all the steps in between to develop all of your athletes (HP9).

Depending on the size and amount of funding an NGB receives, procurement and resource allocation are crucial to performance support's success. Finding the "biggest bang for the buck" when it comes to where directors invest in performance resources is the desired skill set among high performance directors. Their day-to-day prevents them from focusing solely on performance improvement, especially when it comes to being hands-on with an athlete:

A performance director ideally would be somebody who is administrating all aspects of sports performance from the physical to the psychological to the nutritional. Doesn't mean they're necessarily doing all of them, but they would somehow be administrating all of them. We don't have time to focus on one athlete or monitor a GPS tablet. If I'm that zeroed in on something, there is a dozen things I'm letting slip through the cracks (HP15).

Another emphasis of performance support was coaching education. Investing in those who spend the most time in contact with the athletes is extremely important to the high

performance department. Directors stressed finding ways to progress their coaching ranks throughout the NGB through education and professional development:

Managing and surrounding the athletes with the tools they need to accomplish their own goals and the team's goal. That's our job. In our world, that means coach education. I sometimes don't see an athlete until a competition. Meanwhile, their coach, they are together in most cases every day. Who is going to have the most influence and impact on that athlete? Me or the coach? It's plain and simple. Invest in them, find ways to continually develop and motivate the coach, and it will translate, hopefully, to the athlete (HP6).

Discussion

This study's findings highlight the significance of understanding HPPs' leadership and practice perspectives contributing to high performance departments' management and development. This understanding can guide the design and implementation of the high performance director position in the U.S. and organizations that utilize the high performance management model. While research on the high performance director position in the U.S. typically defines it as a role focused solely on performance development through technology and data analysis (Tenney, 2016), this study's findings emphasize the complexity and interconnectedness of management and leadership within elite sport. In this study, participants differentiated performance support from performance development. Administration duties dominated the director's job roles and responsibilities within the U.S. Olympic high performance setting. This finding

differs significantly from the data analytic or “sport science” driven, performance monitoring, and development-centric version implemented in this country.

The current research and publications on the high performance director position in this country do not adequately reflect the current expectations and day-to-day duties of directors working in U.S. Olympic NGB’s. While the perception is a role “to control and develop every facet of an athlete’s diet and routine, down to data and analytics on quality of sleep” (Moser, 2016, para. 7), HPPs deemphasized the importance of being the individual driver of performance monitoring, data analysis, or a sports science. Instead, it focuses on integrating various management skills, emphasizing planning, communicating, supporting, budgeting, and executing. Also, HPPs recognized the performance support power of proficient staff, team, and event management, along with coach education, which are predominant themes of current high performance sport management research (De Bosscher et al., 2007a.; Lyle, 1997)

Another difference between current high performance director research and their contribution to performance development that emerged in this study is creating a high performance plan. For study participants, the plan was commonly referred to as the “budget” plan, and not one focused on the development of the sport and athletes:

We send the high performance plan to the USOPC, and that acts as a funding request. I would say in the United States, we’re kind of behind the curve compared to other countries as far as from a planning perspective. It’s something that is required to do, but I would say most people in my position view it as asking for money from the USOPC. It’s more about requesting money than what we need to do to get better (HP1).

This view does fall in line with the USOPC who views the plans as blueprints or action plans to achieve sustained competitive excellence and ensure effective use of USOPC and NGB resources. The clearer, more detailed the plan is, the greater the chance the sport will receive the requested programs, services, and financial resources (High Performance Programs, n.d.). How it differs from USOPC expectations and research is the sports science and performance development expectations. The USOPC proclaims its high performance departments and directors are in charge of applying performance-impacting technology and sport sciences comprised of experts in nutrition, medicine, physiology, strength and conditioning, psychology, and performance technology. High performance directors often lack funding, technology, and the resources to supply these sport science staff or the technology to provide such services. For most HPPs interviewed, directors and high performance departments at the NGBs are often left without sport science support, regulated to find volunteers to fill these roles or utilize high performance staff from the USOPC. The latter split their services with up to five other NGBs.

For high performance directors, the work does not stop upon the creation and submission of the plan. The follow thru of actions promised, successful implementation of resources, and reporting updates to leadership year to year are engagements in the completion of the plan:

Being in a small organization like ours, the high performance plan starts with revenue, and the plan has to address how we will be able to meet the revenue expectations. The USOPC has goals, and they, along with our donor base, want to see some goals. In general, it does me no good to talk about the plan from a performance side because, at the end of the day, it

comes down to the asking, “So what do you want?” This is where I try to justify hiring people like your sport scientists, but if I can’t provide the salary and tools for that position year after year, then the benefits don’t outweigh the cost. The board doesn’t see it as efficient use of our money. I need I utilize the people around me to help create it with their input. But in the end, I have to make sure that it’s actually things that could be executed on. Those things are what I get held accountable for at the end of the day, execution, and follow-through of the plan (HP6).

An unexpected finding was the lack of involvement high performance directors had in developing the national plan and the long-term athlete development or often referred to in the U.S. as the athlete development model (ADM). The national plan aims to develop the training and practice plan for the national team and athletes. It also includes initiatives and execution strategies to increase elite-level athletes while developing future Olympians. According to Sotiriadou (2013), high performance directors are responsible for overseeing the design, implementation, continual review, and refinement of the national elite plan. A few directors reported their involvement was minimal, with contributions to the national plan being one of “some consulting.” After conducting the interviews, their lack of participation in this plan can be attributed to the U.S. Olympic sports’ nature. Most international NGBs and the country’s government have greater control over their athletes’ training and location. Team USA athletes live and train all over the world. They have personnel coaches and utilize training programs developed by individuals not associated with the NGBs high performance department. Therefore, the importance of the national plan can be minimal to the director.

The ADM was a surprise because none of the HPPs associated themselves or the director was part of this process. In essence, this is the blueprint for developing the sport and its future athletes. Utilized by international NGBs, it is a project that carries an athlete from early-specialization of their sport through retirement, emphasizing fundamentals, teaching athletes how to train, compete, and win at all levels of sport (Balyi, 2002). A majority of participants were not familiar with the ADM product, nor did they have a similar type of plan in place. Some recognized it solely by the name but were not involved. Even fewer participants viewed it as an essential future endeavor of theirs but not currently creating one. These long-term athlete development models are meant to grow a sport at the youth level and provide development pipelines to ensure a constant pool of top-tier athletes to the national team. This absence of fundamental development, coordination, and uniform standards among NGBs has resulted in diminishing performance since the Second World War (Sparvero et al., 2008). Without a more significant push by the USOPC and high performance directors in the U.S., especially at the Olympic level, the trend will likely continue.

Many versions of the high performance management model and the director's job expectations are skewed and siloed solely to monitor and implement practices to increase athlete performance, especially here in the U.S., where job descriptions completely lack managerial, leadership, and administrative requirements. Managing the NGB's performance budget is necessary for athlete success. It can be the difference between a director keeping or losing their job. Financial responsibility involves tracking, reporting, and justifying to leadership and the USOPC how their decisions to spend are warranted and will lead to success at the Olympic Games. Directors are required to work within the

budgetary confines set by the USOPC and NGB. This position must exercise appropriate financial delegation and monitor the financial operations of the high performance program. These skillsets require sound financial and administration skills to include fiscal analysis and accounting experience (Sotiriadou, 2013). These abilities and their importance to the position was a unanimous theme from this study and fall in line with the international research on elite sport management. The job is also extremely active in searching for additional sources to fundraise and determine ways to allocate its money. This ability to properly handle an organization's money heavily lacks in U.S. high performance director job posting, research, and the academic settings in charge of preparing future HPPs for elite sport management.

Just as finance and the high performance plan are mainstays of the director's role, so is the successful capability to communicate. Directors are often required to interact and build relationships with many stakeholders, including the USOPC, senior management, individuals in the NGB, external partners, support personnel, and the athletes. By enhancing communication and building these relationships, directors can integrate and engage all areas of the NGB and USOPC (Arnold et al., 2012). The study's findings once again seem to line up with the management model approach where effective communication is a requirement of the leadership role. Participants stressed that efficiently and continually being in touch and disseminating the high performance department's message is necessary.

The final lower-order themes within administration - logistics, support, and travel coordination- were frequent discussion topics. In particular, the use of the word logistics. Of the 16 HPPs interviewed, every participant used the word logistics to describe the

enormous amount of tasks a director is responsible for, with the term being used 148 times. The phrase “wear many different hats” was used multiple times to summarize the moving parts and preventive planning for the director’s role in providing athlete support and travel needs. “Global, national, and regional sports organizations heavily rely on logistics management practices” (Herold et al., 2020, p.1). Several tasks that directors are responsible for are rarely associated with leading a high performance department. Some areas like security, facility procurement, international travel arrangement, and onsite event coordination are not in the U.S. perception of the role. The training, education, and preparation of high performance personnel coming into the leadership role are absent. A consistent viewpoint to these expectations and job duties from those who participated was that their ability to handle these areas came from on-the-job training. There is no manual, guidance from the USOPC, or mentorship from previous high performance directors or directors from other NGBs.

In addressing performance support, a common misconception here in the U.S. is that the director continuously monitors and performs analysis of athletes throughout the year. Throughout professional and collegiate athletic departments, the high performance director is a veteran strength and condition coach due to their background in demanding “excellence in performance” and their understanding of the sport sciences, such as nutrition, sports psychology, athletic training, sports medicine, coaching, and motivating (Gillett, 2014, as cited in Smith & Smolianov, 2016, pg. 9). These views differ entirely from the results found in this study. Athletes and coaches are the ones who are primarily in control of what they are doing and tracking when it comes to their performance. The high performance directors are in the role of seeing how these individuals are doing,

providing possible resources the NGB has access to, and maintaining relations. All to prepare coaches and staff for when the Olympic Games come around, their presence is not foreign to the group. Trying to track athletes day-to-day, monitor their training, and stay abreast of their progression or regressions are notably significant for the directors but are not within their reasons to communicate. Of the 16 participants, only one was a strength and conditioning coach by trade. A surprising approach from the HPPs interviewed was that they saw themselves get further by informing the athletes and coaches of the resources they had to improve performance rather than mandate training updates or force monitoring equipment. Even if an athlete agrees to use a particular device or piece of equipment, directors will defer to the sport sciences staff and athlete's personal coaches to interpret and create courses of action from the data, then spend the time doing that themselves. Having a working knowledge of the sport sciences, technology, and data analysis are important. Being the subject matter expert or sole driver of these efforts is not.

Strengths and Limitations

This study is the first of its kind to interview current U.S. NGB high performance staff to gain insight into the high performance director position and the use of high performance management in U.S. sport. Previous research conducted in this area consisted of only analyzing high performance director job postings by the USOPC or NGB. Furthermore, any interviews done with Olympic HPPs have just been completed outside of the U.S. A notable strength of this study is the characteristics of the participants. The HPPs who participated in the interviews were current high performance directors and staff working at the elite end of the sports spectrum. No study of record

performed face-to-face interviews with this number of participants, with some of the most recognized high performance departments in the U.S. and influential in the Olympics world.

There were several strengths to the qualitative secondary analysis conducted in this study. First, the primary researcher who collected the original available data also conducted the secondary analysis undertaken for this study. This resulted in extensive familiarity with the original research context and full access to the interviews' data and materials for accurate secondary data analysis. Second, this information was not previously collected for another purpose or re-analyzed due to concerns about the accuracy of results. The complete data set's re-analysis allowed new questions to be answered while gaining new insights through new perspectives developed since the original study (Fielding, 2000).

This study's limitations begin with the data representing high performance views from only Olympic perspectives that required identifiable information such as the sport or previous work experience being extracted. This was to protect the participant's identity yet prevented comparisons between other NGB high performance departments and sports. Differences in size and resources of NGBs also could be a limiting factor. It was an overwhelming theme from those interviewed that the number of staff available and funding showed differences in job roles and high performance directors' responsibilities. The one-shot interviews also prevented any additional follow-ups or possible clarifications with participants during the data's secondary analysis.

This study's interview script limited further questioning because other sections centered around defining high performance, high performance management, and the high

performance model. The interview divided the participants' attention between defining high performance sport management elements, the original intention of the position, its history within their NGB, and their actual job roles and responsibilities. A multiple interview approach would be better suited, performing one interview to establish high performance views and the second to investigate the high performance leadership position. Future research into the roles and responsibilities of high performance directors in the U.S. should consist of participants who hold the NGB director title. Participants in this study were HPPs, who worked in the high performance department and had high performance titles, but some were not directors. Their responses represent only their view and perceptions of the director's position. Furthermore, to gain a better insight into the job role and implementation of the high performance model in the U.S., research consisting of interviews with high performance directors in other elite level sport organizations, professional sports, and university athletic departments who advertise a high performance department. Further work is recommended to address research gaps in high performance management and how a management approach versus a performance development approach affects athlete and team performance.

Conclusion

This study shows a consensus of two fronts to the high performance director position and implementing a high performance "model" in the U.S. today. First, the heralded and referenced U.S. Olympic high performance director position resembles nothing like what the research and publications portray here in the U.S. Second, the position has little, and in many cases, no responsibility to execute one of the modern sport sciences to monitor and improve athlete performance. Traditionally, the sport

sciences have been the major contributor to excellence in performance. However, as the world of elite sports becomes more strategic in producing high-level athletes and teams for competition, they are looking beyond the simple application of sports science and coaching as the only baselines for successful performance (Alder, 2015). Research into the needs of elite athletes, and the systems supporting them, have developed into separate domains of expertise such as data science and analytics, skill acquisition, biomechanics, sports psychology, and sports medicine (Baker, 2012). The team and athlete's total development starts at an organizational level, and each of these domains requires direction. It involves sports management with strategic, operational, and financial planning. These plans set goals, objectives, and staff direction. High performance administration is a sports management process rather than merely a product of biological, psychological, data analytics, or physical attributes (Sotiriadou & Shilbury, 2013).

Nevertheless, there is a different type of high performance sports director that has become increasingly common in the U.S. One where "the high performance leader holds an aura as the 'holder of the keys' to unlocking human performance" (HP14). This perceived subject matter expert in multiple sport sciences has become such a powerful position there is research to justify why one particular sport science would be the logical choice for such a job (Sausaman & Groodin, 2016; Smith & Smolianov, 2018;). This high performance model has become recognized simply by empowering one individual, typically using high performance or sport science in the job title and touting a data analytic led department.

Many issues have presented themselves due to a lack of clarity or definition for high performance, the high performance model, and the application of high performance

management. Maybe the biggest culprit is viewing the high performance sport position and the director's role as an individual resident expert in every performance improvement discipline, instead of leadership, management, and organizational centered. A perfect example is the often heralded application of the high performance sports model within the USOPC and their NGB. Smith and Smolianov (2018) write how high performance management and the high performance management model have emerged across the U.S., currently implemented at the Olympic sport level with great success. The results from this study with high performance directors across multiple sports paint a different picture. Even at the elite ranks of U.S. Olympic sport, there is minimal awareness of a high performance sports management model or the position's expectations outside of funding request and being the USOPC point of contact. Most of them have no structured model or framework to speak of, with job roles and responsibilities being different from sport to sport, NGB to NGB. Many of these high performance leaders, the majority being the first to hold the high performance director's title for the sport, had no idea what the job entailed. "When I got this job, I Googled high performance manager, and of course, there was not a whole lot out there about it" (HP10). The position and departments were created and mandated by the USOPC to establish a contact point at each NGB and develop a high performance plan. The term high performance and the high performance plan's purpose have little to do with performance development.

The future for high performance management and the director position is establishing the term and recognition of one, or the difference in, the U.S. model and the overseas approach. The high performance model has become a catch-all term. The U.S. perception is one of sport sciences driven, performance-enhancing focused, while the

research-based international model is management focused. Where this misconception came from is beyond the scope of this study, but there is a need to educate and separate the two approaches. If the performance-driven, data analysis, and technology-based system is one version, the U.S. version, then it should be identified and researched as such. It is in stark contrast to the international version, the researched-based management and leadership style model. The latter falls more in line with the HPPs who participated in this study.

CHAPTER 4

Moving the Field of High Performance Sport Management in the United States

Forward

Abstract. The purpose of this paper is to describe key elements of moving the elite sport management field of high performance forward. This paper introduces and recognizes two separate high performance models, an International and a United States model, along with introducing a functional definition of the elements that represent the two models. As part of improving the high performance approach, management and leadership characteristics are presented to strengthen organizations and leaders in elite sport development. A university degree program and internship placement strategies are suggested as a core education and student experience to introduce future elite sports leaders to the high performance environment.

Introduction

The emergence of sport has evolved from games developed to prepare civilizations for war to a billion-dollar global industry. Global revenues related to elite sports amounted to 700 billion dollars annually in 2014 (Value and benefits of the sports industry, 2017). According to PricewaterhouseCoopers 2020 sports outlook, the sports market across North America alone is expected to grow from 71.1 billion dollars in 2018 to 83.1 billion dollars in 2023 (McCaffrey et al., 2021). As the billion-dollar sport industry continues to grow in sophistication and size, so does the number of staff involved in elite sport management. There are team directors, performance managers, specializing coaches and coordinators, administrators, media and marketing, university personnel, researchers, and sport specialists continually adding and expanding

organizational makeup (Sotiriadou & Shilbury, 2009). This expansion of staff drove the need for a core of full-time experts to provide specialized administrative skills in response to the increasingly commercialized and professionalized high performance sport industry (Jones et al., 2008).

From the outset, high performance sport recognized both the traditional sciences and those deemed sport sciences in the early implementation of this progressive approach to athlete development. Competition is profoundly dynamic, and organizations in every sector, including high performance sports, have to adapt to maintain their competitive position (Holbeche, 2007). There have been attempts to define high performance sport management and system models to illustrate its structure and best practices in elite sport for the past two decades. Existing research on high performance management models examines various areas to improve organization and team performance. Researchers developed this process to create a model that could be used to compare and benchmark elite sport organizations, measure performances by the organization, and evaluate the goals set forth by leadership (De Bosscher et al., 2011). However, little is known about high performance management, the high performance model, and the interconnection of management and performance development, especially in the United States (U.S.).

This sub-category of sport management is in its relative infancy yet is overpopulated with outside perspective research consisting of job posting analysis and examination of high performance organizations internationally. There are multiple examples of model comparisons providing best practices of successful departments but are missing research examining the high performance director position and high performance models in the U.S. Therefore, to further define high performance, analysis in

the U.S. and qualitative methods such as interviewing are needed. Organizations with high performance departments are increasingly searching to adapt and refine through constant assessment and leadership development. Therefore, research is needed with current high performance sport leaders about their job roles and responsibilities and the high performance model they work within. The integration of administration principles and performance development often requires restructuring existing high performance departments and higher education approaches. Incorporating the latest in applied research management, elite sport system comparison, and the sport sciences can unify performance development efforts and meet organizational needs in competition achievement, financial success, and staff development. This paper will present definitions and suggestions to move high performance sport management forward in the U.S. The following recommendations were developed through research and literature conducted in the area in conjunction with interview data derived from current high performance staff.

Future of High Performance Sports Management in the United States

High performance sports operate in fast, ever-changing, highly volatile environments where athletes and teams are exposed to pressures from media, sponsors, society, coaches, peers, and family. Those who work in this environment as high performance professionals are exposed to these pressures as well. They are tasked with helping their athletes and teams navigate the environment. This environment is driven by economic values that led to the commercialization and globalization of high performance sports aspects (Westerbeck & Hahn, 2013). During the early 1990s, a similar trend occurred when sport's growing complexity led to an urgent need to upgrade sports administration quality through well-trained and educated sports managers (Shilbury &

Kellett, 2011). Even at the amateur ranks, this professionalization demands running elite sport as a business by business-based and experienced professionals. This blend of business and performance development has caused the lack of common ground, unified definitions, and understanding of the management approach, management model, and the high performance director's role. This lack of unification limits the ways high performance is implemented, what it consists of, the extent of what the high performance director does, and how to best support athlete success (Sotiriadou, 2013).

High Performance 'Model(s)'

Maybe the most overused, misunderstood term in high performance sport is the word 'model' and what it represents. The use of high performance and models is synonymous with sports and performance development. Especially here in the U.S., it is used throughout varying levels of competition and sports organizations. Even with high performance management's unofficial status being in its "infancy," what the model is or represents is still waiting to be established (Gillett, 2014; Sausaman & Goodin, 2016; Smith & Smolianov, 2016; Smolianov & Zakus, 2006; Sotiriadou & De Bosscher, 2013). The model represents several versions throughout the research and academic realm, in elite sport leagues, and within the private performance development sector. Several factors have led to the diversity in high performance model perceptions and implementations: (1) a management approach in its early stages, both in application and examination, (2) a nonexistent universal definition to high performance sport management, and (3) a lack in research examining high performance departments in the U.S.

Models reflect researchers, authors, nations, the organization's leadership, or the current high performance director to a certain degree. The history of the sport, its sport system, and what they are trying to achieve influence the model and emphasize certain aspects over others, like performance development over organizational management (Hong To et al., 2013). There is no perfect comparative analysis model, let alone one that focuses solely on high performance sport (De Bosscher et al., 2010). Comparative models are challenged by the constant innovations introduced to provide maximum support of elite athletics. "Therefore a progressive comparative framework should be flexible enough to encompass the similarities and differences of sport systems and deal adequately with unique and innovative strategies" (Hong To et al., 2013, p. 66). With the unique nature of elite sport in the U.S., the high performance model has naturally morphed into hybrid versions of several approaches. This paper intends not to point the finger and proclaim one is right or wrong but to spotlight this growing area that lacks definition and direction in the U.S.

Upon submitting this research, there has been no attempt to recognize and define a U.S. high performance model (Figure 1). The following is an introduction and establishment of two high performance models, the International model and the U.S. model, and report the two versions' characteristics and differences.

The International High Performance Model

In sports management, researchers view a high performance model or 'system' as the communication or non-communication and organization of stakeholders (athletes, coaches, staff, organizations) who focus on high performance sport within their given environment (Sotiriadou & De Bosscher, 2013). A system can be defined as "a whole,

Figure 4.1

High Performance 'Model(s)'

	International Model (6)	U.S. Model (6)
1	Talent Identification and Development	Holistic
2	Finance and Funding	Athlete-Centered
3	Coaching and Coach Development	Collaborative
4	Competition and Events	Performance Development
5	Training Facilities	Data Analysis, Athlete Monitoring and Technology Driven
6	Performance Development and Sport Science	Sport Scientist Directed

Note. Key elements of the International model versus U.S. model.

comprising of interrelated parts that are intended to accomplish a clearly defined objective" (Lyle, 1997, pg.3). This set of interrelated parts function as a whole to achieve a common purpose. A sport 'system' is required as a measure of control and direction. High performance sport systems are created to guide the planning put in place to develop young talented athletes, elite level athletes and coaches, and organizations based on the belief that athlete success can be advanced and influenced by human intervention (De Bosscher et al., 2008). However, as international comparisons of high performance systems show, these systems are sport-specific and, most importantly, country-specific and shaped by cultural, economic, and political processes (De Bosscher et al., 2009).

This system comparison approach, also known as comparative modeling, is a research methodology that uses a set of ingredients composed by academic researchers to compare different systems. This method has led researchers overseas to create 'models' to assess a high performance system's strengths and weaknesses and develop ways to compare these findings to other high performance systems. Comparative high performance sport models focus on explanations of selected ingredients that contribute to successful international sport performance consist of sport policies, organization and financing, facilities, competitions, talent identification and development, sport science,

medicine, and education. Models are validated by using case studies of countries that have demonstrated international sporting success (Hong To et al., 2013). This area's products attempt to educate managers, investors, and organizations on best practices and provide blueprints in establishing optimal high performance departments.

Within high performance sport management, international researchers developed a model that front offices and high performance directors could use to compare and scale other high performance departments in elite sport to measure the organization's performances and evaluate their program's effectiveness (De Bosscher et al., 2011). The Sports Policy factors Leading to International Sporting Success or SPLISS model was developed to address elite sport at the Olympic level and is applicable to other classes of competition and professional or commercial sports teams (De Bosscher et al., 2007b). The added value of this modeling approach to high performance departments was the overall organizational structure's findings (Sotiriadou & Shilbury, 2009), the relationship between the organization's internal characteristics, and the interaction resources had on performance (Helfat & Peteraf, 2003). This high performance model affirmed the critical importance of assessing and continually improving organizational capabilities in developing competitive advantages (Truyens et al., 2013).

Research, literature, and real-world application have added to the development of high performance sport, high performance athletes, and high performance sport management. Recent research into this area, along with the data from this study, has provided six essential elements that represent the International high performance sport management model and the vital regions of expertise in the field: (1) talent identification and development; (2) finance and funding; (3) coaching and coach development; (4)

competition and events; (5) training facilities; and (6) performance development and the sport sciences.

Talent Identification and Development. To manage high performance athletes, high performance directors need first to develop systems and processes that would attract, retain, and nurture them (Sotiriadou & De Bosscher, 2013). Two athlete pathways distinguish the International high performance sport environment and management model from the U.S. version: talent identification and talent development. Within the talent identification and development system overseas, high performance systems establish ways of identifying athletes that fit the organization's culture. This varies from most elite systems and the U.S. model by emphasizing total person development instead of singling athlete development solely on sports performance. The backbone of athlete development in high performance is establishing a clear identification and development pathway; realigning and integrating programs for developing the organization; providing a planning tool based on scientific research for coaches and administrators; and creating a planning guide for optimal performance (Sotiriadou, 2010).

The international model uses strategies incorporating the athlete's life development stages while training and educating coaches and performance staff on the transitions athletes will face in different development domains. This approach allows for a start-to-finish (development) as well as a multilevel (holistic) perspective on athlete development (Wylleman et al., 2013). Internationally, it is believed that career development cannot be viewed as separate from the athletes' development in other domains. It is vital to recognize the interactions between the different stages as they occur in the athlete's life (Wylleman & Lavalle, 2004). The aim is to provide athletes with

opportunities for sustained progress. Therefore, the interactions of different athlete stages and transitions into new ones are emphasized in staff training and incorporated into development plans.

Finance and Funding. Financial support and funding provide resources and opportunities to win in elite sport. "It is an undisputed fact that countries that invest more in elite sport can create better opportunities for athletes to train under ideal circumstances and thus improve their chances of success" (De Bosscher et al., 2013, p. 49).

Internationally, success in elite sports correlates with the amount of money provided to an elite amateur organization. In the case of professional sports, revenue is allocated to the high performance department. Most successful nations in the Olympics are directly supported financially through government tax revenues and lotteries. The money spent on facilities and athlete support has improved results on the international stage and increases mass sport participation due to a nation's success in world competition.

In the International high performance model, the director is responsible for exercising appropriate financial delegation and monitoring the program's financial operations (Sotiriadou, 2013). Having a certain level of knowledge in various fields adds credibility to a leader in any leadership position. "It enhances their capability and quality of leadership. Financial knowledge, in particular, is a strong foundation for any leader to have. The level of a person's financial proficiency is an indicator of their adaptability and resilience" (Jet & Kong, 2018, para. 5). Directors in the International model are expected to possess "sound financial and administration skills including report writing and financial analysis, accounting or finance" (Sotiriadou, 2013, p. 8).

Coaching and Coach Development. A sports coach helps athletes develop to their full potential. This person is responsible for instructing in relevant skills, leading in competitions, and guiding them in life and their chosen sport. Athletes widely accept access to world-class coaching as the most critical support service that they receive (De Bosscher, 2007). In high performance management, the task is not only selecting a highly skilled technician with excellent communication skills; it is also further developing them through continuing education opportunities. The sport and skill coaches are the frontline to the athletes, key to teaching the sport's tactical aspects, and embody the team ethos. High performance sport settings involve multiple and varying motivated individuals interacting in highly changeable conditions that require individuals who can do more than apply general competencies to general challenges (Jones & Wallace, 2005).

At elite levels, coaches have to establish a respectful and committed partnership with an athlete possessing a clear training philosophy and an environment based on a good work ethic. This requires a growth mindset, the desire to develop, and a high performance sport environment that is proactive in creating coaching education opportunities. The expectations to improve on the field of competition starts away from the field by establishing long-term agendas, setting up various developmental experiences, mentoring relationships, and practicing athletes' opportunities to maximize learning and behavioral change (Collins et al., 2013). It is foolish to expect anyone to naturally have these traits, let alone refine them by merely focusing on the tactics and techniques. Much as organizations utilizing high performance sport management recruit and train top-notch athletes, it applies the same methods in selecting talented coaches

who are proficient in their sport's skills and foster an environment of continual improvement.

Competition and Events. Competition and events for the high performance sport professional consist of performance-based assessment and event management. High performance sport management involves providing performance-impacting services, competitive analysis, training, and competition support. A hallmark of the International high performance management model is the offering of competitions, selecting events, and the athletes who will compete at them (Rees et al., 2016). In the U.S., system development and multiple competition level organizations are vastly different from our international counterparts, especially in comparison to high performance sport model authorities in Australia and Europe. Their development systems begin with athletes identified, selected, and instructed under the same flagship as the Olympic sport or professional team very early in childhood. So as talent is recognized, levels of competition can be scheduled or selected to enhance development. Multiple levels of competition are available to accommodate the talented and those advanced for their age group.

Competitions, events, and tournaments are vital stepping stones and pathways to elite sports levels. Our international counterparts teach high performance sport management, educate and prepare professionals in event management. These skills go beyond planning fair competitions and are a highly sought-after skill set for elite-level clubs. At the high performance level, directors are heavily involved in organizing training camps, workshops, events, and the annual training calendar for athletes (Sotriadou, 2013). These duties may include logistics (travel and accommodations), coordination

with local event management, and procurement of training facilities while away from home.

Training Facilities. Elite sports facilities and infrastructure has been identified as one of the top characteristics commonly found in high performance sports development systems. Well-planned and designed sport-specific facilities are essential in supporting an organization's development goals (Oakley & Green, 2001). Along with sport-specific training facilities, International high performance sport organizations have staffing facilities (sports medicine, recovery, performance analytics, research, headquarters component) for performance staff and administration, partnerships with elite sport institutes, and close links with education and sport science facilities. As an element of the International model, the all-inclusive facilities represent the high performance approach, but so does the director's involvement in facility management.

Sport facility management has become an emphasis on high performance leaders and in high performance management. Working knowledge in this area allows for operational efficiency, quality of service, and fiscal responsibility. High performance management responsibilities also look at coordination and planning for building, renovating facilities, and creating dedicated work environments for elite athletes (De Bosscher et al., 2013). Though a manager must plan for what is going on in the here-and-now, preparing for the facility's future needs and opportunities takes leadership properly trained in facility management awareness. This knowledge is beneficial in the choosing and purchasing of equipment and the ideal location for staff. With the different sport-specific facilities, training services, and equipment associated with the sport, high

performance professionals implement principles and procedures related to the operation and the care of resources and facilities.

Performance Development and the Sport Sciences. High performance sport evolution dates back to the 1950s and the Cold War onset (Houlihan, 2013). Until the 1970s, the typical elite sport system operated in a rudimentary fashion where talented or elite athletes would train with a coach under the sports federations' supervision or direction (Houlihan & Zheng, 2013). Since the mid-1980s, high performance sport evolved from athlete-coach relationships to encompass an increasingly complex support staff team (Sotiriadou & De Bosscher, 2018). The staff consisted of those with expertise in sciences associated with sport development, including tactical and technique specialists, strength and conditioning coaches, and doctors. As nations look to succeed on the world stage of elite sport, non-traditional sport sciences have increasingly been incorporated into high performance. Areas such as physiotherapists, soft tissue therapists, psychologists, physiologists, biomechanists, performance analysts, and career coaches have become staples in many systems (Collins et al., 2013). All of these sciences became known as sport sciences. Sotiriadou and De Bosscher (2013) defined sport science as the scientific disciplines used in performance development such as physiology, biomechanics, performance analysis, skill acquisition, decision making, nutrition, recovery, and strength and conditioning.

The U.S. High Performance Model

The growing global blueprint produced a valuable model in different social, economic, and political conditions. Researchers conceptualized a model by combining research on the topic and information about sports programs that effectively and

efficiently achieved high performance (De Bosscher et al., 2013). While the international high performance "model" was developed to assess sport systems and improve this unique sports management area, it took on a different meaning in the U.S. elite sports realm. These highly advanced modeling of sport systems followed much later and in a slower pattern in Western countries. The U.S. has long adopted an inward-looking approach when developing cohesive coaching, fitness, nutrition, and management structure. This is mostly predicated on the success the U.S. has had in the Olympics and their professional sports leagues, both financially and through athlete accomplishment. For years these organizations have led the world in developing professionalism and sophisticated operations (Moser, 2016). This has led to a late acceptance of the high performance sport management approach and model. The slower adaption in the U.S. has seen a hybrid of high performance models with varying approaches and views, especially with the high performance director position. This hybrid model adapts and finds its footing throughout the ever-changing landscape of elite sport in this country. Where things fall short are the examination and lack of research conducted on the varying high performance models, similar to the comparative modeling studies performed overseas.

The versions of the high performance model in the U.S. generally lack one or more areas considered essential for success in the high performance sport environment. The glaring aspect, and the one woefully nonexistent, is the management and leadership approach. This country, in its relatively youthful existence, compared to the rest of the world, has been wildly successful on the international stage and with its professional sports leagues. As high performance sport and its management elements become more common in this country, so should the comparative modeling and research in this area.

The model's strengths are the culmination of disciplines and practices. Solely focusing on one area while minimizing or completely ignoring others will continually fall short of the end goal in fully developing athlete, coach, and staff and prevent growth in the sport management approach of high performance sport.

Currently, in this country, a U.S. version of a high performance model has made its way into the six major professional sports leagues (National Basketball Association, National Football League, Major League Baseball, National Hockey League, NASCAR, and Major League Soccer), more recently established professional sport leagues such as Ultimate Fighting Championships and ESports, throughout collegiate sports and athletic departments (NCAA), and even into private sector performance facilities. The terms system and model are interchangeable in the international approach. The use of the word system is nonexistent in U.S. high performance terminology. Model, on the other hand, is overwhelmingly used and conveys something different. There has been no attempt to examine and define the high performance model in the U.S., outside of the Olympic National Governing Bodies (NGB). Even then, the research into those areas only examines the job postings for high performance directors. This research gap is attributed to the fact that the U.S. government is not directly involved with these sports entities, unlike in most other countries. Organizations control elite sport development, therefore lacking a somewhat consistent and accessible structure to examine (Sparvero et al., 2008).

With the removal of government control and high performance management's relative infancy as a structured elite sport management system, the "model" in the U.S. has splintered into several representations. The U.S. high performance model has been

shaped by several assumptions, the use of key performance phrases, and single sport performance areas to signify its focus. Six elements represent this model: (1) holistic, (2) athlete-centered, (3) collaborative, (4) performance development, (5) data analysis, athlete monitoring and technology-driven, and (6) sport scientist directed. The U.S. model is generally a combination of two or more of these points of emphasis, but all are single-minded in their purpose, athlete performance.

Holistic Approach. Many sports organizations and athlete performance departments have adopted a holistic approach to athletic development. In these models, athletes are supported by a multidisciplinary staff for the creation of an optimal environment, including career coaching, legal advice, media training, coaching support (specialist coaches), training and competition support (training facilities, training camps), sport science support (strength and conditioning, nutrition, mental coaching) and sports medicine support (medical specialists, physiotherapists) (De Bosscher et al., 2013). This perception, consisting of resources and uniting multiple sports science personnel, is the standard view of the high performance model in the U.S. (Sausaman & Goodin, 2016). In recognition of the oversimplification of a genuinely holistic approach and lack of organizational structure, current research has looked to build upon the full spectrum of holistic development for an athlete and has led to the athlete-centered system (Turner et al., 2019).

Athlete-Centered System. Expanding upon the holistic approach by providing athletes support on and off the field, the athlete-centered system looks to develop those in the high performance department both professionally and personally. Recognition of athletes' stressors and expectations through varying life and career stages has long been

an area of research and interest in sports performance development (Turner et al., 2019), mostly overseas, where many professional and Olympic sports organizations have mass sport participation systems. In the U.S., this approach is mainly being utilized at the university and collegiate levels. The academic origin and focus on student-athlete development have led to an increase in high performance departments in collegiate athletic departments across the country (Smith & Smolianov, 2016). Students have access to food, guidance counselors, psychologists, athletic training, sports medicine, and strength and conditioning within this setting. A majority of college campuses can provide additional services such as administrative support, life skills counselors, sport psychologists, sport nutritionists, brand advancement specialists, facility and event management personnel, sport science resources, and travel operations staff (Heisler, 2020).

Collaborative Model. As the model grows in sophistication and personnel, communication between athletes, coaches, and performance and administrative departments becomes essential. Traditional sport management approaches utilized a top-down hierarchical governance model, but as organizations become more complex and interdependent, greater collaboration becomes necessary (Ansell & Gash, 2007). With the influx of separate sport science departments, differing technology, and data analysis performed by multiple groups, the need for collaboration is critical. "While the potential for comprehensive athlete servicing is obvious, the potential for working at cross-purposes has also become apparent" (Reid et al., 2004, pg. 204). The U.S. high performance collaborative model emphasizes interdepartmental communication and the processes used to facilitate it. In particular, the use of interoperability, which is the ability

of different information technology systems and applications to communicate, exchange data effectively, and provide plans for the use of data that is being exchanged, is encouraged (Heubusch, 2006).

Performance Development. Performance development and improvement are staples of high performance management and the director position. In elite sport, the high performance department and its director are accountable for the "ongoing development and implementation" of the high performance program, overall management and leadership, and the training programs and performance development of its athletes (Sotiriadou, 2013, p. 5). In the U.S., the high performance director position is performance development and coaching focused, not on managerial or organizational leadership. Research on the position and the model that would best suit the performance development approach debates which sport science would best fit such a role. Smith and Smolianov (2016) suggest that while it may be important to be a former competitor and coach to serve in this role, the varied experiences and knowledge of the many resources surrounding elite athletics provides a veteran strength and conditioning coach the tools to create a logical fit for the position. This has led to a new notion of 'coaching,' which centers on developing athletes primarily from training advice to covering all aspects of an athlete's competitive life, which is strongly modeled on the former Eastern Bloc sport systems concept of coaching (Bourne, 2016). Whoever is in the leadership position, strength and conditioning or sport scientist, the predominant and singular focus is developing and improving athlete and team performance.

Data Analysis, Athlete Monitoring, and Technology-Driven. As technology and data analysis become increasingly prominent throughout elite sport, their

contributions to athlete development and injury reduction have highlighted their importance by becoming the U.S. high performance model's symbolic driving force. A data analytic driven model utilizes technology and athlete monitoring tools to capture varying data from athletes' training, practice, competition, and recovery (Tenney, 2016). The data captured are analyzed and reported to athletes and coaches to guide their programming, gauge health, performance readiness, and competition strategy. A common perception of the U.S. high performance approach is one "to control and develop every facet of an athlete's diet and routine, down to data and analytics on quality of sleep" (Moser, 2016, para. 7). This model is guided by data obtained from athlete tracking tools or dependent upon athletes reporting information. The U.S. high performance model is based on and driven by the data collected.

Sport Scientist Directed. In this model, the term sport science is often interchangeable with high performance in the U.S. system, and its staff is referred to as sport scientists. Sports science is a combination of several different disciplines that focus primarily on exercise performance's scientific principles. It studies the relevant branches of science, including physiology, psychology, biomechanics, and nutrition, focusing on how these various elements work together to improve physical performance (Evolveabroad, 2018). The individual sciences and specialties that became known as sport sciences, somewhere along the line, morphed into a particular brand of sports performance and position. In the U.S., the emergence of this all-encompassing discipline has become synonymous with high performance. The current perception of this role is one that provides expert advice and support to athletes and coaches to help them understand and enhance sports performance, adopting the evidence-based, quality-

assured practice to evaluate and develop effective strategies or interventions in training and competition (Bloom et al., 2014). Sport scientists operate in one or more roles from pure researcher to an applied practitioner and work in fields outside sport where human physical performance is an essential factor. What distinguishes a sports scientist from a scientist who works in sport is their holistic perspective on sports performance. This approach is acquired through tertiary-level qualifications, including foundational knowledge across the primary disciplines of anthropometry, biomechanics, motor control and learning, physiology, psychology, and training methodology, together with advanced, integrated, or applied studies in one or more of these areas (ESSA, 2021). In most cases, it is a sport scientist who leads a high performance department in the U.S.

High Performance Management and Leadership

High performance sport management consists of the bigger picture, eliminating hope that things will naturally work themselves out. High performance sport leadership assumes the challenging responsibilities to develop the athlete and staff in sport and life's challenges. In strategic management literature, performance is constructed by the management system and by managers. According to this view, performance management precedes performance measurement and gives it meaning (De Bosscher et al., 2013). Therefore, the focus is on future performance rather than past achievements (Lebas, 1995). In any field where management and leadership standards are continually improving, standing still means going backward. Teams are looking for the most effective ways to differentiate themselves from their competitors and gain a competitive advantage.

Traditionally the emphasis has been easily measured outcomes like success and finances over processes and strategy, requiring leaders and managers to become skilled in the path to success instead of end-result focused. It would suggest there is a managerial skill set that can be isolated, analyzed, and developed. Management training has become a significant talking point in sport over the past few years, just like in many other industries. The ever-growing realization from research and implementation is that the high performance sport's management framework is subsequently complex (Shibli et al., 2013). Leadership and management occur in a high performance environment to ensure a positive team and athlete culture, teamwork, and success (Sotiriadou, 2013). Results from this study have produced four management and four leadership essentials for a successful high performance sport model in the U.S. (Figure 2).

Figure 4.2

High Performance Management and Leadership

	Management (4)	Leadership (4)
1	Defining Performance and Success	Effective Communication
2	Performance Management	Talent Identification
3	Personnel Management	Culture Mindset
4	Organizational Leadership	Conflict Resolution

Note. Four management and four leadership essentials for a successful high performance sport model

The Management of High Performance

Without the element of management, there is no high performance model. In strategic management literature, performance is constructed by the management system and by its managers. A growing area of research in high performance sport identifies the management of organizational issues or the lack thereof, which has a significant effect on an athlete and team's performance and success in elite sport (Fletcher & Wagstaff, 2009).

As the management of these issues grow in importance, so does the need to understand and prepare leaders for this environment. The following are management practices and principles to progress high performance models in this country and further define its purpose in elite sport as both management and performance development: (1) defining performance and success, (2) performance management, (3) personnel management and, (4) organizational leadership.

Defining Performance and Success

It seems reasonable to expect that data will be gathered about what is going well or poorly by measuring success and identifying success factors to apply to the organization. Measuring success is a staple of high performing organizations. According to Harrin (2020), successful organizations "take the guesswork out of this process: they define what success looks like, so they know when they have achieved it" (para. 5). Performance and success are much larger than wins and losses, medal count, or championships. Along with developing a long-term strategic plan, establishing a process, and monitoring outcomes daily, high performance management must 1) recognize different approaches to the meaning of success in elite sport, 2) identify both the relative strengths and weaknesses of performance measurements in elite sport, 3) propose appropriate methods of measuring elite sport success in different contexts, 4) interpret and communicate data on performance in elite sport, and 5) understand their high performance setting's competitive reality to establish appropriate goals and objectives, policies, strategy, and plans (De Bosscher, 2016).

It would be rather short-sighted to restrict the measurement of performance solely to an analysis of the number of medals won or a nation's ranking. They are valid

measures of performance, the most commonly used and celebrated, but they are not the only ones. The real skill is determining and applying a performance structure to assess and reward performance progression within a realistic set of circumstances (Shibli et al., 2013). Small organizations and nations competing at the highest levels of elite sport do not have the resources that larger competitors possess. Most of them do not win medals or are selected for post-season tournaments. These simplistic performance measures are at best partial measurements, and in high performance sport environments, developing further appropriate measures of output is vital.

Recognizing and tracking best performances (seasonal or lifetime), establishing new records (organization or national), and athlete progressions over time help address the weaknesses of simplistic measures. It is imperative to develop these alternate sets of standards to enable any high performance sports organization to gauge its performance. This approach avoids the loser or failure labels and enables relative performance measures to assess appropriately. Posting such achievements is the building block to continuing performance support and separates the high performance approach from other sport development approaches. This support and positive momentum, in turn, acts as the basis for developing a long-term system that continues the production of competitive athletes and teams. The accumulation of progression and success can create a culture that becomes a competitive advantage, meanwhile unlocking other achievements in various (sometimes newfound) forms. Successful performance means different things to different organizations. With honest assessment and appreciation of current performance standings in which the sport management model operates, a proper performance enhancement environment can be established (Shilbi et al., 2013).

Performance Management

The difficulty of defining high performance management rests on the fact that it is not a single entity but a collection of management, performance, measuring management performance, and elite sport success. In this high performance domain, performance management is often misunderstood and confused with managing performance and success in competition (Sotiriadou, 2013). Performance management is a collection of management principles establishing goals, creating key performance indicators (KPI), measuring management performance, and focusing on employee engagement. In sport, performance management and its measures are often mistaken with managing performance and excellence. Within the high performance realm, it identifies, measures, and develops athletes, staff, and team performance while aligning performance with the organization's strategic goals (Aguinis, 2009).

Performance management aims to share what should be achieved, develop people and the organization's capacity to achieve it, and provide support and guidance to individuals and teams to improve performance (Thorpe & Holloway, 2008). Successful leadership and managers have developed and placed priority on the creation of an organization's goals. Goal setting is one of the most advantageous ways to kick-starting performance improvement. Once applicable goals have been established and communicated with the organization, performance management is crucial in measuring performance and analyzing information. One of the newer approaches is the establishment of KPIs, a process that has made its way into the high performance sports world from traditional performance measurement systems that evolved from finance and accounting principles. KPIs are indicators used to estimate and fortify where successful

organizations are on their short and long-term goals. They link a leader and the group's vision to individual action. Appropriate selection and application of indicators to be used for measuring are of the most significant importance (Velimirovic et al., 2011). With the strategic vision developed from leadership, funneling down throughout the entire group, KPIs are the organization's blueprints to be successful.

With goals established and KPIs determined, an effective high performance manager develops systems of measuring. At the end of the day, how do you improve something if you do not measure it? Neely et al. (1995) defined performance management as "the process of quantifying action, where measurement is the process of quantification, and action leads to performance" (p. 80). The centerpiece of performance management is the performance measurement system. By measuring performance, it is understood to evaluate the results obtained by an athlete and team but research in this area has also shown value in measuring the factors upon which successful performance depends (Chappelet & Bayle, 2005). By identifying what is required to achieve excellence, an organization can determine what areas it needs to improve and how its limited resources can be more effectively directed to accomplish this improvement (Kanji, 2002).

Personnel Management

Managing high performance sport requires applying performance management processes to the context of elite sport to obtain and maintain excellence in elite sport. Personnel management involves recruiting the best team members, supporting and developing them continuously, and enabling them to contribute in a meaningful way to the team's success. Sport management researchers have considerably overlooked

performance leadership at the managerial level focused on coaching-related leadership (Chelladurai, 2007). Overwhelmingly, research conducted on high performance director positions worldwide highlights the absolute requirement of personnel management. High performance personnel are responsible for developing and leading coaches, support staff, and stakeholders tasked to create elite and top-tier junior-level athletes. The development of these organizations requires the knowledge and understanding of staff recruitment with the endgame of choosing a team of professionals that will help achieve organizational and athlete success (Sotiriadou, 2013).

"The need to handle people has always been crucial to organizational success. Therefore, an intuitive understanding of what makes others tick is a key characteristic of good management" (Bolchover & Brady, 2002, pg. 82). Personnel management or people management has integrated strategies and a coherent approach to employee engagement. It seeks to achieve a competitive advantage through a highly committed and capable workforce, using an array of human resource planning, policies, and practices that carry out the management of people, including recruitment, screening, training, rewarding and appraising (Armstrong & Taylor, 2014). The organization's most valuable asset is its people, those working for the organization who collectively contribute to achieving its objectives (Armstrong, 2006). Organizations use personnel management to gain a competitive advantage through a distinctive set of integrated policies, programs, and practices (Dessler, 2008). Doherty (1998) reveals that various personnel management strategies can affect behavioral outcomes and organization effectiveness. Emphasizing the necessity of collaboration is beneficial to athlete safety and progression and a strategic approach that creates values (Chelladurai, 2006).

Organizational Leadership

Organizational leadership is a management approach where “leaders help set strategic goals for the organization while motivating individuals within the group” to successfully execute tasks leading to the achievement of those goals (Tokar, 2020, para. 1). Research from high performance business and sports sectors suggests that when managers perform well and preach the importance of better understanding organizational influences on athletic performance, the organization is more likely to be successful. The way people are led and managed will become increasingly more impactful on success (Fletcher & Wagstaff, 2009). The emphasis here is that the high performance leadership scope is much broader than athlete development. It includes planning, executing, leading, and monitoring the organization's performance along with the athlete and team.

As high performance sport management has grown from a sub-category of sport management into a separate discipline, the drive to succeed on and off the field has lead elite sport management to look into other professions. Influential leaders and quality managers have long been studied by broader professional worlds such as business, medicine, academia, and psychology. They are researching successful organizations' characteristics, performances, leadership qualities, and traits such as a performance management approach, practical communications skills, experience in conflict resolution, quality assurance integrator, and a culture developer. High performance leaders operating in elite sport must clearly understand their roles and others in the organization. They should be aware of role boundaries, including where one's responsibilities end and another's begin. A comprehensive knowledge informs this understanding of the organization within which they are operating. Therefore, high performance sport

management encourages leaders and managers to develop their familiarity with how their particular organization typically functions (Arnold et al., 2012).

High Performance Leadership

Developing and sustaining advantages require constant assessment and innovation through continuous revision of leadership success factors (De Bosscher et al., 2013).

Leadership has long been associated with elite sport and the desired characteristic of staff and athletes. Legendary National Football League coach Vince Lombardi spoke to this in creating a successful team and developing leaders, "Leaders aren't born, they are made. They are made by hard effort, which is the price which all of us must pay to achieve any goal which is worthwhile" (Lombardi, 2001). Just as management principles must be studied and put into practice, the same holds true in developing as a leader. Although effective leadership has a long history in performance optimization, current theories are limited in accounting for the program shaping power of leaders of high performance team members, both performers and staff (Collins et al., 2013). The following are leadership approaches and characteristics that are required for the unique role of a high performance director: (1) effective communication, (2) talent identification, development, and retention focused, (3) culture mindset, and (4) conflict resolution.

Effective Communication

As noted in the performance management skill set, employee engagement is a critical element of successful process development. A unanimous characteristic among high performance sport professionals and research is the ability to communicate successfully. Mathis and Jackson (1985) defined communication as "a behavioral process that affects motivation, leadership, and group effectiveness." It can affect an organization

"more than any other process over which management has influence" (p. 72). There are 'people' businesses that are somehow unique to general businesses in management literature, but in reality, all businesses are people businesses. The ability to connect with people is apparent, intangible, and essential.

Effective leaders need to initiate, develop, and maintain positive relationships and seek input and feedback where appropriate. Externally, they need to facilitate a collaborative and significant relationship with those inside the organization to ensure that the optimum daily working environment is available. This is accomplished by establishing success through agreed roles and standards around quality, quantity, and type of training to each management and personnel level. The leader's responsibility is to develop an effective communication system based on information sharing and performance measurement for the high performance department. In this context, people management skills and well-developed interpersonal, oral, and written communication are essential (Sotiriadou & De Bosscher, 2013).

Research is showing that it goes beyond one on one conversations or the top-down approach. Organizational communication has become an essential factor for overall functioning and success. Throughout all areas of elite sport, organizations have become far more complex and varied. Effective means of organizational communication with their staff and athletes are reflected in morale, motivation, and performance. Communication in the workplace can take many forms and has been shown to have lasting effects on motivation. Effective communication from management reported increases in job satisfaction, trust in the workplace, and overall commitment to the organization (Rajhans, 2012). There is a greater awareness to improve staff and athlete

relations in recent decades, driven by the medical and business sectors. With the emergence of high performance sport management, primarily due to the increase in sport psychology professionals in elite sport, athlete communication has become a greater emphasis in the last two decades (Eubank et al., 2014; Fletcher & Wagstaff, 2009; Lloyd & Foster, 2006; McCalla & Fitzpatrick, 2016). What is lacking is applying effective communication throughout the organization, especially between staff and performance departments.

In their role as personnel managers, high performance professionals need to communicate effectively to conduct interviews, give instructions and feedback, and deal with informal and formal department communications (Aiken, 1989). Good communication is hampered by many factors beyond the individual's control, but most people exacerbate a problematic situation by viewing communication as a one-way process. When speaking with staff members, many administrators become absorbed in what they say and how they say it, forgetting about the people receiving the message. Authentic communication in the workplace must be a dialogue, an exchange between supervisors and the people who work for them. It must be responsive. The primary goal is to obtain the desired response. Responsive communication is only possible when one considers the needs and interests of the people receiving the message.

Talent Identification, Development, and Retention Focused

Leaders and managers are responsible for enhancing staff, staff performance and improving operations and processes. As stated previously, leaders are in the business of people. A key attribute in working with people is a manager's ability to assess others' strengths and weaknesses in an unemotional, rational, and impartial manner. Inadequate

managers are less likely to possess this ability leading to the selection of poor managers beneath them, which results in poor development and guidance to their teams—resulting in employee dissatisfaction and decline in production (Bolchover & Brady, 2006). In business, the emphasis is placed on talent recruitment, development, and retention. Throughout the professional world, the difference between winning and losing is heavily dependent on the talent available, and maybe even more important is "how that talent is managed and organized. It is the synergy between talent and organization which differentiates the best" from the atypical (Bolchover & Brady, 2002, pg. 223).

Selecting and placing the right people whose job is to get the best out of the staff daily is a vital task of a leader and one where mistakes are often made. Talent has been the most under-managed corporate asset for the past two decades (Michaels et al., 2001). The best managers are known for their ability to recruit potential talent, which then flourishes under their guidance. This ability is dependent upon people skills. Identification of team members suitable for investment is a more natural skill for those naturally interested in people in terms of development. A talented employee may decide to join a company, but how long they stay and how productive they are is determined by their immediate supervisor's relationship. Talented employees need great managers (Buckingham & Coffman, 1999).

The same approach to filling the ranks with the most talented athletes on the market should be used to fill the organization's needs in off-the-field personnel. An essential aspect of the leadership role is to develop resources and communication networks for athletes, coaches, and staff to support their development (Sotiriadou, 2010). High performance leaders must establish standards and frequency around the quality,

quantity, and type of training for coaches and staff. Continual education and learning boost overall team development, disseminate the vision, and inspire investment in its goals. Talent identification, development, and retention plans are developed for all members of the organization. From athlete to coach, sports scientist to office administration, the processes are the same. This strategy ensures a better opportunity at creating a total team environment with the right people in the right places, all moving in the same direction.

Culture Mindset

Leaders and managers are responsible for developing a team of performance personnel and support staff, who themselves are responsible for developing the personnel that falls under them in the organization. Developing improvement inquiring teams requires knowledge and understanding of staff recruitment and team selection to help achieve organizational success. Management aims to maintain a focus on continuous improvement and build on the high standards already achieved. This focus is commonly provided through a transparent and well-communicated vision. Nevertheless, selecting top staff and executing a clear vision is not enough to lead an organization to sustainable results and success. Leadership act as role models and use their people management skills to demonstrate belief in others' potential and take active steps to encourage others to achieve their potential. Therefore, leaders and managers need to inspire and lead their staff or teams to adopt leading-edge approaches to their work. Creating and reinforcing a high performance culture is essential to building a solid foundation and a positive work environment.

Creating the right culture is vital for a leader; changing a poor culture and identifying shifts in culture are just as important. As is in most businesses, including high performance sport, there is a yearly turnover in personnel and team dynamics. Elite sport organizations exist in open environments; therefore, culture is inherently changeable and dynamic (Frontiera, 2010). Reported functional similarities between leading performance teams and leading businesses find the use of theories such as organizational culture change theory and models to build positive team culture extremely beneficial but rarely understood or employed properly by leadership (Weinberg & McDermott, 2002). Literature shows an increase in organizations desiring culture development skills (creation, change, shift identification) from leadership and managers. Still, the mass majority lack the skill, experience, and ability to implement themselves. In such pressured environments, performance managers and leaders need support and continual education to establish a culture that enables enduring high performance to enhance the longevity of individual careers, team success, and organization performance (Cruickshank & Collins, 2012).

In the current hiring trend for high performance sport positions, the sole concentration in on-field data and performance places enormous amounts of additional stress throughout the organization to create a team culture. If it is indeed a position of performance development and oversight, then the responsibility of a positive and organizationally influencing culture falls squarely on the high performance sport director. Productive and positive culture development is not something that should be left up to chance. It is a crucial element that is sorely missing from performance professionals in all levels of sport. Culture development is a refined trait that, in conjunction with sport

psychologists' utilization in the high performance sports realm, pays dividends on the field and off.

Conflict Resolution

In research of current high performance professionals, conflict resolution skills and strategies are needed for the position. In communication research, conflict resolution skills are practical applications for enhancing communication and personal or professional leadership effectiveness. Conflict is a normal part of a healthy environment, primarily when all parties are heavily invested. Good leaders know that people will not agree on everything. They also know not to avoid conflict but to confront and resolve productively. When conflict is mismanaged, it can cause significant harm to the group or individual, but when handled correctly, it provides an opportunity to strengthen the bond between them (Segal et al., 2019).

Unresolved conflict is expensive for companies and results in loss of time, money, and resources. As conflict rises, staff performance and team coordination in the workplace decreases. Those who have established trust with their team appear to resolve conflict more successfully, and members tend to address team conflict independently. Leaders utilize sensemaking, mediation, and conflict confrontation to engage in resolving conflict actively. Effective leaders know when to resolve a dispute efficiently to impact performance in the workplace. During conflict, leaders should be flexible in implementing a creative solution that facilitates an appropriate response, demonstrating the correct use of focus and resources in returning the high performance department to business as usual (Fusch & Fusch, 2015). Clear direction enables the processes that allow

the team to get the organization's work completed by providing role models for subordinates to emulate and correctly defining a problem from start to finish.

High Performance Model Education and Experience

For high performance management and its subsequent model to progress in this country and contribute practically to the research being done overseas, several steps can be taken to move the field forward in the future. The importance of leadership, the inclusion of the management principles discussed in this study, and adequately educating future performance professionals at the university level can facilitate its evolution. Researchers have shown that even though sport success is generally assumed to be attributed to natural ability, solely tracking or focusing on performance will consistently leave the athlete and team short of reaching their full potential. Unorganized activity and the lack of guidance or direction are insufficient to create the conditions to excel in sports (Lyle, 1997). The opportunity for exponential growth in athlete development, especially within high performance, can be accomplished at the universities and college campuses across the country. Universities have conducted some of the world's leading sport-related scientific studies with practical applications. There is great potential for better partnerships between sporting organizations and scientific groups in the U.S. (Hong To et al., 2013).

High Performance Sport Graduate Degree Program

To educate and train someone for the high performance sport position, we have to prepare them for the current and trending work environment. Practitioners and elite sport management is the direction high performance is heading. Two suggested tracks are created within the ideal graduate program for high performance sport: (1) the high

performance practitioner track and (2) the high performance management track. The practitioner track is preparing the student to work in a high performance sport environment as a sport science specialist. These future elite sports professionals need the tools required and the opportunity to become accustomed to working alongside other sport science disciplines at the high performance sport level (athletic trainers, data analytics, sports medicine personnel, sport tracking/technology, nutrition, psychology and strength and conditioning). They are not subject matter experts in all fields, contrary to views and misnomers typically associated with the high performance or sports science job title. They are performance professionals proficient in their specialty area, working within an elite sports group of development-focused counterparts. Therefore, fundamental knowledge of those areas is needed and represented in the high performance sport core courses.

The expectation that a single class in one area promotes the graduate as an expert in the field is illogical. The use of multiple introductory courses and advertising it as the student is now a performance data collector, refiner, and problem solver creates the wrong mindset. During interviews and research with current high performance sports leadership, it is a recent trend identified as an issue at the elite sport level. This position has been labeled here in America, inappropriately, a sport scientist or high performance coach. Outside of the mass majority of college athletics and many professional sports teams, a sport scientist is a collective term covering the activity and application of servicing and research in the scientific disciplines. Putting the pieces of the performance puzzle together is a collaborative effort, not an individual one. This group mentality has to be fostered and developed through education and training.

The high performance sport management track is for students looking to further develop themselves in elite sport performance careers through managerial, communication, data analytics, and leadership studies. They will be well suited for one of the practitioner positions mentioned in the application track but prepared for leadership roles in elite sport like directors of performance, directors of high performance, chief executive officers of sport, directors of operations, and coordinator positions within professional sports. It would be a demanding curriculum because that is what leadership requires, and that is where this business and job are heading. These future high performance sport professionals need an introduction to all areas in elite sport - today's fundamentals and tomorrow's possibilities while emphasizing leadership and management. It should be advertised, delivered, and heralded as the premier high performance sport program. It is demanding, uncompromising yet evolving, and respected. Like anything held with respect and admired for its high standards, those who choose the graduate program will be challenged in multiple academic areas. This is not to promote future high performance sport professionals as subject matter experts in all things performance development but as leaders with a well-rounded education and internship experience prepared to enter the elite sport world.

Internship Experience and Placement Strategy

First and foremost, to establish this as a premiere one-of-a-kind program, an internship pipeline plays a crucial part. This internship program begins at any university where there is access to both varsity sports and intramural programs. There is a fantastic opportunity to set up high performance sport models within each of these teams. Each sport provides an introductory system for sport science internship roles in elite sport

environments within physiology, biomechanics, performance analysis, data analytics, sports nutrition, sport psychology, skill acquisition and decision making, recovery, strength and conditioning, athletic trainers, sports medicine, and a high performance manager. Depending on their program track or future career interest, students would serve time working within that discipline inside the high performance team environment. There can and should be the opportunity to serve in multiple roles (i.e., strength and conditioning, then as performance analysis) in another term, not during the same internship.

Completing an internship can lead to different internships in high performance sport environments such as opportunities in professional sports, the USOPC, U.S. or International NGBs, tactical settings (police, fire, ROTC, military performance departments on college campuses), other universities, and department-approved private performance facilities. It would take a group effort among faculty, department, and proactive students to add additional options, establish internship program pipelines, and advertise postings in newsletters/classrooms/announcements.

A typical student's simulated campus experience or internship is often solely focused on their area of study, lacking actual and meaningful hands-on experience. A disservice is committed to all students by not exposing them through classroom settings and work environment opportunities with other disciplines. At any level, but particularly at the elite sport performance levels, sport scientists do not work in silos. A perfect example is a collaborative relationship between strength and conditioning professionals and athletic trainers. In military performance, professional sports, and high-level amateur sports, those two positions are staples and work hand and hand. The student's first

experience should not be in the actual work environment. This is one way to positively change the performance profession, improve work satisfaction, and positively impact the athletes. The high performance sports model internship will provide an opportunity to gain experience and see how other sports science areas work together, as groups and individuals, in an elite-level environment. The opportunity to integrate the often separated or underused specialties like sports nutrition, sports psychology, management, leadership, and communication departments would be unlike any other program, not just in the academic arena but in the way forward for elite performance environments.

This program is not to replace traditional training models or core education requirements at the undergraduate level. The undergraduate programs build a foundation in the students' chosen field (exercise science, sport management, nutrition). The high performance sport practitioner's and leadership curriculums prepare them for the elite sports career field. High performance sport staples will not change as far as the personnel- athletic training, physical therapy, sports medicine, strength and conditioning, sports nutrition, sport psychology, and data analytics. The difference will be the changes in technology, data collection, and reporting. Yes, these courses must change with the times. As elite sport progresses, so does the high performance sport department. In particular, statistics, data analytics, athlete monitoring technology, and sport management/leadership.

Conclusion

There are two reasons why most countries are ahead of the U.S. implementing the high performance sport management model: (1) their approach to the field as a management and performance development system and (2) the research area examining

the high performance sport systems of other nations as well as their own. In this country, high performance models are myopically focused on the athlete's performance development. Improving an athlete or team's abilities to be successful is an essential element of high performance professionals. Still, it is not the sole focus of a high performance model or its leadership. The complicated nature of coordinating elite performance involves much more than utilizing the latest technology to track an athlete's every action or providing a plethora of sport science resources to examine daily habits. High performance management is also about developing a vision, managing operations, directing people, and creating a culture that fosters effective communication (Fletcher & Arnold, 2011). At the select end of the spectrum, high performance sport professionals must identify and disseminate their vision, optimize resources, challenge and support staff and athletes, and create group cohesion through a culture's development. Current and future sport science professionals, including those at the university level, are woefully underprepared and lacking development in these areas.

Providing a holistic and all-inclusive model for athlete development has challenged exercise physiologists, coaches, social psychologists, educators, sport managers, and performance specialists for decades. Research, literature, and real-world application have added much to the development of high performance sport, high performance athletes, and high performance management. What is lacking from these contributions is the examination of high performance departments and the 'models' used in the U.S., particularly within professional sports and collegiate athletics. Elite sport management and the catch-all-term high performance model are highly contested in terms of its objectives, practices, and practitioners (Sotiriadou & Shilbury, 2013). The

high visibility and value of sport have encouraged ownership, board directors, and governing bodies at different levels to pressure sports organizations into assuming a more professional approach to the delivery and design of the sport product (Kikulis et al., 1995).

The void in research examining high performance management and the director position in the U.S. is quite astonishing. This research gap has led to a fundamental lack of understanding of a high performance approach and the director position's role and responsibilities. Nevertheless, there has been a steady increase in the implementation of high performance models in this country, particularly at the university and collegiate levels, based on the "International" approach and promoted simply as a performance enhancement system driven by technology or data analysis. A common mistake is treating the model as a plug-and-play type system. The U.S. consists of interdependent systems of sport, which are "more private, market driven, expensive and less coordinated than any other successful sport" nation or organization (Wing Hong To et al., 2013, pg. 75). The research on high performance mainly consists of model comparison analysis and examination of director job postings from varying Olympic sports overseas. So, the current practice of taking what may work in another country and implementing it in just any elite sport environment in the U.S. may be like trying to fit a round peg in a square hole.

In this country, the high performance sport model is not equated with management. Quality and performance management principles have been introduced systematically into various sport structures to improve and control the sport system's quality and performance. The principles of good management appear to be universal. A

proven manager with a sound knowledge of the relevant industry is likely to find success in any environment they find themselves in. Therefore, elite sport organizations are advised to look for potential managers who believe in and display a perceptive understanding of their running. This is a departure from the historically failed selection of successful coaches and athletes or the recent trend of individuals with a doctorate in a single sport science specialty. This is not to say these individuals cannot be successful in this position. However, the same dedication and level of expertise achieved in the subject matter area of performance development must be applied to their own development as managers and leaders.

The sports world and the business world are no different from each other. Those who have shown success in high performance sport have utilized dedicated high performance management and leadership techniques. Leaders need to operate as a developer of human resources, recruit and develop staff and athletes. The high performance model and its performance development professionals must possess a hybrid skill set that includes the abilities to successfully and efficiently (a) collect data, (b) monitor how well athletes and others perform, and (c) assess results and perform quality assurance. The difficulty is trying to accomplish two such diverse jobs, performance and department oversight, simultaneously. The strains placed by the expectations of performance at the elite levels of sport, unrealistic as they may be, will damage both roles' chances of success. High performance directors are better served to delegate the performance work, concentrating solely on recruiting the right people and ensuring that they are motivated and working together to attain a defined strategic goal (Bolchover & Brady, 2006). Expecting an individual to be both an effective leader and a subject matter

expert in several or all sport sciences is unrealistic. Somehow, somewhere, the high performance model came to represent a system that is on the cutting edge of all things sports performance, led by a "sport scientist" who is an individual expert in the "holistic" approach to athlete and team improvement. This has created an elitist perception and is setting the field of high performance management back.

Basing the foundations of a high performance model in the U.S. on elite sport management principles from the successful practices and characteristics of international sport systems is a good start. Still, for the understanding and successful implementation of a high performance model in this country, it needs to be matched by (1) model comparison analysis of successful elite sport departments in the U.S., (2) examination of high performance support staff structures, (3) qualitative research conducted with high performance directors examining the position in the U.S., and (4) the development of a high performance sport management degree program in the university and collegiate setting. It is the recognition that elite sport in the U.S. is different from anywhere else, therefore requiring its own high performance model refined through quality research of its practices, which shapes the sport management degree field properly preparing the high performance professionals of the future.

APPENDICES

APPENDIX A. ORIGINAL STUDY REQRUITMENT LETTER

Dear Invitee,

My name is Jon Hill. I am a doctoral student at the University of Kentucky. I am requesting your participation in a doctoral research study on management in high performance sport. The intention is to assess the management model used in high performance sport, particularly in United States Olympic organizations, and your experience as a leader in this field.

The study involves participating in an online interview. The interview is expected to last between one hour to one and a half hours.

Participation is completely voluntary and you may withdraw from the study at any time. Your responses will be kept confidential and no identifiers will be collected in the interviews. Request is made to record the audio portion of the interview; however, it is not mandatory.

Your participation in the research will be of importance to assist in identifying what may be gained through the awareness and current uses of the High Performance Management Model.

In response to this email would you please answer the following either YES or NO to the questions below to determine eligibility:

1) Are you currently working as a High Performance Professional with a United States Olympic sport?

YES or NO

2) Do you have access, or can gain access, to an online video communication application (FaceTime, Google Duo, Zoom, FUZE)?

YES or NO

If you answered "YES" to both, please respond to the following: (Knowing your time is valuable, I would like to set-up an interview at a date and time that works best for you. Interviews can be scheduled Monday thru Friday, 9 am to 9 pm Eastern Standard Time. If weekends work best, a day and time can be determined.)

Date and Time for interview – _____

Preferred video application – FaceTime, Google Duo, Zoom or Other (Please Specify): _____

Username for video application (To send invite for Video Link) - _____

Do you agree to be audio recorded – YES or NO _____

Once your responses have been received, a copy of the questions asked during the interview will be emailed to you.

Thank you again for your interest and future participation, if you have any questions please feel free to contact me.

Sincerely,

Jon Hill, M.S, Doctoral Student, University of Kentucky

APPENDIX B. ORIGINAL STUDY FOLLOW-UP TO RECRUITMENT LETTER

Dear (Name of Participant),

Thank you for your response and interest to participate in this research.

Your interview time is:

Your preferred online video communication application:

Attached you will find the list of questions to be asked during the interview.

Thank you again for taking part in this study, if you have any questions please feel free to contact me.

Jon Hill

Jon.hill@uky.edu

202-604-9968

APPENDIX C. ORIGINAL STUDY INTERVIEW QUESTIONS
High Performance Management Model (HPMM) Interview Questions

How long have you been in your current role?

How long have you worked within High Performance?

- Athlete -
- Coach -
- Performance Specialist (Sport Science, S&C, Nutrition, etc.)
- Management (Assistant, Co-Director, etc.)

How long has the HPMM been used at your current organization?

What reason was the HPMM and High Performance Leadership position selected for your organizations? (How did the name, the position and the job role come about?)

How would you define High Performance management?

What is the Role of the High Performance Director?

What qualities do you feel are required/needed in order to successfully lead a High Performance Department and athletes to success?

How important is it to have previous experience in the sport? (Athlete, Coach, Previous Staff)

What assumptions are often made about your position and job responsibilities?

What professional background do you believe makes for the best High Performance Director?

What is the typical system approach of the HPMM – Performance Manager System or Coach-Led?

- Who hires the sport coach? Sport coaches?

- Who hires the performance staff? (Nutrition, Sport Science, S&C, Mental Skills, etc.)
- Do you oversee these individuals?

As a High Performance Leader, what is your involvement in:

- National Plan and Program
- Personnel Management
- Budgeting and Reporting
- High Performance system development
- Partnership and Relations
- Event and Competitions management
- Long Term Athlete Development (LTAD)
- Attraction, Retention/Transition, Nurturing (ARTN)

Use of Quality Assurance in the High Performance Organization?

- Use of QA Model (PASS, Performance Management, Total Quality Management in accessing actual & potential performance of the organization, as well as the strengths and weaknesses)
- Who oversees it? Is your current role involved?

Who do you consider the expert of HPMM today? (Individual or Organization)

How do you see the implementation of the HPMM currently in the United States? In

Professional Sports and Collegiate Athletics?

Point of Contact for other High Performance Directors that may be willing to communicate?

REFERENCES

- Aiken, B. (1989). Communicating for effective personnel management. *Recreational Sports Journal*, 13(2), 21-23. <https://doi.org/10.1123/nirsa.13.2.21>
- Aguinis, H. (2009). *Performance management* (2nd ed.). Pearson Education.
- Alder, J. P. (2015). *Meaning and sensemaking in high performance sport: Managing change in the high performance unit of a national sport organization*. (Publication No. 110166) [Doctoral dissertation, Auckland University of Technology]. Analysis and Policy Observatory. <http://hdl.handle.net/10292/9252>
- Ansell, C., & Gash, A. (2007). Collaborative governance in theory. *Journal of Public Administration Research and Theory*, 18, 543-571.
DOI:10.1093/JOPART/MUM032
- Armstrong, A., Hansen, H., & Gauthier, R. (1991). Development of a model for evaluating high performance sport centers in Canada. *Journal of Sport Management*, 5(2), 153-176. <https://doi.org/10.1123/jsm.5.2.153>
- Armstrong, M. (2006). *Strategic human resource management: A guide to action* (3rd ed.). Kogan Page.
- Armstrong, M., & Taylor, S. (2014). *Armstrong's handbook of human resource management practice* (13th ed.). Kogan Page.
- Arnold, R., Fletcher, D., & Anderson, R. (2015). Leadership and management in elite sport: Factors perceived to influence performance. *International Journal of Sports Science & Coaching*, 10(2/3), 285-304. DOI: 10.1260/1747-9541.10.2-3.285

- Arnold, R., Fletcher, D., & Molyneux, L. (2012). Performance leadership and management in elite sport: Recommendations, advice and suggestions from national performance directors. *European Sport Management Quarterly*, 12(4), 317-336. DOI: 10.1080/16184742.2012.693115
- Aronson, J. (1995). A pragmatic view of thematic analysis. *The Qualitative Report*, 2(1), 1-4. <https://doi.org/10.46743/2160-3715/1995.2069>
- Attygalle, L. (2017). *The context experts*. Tamarack Institute.
<https://www.tamarackcommunity.ca/hubfs/Resources/Publications/The%20Context%20Experts.pdf?hsCtaTracking=56bc3396-2e91-49d8-8efc-95fa20b82878%7Cbdd62d-6f5b-4aa4-8b0d-292bbd5c5b9b>
- Axelrod, E. L., Handfield-Jones, H., & Welsh, T. A. (2001). War for talent, part two. *The McKinsey Quarterly*, 2(2001), 9-12.
<https://www.andersonpeoplestrategies.com/sites/default/files/uploads/McKWarforTalentArticle.pdf>
- Baker, J. (2012). Do genes predict potential? Genetic factors and athletic success. In J. Baker, S. Cobley, & J. Schorer (Eds.), *Talent identification and development in sport* (pp. 13-24). Routledge.
- Balyi, I. (2002). Long-term athlete development: The system and solutions. *Faster, Higher, Stronger*, 14, 6-9.
- Bergsdard, N. A., Houlihan, B., Mangset, P., Nodland, S. I., & Rommetveldt, H. (2007). *Sport policy. A comparative analysis of stability and change*. Elsevier.

- Bloom, G., Falcao, W., & Caron, J. (2014). Coaching high performance athletes: Implications for coach training. In Gomes, A. R., Resende, R., Albuquerque, A. (Eds.), *Positive human functioning from a multidimensional perspective* (pp. 107-132). Nova Science.
https://www.researchgate.net/publication/262413773_Coaching_high_performance_athletes_Implications_for_coach_training
- Bogdan, R. C., & Biklen, S. K. (Eds.). (1992). *Qualitative research for education: An introduction to theory and methods* (2nd ed.). Allyn and Bacon.
- Bolchover, D., & Brady, C. (2002). *The 90-minute manager: Business lessons from the dugout*. Pearson.
- Bolchover, D., & Brady, C. (2006). *The 90-minute manager: Lessons from the sharp end of management*. Pearson Education Canada.
- Bourne, N. (2016). The rise of the 'big red sports machine' and the advent of modern-day periodization. *STAPS*, 114(4), 67-77. <https://doi.org/10.3917/sta.114.0067>
- Brady, C., Bolchover, D., & Sturgess, B. (2012). Managing in the talent economy: The football model for business. *IEEE Engineering Management Review*, 40(1), 58-72. DOI:10.1109/EMR.2012.6172770
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77-101. DOI:10.1191/1478088706qp063oa

- Braun, V., Clarke, V., & Rance, N. (2014). How to use thematic analysis with interview data. In Vossler, A. & Moller, N (Eds.), *The counseling and psychotherapy research handbook* (pp. 183-197). Sage.
- Broom, A., Cheshire, L., & Emminson, M. (2009). Qualitative researchers' understandings of their practice and the implications for data archiving and sharing. *Sociology*, 43(6), 1163-1179. DOI: 10.1177/0038038509345704
- Buckingham, M., & Coffman, C. (1999). First, break all the rules: *What the world's greatest managers do differently*. Simon and Schuster.
- Cabrera, D., & Cabrera, L. (2015). *Systems thinking made simple: New hope for solving wicked problems in a complex world*. Odyssean Press.
- Cambridge Dictionary. (2021). Administrative. In *Cambridge Advanced Learner's Dictionary & Thesaurus*. Cambridge Dictionary.
<https://dictionary.cambridge.org/us/dictionary/english/administrative>
- Caulfield, J. (2020, August 14). *How to do thematic analysis: A step-by-step guide & examples*. Scribbr. <https://www.scribbr.com/methodology/thematic-analysis/#:~:text=Thematic>
- Chappelet, J. L., & Bayle, E. (2005). *Strategic and performance management of Olympic sport organizations*. Human Kinetics.
- Collins, D., Trower, J., & Cruickshank, A. (2013). Coaching high performance athletes and the high performance team. In P. Sotiriadou, & V. De Bosscher (Eds), *Managing high performance sport* (pp. 205-220). Routledge.

- Comparison Analysis*. (2020, July 23). The Strategic CFO. Retrieved March 12, 2021, from <https://strategiccfo.com/comparison-analysis/>
- Corti, L., Foster, J., & Thompson, P. (1995) Archiving qualitative research data. *Social Research Update* (10), Department of Sociology, University of Surrey.
<http://www.soc.surrey.ac.uk/sru/SRU2SRU102.html>
- Cruickshank, A., & Collins, D. (2012). Change management: The case of the elite sport performance team. *Journal of Change Management*, 12(2), 209-229. DOI: 10.1080/14697017.2011.632379
- Dale, B. (1994). *Managing quality*. Prentice Hall.
- Darnall, R., & Preston, J. (2012). *Beginning project management*. Creative Commons.
- Dastmalchian, A., Bacon, N., McNeil, N., Steinke, C., Blyton, P., Kumar, M. S., Bayraktar, S., Auer-Rizzi, W., Bodla, A. A., Cotton, R., Craig, T., Ertenu, B., Habibi, M., Huang, H. J., İmer, H. P., Isa, C. R., Ismail, A., Jiang, Y., Kabasakal, H., . . . Varnali, R. (2020). High performance work systems and organizational performance across societal cultures. *Journal of International Business Studies*, 51, 353–388. <https://doi.org/10.1057/s41267-019-00295-9>
- De Bosscher, V. (2007). *Sports policy factors leading to international sporting success*. VUBPRESS.
- De Bosscher, V. (2016). A mixed methods approach to compare elite sport policies of nations. A critical reflection on the use of composite indicators in the SPLISS

study. *Research Methodologies in Sports Scholarship*, 21(2), 331-355.

<https://doi.org/10.1080/17430437.2016.1179729>

De Bosscher, V., Bingham, J., Shibli, S., van Bottenburg, M., & De Knop, P. (2007a).

Sports policy factors leading to international sporting success: An international comparative study. Meyer & Meyer Sport.

De Bosscher, V., Bingham, J., Shibli, S., van Bottenburg, M., & De Knop, P. (2008). *The*

global sporting arms race: An international comparative study on sports policy factors leading to international sporting success. Meyer & Meyer.

De Bosscher, V., De Knop, P., van Bottenburg, M., & Shibli, S. (2007b). A conceptual

framework for analyzing sports policy factors leading to international sporting success. *European Sport Management Quarterly*, 6(2), 185-215.

<https://doi.org/10.1080/16184740600955087>

De Bosscher, V., De Knop, P., van Bottenburg, M., Shibli, S., & Bingham, J. (2009).

Explaining international sporting success: An international comparison of elite sport systems and policies in six countries. *Sport Management Review*, 12(3), 113-136. <https://doi.org/10.1016/j.smr.2009.01.001>

De Bosscher, V., Shibli, S., van Bottenburg, M., De Knop, P., & Truyens, J. (2010).

Developing a method for comparing the elite sport systems and policies of nations: A mixed research methods approach. *Journal of Sport Management*, 24(5), 567-600. DOI:10.1123/jsm.24.5.567

De Bosscher, V., Shilbury, D., Theeboom, M., Van Hoecke, J., & De Knop, P. (2011).

Effectiveness of national elite sport policies: A multidimensional approach

applied to the case of Flanders. *European Sport Management Quarterly*, 11(2), 115-141. <https://doi.org/10.1080/16184742.2011.559133>

De Bosscher, V., & van Bottenburg, M. (2011). Elite for all, all for elite? An assessment of the impact of sport development on elite sport success. In B. Houlihan, & M. Green (Eds.), *Routledge handbook of sport development* (pp. 575-595). Routledge.

De Bosscher, V., van Bottenburg, M., Shibli, S., & De Knop, P. (2013). Managing high performance sport at the national policy level. In P. Sotiriadou and V. De Bosscher (Eds.), *Managing high performance sport* (pp. 45-64). Routledge.

de Geus, A. (1997). *The living company*. Harvard Business School Press.

Dedoose. (2016). *Dedoose* (Version 8.3.43). SocioCultural Research Consultants, LLC. <https://www.dedoose.com/>

Dessler, G. (2008). *Human resource management* (11th ed.). Pearson Education.

Diez Roux, A.V. (2011). Complex systems thinking and current impasses in health disparities research. *American Journal of Public Health*, 101(9), 1627-1634. DOI:10.2105/AJPH.2011.300149

Doherty, A. J. (1998). Managing our human resources: A review of organisational behaviour in sport. *Sport Management Review*, 1(1), 1-24. [https://doi.org/10.1016/S1441-3523\(98\)70097-X](https://doi.org/10.1016/S1441-3523(98)70097-X)

- Ebbinghaus, B. (2005). When less is more: Selection problems in large-N and small-N cross-national comparisons. *International Sociology*, 20(2), 133-152. DOI: 10.1177/0268580905052366
- Ebner, S. (2013). *History and time are key to power of football, says Premier League chief*. The Times. <https://www.thetimes.co.uk/article/history-and-time-are-key-to-power-of-football-says-premier-league-chief-3d3zf5kb35m>
- Edwards, A., & Skinner, J. (2009). *Qualitative research in sport management*. Elsevier.
- Erickson, K., Côté, J., & Fraser-Thomas, J. (2007). Sport experiences, milestones, and educational activities associated with high performance coaches' development. *The Sport Psychologist*, 21(3), 302-316. <https://journals.humankinetics.com/view/journals/tsp/21/3/article-p302.xml>
- ESSA. (2021). *What is an Accredited Sports Scientist (ASpS)?* Exercise and sport science Australia. https://www.essa.org.au/Public/Consumer_Information/What_is_an_Accredited_Sports_Scientist_.aspx
- Eubank, M., Nesti, M., & Cruickshank, A. (2014). Understanding high performance sport environments: Impact for the professional training and supervision of sport psychologists. *Sport and Exercise Psychology Review*, 10(2), 30-37. https://www.researchgate.net/publication/264706257_Understanding_high_performance_sport_environments_Impact_for_the_professional_training_and_supervision_of_sport_psychologists

- Ferkins, L., & van Bottenberg, M. (2013). The governance of high performance sport. In P. Sotiriadou, & V. De Bosscher (Eds.), *Managing high performance sport* (pp. 115-135). Routledge.
- Fielding, N. (2000). The shared fate of two innovations in qualitative methodology: The relationship of qualitative software and secondary analysis of archived qualitative data. *Qualitative Social Research*, 1(3), Art. 22. <http://dx.doi.org/10.17169/fqs-1.3.1039>
- Fletcher, D., & Arnold, R. (2011). A qualitative study of performance leadership and management in elite sport. *Journal of Applied Sport Psychology*, 23, 223-242. [http: DOI: 10.1080/10413200.2011.559184](http://doi.org/10.1080/10413200.2011.559184)
- Fletcher, D., & Wagstaff, C. R. (2009). Organizational psychology in elite sport: Its emergence, application and future. *Psychology of Sport and Exercise*, 10(4), 427-434. DOI: 10.1016/j.psychsport.2009.03.009
- Flick, U. (2009). *An introduction to qualitative research*. Sage.
- Frontiera, J. (2010). Leadership and organizational culture transformation in professional sport. *Journal of Leadership and Organizational Studies*, 17(1), 71-86. <https://doi.org/10.1177/1548051809345253>
- Fusch, P. I., & Fusch, G. E. (2015). Leadership and conflict resolution on the production line. *International Journal of Applied Management and Technology*, 14(1), 21-39. DOI:10.5590/IJAMT.2015.14.1.02

- Fusch, P., & Ness, L. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report*, 20 (9), 1408-1416.
<https://nsuworks.nova.edu/tqr/vol20/iss9/3>
- Gadenne, D., & Sharma, B. (2002). An inter-industry comparison of quality management practices and performances. *Managing Service Quality*, 12(6), 394-404. DOI: 10.1108/09604520210451876
- Gillett, M. (2014, May). Developing a high performance model in the English Premier League. Could this work in the NBA? Symposium of the 2014 NBA Strength and Conditioning Conference, Chicago, Illinois.
- Gleeson, B. (2019, March 14). 15 Characteristics of High-Performance Teams. *Forbes*.
<https://www.forbes.com/sites/brentgleeson/2019/03/14/15-characteristics-of-high-performance-teams/?sh=510914256ae0>
- Green, M., & Houlihan, B. (2005). *Elite sport development: Policy learning and political priorities*. Routledge.
- Harrin, E. (2020, August 3). The definitive guide to project success criteria. *Girls Guide to PM*. <https://www.girlsguidetopm.com/the-definitive-guide-to-project-success-criteria/>
- Heaton, J. (1998). Secondary analysis of qualitative data. *Social Research Update* (22), Department of Sociology, University of Surrey.
<http://www.soc.surrey.ac.uk/sru/SRU22.html>

- Heisler, J. (2020, September 22). UCF opens Roth athletics center. *UCF Knights*.
<https://ucfknight.com/news/2020/9/22/general-ucf-opens-roth-athletics-center.aspx>
- Helfat, C., & Peteraf, M. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, 24(10), 997-1010.
<https://doi.org/10.1002/smj.332>
- Herold, D. M., Schulenkorf, N., Breitbarth, T., & Bongiovanni, I. (2020, December 10). An application of the sports logistics framework: The case of the Dallas Cowboys. *Journal of Convention & Event Tourism*. DOI: 10.1080/15470148.2020.185299
- Heubusch, K. (2006, January). Interoperability: What it means, why it matters. *Journal of AHIMA*, 77(1), 26-30. <https://library.ahima.org/doc?oid=60942#.YGcd4BRKi00>
- High Performance Programs. (n.d.). *Athlete Services*. Team USA.
<https://www.teamusa.org/team-usa-athlete-services/high-performance>
- Hinds, P. S., Vogel, R. J., & Clarke-Steffen, L. (1997) The possibilities and pitfalls of doing a secondary analysis of a qualitative dataset. *Qualitative Health Research*, 7(3), 408–424. DOI: 10.1177/104973239700700306
- Hong To, W., Smolianov, P., & Semotiuk, D. (2013). Comparative high performance sports models. In P. Sotiriadou, & V. De Bosscher (Eds.), *Managing high performance sport* (pp. 65-86). Routledge.

- Houlihan, B. (2013). Commercial, political, social and cultural factors impacting on the management of high performance sport. In P. Sotiriadou, & V. De Bosscher (Eds.), *Managing high performance sport* (pp. 17–29). Routledge.
- Houlihan, B., & Green, M. (2008). *Comparative elite sport development: Systems, structures and public policy*. Elsevier.
- Houlihan, B., & Zheng, J. (2013). The Olympics and elite sport policy: Where will it all end? *The International Journal of the History of Sport*, 30(4), 338–355.
<https://doi.org/10.1080/09523367.2013.765726>
- International Paralympic Committee. (n.d.). *Paralympic Sports*. Paralympic.
<https://www.paralympic.org/sports>
- Jet, T. W., & Kong, M. (2018, September 19). Financial literacy: The essentials of a leader. *Leaderonomics*.
<https://www.leaderonomics.com/articles/leadership/financial-literacy>
- Johnston, M. P. (2014). Secondary data analysis: A method of which the time has come. *Qualitative and Quantitative Methods in Libraries*, 3(3), 619-626.
<http://www.qqml-journal.net/index.php/qqml/article/view/169>
- Jones, D., Brooks, D., & Yak, J. (2008). Examining sport management programs in the United States. *Sports Management Review*, 11(1), 77-91.
[http://dx.doi.org/10.1016/S1441-3523\(08\)70104-9](http://dx.doi.org/10.1016/S1441-3523(08)70104-9).

- Jones, R. L., & Wallace, M. (2005). Another bad day at the training ground: Coping with ambiguity in the coaching contest. *Sport, Education and Society*, 10(1), 119-134. DOI: 10.1080/1357332052000308792
- Kanji, G. (2002). Performance management system. *Total Quality Management*, 13(5), 715-728. DOI: 10.1080/0954412022000002090
- Kanji, G., & Sa, P. (2001). Measuring leadership excellence. *Total Quality Management*, 12(6), 701-718. <https://doi.org/10.1080/09544120120075325>
- Kanji, G., & Sa, P. (2007). Performance management and business excellence: The reinforcing link for the public sector. *Total Quality Management and Business Excellence*, 18(1/2), 49-56. <https://doi.org/10.1080/14783360601043096>
- Katzenbach, J. R., & Smith, D. K. (1998). *Wisdom of teams: Creating the high performance organization*. McGraw Hill.
- Kidd, P., Scharf, T., & Veazie, M. (1996). Linking stress and injury in the farming environment: A secondary analysis of qualitative data. *Health Education & Behavior*, 23(2), 224-237. DOI: 10.1177/109019819602300207
- Kvale, S., & Brinkmann, S. (2009). *InterViews: Learning the craft of qualitative research interviewing* (2nd ed.). Sage Publications, Inc.
- Lavallee, D. (2013). Afterword on managing HP sport. In P. Sotiriadou, & V. De Bosscher (Eds.), *Managing high performance sport* (pp. 295-297). Routledge.

- Lebas, M. (1995). Performance measurement and performance management. *International Journal of Production Economics*, 41, 23-35.
[https://doi.org/10.1016/0925-5273\(95\)00081-X](https://doi.org/10.1016/0925-5273(95)00081-X)
- Leech, B. L. (2002). Asking questions: Techniques for semi-structured interviews. *Political Science & Politics*, 35(4), 665–668. DOI:
<https://doi.org/10.1017/S1049096502001129>
- Logistics. (2021, February 3). In *Wikipedia*. <https://en.wikipedia.org/wiki/Logistics>
- Lombardi, V. (2001). *Lombardi: What it takes to be # 1*. McGraw Hill.
- Long-Sutehall, T., Sque, M., & Addington-Hall, J. (2010). Secondary analysis of qualitative data: a valuable method for exploring sensitive issues with an elusive population? *Journal of Research in Nursing*, 16(4), 335-344. DOI:
10.1177/1744987110381553
- Lloyd, P. J., & Foster, S. L. (2006). Creating healthy, high-performance workplaces: Strategies from health and sports psychology. *Consulting Psychology Journal*, 58(1), 23-29. <https://doi-org.ezproxy.uky.edu/10.1037/1065-9293.58.1.23>
- Lyle, J. (1997). Managing excellence in sports performance. *Career Development International*, 2(7), 314-323. <https://doi.org/10.1108/13620439710187945>
- Mack, N. (2005). *Qualitative Research Methods: A Data Collector's Field Guide*. Family Health International.
- Martin, S. G., Arin, K. P., Palakshappa, N., & Chetty, S. (2005). *Do elite sports systems mean more Olympic medals?* Massey University.

- Mathis, R., & Jackson, J. (1985). *Personnel: Human resource management*. West Publishing Company.
- McCaffrey, M., Fagot, A., Monday, C., Keenan, M., & Panson, S. (2021). *PwC 2021 sports outlook. 2020 changed the game for sports. What's next?* PwC.
<https://www.pwc.com/us/en/industries/tmt/assets/pwc-2021-tmt-sports-outlook.pdf>
- McCalla, T., & Fitzpatrick, S. (2016). Integrating sport psychology within a high-performance team: Potential stakeholders, micropolitics, and culture. *Journal of Sport Psychology in Action*, 7(1), 33-42. DOI: 10.1080/21520704.2015.1123208
- Michaels, E., Handfield-Jones, H., & Axelrod, B. (2001). *The War on Talent*. McKinsey & Company, Inc.
- Moser, S. (2016, October 7). *Developing the high performance sports model in the U.S.* LinkedIn. <https://www.linkedin.com/pulse/developing-high-performance-sports-model-us-steven-moser/>
- Neely, A., Gregory, M., & Platts, K. (1995). Measuring performance system design: A literature review and research agenda. *International Journal of Operations and Production Management*, 15, 80-116.
http://pessoas.feb.unesp.br/vagner/files/2009/03/aula-5_neely-gregory-platts-1995.pdf
- Notz, P. (2005). Secondary qualitative analysis of interviews. A method used for gaining insight into the work/life balance of middle managers in Germany. *Qualitative Social Research*, 6(1), 1-8. DOI: <https://doi.org/10.17169/fqs-6.1.506>

Oakley, B., & Green, M. (2001). The production of Olympic champions: International perspectives on elite sport development systems. *European Journal for Sport Management*, 8, 83-105. <http://oro.open.ac.uk/41510/>

Olympic Games. (2021, March 16). In *Wikipedia*.

https://en.wikipedia.org/w/index.php?title=Olympic_Games&oldid=1012412920

Paralympics Games. (2021, March 16). In *Wikipedia*.

https://en.wikipedia.org/w/index.php?title=Paralympic_Games&oldid=1012473500

Pun, K. F. (2002). Development of an integrated total quality management and performance measurement system for self-assessment: A method. *Total Quality Management*, 13(6), 759-777. DOI: 10.1080/0954412022000010127

Rajhans, K. (2012). Effective organizational communication: A key to employee motivation and performance. *Interscience Management Review*, 2(2), 13.

https://www.interscience.in/imr/vol2/iss2/13?utm_source=www.interscience.in%2Fimr%2Fvol2%2Fiss2%2F13&utm_medium=PDF&utm_campaign=PDFCoverPages

Rees, T., Hardy, L., Güllich, A., Abernethy, B., Côté, J., Woodman, T., ... Warr, C.

(2016). The great British medalists project: A review of current knowledge on the development of the world's best sporting talent. *Sports Medicine*, 46(8), 1041–1058. <https://doi.org/10.1007/s40279-016-0476-2>

- Reid, C., Stewart, E., & Thorne, G. (2004). Multidisciplinary sport science teams in elite sport: Comprehensive servicing or conflict and confusion? *The Sport Psychologist*, 18(2), 204-217. <https://doi.org/10.1123/tsp.18.2.204>
- Roberts, K., Dowell, A., & Nie, J. B. (2019). Attempting rigour and replicability in thematic analysis of qualitative research data; a case study of codebook development. *BMC Medical Research Methodology*, 19(66). <https://doi.org/10.1186/s12874-019-0707-y>
- Ross, E., Gupta, L., & Sanders, L. (2018). When research leads to learning, but not action in high performance sport. In M. Sarkar & S. Marcora (Eds.), *Sport and the brain: The science of preparing, enduring and winning, part c* (pp. 201-218). ProQuest Ebook Central. <https://ebookcentral-proquest-com.ezproxy.uky.edu>
- Saldana, J. (2016). *The Coding Manual for Qualitative Researchers*. Sage.
- Sandelowski, M. (2011). When a cigar is not just a cigar: Alternative takes on data and data analysis. *Research in Nursing & Health*, 34(4), 342-352. DOI: 10.1002/nur.20437
- Sausaman, R., & Groodin, J. R. (2016, December). The evolution of intercollegiate athletics: An athlete-centered high performance model. *11th annual coaches and sport science college conference*. <https://www.researchgate.net/publication/313708427>
- Segal, J., Robinson, L., & Smith, M. (2019). *Conflict resolution skills*. Help Guide. <https://www.helpguide.org/articles/relationships-communication/conflict-resolution-skills.htm>

- Sherif, V. (2016). The voices of rural high school youth: Qualitative secondary analysis and youth leadership modeling (Publication No. 10154456) [Doctoral dissertation, University of Kentucky]. ProQuest Dissertations Publishing.
- Sherif, V. (2018). Evaluating Preexisting Qualitative Research Data for Secondary Analysis. *Qualitative Social Research*, 19(2). <http://dx.doi.org/10.17169/fqs-19.2.2821>
- Shibli, S., De Bosscher, V., van Bottenburg, M., & Westerbeek, H. (2013). Measuring performance and success in elite sports. In P. Sotiriadou & V. De Bosscher (Eds.), *Managing high performance sport* (pp. 30-44). Routledge.
- Shilbury, D., & Kellett, P. (2011). *Sport management in Australia: An organizational overview* (4th ed.). Strategic Sport Management.
- Smith, A. K., Ayanian, J. Z., Covinsky, K. E., Landon, B. E., McCarthy, E. P., Wee, C. C., & Steinman, M. A. (2011). Conducting high-value secondary dataset analysis: An introductory guide and resources. *Journal of General Internal Medicine*, 26(8), 920-929. doi: 10.1007/s11606-010-1621-5
- Smith, J., & Smolianov, P. (2016, February 4). *The high performance management model: From Olympic and professional to university sport in the United States*. The Sport Journal. <https://thesportjournal.org/article/the-high-performance-management-model-from-olympic-and-professional-to-university-sport-in-the-united-states/>

Smolianov, P., & Zakus, D. (2006). *Developing a global model of high performance management in Olympic sports*. European Association for Sport Management.

<https://www.easm.net/download/2006/dff7de44e1d23aa64f5cb350213b7cb4.pdf>

Smolianov, P., Zakus, D., & Gallo, J. (2014). *Sport Development in the United States: High Performance and Mass Participation*. Routledge.

Sotiriadou, P. (2010). *The sport development processes and practices in Australia: The attraction, retention, transition and nurturing of participants and athletes*. LAP LAMBERT Academic Publishing.

Sotiriadou, P. (2013). The roles of high performance directors within sporting organizations. In P. Sotiriadou, & V. De Bosscher (Eds.), *Managing high performance sport* (pp. 1-14). Routledge.

Sotiriadou, P., & De Bosscher, V. (2013). *Managing High Performance Sport*. Routledge.

Sotiriadou, P., & De Bosscher, V. (2013). Preface. In P. Sotiriadou, & V. De Bosscher (Eds.), *Managing high performance sport* (pp. xiii-xvi). Routledge.

Sotiriadou, P., & De Bosscher, V. (2018) Managing high performance sport: Introduction to past, present and future considerations. *European Sport Management Quarterly*, 18(1), 1-7. DOI: 10.1080/16184742.2017.1400225

Sotiriadou, P., & Shilbury, D. (2009). Australian elite athlete development: An organizational perspective. *Sport Management Review*, 12(3), 137-148.
<https://doi.org/10.1016/j.smr.2009.01.002>

- Sotiriadou, P., & Shilbury, D. (2013). Sport development in high performance sport. In P. Sotiriadou, & V. De Bosscher (Eds.), *Managing high performance sport* (pp. 139-158). Routledge.
- Sparvero, E., Chalip, L., & Green, C. (2008). United States. In B. Houlihan & M. Green (Eds.), *Comparative elite sport development* (pp. 243-293). Butterworth-Heinemann.
- Sports*. (2021). Olympic. Retrieved March 13, 2021, from <https://www.olympic.org/sports>
- Strategic Planning*. (2018). 24xls. Retrieved March 12, 2021, from <https://www.introduction-to-management.24xls.com/en310>
- Tenney, D. (2016, February). *Creating a high performance model in U.S. elite sport* [Conference Presentation]. NSCA Coaches Conference, San Antonio, TX. <https://www.nasca.com/education/videos/creating-a-high-performance-model-in-u.s.-elite-sport/>
- Thorpe, R., & Holloway, J. (2008). *Performance management: Multidisciplinary perspectives*. Palgrave Macmillan.
- Tokar, S. (2020, January 16). *What is organizational leadership?* Southern New Hampshire University. Retrieved April 08, 2021, from <https://www.snhu.edu/about-us/newsroom/2018/07/what-is-organizational-leadership#:~:text=Organizational%20leadership%20is%20a%20management,in%20service%20to%20those%20goals.>

- Trochim, W. M., Cabrera, D. A., Milstien, B., Gallagher, R. S., & Leischow, S. J. (2006). Practical challenges of systems thinking and modeling in public health. *American Journal of Public Health, 96*(3), 538-546.
<http://www.socialresearchmethods.net/research/PracticalChallengesOfSystemsThinkingAndModelingInPublicHealth.pdf>
- Truyens, J., De Bosscher, V., & Heyndels, B. (2013). Talent identification and development in athletics: A comparison of Flemish and Dutch policy initiatives. In P. Sotiriadou and V. De Bosscher (Eds.), *Managing high performance sport* (pp. 55-59). Routledge.
- Turner, A. N., Bishop, C., Cree, J., Carr, P., McCann, A., Bartholomew, B., & Halsted, L. (2019). Building a high performance model for sport: A human development-centered approach. *Strength and Conditioning Journal, 41*(2), 100-107.
DOI:10.1519/SSC.0000000000000447
- United States Olympic & Paralympic Committee. (2021, February 24). In *Wikipedia*.
https://en.wikipedia.org/w/index.php?title=United_States_Olympic_%26_Paralympic_Committee&action=history
- UOnline News. (2019, March). *Growth of the high performance management model and the need for qualified sports administration experts*. The University of Miami.
<https://news.miami.edu/uonline/stories/2019/03/high-performance-model.html>
- Value and benefits of the sports industry*. (2017, April 16). UWI. Retrieved April 07, 2021, from

<https://www.uwi.edu/uop/sites/uop/files/Value%20and%20benefits%20of%20the%20Sport%20Industry.pdf>

Vartanian, T.P. (2011). *Secondary Data Analysis*. Oxford University Press.

Velimirovic, D., Velimirovic, M., & Stankovic, R. (2011). Role and importance of key performance indicators measurement. *Serbian Journal of Management*, 6(1), 63-72. DOI:10.5937/sjm1101063V

Vocabulary. (n.d.). Beholder. In Vocabulary.com dictionary. Retrieved January 15, 2021, from <https://www.vocabulary.com/dictionary/beholder#:~:text=If%20beauty%20is%20in%20the,but%20is%20created%20by%20observers.>

von Bertalanffy, L. (1968). *General systems theory: Foundations, development, applications*. George Braziller, Inc.

Weinberg, R. S., & McDermott, M. (2002). A comparative analysis of sport and business organizations: Factors perceived critical for organizational success. *Journal of Applied Sport Psychology*, 14(4), 282-298. <https://doi.org/10.1080/10413200290103563>

Westerbeek, H., & Hahn, A. (2013). Influence of commercialization and globalization. In P. Sotiriadou, & V. De Bosscher (Eds.), *Managing high performance sport* (pp. 239-254). Routledge.

Williams, A. M., & Reilly, T. (2000). Talent identification and development in soccer. *Journal of Sport Sciences*, 18(9), 657-667. DOI: 10.1080/02640410050120041

- Windle, P. E. (2010). Secondary data analysis: Is it useful and valid? *Journal of Perianesthesia Nursing*, 25(5), 322-324. DOI: 10.1016/j.jopan.2010.07.005
- Wing Hong To, W., Smolianov, P., & Semotiuk, D. M. (2013). Comparative high performance sports models. In P. Sotiriadou and V. De Bosscher (Eds.), *Managing high performance sport* (pp. 65-86). Routledge.
- Wylleman, P., & Lavalle, D. (2004). A developmental perspective on transitions faced by athletes. In M. Weiss (Eds.), *Developmental sport and exercise psychology: A lifespan perspective* (pp. 507-527). Fitness Information Technology.
- Wylleman, P., Reints, A., & De Knop, P. (2013). A developmental and holistic perspective on athletics career development. In P. Sotiriadou, & V. De Bosscher (Eds.), *Managing high performance sport* (pp. 159-182). Routledge.
- Xu, X. (2006). Modernizing China in the Olympic spotlight: China's national identity and the 2008 Beijing Olympiad. *The Sociological Review*, 54(2), 90-107.
<https://doi.org/10.1111/j.1467-954X.2006.00655.x>
- Young, D., & Abrahams, H. (2020, August 07). Olympic Games. *Encyclopedia Britannica*. <https://www.britannica.com/sports/Olympic-Games>
- Zoom. (2020). Zoom Meetings (Version 5.4.9). Zoom Video Communications, Inc.
<https://zoom.us/>

VITA

ACADEMIC DEGREES

M.S. KINESIOLOGY AND HEALTH PROMOTION UNIVERSITY OF KENTUCKY, LEXINGTON, KENTUCKY	2016-2018
B.S. SPORT AND EXERCISE SCIENCE UNIVERSITY OF CENTRAL FLORIDA, ORLANDO, FLORIDA	2015-2017
B.S. HEALTH, PHYSICAL EDUCATION, AND RECREATION UNIVERSITY OF NORTH CAROLINA AT PEMBROKE, PEMBROKE, NORTH CAROLINA	1998-2001

PROFESSIONAL EXPERIENCE

LAW ENFORCEMENT SPECIALIST (INSTRUCTOR), PHYSICAL SKILLS UNITED STATES SECRET SERVICE, DEPARTMENT OF HOMELAND SECURITY	2021-PRESENT
STRENGTH AND CONDITIONING COACH LOS ANGELES ANGELS, MAJOR LEAGUE BASEBALL	2018-2021
STRENGTH AND CONDITIONING COACH FOOTBALL, UNIVERSITY OF KENTUCKY, LEXINGTON, KENTUCKY	2016-2019
INTELLIGENCE RESEARCH SPECIALIST DRUG ENFORCEMENT ADMINISTRATION, ARLINGTON, VIRGINIA	2009-2014
COUNTERINTELLIGENCE INSTRUCTOR AND SYSTEMS DEVELOPER UNITED STATES ARMY INTELLIGENCE CENTER, FORT HUACHUCA, ARIZONA	2008-2009
SECTION CHIEF, JOINT DOCUMENT EXPLOITATION CENTER DEFENSE INTELLIGENCE AGENCY, BAGHDAD, IRAQ	2007-2008
INSTRUCTOR, COUNTERINTELLIGENCE SPECIAL AGENT SCHOOL FORT HUACHUCA, ARIZONA	2006-2007
97B COUNTERINTELLIGENCE SPECIAL AGENT UNITED STATES ARMY, FORT BRAGG, NORTH CAROLINA	2002-2005

ACADEMIC AWARDS

KINESIOLOGY AND HEALTH PROMOTION RESEARCH AWARD UNIVERSITY OF KENTUCKY, LEXINGTON, KENTUCKY	2020-2021
---	-----------