



*Citation for published version:*

Arnold, R, Fletcher, D & Anderson, R 2015, 'Leadership and management in elite sport: Factors perceived to influence performance', *International Journal of Sports Science & Coaching*, vol. 10, no. 2/3, pp. 285-304.  
<https://doi.org/10.1260/1747-9541.10.2-3.285>

*DOI:*

[10.1260/1747-9541.10.2-3.285](https://doi.org/10.1260/1747-9541.10.2-3.285)

*Publication date:*

2015

*Document Version*

Peer reviewed version

[Link to publication](#)

## University of Bath

### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

### Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Leadership and Management in Elite Sport:  
Factors Perceived to Influence Performance  
Rachel Arnold, David Fletcher, and Robbie Anderson  
Loughborough University, United Kingdom

Author Note

Rachel Arnold, David Fletcher, and Robbie Anderson, School of Sport, Exercise, and Health Sciences, Loughborough University, United Kingdom.

Rachel Arnold is now at Department for Health, University of Bath, United Kingdom.  
Robbie Anderson is now at Chimp Management Ltd, Derbyshire, United Kingdom.

Correspondence concerning this article should be addressed to Rachel Arnold,  
Department for Health, University of Bath, Bath, BA2 7AY, United Kingdom. Telephone:  
4412-2538-5107. Fax: 4412-2538-3833. E-mail: R.S.Arnold@bath.ac.uk

### Abstract

Extant sport psychology and sport management research has examined the factors influencing Olympic performance at the athletic and coaching, and governmental and policy levels respectively. In contrast to this abundance of literature, far less is known about the factors perceived to influence performance at the leadership and managerial level. The purpose of this study, therefore, was to investigate the factors that national performance directors (NPDs) operating at this level perceive to influence their role delivery and performance. Fourteen NPDs of Olympic sports were interviewed and data analysis revealed two general dimensions suggested to influence outcomes. The two dimensions were: self-related factors (i.e., personality, health, skills, experience) and environment-related factors (i.e., development opportunities, operations, personnel). Recommendations are provided for applied practitioners to help them raise awareness of and address the identified factors to not only enhance a NPD's performance, but also, ultimately, that of Olympic athletes and sport organizations.

*Keywords:* athletic, governance, national performance director, Olympic, organization, psychology

Leadership and Management in Elite Sport:  
Factors Perceived to Influence Performance

The Olympic Games are a unique sporting event for athletes, explained in part by the meaning attached to performance at the Games and the impact of Olympic performance on an athlete's career [1]. In addition to athletic importance, performance success at an Olympic Games is highly valued and aspired towards by coaches, sport organizations, and nations [1,2]. This performance emphasis can be explained by the various benefits Olympic success can create, such as increased funding and sponsorship [3] and an enhanced sense of national identity and pride [4]. Achieving peak performances at an Olympic Games is, however, a complex and multifaceted endeavor [5], that not only involves an athlete seeking performance excellence, but also requires his or her entourage (e.g., coaches, support staff, national performance directors) to optimally perform in their own roles [6]. In view of the emphasis on and benefits of athletes and their entourage performing successfully at such major sporting events, one question that appears particularly pertinent to answer is "What are the factors that influence Olympic performance?"

A substantial body of sport psychology research has investigated the factors perceived to influence the Olympic performance of athletes [7,8,9] and coaches [10,11]. Interestingly, in this body of work, the management of organizational-related issues has been consistently identified as a significant distinguishing factor in achieving Olympic success. Example organizational-related issues include: travel, team cohesion, selection, spectators, coach and athlete interactions, and media distractions [12]. Extending beyond coach and athlete perceptions, sport management researchers have investigated factors leading to Olympic success at a governmental and policy level in sport organizations [13,14]. Specifically, this research has classified the factors leading to international sporting success under the following nine 'pillars': financial support, integrated approach to policy development,

foundation and participation, talent identification and development system, athletic and post-career support, training facilities, coaching provision and coach development, national and international competition, and scientific research. Reflecting on extant sport psychology and sport management research, Fletcher and Wagstaff [6] observed that these two disciplines have typically focused on individual- and governance-level factors influencing Olympic performance respectively, which has created a “twilight zone” between them. Factors within this zone, such as an organization’s culture and personnel, need to be better understood so that sport organizations can more effectively manage these performance influences when preparing for Olympic competition.

Following Fletcher and Wagstaff’s [6] observation, research has begun to examine organizational functioning in elite sport, by sampling personnel operating at the managerial level of sport organizations. One position at the organizational level that retains, arguably, the greatest responsibility and accountability for the overall performance of Olympic programs is that of the national performance director (NPD). A NPD is typically responsible for leading and managing the overall strategic delivery of a sport’s Olympic program and the attainment of its goals [15,16]. Since both performance leadership and management are involved in the NPD role, it is important at this stage to identify the similarities and differences between the two constructs. At a conceptual level, performance leadership and management can be differentiated in a number of ways but primarily in terms of scope and vision; leaders emphasizing broader meaning and purpose (e.g., strategic planning, creative thinking) and managers focusing on immediate operational implementation (e.g., short-term planning, orderliness) [17,18,19]. Despite these conceptual differences, at a operational level individuals’ roles often entail aspects of both performance leadership and management, and as such there are considerable similarities and overlap between the two (e.g., influence, working with people, effective goal accomplishment) [20,21]. In view of these similarities,

Northouse [21] encouraged researchers to “treat the role of managers and leaders similarly and do not emphasize the differences between them” (p. 11); thus, leadership and management will be discussed in the present paper using an integrative and common language [22].

Despite the important role of NPDs in leading and managing Olympic programs, to date, only a limited body of research exists pertaining to these figures. To elaborate, Fletcher and Arnold [16] interviewed NPDs and identified four overarching areas of best practice when leading and managing teams in preparation for Olympic competition: developing a vision, managing operations, leading people, and creating a culture. Subsequent research has extended the findings on development and dissemination of an organizational vision; suggesting that this process is a central responsibility of a NPD’s job [23]. Following on from the NPDs’ perceptions of best practice research, Arnold et al. [15] provided recommendations, advice, and suggestions from NPDs for other leaders and managers. Specifically, the advice provided related to establishing an approach, understanding roles, developing contextual awareness, enhancing personal skills, and strengthening relationships. What is evident from the research with NPDs to date is that it has typically focused on exploring the roles and responsibilities of leaders and managers in elite sport. In contrast to the abundance of research identifying factors that can affect Olympic performance as perceived by athletes, coaches, and those operating at the governmental and policy level, far less is known about the factors perceived to influence a NPD’s performance at the leadership and managerial level. Defining performance for a NPD is not so much about a single performance at an Olympic Games, as it might be for an athlete or coach, but more about effectively leading and managing the Olympic program throughout an Olympiad cycle; therefore, continually performing in his or her role.

It is important to examine the factors influencing the performance of NPDs because

they can play such a pivotal role in the success of both athletes and the sport organization that employs them. To illustrate their role in athlete success, Collins and Cruickshank [23] noted that a NPD's ability to influence athletic performance, whether directly or indirectly, is arguably only comparable to that of an athlete's personal coach. Regarding the role of the NPD in an organization's success, Fletcher and Wagstaff [6] observed that "the way individuals are both led and managed will become an increasingly important factor in determining NSO's [National Sporting Organization's] success in Olympic competition" (p. 433). It is also worthwhile examining the factors perceived to influence the performance of a NPD because they are deemed performers in their own right [23]. Indeed, NPDs frequently compete for success in inherently competitive elite sport environments and, like athletes, draw on the support of sport psychologists [24,25]. Therefore, in view of the twilight zone that exists in extant research coverage and the role that NPDs can play in athletic and organizational success, the purpose of this study is to investigate the factors that NPDs perceive to influence the delivery of their role and, ultimately, their performance in leading and managing Olympic programs.

## **Method**

### **Design**

A qualitative method was deemed most appropriate for this study because it enables researchers to explore factors that are perceived to influence a NPD's performance by collecting rich and descriptive data. The specific data collection method adopted was semi-structured interviews. This approach was chosen because it encourages interviewers and participants to co-negotiate an in-depth and innovative understanding of complex human experiences [26].

### **Participants**

A purposive sampling technique was employed to recruit participants with first-hand knowledge and experience of the research agenda [27]. Accordingly, the only selection criterion was that participants had to be a current NPD of an Olympic sport. The sample consisted of 14 Olympic NPDs (nine male, five female) aged between 42 and 67 years ( $M = 51.00$ ,  $SD = 7.95$ ). The participants had worked in elite sport for between ten and 41 years ( $M = 21.07$ ,  $SD = 9.73$ ) and as a NPD for between two and 15 years ( $M = 7.10$ ,  $SD = 4.47$ ). The Olympic sports represented in the sample accounted for approximately £155 million of public investment (which is provided for a four-year Olympic cycle; approximately equivalent to US \$250 million) and accumulated a total of 33 medals at the London 2012 Olympic Games, of which 13 were gold.

### **Procedure**

Following institutional ethical approval, a snowball sampling method was used to recruit participants. Specifically, this involved speaking to a NPD with which the third author already had contact, and using their network to contact other NPDs who could potentially participate. Those identified were all current NPDs of Olympic sports and were contacted by email. This message described the purpose of the study, detailed what the interview process would entail, outlined the ethical-related rights for participants, and invited them to participate. All NPDs who were contacted expressed an interest in participation, and were subsequently contacted to arrange a convenient interview date, time, and location.

### **Interview Guide**

To help investigate the purpose of this study, a four-section interview guide<sup>1</sup> was developed. Section 1 outlined the purpose of the study, information regarding the interview process, and a clear description of interviewees' ethical-related rights. Specifically, participants were informed that all personally identifiable information concerning their participation would not be disclosed at any stage of the research process, that only the



research team would have access to their interview data, and that they were free to withdraw from the study at any point. In Section 2, participants were offered the opportunity to clarify their understanding of the study and were subsequently invited to confirm their participation by written informed consent. Section 3 consisted of approximately 20 questions broadly exploring the factors that were perceived to influence NPD role delivery and performance (example topics included logistics, culture, leadership style, personality, relationships, and policies). These questions were informed, in part, by the extant sport psychology and sport management literature investigating factors influencing Olympic performance and research exploring NPDs' performance leadership and management. The interview guide was used to guide the interviewer on the topics/areas to be covered and information required; however, they could decide in the interview itself how to best phrase questions on the chosen areas, or the order of addressing each in order to maintain the flow of the interview. Section 4 consisted of approximately three questions concerning the efficacy of the interview process (e.g., How do you think the interview went? Do you have any comments or suggestions about the interview process?) Prior to the interviews, a pilot interview was conducted with a current NPD not sampled in the main study, which provided general advice for conducting NPD interviews and feedback on the interview guide.

### **Data Analysis**

The interviews, which ranged in duration from 34 to 112 minutes ( $M = 70.00$ ,  $SD = 18.56$ ), were digitally recorded in their entirety and transcribed verbatim. A thematic analysis was deemed an appropriate approach to analyze the data and identify themes relating to the factors affecting NPDs' role delivery and performance. Specifically, thematic analysis begins in the data collection phase, with the interviewer observing issues of potential interest in the interview and recording these in a reflexive diary [28]. On completion of the interviews, the transcripts were read and raw data quotes representing factors that were perceived to

influence NPDs' performances were extracted. Common themes amongst the raw data quotes were then paraphrased as lower-order themes, before being combined as higher-order themes, and pieced together into appropriate general dimensions [29]. To illustrate how often each theme was mentioned by participants, a frequency analysis was conducted [30]. Importantly, however, the formation of themes was not dependent on their frequency of occurrence, but rather each theme's capacity to represent the knowledge co-negotiated in the interview.

### **Research Quality**

Smith and Deemer [31] have suggested adopting a selection of criteria for evaluating the quality of qualitative research, such as rigor, authenticity, and originality. A selection of criteria were adopted in this study, since it is recognized that certain criteria may change over time [32,33]. In the present study, rigor was demonstrated by sampling knowledgeable NPDs from a wide range of sports, using the same interview guide with all participants, and reporting the procedures in a comprehensive method section [34]. To enhance authenticity within the study, a *critical friend* was used to question any interpretations made during the data analysis stage [26,35]. In addition to rigor and authenticity, the criterion of originality was also addressed in this study, via efforts to make a significant theoretical, heuristic, and practical contribution to knowledge throughout the research process [36].

### **Results**

The interview data yielded 260 raw data quotes<sup>2</sup> pertaining to factors perceived to influence the role delivery and performance of NPDs. Common themes amongst the raw data quotes were abstracted into 36 lower-order themes, seven higher-order themes, and two general dimensions: self-related factors (see Figure 1) and environment-related factors (see Figure 2). Self-related factors were defined as the perceived role delivery and performance influences pertaining to the NPD as an individual. Environment-related factors were defined

as the perceived role delivery and performance influences pertaining to the conditions in which the NPD operated.

### **Self-Related Factors Perceived to Influence NPD Performance**

The general dimension of self-related factors consisted of four higher-order themes: personality, health, skills, and experience (see Figure 1). In terms of the influence that personality could have on a NPD's performance, the most frequently cited theme was the NPD's diligence and personal discipline in his or her role. Other common personality themes that were perceived to influence performance were an innate desire for success and a willingness to support other individuals. In accordance with the latter theme, it was emphasized that an optimal balance should be achieved so that a NPD is willing to provide support to others; however, not so much that a strain is placed on either the NPD or on his or her job responsibilities. When dealing with the inherent stress of the leadership and managerial role, it was perceived that a NPD's positivity, resilience, and ability to cope with pressure would impact on his or her performance. The following quote illustrates how one NPD suggested that to enhance performance it is important to not only cope with pressure and adversity, but also thrive on it:

I am the person who is ultimately responsible for the whole thing [Olympic performance] and accountable for the outcomes . . . . I guess you could get affected by that pressure in the performance of your roles and responsibilities, but you shouldn't . . . . I absolutely believe that, as an individual, I am able to absorb and feed off that kind of environment and pressure . . . it actually kind of feeds my abilities to raise my game.

The NPDs also perceived that personal health could influence role delivery and performance. More specifically, several NPDs discussed the importance of engaging in regular exercise and ensuring adequate rest and recovery. Ways in which the NPDs

maintained engagement in regular exercise included protecting time in the day for physical activity, purchasing home exercise equipment, and staying in hotels with gymnasiums when away at competitions. In relation to performance, the NPDs believed that regular exercise could help reduce the risk of burnout in what was considered an extremely demanding job. Alongside exercise, the NPDs spoke about the importance of rest and recovery in maintaining the optimal personal health required for delivering effective performances. In addition to getting quality sleep and eating a balanced diet, adequate rest and recovery also encompassed maintaining control of time off and ensuring a sustainable work-life balance. The following quote illustrates how one NPD ensured rest and recovery by safeguarding his personal time:

The first thing that I decided when I came into this job was that I would not work on a Monday. Why? Because weekends are normally pretty full-on and so I would take Monday as a day out. It doesn't mean that I never work, but I have the right to say I'm not working, which is slightly different. You have to have another life.

In addition to personality and health, many NPDs described that personal skills could influence how they delivered their role and performed. One of the most frequently cited themes in this higher-order theme was communication, which involved delivering messages in a manner that was appropriate for the situation and the recipient. Decision making, and the ability to remain impartial during it, was a further personal skill perceived to influence a NPD's performance. Closely linked to impartiality in decisions was the personal skill of professionalism. The NPDs also suggested that prioritization and delegation skills could help them to deliver their own role and perform effectively. Psychological skills, such as emotional intelligence and reflective practice, were also perceived to have a significant influence on NPD performance. For instance, the following quote provides an insight into the perceived importance of emotional intelligence in the NPD role:

Sport brings out all sorts of emotion in people, and often in you as an individual . . . you need to know what that emotion is and when it is coming, so that you can be ahead of the game . . . having that level of emotional intelligence to influence where you are in terms of closeness and distance from your athletes and coaches is the most important skill to do this role.

In terms of experience, the NPDs discussed how the variety of experiences accumulated prior to starting the job could influence role delivery and performance. For instance, some of the NPDs discussed how previous business and military experience had enhanced their understanding of creating optimal working environments, and had taught them leadership principles which could be transferred to elite sport. The NPDs also spoke about the experience of working with the nation's high performance sports agency, detailing how it had taught them to effectively judge when to challenge the agency on certain procedures that would influence the delivery of their Olympic programs. A critical factor to emerge in terms of experience, however, was that gained by being an elite athlete or coach prior to becoming a NPD. More specifically, such athletic or coaching experience was suggested to enable the NPDs to understand high performance sport, have the legitimacy to challenge coaches when necessary, and make more effective decisions. The following quote illustrates how previous athletic experience influenced the performance of one NPD:

I think having been an athlete for a significant period of time means that I have a good understanding of what is going on in their [athletes'] minds . . . I look at decisions we're making and I say to myself, "If I was an athlete, what would I think about this?" . . . and I decide not to do some things if I can say "Well actually they're not going to make any impact [on performance] at all".

### **Environment-Related Factors Perceived to Influence NPDs Performance**

The general dimension of environment-related factors consisted of three higher-order themes: development opportunities, operations, and personnel (see Figure 2). The type and amount of development opportunities available in a NPD's surrounding environment were perceived to have an influence on performance. An example development opportunity was the provision of a mentor, which the NPDs suggested could stimulate personal development through enhanced self-reflection. It also became clear during the interviews that by providing mentoring to other staff, NPDs could identify any relevant issues and use these to enhance their own role delivery. In addition to mentoring, the NPDs suggested that participation in research projects and sport psychology support could influence performance, since both provided opportunities for personal and professional reflection. Within the development opportunities theme, the most frequently cited lower-order theme was a NPD forum. It was perceived that a NPD forum positively impacted performance, since it allowed NPDs to share problems and learn from each other, as the following quote illustrates:

We all kind of face the same issues, just parceled up differently because we are different sports, but it really is great to be able to share. What I see is the young and inexperienced directors come in and we have practical discussions in small groups with a senior director there and you can just see people learning and realizing "These guys have got the same problem and this is the way they are looking at it". That's really helpful and beneficial for your own program.

In terms of the operations that could influence performance, several NPDs described their role managing both the negative distraction that the media could present, and program staffs' and athletes' increasing use of social media. A further operational factor that could affect NPD performance was access to modern technology. While some NPDs described that technology (e.g., digital reminders, voice recorders, emails) could assist with personal organization to enhance performance, others commented how modern technology had

invaded their life and, in doing so, negatively influenced performance. A further common theme relating to operations was the size of the Olympic program, with NPDs of smaller programs detailing how their minimal funding meant that they personally had to complete time-consuming, administrative tasks which, subsequently, affected their ability to deliver their managerial and leadership role. Moreover, having to manage multiple disciplines (e.g., Olympic and Paralympic) was perceived to influence performance. NPDs suggested that attendance at training or competition venues positively influenced performance, since it enabled them to remain informed of arising issues, maintain credibility and visibility, and become acquainted with emerging talent. However, several NPDs commented that it was important to get the balance right with regards to attending venues, as the following quote from one NPD highlights:

At the training or competition venue, I learn what we're doing well, and I learn what we're not doing well . . . and people see me there and they know I care. I also know that if there's an issue there and we don't address it, it's going to impact on performance, which will often affect me and how I am judged, so I like to be there. The reality, however, is that if I was there [training or competition venue] every day, there would be no structure, no organization, no finance, no external contacts . . . . So you've got to stay connected to the front line but it's not the NPD's role to be there all of the time.

The NPDs agreed that there were a large number of personnel that could influence their role delivery and performance. These included: family, friends, and partners; mentors; psychologists; colleagues in elite sport partnership bodies; agents, lawyers, and owners; elite sport governance agencies; administrative staff; coaches; athletes; and the national governing body board. The support of family, friends, and partners was highly regarded by many of the NPDs, who stated that these individuals not only provided them with a trusted second

opinion, but also offered unwavering support. Similarly, mentors and psychologists gave support to NPDs in their role, and presented them with a fresh perspective when rationalizing challenging situations. The quality of services provided by colleagues in elite sport partnership bodies (e.g., sport science, legal expertise, systems enlightenment) was also perceived to impact NPDs' performances.

Some personnel were perceived to influence a NPD's role delivery and performance in certain situations. For example, if an athlete's relationship with an Olympic program broke down, agents, lawyers, and owners often became involved and could, therefore, influence NPD performance. The final group of personnel that were external to sport organizations and could influence NPD performance were the elite sport governance agencies (e.g., nation's high performance sports agency, nation's Olympic association). The majority of NPDs cited performance advantages of actively engaging with these personnel. These benefits included: promoting the sport and placing it in high contention should additional support become available, validating the NPD's position as being a reliable individual and, consequently, being granted greater autonomy and authority to lead and manage Olympic programs with minimal external influence.

Internal to a sport organization, administrative staff, coaches, and athletes were all perceived to have an influence on NPDs' role delivery and performances. Specifically, administrative staff could help reduce a NPD's workload, coaches could provide a level of challenge to keep a NPD engaged at work, and a good relationship with the athletes could help the NPD co-ordinate what the Olympic program wanted to achieve. One of the most frequently cited lower-order themes within personnel was the board of the national governing body (NGB). Specifically, as the following quote from one NPD illustrates, it was perceived that a NGB board could positively impact a NPD's performance if they allowed him or her freedom to lead and manage the Olympic program:



In the very early days, I can remember having a point where I wasn't actually sure I was going to carry on with the job and that was about the question of my freedom to manage. I didn't have any financial responsibility, and if you don't have that you can't employ staff, you can't make decisions. No point having a strategy if you can't actually implement it. So there was a coming together of the Chief Executive and the Chair [of the NGB Board] and they were really reticent about allowing me to do that . . . . I think there are probably a number of NPDs in the smaller sports, or a few newer NPDs, that don't have the freedom to manage, and I can see how difficult it is for them to do their jobs without it.

### **Discussion**

The evolution of elite level sport has transformed performance success at an Olympic Games into a multifaceted endeavor that no longer relies solely on an athlete, but also on how effectively his or her entourage deliver their own roles. One member of the entourage team that plays an important role in elite sport success is the NPD, because he or she (along with various other factors in the sporting context) can influence the performance of both athletes and sport organizations. In view of the important role played by NPDs, and the comparatively understudied nature of this population in comparison to athletes, coaches, and sport organizations, this study provides an insight into the factors which are perceived to influence a NPD's role delivery and performance. These factors are organized into two general dimensions: self-related factors (i.e., personality, health, skills, experience) and environment-related factors (i.e., development opportunities, operations, personnel). This study and its findings advance previous literature by exploring the factors influencing performance within the "twilight zone" [6]. Together, the accounts provided by the NPDs illustrate the importance of an executive functioning optimally within this zone and particularly managing themselves and their resources/environment to fulfil their role and achieve desired

performance goals. It is neither the self nor the environment alone, however, which shapes how a NPD performs in his or her role, rather it is the interaction between the two. This observation is somewhat synergistic with Lewin's [37] expression for human behavior of  $B = f(P \times E)$ , whereby behavior is a function of the interaction between a person and the environment.

When striving to fulfill the role and achieve desired performances, each NPD will encounter distinctive challenges based on the resources they have available to them and the environment in which they are operating. For instance, whilst one NPD working on a relatively low budget might be tasked with researching and booking all travel plans for athletic competitions, others with a more extensive budget might have an administrative employee in place to conduct such tasks [16]. Furthermore, while one NPD with a centralized athletic program might communicate via face-to-face methods, others who have athletes located worldwide have the distinctive challenge of utilizing alternative communication methods (e.g., email, Skype). The importance of examining the context and circumstances in which leadership and management occurs has also been emphasized in organizational leadership literature [38]. Osborn, Hunt, and Jauch [39] have suggested that theory in this area, however, could better incorporate the context, since it has typically conceptualized leaders and managers traits or behaviors [40,41,42] without always including the circumstances in which they are situated. The present study can enhance extant empirical and theoretical knowledge and understanding by identifying *both* specific NPD self-related factors that can influence their performance over and above those identified in trait and behavioral-related theories of organizational leadership [40,41,42] *and* idiosyncratic environment-related factors that can influence performance in the NPD role. Together, these findings can contribute to situational theories of leadership [43], by identifying the factors that leaders and managers might need to take into consideration to enhance performance

effectiveness in a specific organizational setting and role.

Discussing first the self-related factors identified in this study, these perceived performance influences relate to the NPD as an individual and consist of four higher-order themes. The first of these is personality and the data suggest that in addition to the personality components that many athletes require for performance excellence, such as an innate desire for success [44], diligence and personal discipline [45], an ability to cope with pressure [46], positivity [47], and resilience [48], NPD's also perceived that willingness to support others enabled them to perform effectively in the NPD role. As well as being identified as a positive behavior in relational-based leadership theories [49,50], a willingness to support others has been identified as an important characteristic in personality and social psychology [51], where it is suggested that to enhance cooperation and trust in a dyad, individuals should not follow strict reciprocity and be only as cooperative as the person they are interacting with is, but rather behave more cooperatively than the person they are interacting with did in the previous interaction. The second self-related factor perceived to influence performance is health. The findings reveal that health for NPDs involves engaging in adequate exercise and achieving optimal rest and recovery. The benefits of exercise for an individual's health and performance are extensively researched and documented [52], and within athletic populations researchers have investigated what constitutes adequate rest and recovery in an attempt to avoid burnout and underperformance [53]. In the present study, many of the NPDs believed that not achieving a work-life balance could influence their rest and recovery and, therefore, performance in what was considered to be an extremely demanding job. This is in accordance with research sampling service workers in a relentless occupation, which found that an optimal work-life balance improved job satisfaction and personal and organizational performance [54].

Following on from personality and health, a NPD's skills were also perceived to

influence his or her role delivery and performance. Psychologists, in an attempt to better support athletes, have to date tended to focus their research efforts on the skills that athletes require on the sports field, such as decision making [55], communication [56], and psychological skills [57]. The findings of the present study extend sport psychology research, by examining skills within the managerial context, and specifically the skills that are required by a NPD to optimally perform his or her role. Specific skills that were discussed by the NPDs include: professionalism, decision making, communication, prioritization and delegation, and psychological. It is pivotal that NPDs develop such skills because research has shown that professionalism [58], decision making [59], communication [60], prioritization and delegation [61], and psychological skills [62] can influence performance across various contexts. In addition to skills, the NPDs perceived that previous experiences could influence role delivery and performance. Interviews with NPDs in previous research has highlighted that the NPD role typically requires experience within a performance environment, though not necessarily as an athlete or a coach [15]. The findings of the present study extend this research by highlighting the various performance environments that NPDs perceive can provide them with valuable experience to enhance role delivery and performance (e.g., business, military, high performance sports agency, athletic, coaching). Interestingly, the transferability of previous experience as an athlete has been researched with coaches, where a positive significant relationship was found between time spent as an athlete in the sport now coaching and five measures of coaching success [63].

Turning to the environment-related factors perceived to influence performance, these relate to the context in which the NPD operates and consist of three higher-order themes: development opportunities, operations, and personnel. Firstly, the NPDs identified that certain development opportunities enabled them to perform more effectively in their job. These include: the provision of a mentor, research participation, sport psychology support,

and a NPD forum. A universal justification provided for engaging in these opportunities was that they enable the NPDs to engage in discussion and reflection with regards to their roles. Critical reflection has been identified as an important process in elite sport, with particular reference to the sport psychologist [64] and coaching roles [65]. In these roles, critical reflection has been found to improve self-awareness and enhance learning and knowledge acquisition [64,65]. The findings of the present study extend sport psychology research by eliciting the importance of reflection in enhancing a NPD's role delivery and performance, alongside detailing development opportunities in which such reflection might occur. The second environment-related factor is operations. The findings highlight a variety of operational factors that NPDs perceive to influence role delivery and performance. The size of the Olympic program and the number of disciplines involved within it was suggested to influence the amount of time NPDs had to deliver and perform effectively within their own leadership and management role. This is in accordance with business literature, which highlights that the dynamics of an environment, an executive's management, and the firm itself can all be affected by the growth of an organization [66]. Further operational themes that were perceived to influence NPDs' job performance were the media and modern technology. Specifically, NPDs spoke about the need to manage and balance the advantages and disadvantages of media and engagement in social media by those in the program. Economics research on the usage of social media in organizations has supported the importance of managing and balancing the costs (e.g., privacy, enhanced expectations) and benefits (e.g., improved efficiency of business processes, knowledge sharing) of social media usage [67]. A further operation that required balance in the NPD role was attendance at the training or competition environment.

In addition to development opportunities and operations, the NPDs spoke about the influence of personnel on their role delivery and performances. While the majority of sport

psychology literature has focused on the potential performance impact of an athlete's relationships and interactions with other athletes [68], coaches [69], and parents [70], the present research highlights the perceived influences of a variety of personnel on the role delivery and performance of a NPD. These personnel include: families, friends, partners, mentors, psychologists, colleagues in elite sport partnership bodies, agents, lawyers, owners, elite sport governance agencies, administrative staff, coaches, athletes, and national governing body boards. The influence of personnel on a NPD is somewhat in accordance with tenets of social identity theory, which suggest that social processes can cause people (e.g., NPDs) to adapt their perceptions and behaviors based on the opportunities and restrictions inherent in the interpersonal situation [71,72]. If leaders effectively manage and interact with personnel both internal and external to an organization, they can enhance their own role delivery and performance [73], team learning and success [74], employee job satisfaction [75], and employee well-being [76]. Specifically, by developing leader-member exchange relationships (e.g., affect, loyalty, respect) and heightening organizational identification, leaders and managers can create various desirable individual and organizational-level outcomes [71,72,77].

From a practical perspective, the findings of this study illustrate a number of self- and environment-related factors that can influence a NPD's role delivery and performance. Sport psychology practitioners, who are increasingly required to provide assistance to NPDs [24,25], should raise their own personal awareness of these factors and also the awareness of NPDs and sport organizations (e.g., national governing bodies, nation's Olympic association, nation's high performance sports agency). In addition, applied practitioners should identify ways in which the factors can be addressed so that performance can be enhanced. To raise awareness and address these factors, applied practitioners are encouraged to develop, implement, and evaluate a NPD and sport organization development program which aims to

enhance both leadership (e.g., interpersonal factors) and leader (e.g., intrapersonal factors) development [78]. This program could incorporate modules and services based around the elements of best practice performance leadership and management in elite sport [16], the recommendations NPDs have provided for other leaders, managers, and sport organizations [15], the optimal ways in which leaders and managers can prepare athletes and teams for specific events [22], and self- and environment-related factors that were perceived as influencing NPD role delivery and performance in the present study. Each NPD could select different modules and/or services based on his or her development needs; therefore, benefitting from a bespoke and individualized psychological support program.

To address the self-related factors identified in the present study, psychological support could include sessions on coping with pressure and increasing resilience [79], developing an optimal work-life balance [80], enhancing leadership, psychological, and communication skills [81,82,83], improving decision making and delegation [84], and effectively drawing from previous experiences [85]. To address environment-related factors, psychological support sessions could involve: working with a mentor [86], creating discussion groups and forums [87], gaining a competitive advantage by working with the media [88], utilizing modern technology for enhanced business intelligence [89], and relationship and team-building [90]. To provide such support, applied sport psychologists will likely have to develop their own skills and competencies [15,16,91] and draw lessons from professionals who have provided similar support to other populations (e.g., executive coaches, business psychologists). In addition, consultants should utilize innovative advances (e.g., e-leadership and cognitive neuroscience) from other domains to inform and develop their work [92,93]. While these practical recommendations are suggested primarily for supporting individuals operating in a NPD role, it is likely that, in view of the ubiquity of distributed leadership in organizations [94], that many will also be applicable to other

leadership and managerial tasked individuals. The nature of distributed leadership amongst NPDs and other individuals in sports organizations should also be investigated in future research.

This study has a number of methodological strengths and limitations that should be acknowledged. A main strength of this study was the nature of the sample, with NPDs being some of the most powerful people in elite sport and, in comparison to athletes and coaches, an under-represented population in sport psychology research. A further strength of this study is the data collection method used. Indeed, by adopting interviews, the NPDs could talk freely and express their beliefs in an anonymous way. Moreover, the interview provided NPDs with a unique opportunity to reflect on the factors influencing their performance and also be listened to, which can enhance a participant's feelings of empowerment [95]. That said, it is important to consider limitations of interviews. For example, in comparison to methods such as focus groups, interviews do not provide researchers with the opportunity to observe interactions amongst participants, which can provide an extra layer to data [96]. Furthermore, such interactions amongst participants can also serve a social support function [97], which may be particularly beneficial for the typically isolated nature of the NPD role [15]. In addition, the method of interviews might enable participants to engage in impression management and present their *espoused theory* (i.e. their description of how they behave) rather than their *theory-in-use* (i.e. how they actually behave); thus, future research should adopt observation methods to unearth the theories-in-use and actual leadership and management behaviors [98,99]. A further limitation of this study is that due to its design and methods, causative conclusions cannot be inferred with regards to the relationship between the identified factors and their influence on performance [100,101]. Although the design and methods used were appropriate for the present study to explore NPDs' perceptions of factors that influence performance, future research should look to adopt a repeated measures design



and alternative data collection and analysis techniques [100,102,103,104,105] to more rigorously investigate the relationship between self- and environment-related factors and performance. It is likely that other factors influencing NPDs' performance will also need to be investigated in future research. For instance, as well as considering the impact that leaders' and managers' attitudes and behaviors can have on performance, scholars should also consider the performance impact of followers' and subordinates' attitudes and behaviors, and the ways in which a NPD and the context might influence these relationships [22]. Moreover, future research should examine the exact influence of NPDs and their leadership/management on various levels of performance, such as athletic, leadership/managerial, and organizational.

In addition to the aforementioned suggestions, future researchers should also investigate how the factors perceived to influence a NPD's role delivery and performance evolve over time. This temporal examination is particularly important because achieving peak performance is suggested to be a continually evolving process, rather than a single pinnacle event [106]. For example, as noted in the introduction to this paper, NPDs are required to perform continually over an Olympiad cycle; therefore, it would be informative to examine how the factors perceived to influence peak performance differ across this period and as the NPD and his or her organization transition through different events. Business and organizational behavior literature has highlighted the importance of examining leadership and management performance at different time points and events, such as during organizational crisis [107] and organizational change [108]. To provide more rigorous and robust data on changes to the identified performance-influencing factors over time, future researchers should look to develop a valid and reliable measure. In this quest, scholars should draw lessons from disciplines that have already developed measures of factors influencing performance, such as those in construction [109], business [110], education [111], and sport contexts [112].

To conclude, this study has investigated the factors that NPDs perceive to influence their role delivery and performance. The findings reveal that self-related factors (i.e., personality, health, skills, experience) and environment-related factors (i.e., development opportunities, operations, personnel) are perceived to influence these outcomes. As a result, sport psychology practitioners need to raise their own, NPDs', and sport organizations' awareness of performance-influencing factors and develop methods to address them. Since NPDs can play such a pivotal role in athletic and organizational success at an Olympic Games, research-informed interventions will not only help to enhance a NPD's performance in elite sport, but will also, in turn, benefit the performance of Olympic athletes and the sport organizations to which they affiliate.

## Footnotes

<sup>1</sup>Due to space restrictions, the interview guide is not reproduced in full here. For a copy of the guide, please contact the corresponding author.

<sup>2</sup>Due to space restrictions, only a selection of the distinct raw data quotes are presented in this paper. For a complete copy of this data, please contact the corresponding author.

## References

- [1] McCann, S., At the Olympics, Everything is a Performance Issue, International Journal of Sport and Exercise Psychology, 2008, 6, 267-276.
- [2] Kreiner-Phillips, K. and Orlick, T., Winning After Winning: The Psychology of Ongoing Excellence, The Sport Psychologist, 1993, 7, 31-48.
- [3] Stonehouse, G. and Minocha, S., Strategic Processes @ Nike: Making and Doing Knowledge Management, Knowledge and Process Management, 2008, 15, 24-31.
- [4] Hilvoorde, I., Elling, A., and Stokvis, R., How to Influence National Pride? The Olympic Medal Index as a Unifying Narrative, International Review for the Sociology of Sport, 2010, 45, 87-102.
- [5] Gould, D., Greenleaf, C., Guinan, D., Dieffenbach, K., and McCann, S., Pursuing Performance Excellence: Lessons Learned from Olympic Athletes and Coaches, Journal of Excellence, 2001, 4, 21-43.
- [6] Fletcher D. and Wagstaff, C.R.D., Organizational Psychology in Elite Sport: Its Emergence, Application and Future, Psychology of Sport and Exercise, 2009, 10, 427-434.
- [7] Arnold, R., Hewton, E., and Fletcher, D., Preparing Our Greatest Team: The Design and Delivery of a Preparation Camp for the London 2012 Olympic Games, Sport, Business and Management: An International Journal, in press.
- [8] Gould, D., Greenleaf, C., Chung, Y., and Guinan, D., A Survey Of US Atlanta and Nagano Olympians: Variables Perceived to Influence Performance, Research Quarterly for Exercise and Sport, 2002, 73, 175-186.
- [9] Greenleaf, C., Gould, D., and Dieffenbach, K., Factors Influencing Olympic Performance: Interviews with Atlanta and Nagano US Olympians, Journal of Applied Sport Psychology, 2001, 13, 154-184.

- [10] Gould, D., Guinan, D., Greenleaf, C., and Chung, Y.C., A Survey Of U.S. Olympic Coaches: Variables Perceived to have Influenced Athlete Performances and Coach Effectiveness, The Sport Psychologist, 2002, 16, 229-250.
- [11] Olusoga, P., Maynard, I., Hays, K., and Butt, J., Coaching Under Pressure: A Study of Olympic Coaches, Journal of Sports Sciences, 2012, 30, 229-239.
- [12] Arnold, R. and Fletcher, D., A Research Synthesis and Taxonomic Classification of the Organizational Stressors Encountered by Sport Performers, Journal of Sport and Exercise Psychology, 2012, 34, 397-429.
- [13] De Bosscher, V., De Knop, P., van Bottenburg, M., and Shibli, S., A Conceptual Framework for Analysing Sports Policy Factors Leading to International Sporting Success, European Sport Management Quarterly, 2006, 6, 185-215.
- [14] De Bosscher, V., Shilbury, D., Theeboom, M., Van Hoecke, J., and De Knop, P., Effectiveness of National Elite Sport Policies: A Multidimensional Approach Applied to the Case of Flanders, European Sport Management Quarterly, 2011, 11, 115-141.
- [15] Arnold, R., Fletcher, D., and Molyneux, L., Performance Leadership and Management in Elite Sport: Recommendations, Advice and Suggestions from National Performance Directors, European Sport Management Quarterly, 2012, 12, 317-336.
- [16] Fletcher, D. and Arnold, R., A Qualitative Study of Performance Leadership and Management in Elite Sport, Journal of Applied Sport Psychology, 2011, 23, 223-242.
- [17] Bennis, W. and Nanus, B., Leaders: Strategies for Taking Charge, Harper & Row, New York, NY, 1985.
- [18] Kotter, J. P., A Force for Change: How Leadership Differs From Management, Free Press, New York, NY, 1990.
- [19] Zaleznik, A., Managers and Leaders: Are They Different? Harvard Business Review, 1977, 55, 67-78.

- [20] Barnard, C., The Functions of the Executive, Harvard University Press, Cambridge, MA, 1938.
- [21] Northouse, P. G., Leadership, Sage, Thousand Oaks, CA, 2010.
- [22] Fletcher, D. and Arnold, R., Performance Leadership and Management in Elite Sport: Current Status and Future Directions, in Andersen, S., Houlihan, B., and Ronglan, L. T. eds., Managing Elite Sport Systems: Research and Practice, Routledge, Abingdon, UK, 2015.
- [23] Collins, D. and Cruickshank, A., 'Multi-Directional Management': Exploring the Challenges of Performance in the World Class Programme Environment, Reflective Practice: International and Multidisciplinary Perspectives, 2012, 13, 455-469.
- [24] Males, J., Reflections on Athens: Delivering Sport Psychology Provision at the BOA Headquarters, Sport and Exercise Psychology Review, 2006, 2, 12-16.
- [25] Timson, S., Reflections on Athens: Delivering Sport Psychology at the BOA Cyprus Holding Camp, Sport and Exercise Psychology Review, 2006, 2, 20-24.
- [26] Camic, P.M., Rhodes, J.E., and Yardley, L., Qualitative Research in Psychology: Expanding Perspectives in Methodology and Design, American Psychological Association, Washington, DC, 2003.
- [27] Flick, U., An Introduction to Qualitative Research, Sage, Thousand Oaks, CA, 2009.
- [28] Gibbs, G., Analyzing Qualitative Data, Sage, Thousand Oaks, CA, 2007.
- [29] Aronson, J., A Pragmatic View of Thematic Analysis, The Qualitative Report, 1994, 2, 1-4.
- [30] Neuendorf, K.A., The Content Analysis Guidebook, Sage, Thousand Oaks, CA, 2002.
- [31] Smith, J.A. and Deemer, D., The Problem Of Criteria in the Age Of Relativism, in: Denzin, N.K. and Lincoln, Y.S. eds., The Handbook of Qualitative Research, Sage, Thousand Oaks, CA, 877-896, 2000.

- [32] Smith, J.A., Judging Research Quality: From Certainty to Contingency, Qualitative Research in Sport and Exercise, 2009, 1, 91-100.
- [33] Sparkes, A C., and Smith, B., Judging the Quality of Qualitative Inquiry: Criteriology and Relativism in Action, Psychology of Sport and Exercise, 2009, 10, 491-497.
- [34] Potter, J. and Hepburn, A., Qualitative Interviews in Psychology: Problems and Possibilities, Qualitative Research in Psychology, 2005, 2, 281-307.
- [35] Watt, D., On Becoming a Qualitative Researcher: The Value of Reflexivity, The Qualitative Report, 2007, 12, 82-102.
- [36] Tracey, S.J., Qualitative Quality: Eight “Big Tent” Criteria for Excellent Qualitative Research, Qualitative Inquiry, 2010, 16, 837-851.
- [37] Lewin, K., A Dynamic Theory of Personality, McGraw Hill, New York, NY, 1935.
- [38] Avolio, B. J., Promoting More Integrative Strategies for Leadership Theory-Building, American Psychologist, 2007, 62, 25-33.
- [39] Osborn, R.N., Hunt, J.G., and Jauch, L.R., Toward a Contextual Theory of Leadership, The Leadership Quarterly, 2002, 13, 797-837.
- [40] Caryle, T., On Heroes, Hero-Worship, and the Heroic in History, Houghton Mifflin, Boston, MA, 1907.
- [41] Judge, T.A., Bono, J.E., Ilies, R., and Gerhardt, M.W., Personality and Leadership: A Qualitative and Quantitative Review, Journal of Applied Psychology, 2002, 87, 765-780.
- [42] Judge, T.A. and Piccolo, R.F., Transformational and Transactional Leadership: A Meta-Analytic Test of Their Relative Validity, Journal of Applied Psychology, 2004, 89, 755-768.
- [43] Hersey, P., The Situational Leader, Prentice Hall, Englewood Cliffs, NJ, 1986.
- [44] Jones, G., Hanton, S., and Connaughton, D., What Is This Thing Called Mental

- Toughness? An Investigation of Elite Sport Performers, Journal of Applied Sport Psychology, 2002, 14, 205-218.
- [45] Shogan, D., The Making of High Performance Athletes: Discipline, Diversity, and Ethics, University of Toronto Press, Toronto, Canada, 1999.
- [46] Kristiansen, E., Murphy, D., and Roberts, G.C., Organizational Stress and Coping in U.S. Professional Soccer, Journal of Applied Sport Psychology, 2012, 24, 207-223.
- [47] Yi, J.P., Smith, R.E., and Vitaliano, P.P., Stress-Resilience, Illness, and Coping: A Person-Focused Investigation of Young Women Athletes, Journal of Behavioral Medicine, 2005, 28, 257-265.
- [48] Fletcher, D. and Sarkar, M., A Grounded Theory of Psychological Resilience in Olympic Champions, Psychology of Sport and Exercise, 2012, 13, 669-678.
- [49] Homans, G.C., Social Behaviour as Exchange, American Journal of Sociology, 1958, 63, 597-606.
- [50] Zaccaro, S.J. and Klimoski, R.J., The Nature of Organizational Leadership, Jossey-Bass, San Francisco, CA, 2001.
- [51] Van Lange, P.A.M., Ouwerkerk, J.W., and Tazelaar, M.J.A., How To Overcome the Detrimental Effects Of Noise in Social Interaction: The Benefits of Generosity, Journal of Personality and Social Psychology, 2002, 82, 768-780.
- [52] Buckworth, J. and Dishman, R. K., Exercise psychology, Human Kinetics, Champaign, IL, 2002.
- [53] Gustafsson, H., Hassmén, P., Kenttä, G., and Johansson, M., A Qualitative Analysis of Burnout in Elite Swedish Athletes, Psychology of Sport and Exercise, 2008, 9, 800-816.
- [54] Greenblatt, E., Work/life Balance: Wisdom or Whining, Organizational Dynamics, 2002, 31, 177-193.



- [55] Baker, J., Côté, J., and Abernethy, B., Sport-Specific Practice and the Development of Expert Decision-Making in Team Ball Sports, Journal of Applied Sport Psychology, 2003, 15, 12-25.
- [56] Jones, M. I. and Lavallee, D., Exploring the Life Skills Needs of British Adolescent Athletes, Psychology of Sport and Exercise, 2009, 10, 159-167.
- [57] Harmison, R. J., Peak Performance in Sport: Identifying Ideal Performance States and Developing Athletes' Psychological Skills, Sport, Exercise, and Performance Psychology, 2011, 1, 3-18.
- [58] Irvine, D. I., The Performance of Doctors: The New Professionalism, The Lancet, 1999, 353, 1174-1177.
- [59] Kunc, M.H. and Morecroft, J.D.W., Managerial Decision Making and Firm Performance under a Resource-Based Paradigm, Strategic Management Journal, 2010, 31, 1164-1182.
- [60] Joshi, A. W., Continuous Supplier Performance Improvement: Effects of Collaborative Communication and Control, Journal of Marketing, 2009, 73, 133-150.
- [61] Sengul, M., Gimeno, J., and Dial, J., Strategic Delegation: A Review, Theoretical Integration, and Research Agenda, Journal of Management, 2012, 38, 375-414.
- [62] Cox, R.H., Shannon, J.K., McGuire, R.T., and McBride, A., Predicting Subjective Athletic Performance from Psychological Skills After Controlling For Sex and Sport, Journal of Sport Behavior, 2010, 33, 129-145.
- [63] Gilbert, W., Lichtenwaladt, L., Gilbert, J., Zelezny, L., and Côté, J., Developmental Profiles of Successful High School Coaches, International Journal of Sport Science and Coaching, 2009, 4, 415-431.
- [64] Croypley, B., Miles, A., Hanton, S., and Niven, A., Improving the Delivery of Applied Sport Psychology Support Through Reflective Practice, The Sport Psychologist, 2007,

- 21, 475-494.
- [65] Irwin, G., Hanton, S., and Kerwin, D., Reflective Practice and the Origins of Elite Coaching Knowledge, Reflective Practice: International and Multidisciplinary Perspectives, 2004, 5, 425-442.
- [66] Solymossy, E., Entrepreneur and Organization: Symbiotic Change And Transition, in: Galindo, M., Guzman, J., and Riberiro, D. eds., Entrepreneurship and Business: A Regional Perspective, Springer-Verlag, Berlin, Germany, 269-290, 2009.
- [67] Kaplan, A. M. and Haenlein, M., Users Of The World, Unite! The Challenges and Opportunities of Social Media, Business Horizons, 2010, 53, 59-68.
- [68] Carron, A.V., Colman, M., Wheeler, J., and Stevens, D., Cohesion and Performance in Sport: A Meta-Analysis, Journal of Sport & Exercise Psychology, 2002, 24, 168-188.
- [69] Jowett, S. and Cockerill, I. M., Incompatibility in the Coach-Athlete Relationship, in Cockerill, I. M. ed., Solutions In Sport Psychology, Thomson Learning, London, UK, 2002, 16-31.
- [70] Wylleman, P., De Knop, P., Ewing, M., and Cumming, S., Transitions in Youth Sport: A Developmental Perspective on Parental Involvement, in: Lavalley, D., and Wylleman, P. eds., Career Transitions in Sport: International Perspectives, Fitness Information Technology, Morgantown, WV, 143-160, 2000.
- [71] Haslam, S.A., van Knippenberg, D., Platow, M.J., and Ellemers, N., Social Identity at Work: Developing Theory for Organizational Practice, Psychology Press, New York, NY, 2014.
- [72] Tajfel, H., and Turner, J., An Integrative Theory of Intergroup Conflict, in: Austin, W., and Worchel, S. eds., The Social Psychology of Intergroup Relations, Brooks/Cole, Monterey, CA, 1979.
- [73] Agle, B.R., Mitchell, R.K., and Sonnenfeld, J.A., Who Matters to CEOs? An Investigation

- of Stakeholder Attributes and Salience, Corporate Performance, and CEO Values, Academy of Management Journal, 1999, 42, 507-525.
- [74] Sarin, S. and McDermott, C., The Effect of Team Leader Characteristics on Learning, Knowledge Application, and Performance of Cross-Functional New Product Development Teams, Decision Sciences, 2003, 34, 707-739.
- [75] Kim, S., Participative Management and Job Satisfaction: Lessons for Management Leadership, Public Administration Review, 2002, 62, 231-241.
- [76] Nielsen, K., Randall, R., Yarker, J., and Brenner, S. O., The Effects of Transformational Leadership on Followers' Perceived Work Characteristics and Psychological Well-Being: A Longitudinal Study, Work and Stress: An International Journal of Work, Health, and Organisations, 2008, 22, 16-32.
- [77] Graen, G.B., and Uhl-Bien, M., Relationship-Based Approach to Leadership: Development of Leader-Member Exchange (LMX) Theory of Leadership Over 25 Years: Applying a Multi-Level Multi-Domain Perspective, The Leadership Quarterly, 1995, 6, 219-247.
- [78] Day, D.V., Fleenor, J.W., Atwater, L.E., Sturm, R.E., and McKee, R.A., Advances in Leader and Leadership Development: A Review of 25 Years of Research and Theory, The Leadership Quarterly, 2014, 25, 63-82.
- [79] Dolbier, C.L., Jaggars, S.S., and Steinhardt, M.A., Stress-Related Growth: Pre-Intervention Correlates and a Change Following a Resilience Intervention, Stress and Health, 2010, 26, 135-147.
- [80] Rigby, M. and O'Brien-Smith, F., Trade Union Interventions in Work-Life Balance, Work, Employment, and Society, 2010, 24, 203-220.
- [81] Arthur, C.A., Hardy, L., and Woodman, T., Realising the Dream: Vision, Support and Challenge, Reflective Practice: International and Multidisciplinary Perspectives, 2012,

- 13, 399-406.
- [82] Pronovost, P., Berenholtz, S., Dorman, T., Lipsett, P.A., Simmonds, T., and Haraden, C., Improving Communication in the ICU Using Daily Goals, Journal of Critical Care, 2003, 18, 71-75.
- [83] Sheard, M. and Golby, J., Effect of a Psychological Skills Training Program on Swimming Performance and Positive Psychological Development, International Journal of Sport and Exercise Psychology, 2006, 4, 149-169.
- [84] Tonn, B., English, M., and Travis, C., A Framework For Understanding and Improving Environmental Decision Making, Journal of Environmental Planning and Management, 2000, 43, 163-183.
- [85] Hertwig, R., Barron, G., Weber, E.U., and Erev, I., Decisions from Experience and the Effect Of Rare Events in Risky Choice, Psychological Science, 2004, 15, 534-539.
- [86] Peel, D., Coaching and Mentoring in Small to Medium Sized Enterprises in the UK: Factors That Affect Success and a Possible Solution, International Journal of Evidence Based Coaching and Mentoring, 2004, 2, 46-56.
- [87] Webb, E., Jones, A., Barker, P., and van Schaik, P., Using E-Learning Dialogues in Higher Education, Innovations in Education and Teaching International, 2004, 41, 91-103.
- [88] Freeman, O., Does Your Organization Use Knowledge to Gain Competitive Advantage? Business Information Review, 18, 38-45.
- [89] Azvine, B., Cui, Z., and Nauck, D. D., Towards Real-Time Business Intelligence, BT Technology Journal, 2005, 23, 214-225.
- [90] Senécal, J., Loughead, T.M., and Bloom, G.A., A Season-Long Team-Building Intervention: Examining the Effect of Team Goal Setting on Cohesion, Journal of Sport and Exercise Psychology, 2008, 30, 186-199.

- [91] Wagstaff, C.R.D., Hanton, S., and Fletcher, D., Developing Emotion Abilities and Strategies in a Sport Organization: An Action Research Intervention, Psychology of Sport and Exercise, 2013, 14, 476-487.
- [92] Avolio, B.J., Sosik, J.J., Kahai, S.S., and Baker, B., E-leadership: Re-examining Transformations in Leadership Source and Transmission, The Leadership Quarterly, 2013, 25, 105-131.
- [93] Waldman, D.A., Balthazard, P.A., and Peterson, S.J., Social Cognitive Neuroscience and Leadership, The Leadership Quarterly, 2011, 22, 1092-1106.
- [94] Gronn, P., Distributed Leadership as a Unit of Analysis, The Leadership Quarterly, 2002, 13, 423-451.
- [95] Cassell, C. and Symon, G., Essential Guide to Qualitative Methods in Organizational Research, Sage, London, UK, 2004.
- [96] Stokes, D., and Bergin, R., Methodology Or “Methodolatry”? An Evaluation of Focus Groups and In-Depth Interviews, Qualitative Market Research: An International Journal, 2006, 9, 26-37.
- [97] Peek, L. and Fothergill, A., Using Focus Groups: Lessons from Studying Daycare Centers, 9/11, and Hurricane Katrina, Qualitative Research, 2009, 9, 31-59.
- [98] Leary, M.R. and Kowalski, R.M., Impression Management: A Literature Review and Two-Component Model, Psychological Bulletin, 1990, 107, 34-47.
- [99] Redmond, B., Reflection in Action: Developing Reflective Practices in Health and Social Services, Ashgate Publishing Limited, Hampshire, UK, 2006.
- [100] Antonakis, J., Day, D.V., and Schyns, B., Leadership and Individual Differences: At the Cusp of a Renaissance, The Leadership Quarterly, 2012, 23, 643-650.
- [101] Heyman, S., Comparisons of Successful and Unsuccessful Competitors: A Reconsideration of Methodological Questions and Data, Journal of Sport Psychology,

- 1982, 4, 295-300.
- [102] Dinh, J.E., Lord, R.G., Gardner, W.L., Meuser, J.D., Liden, R.C., and Hu, J., Leadership Theory and Research in the New Millennium: Current Theoretical Trends and Changing Perspectives, The Leadership Quarterly, 2014, 25, 36-62.
- [103] Gardner, W.L., Lowe, K.B., Moss, T.W., Mahoney, K.T., and Coglisier, C.C., Scholarly Leadership of the Study of Leadership: A Review of The Leadership Quarterly's Second Decade, 2000-2009, The Leadership Quarterly, 2010, 21, 922-958.
- [104] Stentz, J.E., Clark, V L.P., and Matkin, G.S., Applying Mixed Methods to Leadership Research: A Review of Current Practices, The Leadership Quarterly, 2012, 23, 1173-1183.
- [105] Yammarino, F., Leadership: Past, Present, and Future, Journal of Leadership and Organizational Studies, 2013, 20, 149-155.
- [106] Hays, K. F. and Brown, C. H., You're on! Consulting for Peak Performance, American Psychological Association, Washington, DC, 2004.
- [107] Heifetz, R., Grashow, A., and Linsky, M., Leadership in a (Permanent) Crisis, Harvard Business Review, 2009, 87, 62-69.
- [108] Carter, M.Z., Armenakis, A.A., Field, H.S., and Mossholder, K.W., Transformational Leadership, Relationship Quality, and Employee Performance during Continuous Incremental Organizational Change, Journal of Organizational Behavior, 2013, 34, 942-958.
- [109] Sawacha, E., Naoum, S., and Fong, D., Factors Affecting Safety Performance on Construction Sites, International Journal of Project Management, 1999, 17, 309-315.
- [110] Moorman, R.H. and Harland, L.K., Temporary Employees as Good Citizens: Factors Influencing Their OCB Performance, Journal of Business and Psychology, 2002, 17, 171-187.

[111] Sun, P.C., Tsai, R.J., Finger, G., Chen, Y.Y., and Yeh, D., What Drives Successful E-

Learning? An Empirical Investigation of the Critical Factors Influencing Learner

Satisfaction, Computers and Education, 2008, 50, 1183-1202.

[112] Arnold, R., Fletcher, D., and Daniels, K., Development and Validation of the

Organizational Stressor Indicator for Sport Performers (OSI-SP), Journal of Sport and

Exercise Psychology, 2013, 35, 180-196.

Frequency	Lower-order Theme	Frequency	Higher-order Theme
14	Diligence and personal discipline	49	Personality
11	An innate desire for success		
2	Willingness to support others		
5	Positivity		
7	Resilience		
10	An ability to cope with pressure		
13	Exercise	27	Health
14	Rest and recovery		
14	Communication	51	Skills
9	Decision making		
5	Professionalism		
14	Prioritization and delegation		
9	Psychological		
10	Variety of experiences	37	Experience
11	Business or military		
3	High performance sports agency		
13	Athlete or coach		

Figure 1. Self-Related Factors Perceived to Influence NPD Performance.



Frequency	Lower-order Theme	Frequency	Higher-order Theme
7	Mentor provision	33	Development opportunities
6	Research participation		
6	Sport psychology support		
14	NPD forum		
7	Media management	44	Operations
11	Access to modern technology		
7	Size of the Olympic program		
5	Number of disciplines		
14	Attendance at training or competition venues		
11	Family, friends, and partners	59	Personnel
4	Mentors		
3	Psychologists		
3	Colleagues in elite sport partnership bodies		
4	Agents, lawyers, and owners		
14	Elite sport governance agencies		
3	Administrative staff		
2	Coaches		
1	Athletes		
14	National governing body board		

Figure 2. Environment-Related Factors Perceived to Influence NPD Performance.