Issues Pertaining to Development of Athletes with a Disability

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IPC Mission Statement

IPC Strategic Plan 2015-2018

“Increase and improve the opportunities for para-athletes to develop from the grassroots to Paralympic level, raising the quality of their environment and supporting transition beyond sport”

pg. 23 of Strategic Plan 2015 to 2018: Strategic outlook of the International Paralympic Committee
Concerning Fact

Gap between grassroots and elite

Canada: Bridging the Gap

Growth of able-bodied literature

Training

Nuances associated with disability

(Ladurie, 2013; Radtke & Doll-Tepper, 2014; Shirazipour et al., 2016) & Hopkins, 1996)
To identify factors that affect the development of expertise in Para-sport athletes
**Targeted Athletes**

- Para athletes
- Paraplegia
- Paraplegic
- Tetraplegic
- Plegic
- Plegia
- Disabled Athletes
- Athletes with Disability
- Paralympics
- Elite Wheelchair
- Wheelchair Athletes

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**Athlete Development**

- Expertise
- Expert
- Deliberate Practice
- Early Specialization
- Specialization
- Performance
- High Performance Athletes
- Elite Performance
- Skill Acquisition
- Practice
- Athlete Development
- Maturation
- Divergent Thinking
- Visual Motor
- Motor Learning
- Perceptual Expertise
- Talent Identification

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**Inclusion Criteria**

- Only studies that included athletes in the category of skilled, talented, or experts were included in this review.
- The study must have considered a performance-related variable over a period of time that would allow change to occur.

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**Phase I**

- Skilled Participants
- Data Retrieval Process

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**Phase II**

- Developmental Aspect
- Title and Abstract Review: 219 publications excluded
- 39 publications assessed for eligibility
- Full text review: 18 publications excluded
- Included articles: 21 publications

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**Web of Science**

- 3,186 publications

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**SportsDiscus**

- 970 publications

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**Additional Article**

- Reference check: 1 additional article
Thematic Areas

Systematic Review

Training & Practice

Long-Term Changes Due to Training

Included articles: 21 publications
(Dehgahnsai, Lemez, Wattie, & Baker, 2017a)
Phase II

Sample distribution stratified by sex and average age of each group

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
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</thead>
<tbody>
<tr>
<td>N</td>
<td>15</td>
<td>37</td>
</tr>
<tr>
<td>Average age</td>
<td>25.24 (7.93)</td>
<td>22.13 (6.62)</td>
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Demographics
Sporting Career
Sporting Milestones
Practice History
Organized Sports
Disability

(Dehgahnsai, Lemez, Wattie, & Baker, 2017b)
Sample Characteristics

52 Athletes

N= 32 w/ acquired impairments
20 w/ congenital impairments

Age
24.96 ± 7.68
19.81 ± 4.62

Incident Age
13.56 ± 5.62

(Dehgahnsai, Lemez, Wattie, & Baker, 2017b)
Impairments

WCB Canada: Training and Development

- Paraplegia 10
- Cerebral Palsy 8
- Spinabifida 6
- Amputation 5

- Car accident 10
- Cancer 8
- Sporting accident 6
- Injuries 5
- Farm accident 5

(Dehgahnsai, Lemez, Wattie, & Baker, 2017b)
Sporting Milestones

Nature of disability
Disability severity
Sex
Competition level

No significant differences among athletes’ current and prior training histories
Future Direction

Skill transfer between mainstream and Para-sport?
Nature of disability (neuromuscular vs. skeletal) influence process of skill acquisition: Does this vary per sport?

Complexity, skill demands and dynamics across sport self-select athletes with certain impairments?
Future Direction

Psychological traits and personalities (Dr. Jeffrey and co.)
Kinematics and physiological performance (Dr. Goosey-Tolfrey and co.)
Social constructs and environmental barriers (Dr. Martin-Ginis and co.)
Sport classification systems (Dr. Tweedy and co.)
The growth of the Games demands a more in-depth understanding of Para-sport athletes; highlighted by global policies.

Research in Para-sport is growing, however; limited literature pertaining to developmental-related factors.

Need for more research to expand our understanding of athletes’ development.

The nuances associated influences of impairment on skill acquisition, development and performance.
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Dr. Nick Wattie
Dr. Srdjan Lemez

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