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National Paralympic sport policies influencing a country's Paralympic success

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ABSTRACT

The Paralympics Games are increasing in competitiveness as more countries seek top medal outcomes. In response, governments are focusing on the development and implementation of effective national sport policies/systems to optimise Paralympic success. However, little is known about national sport policy influencing a country's Paralympic success. Indeed, the literature on national elite sport policy has focused on Olympic sport and emerging Paralympic sport studies are limited to a country/sport. The aim of this research was to identify key national Paralympic sport policy interventions influencing a country's Paralympic medal outcomes. This exploratory qualitative study was informed by a realist perspective, and by the social relational and human rights models of disability. Twenty-three semi-structured interviews were conducted with national Paralympic sport managers from the United Kingdom, Australia, France and Canada, and the data was analysed using qualitative descriptive analysis. Findings confirm that existing national Olympic sport policies are also important for Paralympic success, however, within these policies, parasport-specific processes were identified, and two policy interventions unique to Paralympic sports were found: integration of disability-specific and Paralympic sport knowledge in the sporting system, and a national framework for Paralympic athlete classification. This study advances knowledge on national Paralympic sport policies and suggests that researchers, evaluators, and practitioners need to account for Paralympic-specific policies and processes. Tailoring policies to the specificities of the Paralympic domain may provide competitive advantage in the Paralympic Games. This study argues for further research to understand how the identified policy interventions may be influenced by the country's context.

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1. Introduction

Achieving sporting success at the Olympic Games (OG) has long been a focus of many countries' national sport policies. More recently, Paralympic sporting success has become an increasing focus for governments as reflected in the growing number of participating nations and athletes, and increasing commercial value and media coverage of the Paralympic Games (PG) (Houlihan and Chapman 2016, Dowling *et al.* 2017). Following the institutionalisation of Paralympic sports with the creation of the International Paralympic Committee (IPC) in 1989, the elite profile of the PG has grown closer to that of the OG. Since 1988, the PG have been hosted every four years, a few weeks

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after the OG and at the same sporting venues. In the early 2000s, financial and managerial agreements between the IPC and the IOC ensured the planning and delivery of both the PG and OG by the same host-city. This closer association of the PG with the OG further raised the public, commercial, and political profile of the PG (Legg and Steadward 2011). In parallel, social movements advocating for the rights of people with disability to participation in social life, including sport, have increased political awareness regarding the treatment and experiences of people and athletes with disabilities (Beacom and Brittain 2016). As the Paralympics have reached an elite and global mega-event status, so too has the political value of the PG increased (Beacom and Brittain 2016). Medal outcomes at the Paralympics have had a growing importance for politicians, believing that Paralympic success could serve greater diplomatic, ideological and social goals for the nation, and specifically send signals to the world about the positive treatment of people with disabilities (Beacom and Brittain 2016). A number of nations have therefore increased their focus on developing elite sport policies to reach Paralympic medal goals (Dowling *et al.* 2017).

Despite emerging studies on elite Paralympic sport programmes and policy, the field is still in its infancy (Dowling *et al.* 2017, Patatas *et al.* 2018). Scholarship on the development and implementation of national elite sport systems to support elite athlete development and increase medal count has primarily focused on Olympic sporting success (Digel *et al.* 2006, Houlihan and Green 2008, De Bosscher *et al.* 2015). Consequently, there is a lack of knowledge on national elite sport policy and development systems supporting elite Paralympic athletes and Paralympic success. This conceptual gap prevents national elite sport policy analysis and evaluation in the Paralympic domain. The purpose of this study was to identify national sport policy interventions important for a country's Paralympic success, with the intention that findings could inform the development of a framework for evaluating national elite Paralympic sporting policies in the long term.

2. Literature review

2.1 Characteristics of national elite sport development systems

As research on national Paralympic sport policy started to emerge around the end of the 2010s and remains limited (Patatas *et al.* 2018), this study draws from the well-developed body of research on national Olympic/able-bodied sport development systems. Since the 1990s, a growing number of countries have been sending competitive, medal-contending teams of athletes to the Olympic Games. With increased competition for sporting success, countries wishing to remain competitive at the Olympics have had to increase their investment in national elite sporting systems just to maintain their position on the Olympic medal tally. Scholars have studied this phenomenon and termed it the Global Sporting Arms Race (Oakley and Green 2001, De Bosscher *et al.* 2008), which has greatly contributed to our knowledge of national elite sport policies and how they may related to international sporting success.

Early elite sport policy analyses demonstrated that successful countries in the Olympic Games share similar sporting system elements, which are likely contributors to international sporting success. These elements include: access to appropriate sporting facilities, full-time athletes, talent identification and development programmes, simplicity of administration, quality coaching, sport science, and adequate competition (Green and Oakley 2001, Houlihan and Green 2008). Other researchers developed and implemented conceptual frameworks to analyse the effectiveness of national elite sport policies in influencing a country's Olympic success, i.e. the Success Resource framework (Digel *et al.* 2006) and the SPLISS (Sport Policy factors Leading to International Sporting Success) framework (De Bosscher *et al.* 2006). Together, these studies show that national elite sport development systems typically include policies for: the effective identification of talented athletes; support of the high-performance development and elite career of athletes; the provision of coach training and development; sport science and sport medicine support; training facilities; and the effective national governance and coordination of stakeholder organisations. In addition, the SPLISS

framework identified national policy interventions for physical education and grassroots community sport as important for the development of a country's elite sport success.

The relatively recent increase in valuation that national governments put onto the Paralympic Games has led to bigger investment of public funding in Paralympic sport policies and programmes with the aim to increase Paralympic success (Houlihan and Chapman 2016). As such, there is a growing need to evaluate the influence of elite Paralympic sport policies on Paralympic success. While it could be assumed that the knowledge and frameworks accumulated from the national able-bodied elite sport policy literature could be used to assess national Paralympic sport policies, disability sport and recent national elite parasport studies suggest that existing frameworks do not account for elements important to consider in the Paralympic domain. These elements include for example: Paralympic Athlete Classification (PAC)¹; national governance models of disability sport, i.e. mainstream national sporting organisations (M-NSOs), parasport-specific national sporting organisations (P-NSOs) and national umbrella disability sport organisations (NDSOs); Paralympic athletes' profiles and their development pathways; and the ongoing physical, societal and attitudinal barriers athletes with disabilities face (Misener and Darcy 2014).

2.2 National elite sport policies and Paralympic sport success

A few recent national elite Paralympic sport policy studies showed that there are elements of convergence (i.e. similar policies) as well elements of divergence (i.e. differences) between elite sport policies in Olympic and Paralympic sport. A description of these elements is provided in the summary of these studies (Table 1). In examining the talent identification and development policies in three UK Paralympic sports, Houlihan and Chapman (2016) found strong evidence for convergence between the elements of an elite disability sport system and that of an able-bodied sport system. In contrast, Dowling *et al.* (2017) and Patatas *et al.* (2018), made the case for the unique aspects (divergence) of the Paralympic sport policy domain. Two studies informed by the SPLISS framework explored the national elite Paralympic sport policy domain and identified elements unique to Paralympic sports, in each of the nine SPLISS pillars (Patatas *et al.* 2018, 2020a). These studies confirmed the view that the Paralympic sport domain exhibits unique aspects that should be considered when developing a conceptual framework to examine policy interventions that contribute to a country's Paralympic success. While these studies contributed to the Paralympic policy literature, their main focus was Brazil, which restricts knowledge from an international perspective. To develop an elite sport policy conceptualisation in relation to Paralympic sporting success, an international field of inquiry with data from international stakeholders is critical (De Bosscher *et al.* 2009, Dowling *et al.* 2017). In addition, while the Patatas *et al.* (2020a) studies maintained an option for inductive identification of parasport elements, they used SPLISS as a deductive analysis framework. The Paralympic and disability study landscape differs from the Olympic and able-bodied context and as such it seems that directly applying an existing framework for able-bodied sport policy analysis may constrain discovery of new and critical issues.

The above studies advanced the body of knowledge in the Paralympic sport policy domain, however our understanding of important national parasport policy interventions in relation to a country's Paralympic success remains limited to one country and more specifically to the Paralympic athlete pathway. The lack of knowledge from a whole-of-country-system perspective, informed by key stakeholders from a range of successful Paralympic countries, impedes development of a conceptual framework that could be used to study and evaluate the effectiveness of policy interventions. Therefore, the aim of this study was to identify and describe what may be current critical parasport policies for a country to increase its chances of Paralympic medal outcomes.

Table 1. Main national Paralympic sport policy studies.

Authors, Scope	Aim(s) and Theoretical approach	Elements of Paralympic sport systems
Houlihan and Chapman (2016) United Kingdom (Wheelchair Basketball, Disability Tennis, Boccia England)	To assess policy convergence between disability and able-bodied talent identification and talent development (TID & TD). Hall (1986) and Houlihan (2012) dimensions of policy change.	Implementation instruments of a successful elite youth disability TID & TD system: - a domestic competition structure that support TID & TD and preparation for major international competition, - specialist facilities/events, - specialist coaches, - specialist services Inputs: - reliance on charitable funds - administrative support from government organisations - elite coaching and science support expertise
Patatas <i>et al.</i> (2018) Paralympic stakeholders from (Canada $n = 5$; Brazil $n = 4$; others $n = 7$)	To identify how elite sport policy approaches differ between able-bodied and parasport systems. Application of the SPLISS 9-pillar framework deductively.	Differences of elite Paralympic sport development systems were found at each of the SPLISS nine policy pillars including: 1/Extra costs involved in parasport, 2/More organisations involved in parasport, 3/Access to parasport participation, 4/Lack of TID programmes, para-athletes are identified later, 5/Para-athletes progress faster, pathway differ between athletes with acquiref vs congenital impairments, lack of post-career support, 6/Physical accessibility of facilities and transport, 7/Coach transition from able-bodied to parasport, 8/Lack of opportunities for competitions and readiness of some para-athletes, 9/Lack of parasport research.
Patatas <i>et al.</i> (2020a) Brazil Paralympic system	To identify sports policy factors and stakeholders influencing the development of athletic career pathways in Paralympic sport. Application of SPLISS and development phases: attraction, retention, competition, talent identification and development, elite, and retirement. Social relational model of disability.	The nine pillars of SPLISS as well as Classification (added policy factor) are discussed as elite Paralympic sport factors influencing Paralympic athletes' pathways.

3. Theoretical framework

Realist-informed policy evaluation

This study is part of a larger research project, which aimed to develop a conceptual framework to assess the effectiveness of Paralympic sport policies in relation to achieving Paralympic sporting success, and was informed by Realist Evaluation (RE) principles (Pawson and Tilley 1997, Pawson 2006). Realist Evaluation is grounded in a realist philosophical framework, which posits that reality exists independently of people's mind, but is socially constructed in that people interpret reality through their senses (Manzano 2016). As such, people will respond differently, and programmes will work differently based on the context within which programmes operate. This means that policy and programmes that are effective in one context, will not necessarily be effective in another context. Furthermore, in RE, policies and programmes are treated as open-system interventions, and so in this study, policy interventions are conceptualised as sub-systems of the broader sporting/social system of the country. A policy intervention is generally defined as a set of directions and also actions (Hill 1997, Houlihan 2017). As Houlihan (2017) stated 'if the

[national] policy is to increase medals, many actions need to be taken to attempt to achieve this goal' (p. 4). Actions in policy can refer to the commitment of resources (e.g. human, financial, and technical) for the production of outputs and outcomes (e.g. programmes, material, knowledge), which can be accessed through processes, and which ultimately aim to achieve the policy goal. In the case of this study, the policy goal is to achieve national Paralympic sporting success. The specific aim of this study was to explore the conceptualisation of different policy interventions potentially important for a country's Paralympic sporting success, including the associated mechanisms and processes. It is important to note that the aim of this study was not to theorise how and why Paralympic sport policies and programmes have developed, or why some programmes may work in some countries and thus contribute to Paralympic success. Instead, this study focused on identifying and describing key policy interventions and potential processes and mechanisms for Paralympic success as conceptualised by key stakeholders with extensive experience managing Paralympic sport success development. The ultimate goal was to propose key national policy interventions to inform the basis of a conceptual framework, which could be used to assess national elite sport policies for Paralympic success.

Understanding disability

Two principal ways of conceptualising disability have been used in the literature, a medical model, in which disability is seen as a cause of the individual's impairment, and a social model, which conceptualises disability socially as being caused by society's views and norms towards people with impairments. These two models have traditionally been seen as dichotomous ways of thinking about disability. Despite important changes that the social model of disability has brought about, its limits have also been highlighted. As this model theorises disability as solely social, scholars argue that it negates the lived experience of individuals with diverse impairments, and to some extent ignores the reality of their individual needs (Shakespeare and Watson 2001, Thomas 2004). Criticisms of the dualism between the medical and social model led researchers to develop other ways to understand disability. The social relational model reconciled the polarisation by recognising the social construction of disability as well as the real restrictions that an individual's impairment can create (Thomas 2004). As such, there is room for theorising the impairment effects and its embodied experience (bio and psycho-emotional) based on relationships with other people, while not alienating impairment as the medical model does (Wareham *et al.* 2017, Smith and Bundon 2018). In the context of sport, the social relational model allows for a comprehensive understanding of para-athletes' experience, from impairment effects in relational contexts, to the real structural barriers para-athletes encounter. The model is particularly attractive for parasport studies, and has gained momentum in the field (Wareham *et al.* 2017, Patatas *et al.* 2020a).

A human rights approach to conceptualise disability is also grounded in a social understanding of disability and focuses on the rights of people with disabilities to access diverse sport participation opportunities at the level they want to participate at (from grassroots to elite) and in the setting they choose to participate in. In the human right model, policies and laws are necessary conditions to protect the rights of people with disabilities to have a choice. The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) (United Nations 2006) was the first legally binding human rights framework. It is underpinned by eight principles,² and article 30 acknowledges sport participation as a basic human right of an individual citizenship (United Nations 2006). Countries that have ratified the UNCRPD are obligated to develop laws and policies to ensure the full access to sport by people with disabilities at all levels of competitions and in a range settings (e.g. mainstream settings and/or, parasport specific, etc.) (Misener and Darcy 2014). Complementing the social relational model of disability, the human rights model assists in understanding the importance of policies around issues such as access (Misener and Darcy 2014, Smith and Caddick 2015, Prieto and Paramio-Salcines 2018).

Overall, the middle ground approach that the social relational model provides resonates with the realist view, which emphasises that programmes will have different effect, on different people, and therefore guided this study. Because of the important link between the human rights model and policy, this study also draws on principles from the human rights model.

4. Methodology

The objective of this study was to identify national Paralympic sport policy interventions important to a country's international Paralympic success. A realist-informed approach does not require a specific methodological instrument, as various tools (e.g. surveys, observations, interviews) can be selected to elucidate interventions and the rationale underpinning them. A generic qualitative strategy (Patton 2015), also known as descriptive qualitative strategy (Sandelowski 2010) with a purposeful sample of key informants was best suited for this study, as it is a useful approach to investigate problems for which rich data is needed (Creswell 2013, Patton 2015).

4.1 Data collection

Twenty-three semi-structured interviewees (12 men and 11 women) were conducted with international key informants (national managers of Paralympic sport). Key informants are defined as those with several years of employment in their national sporting system. Interviewees had between 2 and 26 years of experience, with more than half of interviewees having more than 10 years of experience. An overall description of the sample is presented in Table 2.

Interviews with national, senior managers are useful to explore the importance of policies in influencing outcomes, as these managers often have the best knowledge to illuminate the rationale and assumptions underlying the successes of interventions (Patton 2015, Manzano 2016). As the sample needed to represent several countries, and as rich data from an international management perspective on important elite Paralympic sport policies is limited, information from countries that display developed national elite sport systems as well as success at the Paralympic Games were prioritised. Australia, Canada, the United Kingdom (UK) and France were selected because they showcase Olympic traditions and well-developed elite sport policies (Houlihan and Green 2008, De Bosscher *et al.* 2015), and because they were ranked in the top 15 countries according to Market Share calculation in recent Paralympic Games. Recruiting countries successful in the PG (Germany, the Netherlands, Japan and Brazil) was considered. However, despite efforts from the research team to identify English or French speaking key informants from these countries, these nations had to be excluded from the study due to language barriers.

The interview guide was developed using inductive reasoning to privilege exploratory inquiry over confirmation of elements from existing frameworks. Similarly, topics found in the Paralympic literature were used as probes if necessary. The core section of the interview was composed of open-ended questions designed to explore sport policy interventions, such as: 'What would you say are the three most important components that the system must have to ensure that the country achieves international Paralympic success?'. Probes were used to prompt the interviewees to expand on their rationale for the inclusion of important interventions for Paralympic success. Examples of these probing questions include: 'Why this element, can you expand on it?', 'Why it is important for

Table 2. Interview sample summary.

Countries (<i>n</i> = interviewees per country)	Represented organisations (<i>n</i> = interviewees' organisations)
Australia (<i>n</i> = 6)	National Paralympic committees (NPC) (<i>n</i> = 5)
Canada (<i>n</i> = 6)	National sport institutes/high-performance sport agencies (<i>n</i> = 5)
France (<i>n</i> = 6)	National ministry of sport/governmental sport agency (<i>n</i> = 3)
United Kingdom (UK) (<i>n</i> = 5)	National disability sport organisations (<i>n</i> = 10)

Paralympic success?', and 'How does it work and contribute to your country's success?' The 'how' and 'why' probes were used to further uncover assumptions about the processes and mechanisms underpinning diverse Paralympic sport policy interventions. All interviews were conducted through video-based technologies and audio-recorded. All interviews with the French interviewees were conducted in French. The interview guide was translated in French by the lead researcher and reviewed by a French sport manager to ensure the highest quality and clarity of the French wording. The average length of the interviews was 69 min. Every audio recording was transcribed verbatim. The French and English interviews were transcribed in their original language. Back translation services were not required, due to the lead researcher being a French native (Sotiriadou *et al.* 2016).

4.3 Data analysis

Data analysis involved techniques for pattern identification, to develop codes and broader themes as described in Patton (2015) and Creswell (2013). Reading and note taking on each transcript were undertaken to immerse the researchers in the data. Initially, coding was driven by the data (open-coding), with a focus on what interviewees believed were key interventions important for Paralympic sporting success (Creswell 2013, Patton 2015). Codes were checked for consistency, revised and collapsed. Similar overarching dimensions were collapsed under higher order categories and sub-categories, following an ongoing back-and-forth process between the data, the codes and the categories (Creswell 2013, Patton 2015). While the analysis employed both inductive and deductive reasoning, it was primarily driven by an inductive process to remain open to new theoretical concepts (Dowling *et al.* 2018). Theoretical ideas from the national elite sport policy literature and disability models inevitably informed the analysis and interpretation of the data. To align with a realist informed inquiry, the aim of the category development was to make sense of the ways in which the Paralympic sport managers understood interventions by identifying their reasoning on why certain processes were important (Manzano 2016). When interviewees discussed disability as part of policies and programmes important for Paralympic success, the social relational model and the human rights model of disability were used to interpret these data, thus avoiding interpretation reinforcing medical views.

Research rigour was optimised by direct note-taking during the data immersion phase to gain a deep understanding of the data. In addition, a second, independent researcher reviewed the coding and category development process, and peer-debriefing sessions with the research team were used to discuss the development concepts and assist in determining their meaning. This study was approved by [Removed for anonymity] Human Research Ethics Committee [Ethics number removed for anonymity].

5. Findings

This section presents the ten national elite Paralympic sport development policy interventions deemed important for a country's Paralympic success. They are summarised in Table 3 and described below, supported by evidence in the form of verbatim data extracts. Evidence for all interventions was found in all four countries involved in this study. This should be interpreted as providing an indication about the substance of the concept as being theoretically important for Paralympic sporting success, and not as clear evidence that such policy is well developed and implemented in the country.

5.1 Parasport funding and organisation

Equitable and targeted funding and governance of parasport formed two intertwined themes. Interviewees believed that funding and governance policies should support the development of whole-of-parasport, from grassroots sport participation programmes to the elite levels.

Table 3. Key national Paralympic sport policy interventions for a country's success.

Themes	Sub-themes
Funding for parasport and Paralympic sport	<p>Targeted and protected national funding for the whole-of-parasport (from grassroots to elite)</p> <p>Government funding for parasport specifically</p> <p>Parasport funding incentives in M-NSOs</p> <p>Allocation of funding relative to Paralympic sport specific costs (e.g. specialised equipment; classification, para-athletes partners (e.g. guides))</p> <p>High-performance Paralympic sport specific funding</p> <p>Sustainable Paralympic performance funding</p> <p>Direct funding to individual Paralympic athletes</p>
National organisation and governance of parasport and Paralympic sport	<p>Whole-of-sport system mainstreaming and coordination of parasport</p> <p>Government commitment to and incentives for parasport</p> <p>Integration of parasport into existing M-NSOs (when relevant) and in high-performance structures</p> <p>Delineated accountability and advocacy for parasport</p> <p>Professional parasport staffing and structures (managers, coaches, support staff)</p> <p>Collaboration between stakeholders and coordination of actions for organisational alignment from grassroots to the elite level</p> <p>Within M-NSOs & P-NSOs: connections of programmes and actions at all levels</p> <p>Collaborations and coordination between all sporting stakeholders (i.e. NPC, M-NSOs, P-NSOs, NDSOs) at the local regional and national levels</p> <p>Inter-sectorial coordination (e.g. sport, health, education, and defence)</p> <p>High-performance Paralympic sport planning, coordination and strategies</p> <p>Capacity for long-term planning around Paralympic Games cycles</p> <p>National coordination of Paralympic talent identification and transfer strategies</p> <p>Coordination of & collaborations between service providers to optimise high-performance Paralympic career development</p> <p>Parasport stakeholders communication for knowledge exchange</p>
Integration of disability-specific and Paralympic sport knowledge	<p>Development/formalisation of disability knowledge and Paralympic sports expertise from grassroots to the elite level in policy and practice</p> <p>National coordinated research and innovation for Paralympic sport</p> <p>Applied sport science and sport medicine support to Paralympic athletes</p>
Participation in physical education and grassroots sport by children and adults with disabilities	<p>Nationally coordinated parasport awareness, engagement and referral initiatives</p> <p>Outreach parasport programmes with health/education/military sectors</p> <p>M-NSO & P-NSOs parasport engagement programmes</p> <p>Organised sport participation structure accessible for people with disabilities</p> <p>Club system accessibility</p> <p>Access to inclusive physical education</p>
Paralympic athlete classification processes and strategies	<p>National coordination and capacity for ethical classification processes</p> <p>Clear process to identify athletes with disabilities that are eligible in one or more Paralympic sport class/es,</p> <p>Ongoing opportunities for classification reviews to confirm parasport class eligibility along the Paralympic athlete development pathway</p> <p>Recruitment, training and education of national and international classifiers</p> <p>Paralympic athlete classification awareness and education for all sport systems stakeholders</p>

(Continued)

Table 3. (Continued).

Themes	Sub-themes
Identification of talented Paralympic athlete and competition partners, and Paralympic athlete transfer	Targeted identification and orientation of para-athletes eligible for classification based on international competitiveness of para-athlete profiles and international parasport class medal analysis. Coordinated national talent identification & transfer processes (at the overall sport system level, as well as within M- & P-NSOs) Paralympic talent searches National coordination of talent identification initiatives with the military Identification of talented competition partners (e.g. para-athletics guides, para-cycling pilots, boccia sport assistants)
High-performance development and career programmes for Paralympic athletes and competition partners	Delineated funding, accountability and coordinated organisation of high-performance Paralympic sport, Paralympic athletes, and competitions partners Quality daily training environment Assessment of centralised versus decentralised training environments Multi-disciplinary Paralympic sport support professionals (e.g. coaching, sport scientists, psychologists etc.) Paralympic athletes' welfare: Sport/work and/or study balance Post athletic career preparation and transition
Coaching for parasport and Paralympic sport	Understanding of high-performance sport and disability Education of coaches in disability and Paralympic sport, and ongoing development opportunities Parasport coach recruitment (from grassroots to the elite level) and paid coaches
Provision of technical parasport sport equipment and accessible facilities	Provision of and innovation in parasport assistive sport equipment Adequate access to appropriate sporting equipment at all levels of the pathway Directed funding scheme for high-performance Paralympic sport equipment Innovation and expertise in high performance Paralympic sport equipment Provision of accessible (scheduling and physically) facilities (i.e. scheduling and physical access)
Parasport competition framework	Competition opportunities at all levels of the competitive sporting pathway Strategies for opportunities for parasport class-specific competitions

Interviewees frequently reported that national sport policies need to ensure that there are financial and organisational mechanisms that specifically protect and target parasport to ensure appropriate funding at all levels of the Paralympic athlete development pathway. Much of the discussion around targeted funding and management practices related to the mainstreaming of parasport, i.e. the integration and delivery of parasport through the mainstream sporting system (Kitchin and Howe 2014). Mainstreaming was considered important for a country's Paralympic success, in part because interviewees believed that para-athletes benefit from the existing sporting infrastructures (e.g. club systems, facilities, coaching framework etc.) within M-NSOs (Mainstream National Sport Organisations) and elite sport institutes. However, interviewees thought that delineated financial regulations and incentives were needed to guarantee an appropriate level of funding for the development of the whole-of-parasport. Indeed, some M-NSOs, which had the responsibility to develop parasport did not necessarily *'have the focus on the Paralympic side ...'* and as such would benefit from a clear delineation of *'how much money the federation puts into supplementing the Paralympic budget'*. (Manager 5) Other important organisational elements related to the sporting system having a clear focus and commitment to the development of parasport included: the need for governments to guide and evaluate the integration of parasport into existing mainstream sport organisations (e.g. M-NSOs and high-performance sport centres), to ensure that

governing bodies are held accountable for parasport development as a whole, and for the professionalisation of para-athletes' support. According to interviewees, this delineated focus on parasport could be achieved by practices such as employing staff members solely dedicated to the management of parasport development as a whole (in M-NSOs) and Paralympic athlete services in high-performance programmes.

Organisational policies, including governance, aimed at achieving a connected and coordinated sporting system was also deemed critical for Paralympic success. These included collaboration, communication and alignment of strategies and actions within and between organisational Paralympic sport stakeholders to support Paralympic athlete development from grassroots to the elite level. Within sporting organisations, coordination and communication between programmes at the local, regional and national levels were considered paramount for providing appropriate support to para-athlete development. The importance of inter-organisational coordination was marked by discussions about the links between NDSOs and M-NSOs. Interviewees often reported that NDSOs were those with disability-specific knowledge and that M-NSOs have the technical sport expertise. In addition, several interviewees stated that NDSOs have closer ties with the larger population of people with disabilities at the grassroots level and are more likely to recruit individuals for parasport, as they *'help them to become fitter and more active and try different sports'*. (Manager 6) Hence, ensuring that collaboration between the M-NSOs and NDSOs is effective would likely lead to the better support of para-athletes.

At the high-performance level, interviewees reported the importance of communication channels for stakeholders to exchange expertise and experience about Paralympic athletes' development, training and support. These included nationally coordinated forums for cross-discipline (parasport and professional disciplines) exchanges, as well as the need for the umbrella organisation of sport in the country (e.g. National Sport Agency) to formally coordinate such communication strategies. Collaborations between organisational sport stakeholders (M-NSOs and NDSOs) and stakeholders from the education, health (rehabilitation centres), disability support sector as well as the military were thought to not only promote the participation of children and adults with disabilities in sport, but also identify talented para-athletes, due to the various roles these sectors play in the life of people with disabilities. A common view expressed was that a nationally coordinated effort between Paralympic sports organisations together with the military and health sectors could facilitate the identification of talented para-athletes, through *'systems where they [Paralympic sports organisations] link to ... a charity for wounded servicemen'*. (Manager 18)

Other financial and organisational interventions considered important for the Paralympic high-performance level specifically included direct financial support for Paralympic athletes and their competition partners (e.g. guides and pilots competing with athletes with visual impairments, sport assistant competing with boccia athletes) to allow them to focus on their sporting career.

So the funding system in the [country], athletes are funded, but also the pilots are funded, the guides are funded, the ramp assistants are funded. So these are full-time athletes as well ... you've got to have committed individuals to essentially give their life to Paralympic sport. (Manager 21)

Finally, sustainable funding for Paralympic programmes to support strategic planning around and ahead of the Paralympic cycles; and the need to be able to coordinate and leverage financial and human resources to respond efficiently to the support needs of para-athletes, were also highlighted as critical.

5.2 Integration of disability-specific and Paralympic sport knowledge

The research identified the requirement for structured integration of disability knowledge and Paralympic sport expertise across all levels of the sporting system as a potential critical intervention for a country's Paralympic success. This knowledge/expertise entails both consideration for, and the understanding of, parasport-specific elements in policy and practice by all sport stakeholders in the system, including the formalisation of this knowledge in educational curriculum and ongoing

training of NSOs and high-performance sport managers, coaches, sport scientists etc. Interviewees believed that it is critical for sport system stakeholders to understand parasport-specific elements, such as for example: the Paralympic sport classification; the interaction between impairment and training; the specific characteristics of para-athlete equipment in terms of cost; the particular demands in relation to travel, as well as the need to take into consideration para-athletes partners as athletes in their own rights. Illustrating this issue in the context of high-performance support services, an interviewee noted that: *'People need to know what the disabilities are and what that entails. [. . .] In nutrition, you have to know that a disabled athlete might not need as much protein as an able-bodied athlete'* (Manager 15) In addition, sport system stakeholders should develop a comprehensive understanding of disability, both as a social notion and also as a lived experience that varies according to individuals' situations. Reflecting the social-relational model of disability, such understanding of disability would include the need for stakeholders to understand not only the structural and cultural challenges that people with disabilities may face in daily life, such as oppressive social norms and how these can potentially impact the (sport) environment that para-athletes navigate, but also, at the individual level, the importance of understanding the various effects that different impairments can have on the physical tasks performed in sport and/or in the daily training environment of an athlete was identified.

A national coordinated strategy for disability sport and Paralympic sport scientific research development, translation and application, to further facilitate knowledge development was also highlighted as being important for Paralympic success. Priority areas included sport technology research and innovation *'because it's the marginal gain'* (Manager 7), as well as parasport class-specific research.

5.3 Participation in grassroots sport and physical education

The majority of interviewees believed that opportunities for people with disabilities to participate in organised grassroots sport was critical for a country's Paralympic success, in part due to the roles these opportunities play in the development of fundamental skills, and in the ongoing renewal of talented para-athletes. Specifically, this policy theme included: the national coordination of initiatives that aim to raise awareness about, promote engagement in, and facilitate the reference of people to parasports; a nationally organised and inclusive sport participation structure; and access to inclusive physical education in schools.

Parasport awareness initiatives included both outreach programmes and collaborations between sporting organisations, rehabilitation centres and disability service organisations (which play a key role in the life of people with disabilities) and military organisations. For example, an interviewee stated in their country *'rehab units are very closely linked to our [disability sport] organisations'* (Manager 6) and formed a strong parasport recruitment pathway. In addition, NDSOs, which are often considered as the link between the disability sector and organised parasport in M-NSOs & P-NSOs, seem to play a critical role in the promotion and recruitment of people with disabilities into organised parasport participation: *'It's those organisations of sport for people with a disability that have those connections [with people with disabilities] at the local and state and national level'*. (Manager 6). Military organisations, often linked to rehabilitation programmes for people who acquired a disability in service also played an important role in recruiting parasport participants. Finally, interviewees expressed the need to coordinate parasport awareness initiatives with education departments for implementation both in mainstream and special schools: *'they [the NSO] will go to the local schools and get kids and have talent camps and come-and-try-it days, all kinds of techniques to get kids involved'*. (Manager 18)

Organised grassroots [para]-sport participation through a systematic club structure was seen critical: *'to have success, then you need . . . a really good, solid, sustainable foundation that's built into the policy'* (Manager 3). Interviewees highlighted that the country's club structure should maximise coverage across local jurisdictions, particularly for the M-NSO clubs *'to ensure that all people with*

disabilities . . . , can participate in sport' (Manager 17). In addition, it was important for interviewees that those clubs in M-NSOs develop more inclusive practices, to ensure their sport is accessible to all: *'[. . .] you're really needing a support strategy in terms of clubs and inclusive governing bodies of sport to ensure that any potential athlete has the opportunity to progress in a similar way to their mainstream peers'*. (Manager 21)

Finally, while physical education (PE) was not the predominant focus of this theme, several interviewees stressed that children with disabilities, either in mainstream or specialised schools, should have access to PE: *' . . . people with disabilities need to be able to play sport in schools . . . And so, there needs to be a support strategy in schools, as well as in clubs, so that activities are allowed to everyone.'* (Manager 16)

5.4 Paralympic athlete classification processes and strategies

Interviewees indicated that Paralympic success is influenced by the Paralympic athlete classification (PAC) processes and strategies. Specifically, clear and coordinated national classification processes, the provision and training of classification personnel (i.e. classifiers), and the awareness and education of the whole sporting system on what PAC entails seem to be important policy elements.

According to several interviewees, the good coordination and implementation of ethical PAC processes across the nation and across Paralympic sports include: the delineation of stakeholders' roles involved in PAC processes, the compliance of PAC processes with the latest iterations of the International Paralympic Committee (IPC) Classification Code, the development of PAC capabilities within M-NSOs and P-NSOs, including the development and implementation of a PAC procedural framework aligned with the International Federation Codes from grassroots to elite level; and the recruitment and ongoing training of a sufficient number of classifiers. Interviewees also noted the importance of dedicated management of PAC processes within sporting organisations, as illustrated by the following manager:

we have invested in a classification manager, so we have one person who is full time whose role it is to ensure that our processes are aligned, our co-classifiers are trained appropriately, that we are working with IPC, that we are very clear on national process linking into the international process, that we run international classification in the [country] every year so that we have an international classification opportunity on our shore so that we can not only put our athletes through that, but so we can let our national classifiers see that process. (Manager 19)

Early and continued classification opportunities at all levels of para-athlete development, from the point of being identified as eligible at the grassroots level, to the regional and national levels (i.e. domestic classification), as well as at the elite level (international classification) seem essential to Paralympic success. According to interviewees, PAC processes should ensure that para-athletes are provided opportunities to confirm their classification eligibility and find their ideal parasport class as early as possible, and that all stakeholders understand which athletes can be recruited in Paralympic sport pathways. From a para-athlete point of view, early classification is critical for them to start competing against their direct opponents: *'if an athlete is not classified they can't measure their performance against others so they can't identify if they're talented'*. (Manager 6) From a managerial point of view, if the para-athlete is not accurately classified: *'you can potentially be investing resources very unwisely'* (Manager 20). In addition, providing classification reviews at appropriate times to confirm para-athlete eligibility within the class is important, particularly for Paralympic athletes with conditions that evolve over time, and which could lead them being allocated to another parasport class.

As mentioned in the section on the development of Paralympic expertise (section 5.2), it is important for individual stakeholders in the sport system to be educated on PAC principles and processes. According to interviewees, if more parents, club stakeholders and high-performance managers knew about classification, this would lead to the identification and recruitment of para-athletes into a Paralympic pathway:

if they all [parasport stakeholders] know what minimal eligibility is in Paralympic performance; it's obvious that we would face a large recruitment wave that we haven't experience so far ... as long as we don't understand this, we don't understand Paralympic performance'. (Manager 14)

5.5 Identification of talented Paralympic athlete and competition partners, and Paralympic athlete transfer

National programmes and strategies targeting the identification and transfer of talented Paralympic athletes, and competition partners (e.g. guides, pilots) were seen as critical for a country's success, including: a targeted Paralympic talent identification (TID) strategy based on parasport class niche identification, and the national coordination and management of talent identification and transfers.

Almost all interviewees talked about the critical importance of a targeted Paralympic sport strategy based on the international results of Paralympic athletes in specific classes to inform the identification of competitive profiles of athletes. This strategy includes the ongoing monitoring of international Paralympic sports results and specifically the profiles of competitive Paralympic athletes in Paralympic events classes. Through this analysis, potential gaps or '*niches in certain categories of disability*' (Manager 13) within a Paralympic class are identified. This trend analysis assists in determining the profiles of para-athletes that would be competitive within the identified parasport class niches, referred to as 'profiling'. The identification of competitive para-sport profiles helps the sporting system to target investments in specific para-athletes, as well as to confirm, orient and/or transfer Paralympic athletes, based on their position in a specific Paralympic sport class. An interviewee summarised the strategy as follows:

They [organisation] know what the composition of the past medal winners out of the London and Rio cycle have been, and they have identified where they need to replenish their pathway, and they have a lot of profiles [..] I think [organisations] are getting better at mapping trends, at mapping the types of disabilities, types of impairment that are beginning to dominate the move and be successful, again more medal success (Manager 20)

As classes are based on the impact an impairment has on performing a sport task, they represent a spectrum of athletes from more to less impaired within a class. Interviewees reported the benefit of 'targeting specific disability' for competitive advantage, such that recruiting a para-athlete with a lesser impairment in a class could provide a larger competitive advantage than recruiting based on talent alone. The following statement explains the importance of confirming the position of Paralympic talents in a class:

The first thing is talent confirmation because quite often we potentially get people into the system that maybe are classifiable within the sport but there's obviously a range within that class, so quite often we're trying to target athletes that are the higher end of the classification to give them a better chance of medal success. (Manager 20)

According to interviewees, this strategy should inform nationally coordinated talent camps and detection processes run by NSOs to identify parasport-specific talents, as well as generic (non-parasport specific) TID programmes run by either the NPC or the umbrella NDSO in the country. An interviewee indicated that an NPC-ran Paralympian Search program facilitated in '*accessing a population that [they] couldn't get to before*' (Manager 7), and in identifying great athletes. Specific TID programmes with the Military were also considered important as war veterans tend to be seen as the '*ideal people to come into the Paralympics program*' (Manager 19) because of their athletic profile. Several interviewees also noted the importance of talent transfers, whereby a talented Paralympic athlete is transferred from one discipline to another. A manager explained that it had been an effective strategy for the country's Paralympic success:

... a lot of our [country] success comes from that high performance end and talent searches, or talent transfer cycle to cycle. So every four years, looking for new athletes to come into the system to win medals... (Manager 21)

Interviewees also discussed the importance for the system to consider the identification of talented competitions partners, critical for the performance of Paralympic athletes' performances:

Guides for Paralympic ... for athletes visually impaired. This is also something to identify maybe for sports like cycling, athletics where we need to identify guides, athletes who have a competitive level, because you really need to have a high level for Paralympic performances. (Manager 22)

5.6 Paralympic athlete high-performance and career development

High-performance sport programmes supporting the holistic development and career of talented Paralympic athletes and their athletic/competition partners was another central intervention for Paralympic success. The interviewees reinforced the importance of delineated and targeted financial and management mechanisms for Paralympic high-performance sport programmes specifically (as described in [section 5.1](#)). Additionally, interviewees highlighted the need for programming to be aligned with the different phases of Paralympic athlete high-performance development, and specifically to consider how the small number of para-athletes impacts programming levels differently from able-bodied sport development:

we maybe have one ... two [parasport] players, and there's nobody else at the same level within the [region] structure that are training and providing a level of competition for those athletes. So to take the jump from the [region] structure into the high performance world-class programme is a massive jump ... So the transition programme is really to start introducing that high performance culture ... (Manager 20)

Optimising the daily training environment of Paralympic athletes to maximise their development and wellbeing requires elements such as, a coordinated multi-disciplinary team of professionals who are knowledgeable about Paralympic sports, accessible high-performance training facilities and consideration of centralised versus decentralised training environments. Interviewees agreed that the decision of whether a Paralympic athlete relocates to training centre/institute of sport or stays in their local environment, should be based on an assessment of the Paralympic athlete's specific needs:

... because of reasons of age or disability or development, you might not be able to live on your own. You might not be able to move to [city]. It might not be the right place for you, and those athletes, we support in their home programme. (Manager 19)

In line with other policy issues (e.g. funding and talent identification), the need to critically consider the training, and development of Paralympic athlete's partners was highlighted: *'the whole support system about guides and pilots within sites [training centres/institutes] ... They need to be there and they need to be highly trained and they need to be funded and supported as well ...'* (Manager 21)

Finally, supporting the overall wellbeing and development of Paralympic athletes was discussed specifically through assisting the coordination of athletes' training and competition schedules together with academic/vocational studies and work and family life to ensure a proper balance. This was considered important not only for their current sporting career but also for their future when retiring from competitive sport.

5.7 Coaching provision for disability sport and Paralympic sport

The majority of interviewees reported the importance of training and recruiting parasport coaches so that competent coaches are available at all levels of the sporting system. There was an emphasis on the education and training of all coaches on what disability sport knowledge entails (described in [section 5.1](#)) so that sporting organisations are inclusive from the grassroots to the elite level.

... there are multiple elements to coaching, but in parasports, we have the combination of needing to have the sport specific expertise and to have expertise in the adaptive side of the sport. ... an understanding of the culture and psychosocial elements of people with a disability ... (Manager 6)

An interviewee further illustrated the impact that educated coaches on disability sport could have in a mainstream sport club environment:

One of our really good kids right now always trained in a club that's able-bodied . . . I think his friends don't have an idea that he has a disability but then the coach was like, "Okay, I think now the [parasport] programmes can take him because he is hitting these numbers". But if the coach hadn't known that there's an opportunity for him . . . then it would have been a miss, right? (Manager 5)

Learning informally through exchange of knowledge and experiences with other Paralympic coaches, as well as ongoing professional development opportunities were mentioned as important for Paralympic success. A final important element of coaching policies for Paralympic success, was the recruitment of talented coaches '*right from the grassroots level*' (Manager 10) and the appropriate remuneration of professional coaches to '*mak[e] sure that the professional coaches are rewarded at a similar stage [as Olympic coaches]*' (Manager 5).

5.8 Provision of technical parasport sport equipment and accessible facilities

Ensuring all athletes with disabilities have access to material resources and infrastructure, including specialised sporting equipment (e.g. sporting wheelchairs) and sporting facilities, was an important policy concern for a country's Paralympic success. Most interviewees discussed equipment as a Paralympic sport specificity that decisions makers should consider in a delineated manner when allocating funding support for parasport and individual athletes to ensure specialised equipment is available at all participation levels. At the grassroots level, equipment is important to allow entry-level participants to have access to sporting opportunities: '*it's unreasonable for us to think that they're [grassroots participants] going to fork out an absolute fortune to try something out and they might not even like it*'. (Manager 8) At the higher level, parasport equipment is a significant component in planning, training and performance. As mentioned in [section 5.1](#), interviewees highlighted the importance for sport scientists, coaches and para-athletes themselves to understand the interaction between the athlete's body and assistive devices, which is critical for marginal gains. Additionally, national research and innovation programmes in equipment technology requires a collaborative approach between sporting stakeholders and engineering/manufacturing organisations '*to be able to have the best fitted equipment for the athletes that are competing*'. (Manager 5)

Most interviewees highlighted the importance for sporting facilities, from clubs at the grassroots to specialised institutes of sport, to be accessible to people with diverse impairments. While most of the discussion focused on the need for modern and physically accessible facilities, some indicated that access to facilities needed to be considered in terms of scheduling priority as well, since in many instances able-bodied sports were often given priority.

5.9 Parasport competition framework

The development and implementation of national parasport-specific competition structures was viewed as critical for para-athletes to access adequate competition from the entry level of organised sport to national/international levels so that they can develop competition-specific skills. The discussion focused on M-NSOs, stressing that parasport competition calendars needed to be considered in a delineated fashion: '*If they're [M-NSO managers] drawing up a programme calendar, that they're aware that they're responsible for Paralympic athletes [they need to] make sure that the Paralympic athletes get as many opportunities to compete as their able-bodied athletes to compete and qualify*'. (Manager 2) Others discussed the positive impact of integrated competitive structure implemented by M-NSOs: '*They're just national championships for both para and able-bodied together. So our athletes don't feel lesser athletes. They feel as important as able-bodied athletes . . .*' (Manager 8)

Finally, there seemed to be discord as to whether competitions should be multi-class or single-class. On one hand, multi-class competitions are a solution to ensure that para-athletes have competition opportunities. On the other hand, interviewees mentioned the importance for para-athletes to compete against *'their equals from an impairment perspective'*. (Manager 9) These data suggest that, regardless of the competition setup, the aim is to ensure that Paralympic athletes have competition experiences at the appropriate level and against Paralympic athletes who can compete at a similar level.

6. Discussion

This exploratory study was the first stage of a broader investigation aiming to develop a national Paralympic sport policy framework that could be used by researchers and policymakers to evaluate the effectiveness of Paralympic sport policies in relation to a country's Paralympic medal outcomes. National elite sport policy evaluation frameworks thus far have focused on Olympic sporting success (De Bosscher *et al.* 2006, Digel *et al.* 2006) and the national elite Paralympic sport policy literature in relation to countries' medal success is its infancy (Dowling *et al.* 2017). This study advances knowledge by identifying national policy interventions potentially critical for Paralympic sport success, based on a key informant sample of national Paralympic sport managers from four successful Paralympic countries (i.e. France, Australia, Canada and the UK). It is important to note that the policy domains identified in this study are theoretical propositions which can form the basis for the development of a Paralympic sport policy assessment framework, and are not interpreted as empirical realities of actual policies implemented in the countries included in this study (although this may well be the case). In sum, this study fills a major gap in the national elite sport policy literature, which has been primarily Olympic-centric (Dowling *et al.* 2017), and complements recent Paralympic sport management studies on talent development programmes and Paralympic athletes' pathways (Houlihan and Chapman 2016, Bundon *et al.* 2018, Patatas *et al.* 2020a).

This study suggests that there are several policy interventions common to developing both Olympic and Paralympic sporting success, in addition to unique aspects of Paralympic sports that require delineated attention by policymakers developing and evaluating sporting systems aiming to achieve both Olympic and Paralympic success. Common national policy interventions include national government funding for sport and elite sport, effective national sport governance, grassroots sport participation, talent identification and transfer, programmes for holistic development of athletes and career support, coach provision and development, and facilities. These have been found to be important elements of national elite sport development systems in for Olympic success (Digel *et al.* 2006, Houlihan and Green 2008, De Bosscher *et al.* 2015). This research provides evidence for the potential importance of these policies in the Paralympic domain, and suggests that a conceptual framework of Paralympic sport policy may need to assess key alignments of policy interventions in the Paralympic and Olympic domains.

This study also demonstrates that parasport-specific elements exist both at the level of national policy interventions, as well as at the level of processes and mechanisms within each of the aforementioned national policy interventions. Two national parasport-specific policy interventions potentially critical for Paralympic sport success include, national Paralympic Athlete Classification (PAC) processes (closely intertwined with talent identification processes), and the integration of disability-specific and Paralympic sport knowledge in the sporting system. Regarding the potential critical importance of PAC processes and strategies, this study echoes the work of Patatas *et al.* (2020a), which identified classification as a policy factor influencing various level of para-athlete development pathways. This study extends knowledge on the potential critical importance of PAC processes by identifying several other components including the need for: (1) national coordination of classification opportunities from the grassroots to the international level, (2) recruitment and training of national and international classifiers, and (3) education of all stakeholders on classification. In addition, this research adds weight from a policy perspective, to an increasing body of

evidence demonstrating that countries are likely to strategically identify, select and invest in Paralympic athletes, not only based on their talents but also on their level of impairment (Purdue and Howe 2013, Hammond and Jeanes 2018, Patatas *et al.* 2020a, Dehghansai *et al.* 2021). For the high-performance Paralympic sport managers participating in this study and in others (Patatas *et al.* 2020b, Dehghansai *et al.* 2021), para-athletes with a minimal/lesser level of impairment in a specific Paralympic sport class will likely have an advantage over Paralympic athletes who might be equally as talented but have a higher level of impairment. Beyond identifying the value of this type of Paralympic profile-based strategy in terms of success achieved, it is important for future research to understand its potential unintended effects. The practice of selecting athletes with a minimal/lesser impairment contradicts the UNCRPD and previous studies on classification have indicated that this practice legitimises certain profiles over others, which authors argue goes against the Paralympic ethos, by excluding rather than including (Howe and Jones 2006).

The integration of disability and Paralympic sport knowledge as a potential policy intervention for Paralympic success includes not only the development and application of Paralympic sport sciences, but also the need for those working at all levels of the national sporting system to have a critical understanding of disability, to ensure a more equitable and inclusive sporting system. The literature indicates that there is insufficient knowledge and trained personnel in Paralympic sport science (Kohe and Peters 2016, Patatas *et al.* 2018, 2020a), suggesting that a focus on the development and implementation of such policy is needed. With regard to the importance of a critical understanding of disability, this study also reinforces the need for sport systems stakeholders to understand the biological effects of various impairments in relation to both sport-specific skill acquisition, and to relational/interpersonal aspects. The social-relational model of disability supports that negative views and stigma towards athletes with disabilities can vary based on the para-athlete's type and level of impairment. For example, athletes with more severe impairments in an elite sport context can face greater levels of stigma as they do not conform to the ableist view of elite athleticism (Purdue and Howe 2013, Hammond *et al.* 2019). This study supports the need for sporting systems to consider disability from a social relational perspective, which takes into consideration the impairment effect, in policy and practice (Townsend *et al.* 2017). In addition, the human rights model of disability assists in understanding the need to take into consideration policies around access, such as for example accessible transportation and training centres, which was also found by Patatas *et al.* (2020a). Against the background of the UNCRPD, the lack of access can be interpreted as a fundamental breach of human rights for participants with disabilities (Misener and Darcy 2014), and in the context of elite sport development, challenges with accessing sport infrastructures can create unfair stressors impacting Paralympic athletes' focus on their training and development (Arnold *et al.* 2016). A human right model can thus highlight critical policy issues facilitating Paralympic success. This study aligns with Paralympic scholars arguing that disability sport research and practice would be enhanced by critically engaging with the field of disability studies (Townsend *et al.* 2015, Smith and Bundon 2018, Patatas *et al.* 2020a).

However, evidence indicates that such disability and Paralympic sport knowledge and its integration in the sporting system may be lacking, suggesting that current Paralympic sport practitioners, managers and other individuals, might be working without a formal knowledge of disability sport. For example, studies on sport management curricula have shown that disability sport is still not included in all sport management courses, which likely results in sport managers not being trained in disability-specific issues (Pitts and Shapiro 2017). Currently, sport systems stakeholders may be applying their non-disabled sport discipline experiences (as coach, administrator, scientist, volunteer, etc.) to Paralympic sport, uncritically, through trial and error. A lack of knowledge and critical consideration for disability in practice, education manuals, training delivery, and policies was detrimental to the participation of people with disabilities in sport and Paralympic sport development (Depauw and Gavron 2005, Patatas *et al.* 2018). Indeed, if disability is not critically positioned in the formal training of people and in the underlying assumptions driving these policies and programmes, there is a risk to perpetuate disablist practices in elite sport development systems (Townsend *et al.*

2017). A national Paralympic sport policy framework may need to assess how sporting systems, founded on normative able-bodied sport, critically assess their potential ableist policies and practices to positively consider participants and athletes with disabilities and their lived experiences, based on various models of disability.

Parasport-specific processes and mechanisms were identified within all policy-levels. One notable issue is the importance of considered and dedicated funding and governance processes for parasport at all levels of the sporting system and specifically in mainstream sport organisations. These finding aligns with research on disability integration in sport organisations that identified the need for accountability for the allocation of financial and human resources to disability/parasport programs, as ableist assumptions were likely to contribute to parasport programmes being less valued than non-parasport programmes (Hammond *et al.* 2019, 2022).

Other notable parasport-specific elements included the importance of Paralympic sport outreach programmes developed in collaboration with the health, military, disability service and education sectors. These collaborative outreach programmes were found both within participation and TID and talent transfer policies. The multiplicity of sectors involved in disability sport participation and Paralympic talent identification is consistent with other studies on national disability and Paralympic sport management (Thomas and Guett 2014, Patatas *et al.* 2018). Rehabilitation centres and injured war veterans programmes can play an important role in the life of individuals who acquired an impairment through an accident or in service (Houlihan and Chapman 2016). Managing these cross-sector relationships at the national level might be critical for a country's Paralympic success.

In terms of interventions related to the built environment, a parasport-specific element is the need to provide accessible training facilities for people with all types of impairments, as well as access to appropriate specialised sport equipment at all levels of the sporting system, further reinforcing accessibility issues underpinning the human rights model (Misener and Darcy 2014). Programmes supporting the high-performance development and elite career of Paralympic athletes need to carefully consider the training environment (decentralised versus centralised) and the athlete's welfare in relation to the impairment effect, also further supporting the social-relational model of disability. A final notable Paralympic-specific element highlighted in this study was the need for funding and processes supporting the identification of talented competition partners performing with Paralympic athletes, as well as their own need for ongoing support for training and development. As emphasised in this study, guides and pilots competing with Paralympic athletes (for example in para-track events and para-skiing and para-cycling) are athletes in their own rights, and should be considered as such when developing and evaluating Paralympic sport policies. Patatas *et al.* (2018) demonstrated that supporting guides incur additional costs, and the present study extends the literature by demonstrating the importance of taking into account guides in diverse elite sport policy elements (e.g. talent identification, athlete development and support).

This study has identified national Paralympic sport policy interventions and processes potentially critical for a country's Paralympic success. As the focus of the analysis was on the description of these interventions and processes, this study presented them individually. However, it is important to note that a realist-informed conceptual framework assessing national Paralympic sport policies in relation to sporting success will need to consider these interventions as interrelated sub-systems, part of a broader sporting and social system (Pawson 2006, Henry *et al.* 2020). In addition, a realist-informed approach to national Paralympic sport evaluation will warrant the integration of contextual factors (personal, interpersonal, organisational, societal), to understand how contexts within countries influence the implementation of the policy interventions. Further research should therefore identify contextual factors potentially impacting the

effectiveness of national elite sport policies (De Bosscher *et al.* 2015, Patatas *et al.* 2019, Henry *et al.* 2020).

Limitations of this exploratory study present opportunities for future research. The study is based on key informants' opinions and these informants are working in Western and mostly Anglo-Saxon countries. Inclusion of other successful countries with different social and political contexts such as the Netherlands, Ukraine and China, can add critical insights to Paralympic sport policy. The single source of data in this study limits triangulation, which could highlight new aspect of the phenomenon. Additional methods, such as mixed-methods surveys, and the collection of other quantitative data, and consultations with other stakeholders (i.e. Paralympic athletes and coaches) will further advance knowledge.

7. Conclusion

This study demonstrated that while sport policy interventions important for a country's Paralympic success may be similar to policies used to achieve Olympic sporting success, there are also several novel Paralympic sport-specific policy interventions, processes and mechanisms, which need to be considered. This study suggests that researchers, evaluators, and practitioners need to account for Paralympic-specific policies and processes. Tailoring policies to the specificities of the Paralympic domain could allow countries to gain a competitive advantage in the Paralympics. From a realist theoretical perspective, the ten policy interventions identified in this research are to be studied and interpreted within the context of the country. It is critical for further research to identify potential contextual factors influencing these policies and the processes and mechanisms that underpin them. Such contextual understanding of policies will further advance a realist-informed Paralympic sport policy evaluation framework.

Notes

1. Paralympic athlete classification is the evaluation process conducted by classifiers to determine athlete's eligibility for Paralympic competition, as well as their class allocation based on the impact their impairment has on the fundamental tasks of a specific sport. Classification systems are used to ensure that para-athletes' performances are due to talent, training and skills, and not to a less severe impairment (Tweedy *et al.* 2014).
2. (1) respect for inherent dignity, individual autonomy including the freedom to make one's own choices, and independence of persons; (2) non-discrimination; (3) full and effective participation and inclusion in society; (4) respect for difference and acceptance of persons with disabilities as part of human diversity and humanity; (5) equality of opportunity; (6) accessibility; (7) equality between men and women; and (8) respect for the evolving capacities of children with disabilities and the right of children with disabilities to preserve their identities (United Nations 2006).

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Data availability statement

The data can be made available upon request.

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