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From chaos to clarity: how leaders leverage the value and impact of the multidisciplinary team in elite sport

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ABSTRACT

Purpose/Rationale: This study explores how leaders in elite sport environments maximise the impact of multidisciplinary teams (MDTs) to enhance athlete performance and drive organisational success. It addresses a gap in the existing literature on leadership's role in leveraging the value of MDTs in complex high-performance sporting contexts.

Design/Methodology/Approach: The research employs a qualitative methodology using semi-structured interviews with eight ($n=8$) leaders from diverse sports backgrounds. A reflexive thematic analysis was applied to capture rich, contextual insights and to construct a model of leadership strategies for optimising MDT functioning.

Findings: Leaders attend to two interrelated domains: the people domain, which focuses on fostering professional intimacy, establishing high-performance climates and enabling collaboration; and the context domain, which involves navigating complexity, exercising good judgement and solving performance problems. Effective leadership requires balancing these domains while exhibiting confidence and adaptability in high-stakes environments.

Practical Implications: The findings provide a framework for leaders and sport organisations to enhance and extract the value of MDT performance through structured problem-solving, clear communication and alignment of diverse expertise.

Research Contribution: This study contributes to understanding leadership of MDTs in elite sport, offering new insights into how leaders leverage MDTs and attempt to transform inherently complex systems into clarity.

Originality/Value: This study introduces a novel model that identifies what leaders do and what they attend to when leveraging the expertise within MDTs, presenting strategies to manage the complexity and uncertainty that exists in these contexts effectively.

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Complexity; decision-making; leadership; performance support team; uncertainty; problem solving

Introduction

Leadership in elite high-performance sport comes in many forms. Titles of these leaders (e.g. Performance Director, Sporting Director; Technical Director; Head of Performance; Head

or Director of Performance Support; Head of Discipline; Head of Service) and their role purpose can differ depending on the sports organisation and its structure; however, the end goal will be relatively similar, to create a competitive

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advantage that delivers success for athletes, teams and the sports organisations that they work for.

Performance in sport is now supported through varying sizes of diverse cross-functional multidisciplinary teams (MDTs) of practitioners (Reid et al., 2004). When MDTs are referenced, we are referring to Practitioners from diverse Performance and Medical-related professional backgrounds such as Biomechanics, Lifestyle, Medicine, Performance Analysis, Psychology, Physiology, Physiotherapy, Sports Science, Strength and Conditioning. Common terms associated with these teams are interdisciplinary teams (IDTs) (Burns & Collins, 2023), transdisciplinary teams (TDTs) (Vaughan et al., 2019), Performance Support Teams (PSTs) (Stewart et al., 2024a) and Sports Science and Sports Medicine Teams (SSSMs) (Alfano & Collins, 2023). We recognise there is commonality of the goals of these teams, and therefore, throughout this paper, we will refer to MDTs. To mobilise MDTs, different methodologies have been proposed. Transdisciplinary (Vaughan et al., 2019) and Departments of Methodology (DoM) (Rothwell et al., 2020) are approaches that have been adopted in sport and different industries (Brandt et al., 2013). The goal of these approaches is to integrate the work of departments or units where diverse professions work together to solve problems, and it is most often applied in research contexts (Klein, 2008).

The term “problem” in sporting contexts, until recently, has been poorly qualified (King et al., 2024a) with MDT practitioners recognising that problem-solving is a critical element of their work. The ability to explain what problems practitioners attend to and how they go about solving them is, however, poor (King et al., 2024b). King et al. (2024a) differentiated between simple/complex and overt/implicit problems and found that practitioners contend with both simple (i.e. injury rehabilitation; exercise selection; body composition challenges) and more complex/implicit problems (i.e. how to work in an MDT; how to create

competitive advantage; how to manage load and prevent injuries) and deploy different strategies to solving them that require combinations of individual and cross-functional MDT skills and expertise.

The language used to describe what MDTs are and how they operate is becoming well socialised across the literature (Alfano & Collins, 2023; Burns & Collins, 2023; King et al., 2024b; Reid et al., 2004; Stewart et al., 2024a), and yet whether it permeates with clarity and is adopted into high-performance sport settings by leaders remains unclear. Whilst there is a body of literature exploring leadership perceptions, styles and approaches in elite sport (Arnold et al., 2018; Fletcher & Arnold, 2011, 2015), it has recently been acknowledged that there is a need for investigation of how leaders of high-performance MDTs in sport leverage and maximise their impact (Alfano & Collins, 2021; Jowett, 2024; King et al., 2024b; Stewart et al., 2024a). Therefore, the aim of this study is to explore how organisations and leaders maximise the impact of MDTs in sport whilst enabling them to generate highly effective and impactful performance support solutions.

Literature review

In a recent study, King et al. (2024a) found that individual performance-related and medical practitioners tend to toggle between different approaches when seeking to solve problems, yet no clear type or problem-solving approach emerged. In a second investigation, King et al. (2024b) explored what MDT practitioners do and how they operate within a team. Findings from that work suggest that practitioners must navigate complex problems by making effective decisions whilst collaboratively sharing knowledge in high-performance contexts. Of note was that practitioners recognised the importance of effective leadership and team dynamics in supporting impactful outcomes, and to date, this has not been

adequately researched (Alfano & Collins, 2021; Jowett, 2024; Stewart et al., 2024b). Furthermore, practitioners valued and recognised the importance of diverse perspectives, skills and ways of thinking (cognitive diversity) (Mello & Rentsch, 2015; Mitchell et al., 2017; Page, 2007) when attending to problems. Other lubricants to effective MDT working that were identified were psychological safety (Edmondson, 2012; Edmondson & Bransby, 2023), role clarity and shared understanding across the team (King et al., 2024b). There is no doubt that to create effective problem-solving teams, good leadership is required (Arnold et al., 2012; Reiter-Palmon & Illies, 2004). Despite good evidence of how “leaders”, i.e. Performance Directors and Managers, operate in elite sporting contexts (Arnold et al., 2012; Arnold et al., 2018; Fletcher & Arnold, 2011), there is a dearth of quality literature that explores what leaders do to maximise MDT impact on performance and how they do it within elite high-performance sporting contexts (Burns & Collins, 2023; Jowett, 2024; Stewart et al., 2024a).

Complexity in leadership

Inter-personal complexity

Leaders must navigate inter-personal (Bowes & Jones, 2006), structural and system complexity in the organisations they work (Balague et al., 2013; Pol et al., 2020), and this complexity drives some of the problems that they must attend to. In sport, individuals from diverse professional backgrounds are expected to collaborate (Burns & Collins, 2023; Ulrich & Breitbach, 2022). Inter-personal challenges emerge with professional disagreement, personality clashes, conflict, low trust, varying levels of humility, willingness to collaborate and power dynamics, all reducing the ability of a team to work together (Cowley et al., 2023; King et al., 2024b). What contributes to these clashes is likely pressure (Alfano & Collins, 2023), a keen desire by individuals within the team to show their impact and

justify their position and service provision, possibly driven by fear of job security. When departments justify their provision and resources, the system may drive some of the pressure that practitioners feel. Moreover, practitioners may unwittingly compete with colleagues and other disciplines for recognition, credibility and status. Leader’s ability to mediate and manage conflict (Kerwin et al., 2017) whilst mobilising diverse cross-functional teams can contribute to their success, driving impactful solutions and outcomes.

Structural complexity

Confounding the issue of competition and conflict between colleagues is the fact that many sports organisations are vertically organised (Terzić, 2018). In these organisational structures, Heads of Disciplines (HoDs) oversee specific teams and their delivery of service. In some cases, the services can be further separated into different divisions, for example a performance and medical directorate. This vertical alignment does not support the horizontal integration of diverse professions as practitioners identify primarily within their discipline team, aligning to their systems, ways of working and processes whilst placing a premium on their service and the expertise that they offer. This presents a possible problem for practitioners who might align with and report to a HoD (vertical) whilst simultaneously having a requirement to integrate into an MDT overseen by a cross-functional (horizontal) leader.

System complexity

The systems and processes that teams work through create further complexity and problems. In complex systems theory (Balague et al., 2013; Pol et al., 2020) where elements of a system interact with other elements in that system, significant failures can emerge (Karwowski, 2012; Weick, 2004). When systems have inter-dependencies, i.e. the extent to which components of the system rely on each other to function and where they are tightly

coupled, for example components of the system are highly dependent on each other, failures can occur and be particularly difficult to identify the root causes (Leveson, 2004; Rasmussen, 1997). When there is little to no buffer or slack between system interactions, changes or failures in one component immediately and significantly impact other components (Rijpma, 2019). Consider the interaction and integration of the cyclical planning and delivery processes between each MDT practitioner to deliver a holistic and integrated programme to the coach and athletes. Organisational structures and the systems that the team works through can breed complex problems that leaders must navigate. Furthermore, they must integrate the individual MDT practitioner's skills, knowledge and expertise, which can also implicitly drive this complexity.

Complex systems in sport

A complex system is a network of interconnected parts that interact in dynamic, unpredictable ways, leading to behaviours that can't be easily predicted by looking at the individual parts alone (Balague et al., 2013). In elite sport, there tends to be several interacting stakeholders, departments or institutions working together with potentially conflicting values and interests (Sam, 2009), which can lead to ambiguity. At times, the problems leaders are trying to address within a high-performance sporting environment aren't simple or clear nor are the solutions (Greenberg & Clubb, 2021). Practitioners typically attend to the most obvious problems (King et al., 2024a), delivering traditional "off the shelf" processes and solutions through servicing in their roles such as Strength and Conditioning, Physiotherapy and Nutrition. Familiar problems, stable processes and procedures lend themselves to stable patterns of manual type work (King et al., 2024a; Schraw et al., 1995), and yet, the drivers for the problems that the team are faced with could be far less obvious, difficult

to find and very hard to solve. When problems are contentious, turbulent and wicked (Greenberg & Clubb, 2021; Head & Alford, 2015; Rittel & Webber, 1973) or VUCA (Volatile, Uncertain, Complex, Ambiguous) (Vaughan et al., 2019), there may be multiple solutions to multiple problems driven both by interdependent parties (i.e. interactions of all the practitioners) and interacting elements of the system (Alford & Head, 2017). Consider the athlete that presents with reoccurring illness and fatigue when exposed to intensive training blocks, the problematic persistent injury that presents 3 months out from the Olympics or the Coach who wants to predict what speed/intensities of play are required to overcome their opponent at the weekend. The leaders of large MDTs must navigate the complexity of the system whilst providing clarity to their team and recognise that different types of problems may require different approaches and distinct processes to solving them (King et al., 2024a).

Complexity and problem-solving

King et al. (2024a) suggested a framework that plots problem types, problem-solving approaches and decision-making types on continuums that when de-tangled from one another, might offer insight into how high-performance MDT practitioners work. What emerged was a messy picture where practitioners appeared to rely on heuristic (Bennis & Pachur, 2006; Raab, 2012; Raab & Gigerenzer, 2015), intuitive expertise (Kahneman & Klein, 2009; Klein, 1997, 2004) to solve relatively simple problems (King et al., 2024a). MDT staff report decision-making as extremely important within their role both as individuals and in teams, but highlighted dysfunctional team dynamics and the absence of an organisational strategy as inhibitors to effective decision-making (Wilson et al., 2024b). When we consider the problems that each discipline is trying to address and decisions that are being

made by practitioners daily, we can see complexity emerge. Decision-making through the lens of the leader must take on a different complexion as they likely lead leaders, such as HoDs, who lead their discipline and manage practitioners. It is not possible, therefore, for the leader to have an awareness of, track and ratify all the decisions that are made by individual practitioners and across teams. This hints at the complexity a leader must contend with and the need for a clear strategy and training as suggested by Wilson et al. (2024b). When problem-solving and decision-making become intertwined, the individual, team and organisational processes to deliver each can become muddled even further, making it hard for the leader to understand the outputs that the system delivers and how they were created. The leader may have to contend with uncertainty and elements of risk (Wilson et al., 2024a), where they must display good judgement in their position leading these challenging complex systems.

Leveraging cognitive diversity

Cognitively diverse teams outperform individual ability when trying to solve complex wicked problems (Horwitz & Horwitz, 2007; Mannix & Neale, 2005; Page, 2019). Leaders must attempt to leverage the knowledge, perspectives, mental models and heuristics of a team of individuals (Page, 2019). Wicked problems are a by-product of complex systems, and potential solutions can take many forms, of which the outcomes will be uncertain (Alford & Head, 2017). Often, practitioners deliver traditional solutions to traditional problems; i.e. deliver intuitively based on their expertise, professional training and evidence-based protocols and procedures (King et al., 2024a). It seems there is a gap in how practitioners might deliver services versus how they might solve unfamiliar complex problems. This might suggest that leaders would have to create clarity, design processes and build structure through which diverse teams

could work together to problem-solve. If this is the case, then we might expect to see different types of work processes operating at different speeds and cadences, cycling in and out across the macro cycle and seasons. These planning processes, the implementation and review of the work (referred to as Plan-Do-Review) in inter-dependent, tightly coupled systems (Rijpmma, 2019), are no doubt complex and raise questions about the skillsets and approaches of leaders attempting to deliver the best possible outcomes through their teams.

Leaders must navigate interpersonal, system and organisational complexity (Balague et al., 2013; Pol et al., 2020). The role of leader in establishing performance problems and discovering viable performance solutions is difficult when problems are VUCA and wicked (Greenberg & Clubb, 2021; Vaughan et al., 2019). Balancing operational day-to-day service delivery and traditional approaches with systemic large-scale problem-solving will require a leader to be both close enough to the team to get into the detail whilst remaining strategic, operating at a level where they see and understand all the moving parts. Operating in environments where individuals can be self-serving, and climates can be politically, and conflict-charged will no doubt lead to turbulent and volatile environments fraught with system, structural and interpersonal problems.

The aim of this study is to identify “what” leaders attend to and “how” they operate when leading MDTs in high-performance elite sporting contexts. The objective is to better understand how high-performance sports leaders leverage the capabilities and maximise the impact of MDTs in such environments. By examining leaders’ insights, we seek to understand their role in enhancing MDT performance and problem-solving capabilities in sport. Our aim is to provide considerations for aspiring and current leaders operating in high-performance sporting contexts to maximise MDT impact and to propose a model to summarise our findings.

Methodology

The present paper adopted an interpretative, qualitative approach focussing on the experiences of individuals within the unique and complex social contexts of their high-performance environments. This field of inquiry positions the beliefs of individuals as socially constructed, with these epistemological and ontological beliefs underpinning the approaches that we used to identify practices. Reflexive Thematic Analysis (RTA) (Braun & Clarke, 2006) can be used effectively to identify patterns in people's practices or behaviours related to, or their views and perspectives on, a certain issue (Sparkes & Smith, 2013). The methodology can be particularly effective when used to analyse semi-structured interviews (McArdle et al., 2012). RTA is a flexible qualitative approach that provides a series of choices and offers diversity in the way RTA is utilised (Braun & Clarke, 2023). The flexibility of RTA allows for a distinction between what Kidder and Fine (1987) refer to as "small q" (post-positivist) or "big q" (non-positivist, reflexive) qualitative approaches allowing the methodology to be aligned with researcher philosophies (Finlay, 2021). There has been some confusion over the use of RTA as a method rather than a methodology (Braun & Clarke, 2019) with the authors suggesting that researchers should state their ontological and epistemological perspectives as part of the methodology (Braun & Clarke, 2021a, p. 2023).

The approach used in the present paper aligns more closely with "big q" research, which acknowledges the *active* role the researcher plays in the production of situated knowledge with an inductive, data-driven approach (Braun & Clarke, 2006). As such, we view researcher subjectivity as a valuable addition which should be embraced rather than viewing this as a threat (Braun & Clarke, 2023). Through a relativist ontological lens (Braun & Clarke 2021), people's views, beliefs and experiences shape their perspectives, and

these perspectives are their individual and therefore perceptual truths. In adopting this constructionist philosophical stance (Braun & Clarke, 2021a), an interpretivist epistemological approach (Braun & Clarke, 2019) to answering the research question was to adopt a qualitative research design. The methodological approach aligns with the six phases outlined by Braun and Clarke (2006). This approach facilitated the exploration of the views, perspectives, practices and behaviours of leaders working in high-performance sport through semi-structured interviews where they each shared opinions, experiences and beliefs through storytelling and sense-making, through which individual and socially constructed meaning could be established (Kallio et al., 2016).

Due to the lack of published research exploring how leaders leverage and maximise the impact of MDTs in elite sport, a methodology was constructed that was inductive, enabling the construction of latent meaning (Braun & Clarke, 2019; Kallio et al., 2016) through an iterative approach that is hoped will help drive a broader research agenda in this area in the future.

Researcher positionality

The lead researcher has worked in elite high-performance environments for over 20 years. These experiences support the co-construction of knowledge aligned with the epistemological and ontological view associated with qualitative research. The second and third authors have also worked in elite environments for over 20 years alongside academic and scholarly activity. Collaboratively the views of the diverse and knowledgeable research team add richness and interpretative depth to the analysis process. The knowledge created during this research is the product of our combined expertise and perspectives.

Participants

Eligible participants were recruited from high-performance sport environments through

direct email correspondence. Inclusion criteria required participants to have experience of working as a leader in elite or high-performance sport. Eight leaders working in high-performance and elite sport (male $n = 7$; female $n = 1$) with ages ranging from 45 to 62 ($M = 51$; $SD = 5.17$) from various high-performance sporting organisations and with a diverse tenure; a minimum of 8 to a maximum of 21 years ($M = 15$; $SD = 4.5$) and a range of experiences (Table 1) provided rich discussion across eight interviews. Our leaders have worked in international football, international rugby union and international cricket; summer Olympic sports, professional football, professional rugby union, professional basketball, and in both male and female elite sport leading MDTs. The terms “high-performance” and “elite” have been challenged and definitions sought (Swann et al., 2015). McAuley et al. (2022) call for greater transparency in population samples where the term *elite* is used as such, we aim to provide absolute clarity of our population sample. For inclusion in this study, leaders must have worked in High-performance/Professional Sport, World Class Programmes or within a Professional Sports

Institute supporting World Class Programme athletes aligning with what Swann et al. (2015) classify as Level 4 when defining elite.

Care was taken to select leaders with a diverse array of experiences from a variety of sporting contexts to enable us to capture data that has richness, depth, diversity and complexity (Braun & Clarke, 2021b) and from varied environments. In line with the account provided by Trainor and Bundon (2021), we initially planned to recruit 12 leaders. Of the 12 leaders that agreed to take part in this study, four ($n = 4$) withdrew for various reasons ($n = 2$, no reason given; $n = 1$, change of job; $n = 1$, work pressure). In line with Braun and Clarke (2021b), we align with the argument that data, thematic and code saturation are coherent with neo-positivist discovery-oriented thematic analysis and are not consistent with the assumptions (i.e. assumes subjectivity and reflexivity and favours thematic coherence and sufficiency) of reflexive thematic analysis (Braun & Clarke, 2019). Indeed, Braun and Clarke (2021b) point out that meaning is generated through the interpretation and construction of data, not excavated from it.

Table 1. Semi-structured interview and participant information.

Leader Code	Relevant Collective Experience	Combined years in elite/high-performance roles
L1	Head of Performance – NGB – IPF Performance Director – NGB – SOS	19
L2	Head of Men’s Performance – NGB – IPF Director of Performance Support – PL Director of Performance Support – NSI	10
L3	Academy & Pathway Consultant – International NGB PS– Performance Team Director NSI– Head of Sports Science and Medicine – NGB – SOS Sports Science Manager – NGB – PS	17
L4	Director of Performance Support and Science NSI– Head of Performance Nutrition – NSI	11
L5	Director of Performance Services NSI– Head of Academy Sports Science PL– Strength & Conditioning (S&C) National Manager – NSI	8
L6	High Performance Director – PS High Performance Director – PS High Performance Director – PS	15
L7	Senior Manager; S&C and Nutrition NSI– Head of Performance PS– Head of Performance – NGB IPR– National Lead for S&C – NGB – PS	14
L8	General Manager – Athlete Performance Support NSI– Head of Performance Therapies NSI– Head of Physiotherapy – NSI	21

Our sample of elite high-performance leaders has worked in a variety of contexts with well recognised sporting brands. To protect the individual’s anonymity, the leader’s role titles have been listed and their affiliations kept broad. Our leaders have worked in international football, international rugby union, and international cricket; summer Olympic sports, professional football, professional rugby union, professional basketball, and in both male and female elite sport.

IPF: International Professional Football; IPR: International Professional Rugby; NGB: National Governing Body; NSI: National Sports Institute; PL: Premier League Football; PS: Professional Sports; SOS: Summer Olympic Sports.

Judgements about “how many” data items, and when to stop data collection, are both “situated and subjective,” and cannot be fully determined in advance of the analysis. Therefore, the leaders to whom we could gain access, and our sample is pragmatic and enabled codes and themes to be well established.

Semi-structured interview schedule

We devised a schedule consisting of seven open-ended questions to form a semi-structured interview script (Table 2) designed by the authors and informed by previous literature (King et al., 2024a; King et al., 2024b) to examine the personal experiences of the sample. The questions were shaped to elicit interpretation by each individual and in keeping them brief and open, avoided supposition that might have constrained responses (Lucas, 2014). In line with the 5-stage framework produced by Kallio et al. (2016), the interview structure was designed, piloted and refined. Although there was structure and a design to the interview, the flexibility of RTA enabled each leader to share, explore and meander through the questions, whilst the researcher was able to reflexively react to the conversations, probing further (using “how do you do that” or “can you provide an example” questions) as and when required or when something was of interest. An approach that is supported within the framework and aligns with Braun and Clarke (2023) guidelines for developing sound methodology. All eligible participants provided informed consent prior

to taking part and were reminded of the ethical considerations and obligations, including their right to withdraw, anonymity and confidentiality in the briefing at the start of each interview. Interviews were conducted and recorded online through Microsoft Teams. Ethical clearance was approved by the host university ethics committee (BAHSS2 0385).

Data collection

Each interview was conducted through Microsoft Teams® (Microsoft Corporation, Washington, USA), where it was recorded, transcribed, encrypted and stored electronically, and securely on the university network before being analysed.

Data analysis

Each semi-structured interview lasted between 66 and 97 min ($M = 78.6$ min; $SD = 8.89$). In line with the six stages provided by Braun and Clarke (2006), the recordings and transcription were reviewed to become intimately familiar with the data. The data was initially coded, and the coding was refined as the researcher analysed and reanalysed the transcripts in an iterative process, creating codes from sentiments expressed from key words and statements used by the participants. The words and statements enabled the creation of subthemes and themes. To support an iterative reflexive process and to challenge individual biases, the co-authors then reviewed transcripts, themes and subthemes

Table 2. Questions used in the semi-structured interviews to stimulate discussion.

Number	Question
1	Describe your role, organisational structure and what’s your definition of an MDT?
2	Collaboration is much used value within sporting organisations: Is collaboration important and how do you encourage it across the MDTs you lead?
3	Sharing is a term associated with high-functioning teams: Is “sharing” important and what does this look like across your MDT?
4	Innovation is a buzzword in sport nowadays: How important is creativity and innovation to you and how do you encourage it in your department?
5	Is decision-making an important requirement of your role, and what does this look like in your work?
6	Do you differentiate between decision-making and problem-solving and how do you go about solving problems?
7	What are the skills and behaviours required for practitioners to be effective within an MDT?

probing, asking questions, discussing the sub-theme groupings and themes with the lead author. The objective was to add interpretative depth with nuanced perspectives based on the co-authors' and authors' varied experiences in elite sport. These views allowed the researchers to reflectively refine the themes and subthemes and were supported using reflective journaling, voice notes, and whiteboarding, which allowed the author to continually interact with the data, providing reflective depth and nuance to the analysis. This iterative process was repeated across all interviews, and following the recommendations by Naeem et al. (2023), a thematic map (Figure 1) was created. Statements and quotes that supported the development and creation of the subthemes and themes are presented in the supporting material in Table 3 and Table 4. The analytical process, including coding, theme construction and presentation of results, was guided by Braun and Clarke (2006)

15-point checklist for good thematic analysis, providing a framework for methodological rigour and critical reflection. Throughout the process, the researchers remained reflexive about their assumptions, perspectives and prior experiences in high-performance sport, recognising how these shaped their interpretations. Researcher positionality was acknowledged as a strength, offering both insider insight and a critical lens to engage with the data in a meaningful way (Braun & Clarke, 2019).

Findings and discussion

Following the approach outlined by Braun and Clarke (2006), and similar to that adopted by Naeem et al. (2023), reflective thematic analysis (RTA) was applied to interview transcripts from eight leaders working in high-performance sport. The aim of the current study was to identify *what* leaders attend to and *how* they operate

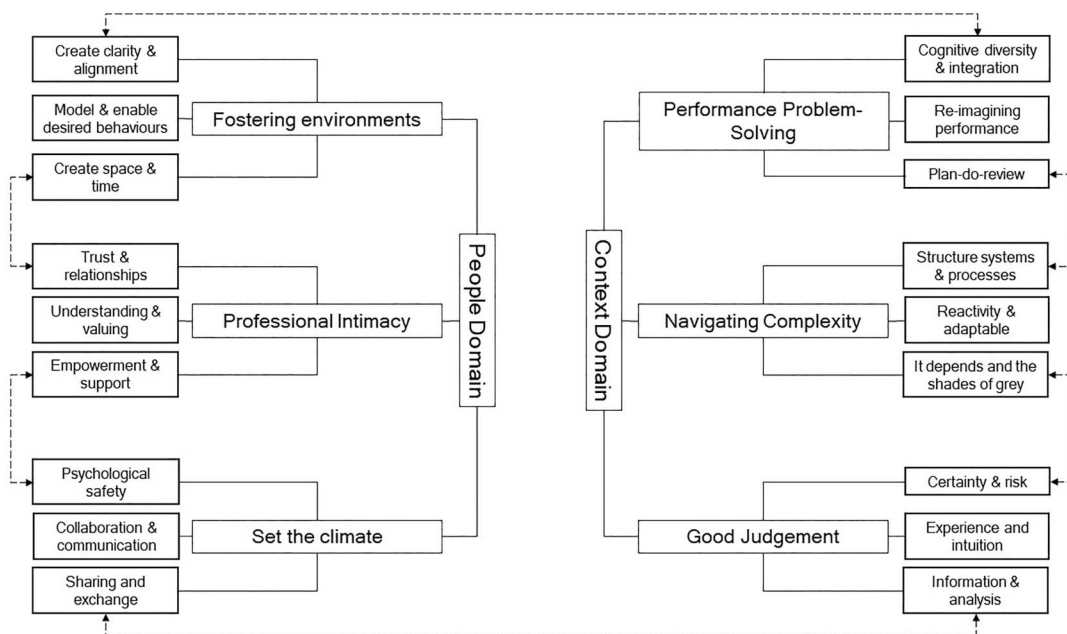


Figure 1. The leadership lens: thematic map outlining themes and subthemes of the people and context domain.

Note: The leadership lens focuses on an interdependent people and context domain. In the people domain, the leaders create psychologically safe environments and set climates where cognitively diverse teams can be leveraged to solve performance problems and deliver the best performance outcomes. To do this, the leader must navigate organisational and system complexity utilising information, analysis and the input of the MDT using judgement to attempt to make effective decisions. These decisions carry uncertainty and risk; therefore, leaders must weigh innovative solutions with effective delivery through cyclical planning and delivery processes.

when leading MDTs in elite sporting contexts. This directly aligned with the stated objective: to understand how high-performance sports leaders leverage the capabilities of MDTs and maximise their impact within these environments.

To support the construction of themes and sub-themes, a thematic map (Figure 1) and conceptual model (Figure 2) were developed, illustrating how leaders attend to both contextual and interpersonal dynamics when leading MDTs. These were informed and shaped through an iterative, reflexive process of analysis, consistent with the approach of Braun and Clarke (2006, 2019). Supporting materials (Tables 3 and 4) provide illustrative quotations and underlying sentiments that informed and reinforced the development of the thematic structure.

Leaders must navigate through and operate within interpersonal, system and structural complexity, which suggests that they contend with wicked and VUCA problems. Furthermore, our study suggests that leaders must contend with uncertainty and risk relying on good judgement, intuition and experience alongside information and analysis in navigating this complexity. Our model may act as a framework through which sporting organisations and leaders could assess whether they effectively leverage each practitioner and the MDTs performance problem-solving capability to enhance sporting outcomes. Further investigation into the strategic and operational problems leaders face within their context/environment would perhaps illuminate “why” they operate in certain ways, further enhancing the findings presented in this study.

Leadership and its definitions of MDTs

Findings in the current study suggest that leaders often have differing opinions about the value of MDT (Alfano & Collins, 2023; Reid et al., 2004), IDT (Burns & Collins, 2023) and TDT (Vaughan et al., 2019), both valuing the diverse expertise within the MDT and the better outputs this offers whilst being ambivalent to terms and

terminology. Leaders use the terminology interchangeably often viewing the MDT as “simply good teamwork”. As Leader 4 stated, “I don’t really care what the technical term is. For me it’s about getting those diverse views, those diverse professions working together on behalf of athletes, coaches”.

Our leaders identified benefits and challenges of the MDT approach and didn’t convey a strong alignment with the research base underpinning the use of MDTs. Whilst leaders strongly recognise the value of diverse skill sets in supporting performance, they didn’t necessarily articulate how they purposefully leverage MDTs to attend to ambiguous or clear problems, somewhat relying on the team functioning well implicitly. Leader 2 stated:

Working as an interdisciplinary/transdisciplinary team, should be an obvious thing to do ... if you find yourself with reasonably intelligent people and you’re spending an excessive amount of time trying to solve a problem, you’re probably trying to solve the wrong problem.

Despite strong views on how individuals from different disciplines might work together, leaders gaining greater clarity on the utility and purpose of MDT working and when to apply it might yield greater returns. Integrated team working can sometimes overpromise and under deliver in terms of output and impact (Burns & Collins, 2023; Stewart et al., 2024a); thus leaders should recognise and exercise judgement in how they apply and deploy true MDT working. Leader 4, referencing the value of expertise, said “I think certainly in sport, all those diverse views from all those different professions, you’re almost missing a trick if you’re not tapping into their creativity, because actually, you start to smash those different worlds together. Anything could come out”.

Leadership and structural complexity

This study suggests that leaders work within vertically aligned organisational structures.

Table 3. Leaders' quotes that support the development and creation of the subthemes and themes (People Domain).

Domain	Theme	Sub Theme	Illustrative Quotes	Leader
People Domain	Fostering Environments	Create clarity & alignment	If you come together and spend a lot of time really clearly defining the problem, working out what's the problem we're trying to solve, what's the goal here? We establish real clarity before rushing off into action Trying to set expectations, there's also different personalities, some of whom need absolute clarity about what you're trying to achieve	L2 L4
		Model and enable behaviour	Clearly, it is an element of role modelling. I'm leading by example and so if they see leaders collaborating effectively with all the stakeholders, then it sets the tone Early practical experience and then some coaching. There's an element of feedback. What worked, what didn't work, and helping people to make sense of it	L7 L3
		Create space & time	Creating a space where people feel they can freely share their ideas and thoughts is crucial for innovation. It allows for a diverse range of perspectives to be considered We need to give ourselves time. In the year, in the week in the month to allow ourselves to be creative and be open to new ideas. Sometimes you just need the space to allow yourself to think freely around a problem and that will create ideas	L6 L3
		Trust & relationships	Allow the people who need to work together to understand each other deliberately. Understand and value each other. Deliberately finding time to get to know each other. Will that be social within meetings, work or whatever I recognise that a lot of my behaviours around trying to form a really strong, trusting, respectful relationship with each of the people in the team and then trying to use my influence to spill it over, to tip it into each other	L4 L5
		Understanding & valuing	It's asking questions and showing interest. At the core of it, it's a curiosity in the people and it's a curiosity in the problem	L3
	Set the climate	Empowerment & support	You're values and the skill sets and the way that you conduct yourself, your ability to communicate with others, your ability to listen to, respond appropriately to, remain optimistic when everything's turning to verbal Your values, your personal values, the things that you hold dear, I will question quite a lot So if you've got good people in the team how do I keep them inspired, energised, valued, engaged. The priority being the people and if I have the best people working in the team around the athletes then the other stuff will come	L8 L3
		Psychological safety	How your approach as the leader to empowerment. If you empower but abdicate, then you're not a leader because things will go on and you'll lose sight of what's coming on One of the fundamental conditions that enable practitioners and employees to work well is having sufficient psychological safety in an organisation to be able to contribute effectively I think there are some deliberate things you need to do as a leader that creates safety in a team and I think it's being deliberate about it, not least showing your own vulnerabilities and set of expectations. What you want people to do, I think it be very deliberate about that	L1 L7 L4
		Collaboration & communication	What has created the most collaboration is having the people who either respect or like some positive aspect of a personality that enables people to connect when they come together; if you don't have that piece, people generally aren't collaborating It's the collaboration about more complex issues ... like how are we going to move performance onto the next level, how are we going to achieve that time ... that's where collaboration is more important, but equally more challenging	L5 L3
		Sharing & exchange	It's the combined efforts of the people in that team to share information, intel, that will be supportive of one another's efforts to understand the priorities for the recipients of the services at any particular moment in time If you don't listen, you actually lose a lot of the ability to share anything because you actually have not understood the person, the human that's in front of you, and their readiness to share themselves	L7 L8

**Table 4.** Leaders' quotes that support the development and creation of the subthemes and themes (Context Domain).

Domain	Theme	Sub Theme	Quote	Leader
Context Domain	Performance Problem-Solving	Cognitive diversity and integration	Performance doesn't sit in a nice box. So when you've got that diversity of professions. They will all without some impetus to collaborate see the world through their lens. You need to create a really safe culture where people can feel like they can express their own views either personally as themselves or as their profession	L4
			Everybody understands each other to a greater extent and understands what's around them and in some places, where they should differ, in some places where they naturally overlap and align, and in some places where there's some merging that's going to lead to a slightly different answer that neither of you would have as your starting point	L5
			Yes, do innovation, do creativity, always work on something that is going to make a difference, but have a clear timeline of when that has to stop before it impacts or doesn't impact in a major sporting environment	L1
	Navigating Complexity	Re-imagining performance	(re) imagine the next level of performance that might be required to win. Requires a degree of innovative creative thinking about the problem	L3
		Plan-do-review	Being really rigorous on the prioritisation of what we're doing together, and being really brutal on the prioritisation, I guess at the heart of both of those is the Plan-Do-Review process, Plan-Do-Review both in what you're doing and how you work together	L4
		Systems, structures, and processes	Particularly my reference to the Olympic Games, World Cups, or the Commonwealth, the decisions before that would have been planned out through the PLAN-DO-REVIEW model	L1
			It's a complex system of things joined up together, and for us to artificially address those things in separate ways creates a lot of tension	L8
			We've kind of learned from business how to set up systems and structures and processes, and we've forgotten what it is to play by the rules of sport.	L8
		Reactivity and adaptability	Whatever sport we're working in is its own complex system that's always changing, and it's always evolving. Our system is quite reactive because we think that's agile. Making a decision for today that doesn't think about tomorrow or next year, or five years' time actually creates way more problems, time and time again.	L6
		It depends on the shades of grey	People want really clear decision making and they think most decisions should be black and white. What I've tried to bring to our department is that most decisions are along the spectrum of grey. It's never as clear as this is definitely the right decision, and this is definitely the wrong decision	L1
Good judgement	Certainty and risk		Sometimes you make a decision where I don't really know what this is going to fully look like, but if I don't make the decision now, we're never going to get anywhere	L6
			Embracing that elite sport is this constant VUCA environment in which you make decisions not even knowing whether there is a right or wrong. You may not know until weeks later if that was a right or wrong decision. And we have to be psychologically prepared for the fact of we don't know	L4
			I didn't mention risk, but I think risk is important to weigh that up. Sometimes, you have to weigh that up really fast. Then you decide on a fast, low decision, but it's the weighing up of all the risk that not everybody's good at and I think really good leaders can weigh that up quickly	L1
	Experience and intuition		You know what they normally say is gut instinct, go with the gut instinct. Good judgement will always follow. And so with experience and expertise you can take all of those factors into account and then, through (what I feel it's like intuition). Come up with what? That right thing to do on that day	L6
			If you make a mistake or something, a decision that you make turns out to be a mistake; then that is probably going to be because of some kind of gap in the knowledge or whatever you had at the time, which subsequently has emerged since you made that decision	L7
			So if the thinking is clean and clear behind decisions based on what we knew and what was at our disposal at the time, we did the right thing as opposed to we've made the wrong decision	L2

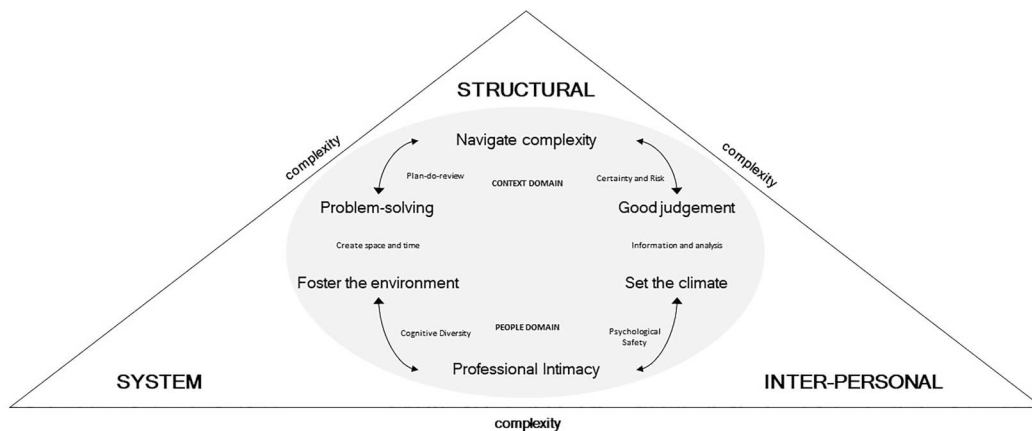


Figure 2. The leadership lens: leveraging MDTs in high performance sport.

Note: Leaders must operate within a system, structural and interpersonal complexity that is both contextual and environmental. Depicted in the figure is the people and context domains that leaders attend to and each of the subthemes (Figure 1). Linking the domains and themes are key sub-theme codes that leaders expressed as important.

Many of our leaders talked of structure, systems and processes as complex (Zaccaro et al., 2012) and raised challenges associated with silo'd working (Alfano & Collins, 2021). Leader 6 said "If you sit in the room with like-minded people and you're in your discipline and you don't mix with the other disciplines, that can become very insular very quickly". And yet, they went on to say "When it comes to the procedural side. Um, that's where I probably lean more on my leaders within the different disciplines within disciplinary teams." Perhaps exacerbating the insular silo's that they referenced rather than breaking them down.

Organising teams within traditional vertical structures (Sotiriadou, 2013; Sotiriadou & De Bosscher, 2018) often aligns them strictly with their individual disciplines. Practitioners in these structures report to a HoD, who oversees their specific service. This arrangement presents three significant issues. 1. Practitioners primarily identify with their own service area, which fosters a narrow focus. 2. Their deep, specialised expertise becomes poorly understood and less accessible to the rest of the team. Additionally, 3. Individual disciplines end up competing against each other (Reid et al., 2004), which may create interteam challenges as they

attempt to demonstrate value and impact over their colleagues, as leader 3 states: "Sometimes the dynamics in high performance sport, where there's pressure for results. Um, outcomes can make it, you know, very task driven. People [referring to practitioners] can feel under pressure to deliver and that changes behaviour".

To address these challenges, leaders should consider adopting a horizontally integrated model. This approach encourages practitioners to align with the multidisciplinary team (MDT) rather than their specific discipline. It ensures that team members apply their expertise collaboratively, working towards clear, aligned, and transparent goals and processes (Stewart et al., 2024a), both of which our leaders report as important elements within their approach.

You need to create a really safe culture where people can feel like they can express their own views either personally or in their profession. You need that common goal, strategy, anchor, whatever it is that you gonna go after, and then as a leader, you got to be bloody persistent. (Leader 4)

By deploying leaders to manage MDTs instead of individual disciplines, the structure

becomes more collaborative (Alfano & Collins, 2021; Rothwell et al., 2020). This reorganisation helps leaders navigate conflicts and challenges arising from discipline-specific silos, reducing competition and enhancing overall team cohesion and effectiveness towards organisational and performance problems.

Leadership and system complexity

In this study, we found that leaders work to integrate the disciplines, creating clarity and aligning team members when required. Leader 1 approached this through integrated collaborative planning, stating “So making sure that programme planning was integrated into what the coaches we’re thinking, what the sports science/medicine elements were thinking, and how they plan together”. Leader 2 looked for alignment through the sentiment and words of practitioners remarking “And if I hear the same golden thread in everybody’s own personal words, but it’s lined up rather than ‘I’m the guy that gets them strong or whatever’, then you’re probably onto a winner”.

Leaders should consider when a multidisciplinary approach is necessary. Practitioners often address simple or tame problems using intuitive expertise and procedural methods (King et al., 2024a). In such cases, involving the broader MDT unnecessarily adds complexity to the system. When tasks can be managed through protocols, procedures and checklists, effective communication across teams suffices. Leader 8 makes the point, “You get experts in a room who have been used to knowing more than everybody else and they use that knowledge to the detriment of the person that they’re giving it to”. A monodisciplinary approach reduces inter-dependency, creates slack between departments and decouples areas of work where integration is not required (Sorenson, 2003). In these cases, the leader can perhaps be seen as an orchestrator (Jones & Wallace, 2006), coordinating and aligning the work of the different disciplines as

opposed to a mixologist, blending expertise to solve novel problems.

Leaders should focus on tasks that genuinely need multi- or interdisciplinary collaboration. For these tasks, setting up teams to collaborate, problem-solve, and work together can lead to better and more effective outcomes. Leader 2 remarked, “If you come together and spend a lot of time really clearly defining the problem, working out what’s the problem we’re trying to solve, what’s the goal here? We establish real clarity before rushing off into action”.

In this study, we found that leaders attend to this through special projects, deliberate “plan-do-review” cycles, and purposeful “problem finding” enabling leaders to leverage cognitive diversity (Page, 2019) and true MDT working where it is truly beneficial. Leader 3 encapsulated this nicely saying:

Probably different types of collaboration. Planning, reviewing and discussion around how we’re helping an athlete... when we’re in delivery mode, we can still collaborate in that environment, it tends to come easier, right ... I see an athlete or coach or a teammate struggling, and I step in to help them and support them in what they’re doing.

However, it is important to recognise that cognitive diversity (Hong & Page, 2004; Mello & Rentsch, 2015) is not a cure-all and can be costly; thus collaboration should be used judiciously. As leader 2 stated, “Collaboration is expensive. It’s not the panacea for everything. It takes more time, it takes more energy. It takes more effort. I think it should be used skilfully and sparingly, like any tool”.

When leaders view MDT/IDT work as a resource for problem-solving (King et al., 2024a; King et al., 2024b), they can separate these processes from day-to-day operations. Creating space, time and a clear purpose for collaborative problem-solving using appropriate methods, such as design thinking (Maiden et al., 2023; Santos et al., 2016), will differentiate workflows. Whilst the leaders in this study recognised the importance of creating time

and space for practitioners to reflect, think about problems and problem solve together, there was recognition that it was a fine balance between getting the work done and thinking about what work needs to be done.

Leaders in our study seem to distinguish between procedural tasks (King et al., 2024a) and innovative work (Santos et al., 2016), enhancing overall efficiency and impact, and most importantly, giving practitioners time, space and the appropriate conditions to either look for, think about or provide solutions to difficult problems that need to be addressed. What seems to be challenging is supporting the MDT to engage in the right kind of work at the right time in the cycle. Our leaders appear to rely on cyclical processes of plan-do-review aligned to the season of the sport. As Leader 4 states:

Bring really rigorous on the prioritisation of what we're doing together and be really brutal on the prioritisation. And I guess at the heart of both of those is almost like the Plan-Do-Review process. Plan-Do-Review both in what you're doing and how we work together.

Leadership and interpersonal complexity

Through this study it was identified that managing a team of individuals with diverse preferences, biases, beliefs, skills and experiences is inherently complex. Effective communication is crucial (Eccles & Tenenbaum, 2004), yet often challenging, as individuals may prioritise personal gain over collective success, where practitioners struggle with role purpose, job security, fear and pressure. This self-serving behaviour can create conflicts, especially when personal differences or affective conflicts arise (Salcinovic et al., 2022; Stewart et al., 2024a). As leader 6 points out, "It can cause lots of conflict if you have really highly skilled practitioners who have a strong overlap of expertise, who all want to be doing the same things within your team".

Additionally, when team members with radically different skills are forced to collaborate without clear goals, it can lead to power struggles and point-scoring (Roncaglia, 2016). This aligns with the finding that leaders must create environments with clear, aligned objectives (Arthur et al., 2017). By setting a vision, defining outcome and process goals, and clarifying each team member's contributions, interpersonal conflicts can possibly be mitigated (Alfano & Collins, 2021). Leader 1 states:

So, your vision, your mission, objectives have been clearly defined and the strategies across that would have been done within the tactics people would take. Or staff would take responsibility for those tactics with a timeline to be delivered.

Our leaders coach, provide feedback, model desired behaviours (Smith et al., 2013), and foster trust, respect and shared values with their respective teams (Salcinovic et al., 2022).

In high-stakes, competitive environments such as sport, political dynamics (Kerwin, 2013; Kerwin et al., 2017) and the pressure to win (Alfano & Collins, 2023) can stifle open communication. Practitioners may withhold opinions and solutions to avoid conflict (Barki & Hartwick, 2004), reducing the team's problem-solving capacity. Since roles in elite sports are highly competitive, individuals may focus on demonstrating their worth and securing their positions. We found that leaders attempt to foster psychologically safe, collaborative climates (Edmondson, 1999; Edmondson et al., 2004) where team members can speak candidly and share without fear of repercussions. Leader 3 gave the example "in highly functioning teams, you know, athlete, coach and anyone in the team has an opportunity to raise problems and to be heard and also to then work together to create the solution".

This is particularly challenging in results-driven contexts, where losing can have serious consequences. Building psychological safety

takes time and requires high trust, low ego and effective collaboration (Edmondson et al., 2004). The leaders who participated in this study develop close, trusting relationships with each team member, understanding their needs and empowering and supporting the entire team. Leader 5 talked about trust and relationships stating:

I'm quite reliant on my own ability to build very good relationships with people. I recognise that a lot of my behaviours around trying to form a really strong, trusting, respectful relationship with each of the people in the team and then trying to use my influence to spill it over, to tip it into each other.

By developing professional intimacy with each individual and across the team, the leader can mediate and foster meaningful relationships and smooth conflicts that can support effective teamwork.

Leadership and good judgement

Sport is inherently unpredictable (Wilson et al., 2024a). In high-performance elite sport, significant time, effort and resources are invested in striving to make outcomes more certain. Leader 6 refers to this unpredictability:

Really embracing that elite sport is this constant VUCA environment that you make decisions not even knowing on the day whether there was right or wrong. You may not know till weeks later if that was a right or wrong decision. And we have to be psychologically prepared for the fact of we don't know.

Leveraging sport science and innovation to achieve new performance levels is now the rule, not the exception (Stewart et al., 2024a). Our leaders spoke of reimagining performance, recognising that to win, it is necessary to innovate and reach new heights that have never been achieved before. This suggests that teams should constantly create new methods, ways of working and innovative approaches. Leader 3 said "(re)imagine the next level of performance that might be required to win.

Requires a degree of innovative creative thinking about the problem".

However, this often conflicts with practitioners' professional bias, i.e. their tendencies to rely on previous experiences that have led to positive outcomes or applying their traditional "tried and tested" solutions for traditional problems (King et al., 2024a; Schraw et al., 1995). Despite these efforts, outcomes are never guaranteed, and results remain unpredictable. Rather than trying to fit the environment to the solutions, it is important that leaders contextualise solutions that fit within their environment, as leader 8 states: "having rationale, having context, bringing all the people you need to assess the problem and then committing".

Findings of this study suggest that leaders are expected to lead with certainty, confidence and deliver results. Yet they must navigate uncertainty and risk (Aspers, 2018) with varying levels of confidence (Collins et al., 2015; Martindale & Collins, 2013; Wilson et al., 2024a) at times when failure and things going wrong are inevitable. They must make decisions, solve problems, give advice and deliver support across multiple departments, divisions and individuals. The following passage from Leader 2 summarises this.

You've got what the player is telling you themselves overlaid with what you understand about their own personality, overlaid with what you understand about their current context. You've got a doctor who has an opinion, which you overlay on that individual's level of risk aversion, and then you've got the overall context of how's the manager gonna be ... how much of a gamble do we want to take on this? There are so many things going into that. And then it's a huge skill to be able to take all of that and go, this is what we're gonna do and this is why.

Given the interdependency and coupling (Balague et al., 2013; Pol et al., 2020; Rasmussen, 1997) between practitioners, departments, divisions, athletes, coaches and teams, leaders cannot always be aware of everything, at any given time.

Several of the leaders in this study suggested they were very comfortable operating in uncertain and risky environments. Leader 4 stated, “I’m really comfortable with uncertainty, but for others, they absolutely hate it, so if I overplayed that, I can really affect others”. While the proliferation of data can offer a false sense of confidence, leaders need to access information, review data and analyse it to support decision-making. There is a false sense of confidence that comes from relying on data as it can be manipulated to support our arguments and interpreted in a way that confirms biases.

There’s so much information these days ... when you go back retrospectively, you will always find stuff. Therefore, it shows you that you are always missing stuff. The narrative conversations which are used in the moment but aren’t captured anywhere for retrospective analysis. I think there’s massive potential for that. (Leader 6)

However, our leaders also rely on experience and intuition (Kahneman & Klein, 2009), acknowledging the “shades of grey” and “it depends” nature of decision-making (Collins et al., 2016). Being decisive and making critical decisions while empowering others to make their decisions appears to be a key characteristic of effective leaders. An example provided by Leader 8 is “So I’m very driven to empower someone, leave somebody with something that makes them feel fuller, feel more confident. Leave the room with more positivity to go and address the problems themselves”.

Balancing the leader’s judgement with the need for transparent and consultative decision-making is crucial in elite sports. Leader 7 remarked:

If we’re on the part of the continuum where there are multiple people with multiple skills and expertise contributing to the decision-making process. Then, ensuring there is open, clear communication, that everyone’s got the opportunity to hear the current narrative story of what’s happening to the athlete and add value to that and then make a value

judgement based on what the options are that we’ve got available to us.

Remaining reactive and adaptable when working with process-oriented deliverables is a challenging tightrope to walk, but it is essential for success in high-performance contexts.

Leadership and problem-solving

Further investigation into the types of problems leaders typically face in their context/environment and how they go about solving them through the MDT would be beneficial. Considered in the idiosyncratic context (is the team winning or losing) and environment (what resources does the leader have) or through the goals that are set by leadership for the team, the leader faces multi-faceted and relatively unique problems. Leader 4 describes:

You can have to make a decision, depends on the problem and how big that is. But almost that stacking of solutions will hit a resource barrier. Other people, time, money, energy, change capacity whatever you want to define that as, so you have to make a decision to stop stacking solutions.

Developing support and approaches that enhance decision-making and problem-solving capability of leaders might be advantageous as it was clear that despite the frequent use of the language of problem-solving and decision-making, these terms were used interchangeably and without clear intention by our leaders.

Our study found that leaders rely on “plan-do-review” processes to organise the work of the MDT. Leader 1 said, when talking about leading the MDT and how decisions were made, “Particularly my reference to Olympic Games, World Cups or Commonwealth, the decisions before that would have been planned out through the PLAN-DO-REVIEW model”. Whilst Leader 4 referring to problem-solving said, “If you’ve kind of got that really

good PLAN-DO-REVIEW type process. You will find problems and you will learn through those problems”.

There was strong consensus across all leaders that in elite high-performance sport, the purpose was to stay ahead of the competition, delivering results that have never been seen before, and that to achieve this, the integration of cognitively diverse teams is required. Set against the system complexity that has emerged through this study, the spectrum of problems leaders might be grappling with, and the apparent procedural-type work that MDTs engage in, leaders likely will rely on satisficed (satisfy the minimum requirement necessary to achieve a goal) rather than optimised solutions (Gigerenzer & Gaissmaier, 2011; Raab & Gigerenzer, 2015). This may be achieved through operational “day-to-day” delivery as opposed to purposeful problem finding and purposeful processes to solve them. Leader 7 recognises this commenting, “because of the abundance of people and the pace of things, you have to be pragmatic within the world. It’s just a recognition that mistakes will happen”.

Adopting the notion that leadership is a problem-solving endeavour might provide a novel lens through which to look at the role of a leader. Through this lens, the leader can leverage the personalities, approaches and creativity of the MDT to problem-solve together, blending their skills and expertise to find novel innovative solutions, breaking the MDT out of its process orientation and asking them to think differently about the problem. When harnessed and fostered correctly through good leadership, MDTs can provide a competitive edge for the team.

Limitations

This study offers novel insight into the perspectives of leaders on how they leverage and maximise the impact of MDTs operating in high-performance sport. Our goal was to understand how leaders leverage MDT and problem-solve

within their organisation. A reflexive qualitative approach was deemed appropriate as it was pragmatic and gave the researcher the opportunity to generate meaning from multiple leadership interviews and yet, this methodology embraces researcher bias, which has impacted interpretation and the results that have been presented. Whilst this study identifies opportunities for a much broader research agenda, future research will be required to challenge or support our findings. Whilst we are confident in the codes, themes and subthemes we created (Braun & Clarke, 2021a) with the sample of leaders we had access to, further work with leaders from different sports, with various experience levels and representation between genders, would glean further useful insight. We believe that we have produced an initial offering into how leaders leverage MDTs to deliver impactful outcomes in a high-performance sporting context, addressing a gap in the existing literature. Future research should focus specifically on sporting organisations as complex systems and how leaders operate with certainty and good judgement in unpredictable, risky circumstances.

Conclusion

Findings from the current study present a comprehensive model of what leaders attend to and how they leverage the expertise of MDTs. The models could be utilised by sporting organisations, aspiring leaders and leaders of MDTs to maximise MDT impact through effective leadership. Findings highlight that effective leadership in this context is multifaceted. Leaders must navigate two critical domains: the context domain, which involves managing uncertainty, performance problem-solving and exercising good judgment; and the people domain, which includes fostering professional intimacy, cultivating supportive environments and setting the right climate. Importantly, there is a necessity for leaders to be at ease within complex, unpredictable systems. They

must exhibit confident judgment and resilience in the face of uncertainty, qualities that are non-negotiable in high-stakes sports environments. Consequently, successful leaders rely on experience, intuition, good judgement and prioritise robust teamwork, as evidenced by the people-focused domain of leadership. The essence of problem-solving in high-performance sports leadership is about driving performance through the strategic utilisation of team capabilities. Leaders who can harness the diverse expertise within their teams may transform complexity into clarity and lead their organisations to greater success.

Practical considerations

- Leaders must navigate structural, systemic and interpersonal complexity, through which “VUCA” wicked problems emerge. Developing adaptive thinking and scenario planning skills will help leaders respond flexibly and make informed decisions under uncertainty.
- Wicked and VUCA problems require leaders to “satisfice” rather than optimise solutions. Leaders should be comfortable making decisions with incomplete information, using intuition and heuristics to guide timely and effective actions.
- Leaders should cultivate trust, clear communication and shared purpose within MDTs. By fostering psychological safety and setting transparent expectations, leaders enable effective collaboration and high-impact team performance.

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