Is possible the linkage of performance determinants in team para-sports with classification purposes? An example applied in CP-Football.

R. Reina, D. Castillo, A. Iturricastillo, C. Toledo & J. Yanci
Reina (2014)
Performance Parameters in CP-Football

- Accelerations / Decelerations
  - Reina et al. (2017)

- Changes of Direction
  - Reina et al. (2016)

- Lower Limbs Power / Jumping
  - Reina et al. (2018)
The European Surveillance on Cerebral Palsy

Cans et al. (2007)
A New Classification System....

- **A** Bilateral Spasticity
- **B** Athetosis/Dystonia (Dyskinesia) or Ataxia
- **C** Unilateral Spasticity

<table>
<thead>
<tr>
<th></th>
<th>FT1</th>
<th>FT2</th>
<th>FT3</th>
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<tbody>
<tr>
<td><strong>Severe Involvement</strong></td>
<td>1A</td>
<td>2A</td>
<td>3A</td>
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<tr>
<td><strong>Moderate Involvement</strong></td>
<td>1B</td>
<td>2B</td>
<td>3B</td>
</tr>
<tr>
<td><strong>Minimal Involvement</strong></td>
<td>1C</td>
<td>2C</td>
<td>3C</td>
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</tbody>
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IFCPF (2018)
Aims of this Study

To describe the relationships between CP Football performance variables and match load descriptors measured by global positioning system (GPS) technology during a small-sided game (SSG) situation.
Research Methods
GPS Metrics

MinimaxX v4.0
Catapult Innovations™

Maximum Velocity (km.h⁻¹)
Total Distance (m.min⁻¹)
Acceler. / Deceler. (n.min⁻¹)

Moderate (1–2.78)
High (> 2.78)

Yanci et al. (2018, 2019)
GPS Metrics

MinimaxX v4.0
Catapult Innovations™

Low Walking (< 4)
Walking (4 - 3)
Jogging (3 - 9)
Medium Intensity Running (8 - 13)
High Intensity Running (13 - 18)
Sprinting (> 18)

Distance covered ≠ Intensities (m.min⁻¹)
Acceler. / Deceler. (n.min⁻¹)

Yanci et al. (2018, 2019)
GPS Metrics

MinimaxX v4.0
Catapult Innovations™

Player Load

Change of Direction (number. min⁻¹)

Distance covered ≠ Intensities (m.min⁻¹)

Acceler. / Deceler. (n.min⁻¹)

Low Intensity

Medium Intensity

High Intensity

Forward vs Back

Left vs Right

Yanci et al. (2018, 2019)
Research Methods

Four Bounds for Distance
Triple Hop for Distance (dominant and non-dominant legs)
Standing Broad Jump

5-0-5 test

Modified Agility Test -MAT-

Reina et al. (2018)

Reina et al. (2016)
Results (1/3)

* All the scores in centimeters (cm)

**Standing Broad Jump**

- FT1: 150 cm
- FT2: 160 cm
- FT3: 170 cm

- p < 0.05

**Triple Hop Less/Non Affected Leg**

- FT1: 500 cm
- FT2: 490 cm
- FT3: 510 cm

- p > 0.05

**Four Bounds for Distance**

- FT1: 500 cm
- FT2: 450 cm
- FT3: 550 cm

- p = 0.056

**TH More Affected / Non-Dominant Leg**

- FT1: 150 cm
- FT2: 200 cm
- FT3: 250 cm

- p < 0.01
Results (2/3)

* All the scores in seconds (cm)

pure football

- **MAT**
  - FT1
  - FT2
  - FT3
  - $p < 0.05$

- **5-0-5**
  - FT1
  - FT2
  - FT3
  - $p > 0.05$
### Results (3/3)

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<th></th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
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</table>

- Mod-Acc vs. High-Acc: r = 0.520, p = 0.000
- Mod-Acc vs. Mod-Dec: r = 0.825, p = 0.000
- Mod-Acc vs. High-Dec: r = 0.557, p = 0.000
- Mod-Acc vs. PL: r = 0.232, p = 0.008
- High-Acc vs. Mod-Dec: r = 0.496, p = 0.006
- High-Acc vs. High-Dec: r = 0.244, p = 0.006
- High-Acc vs. PL: r = 0.191, p = 0.031
- Mod-Dec vs. High-Dec: r = 0.154, p = 0.082
- Mod-Dec vs. PL: r = --, p = 0.000
- High-Dec vs. PL: r = --, p = 0.000
Conclusions

Confirmation of the relevance of performance variables in CP-Football related to lower limbs power in the new classification system.

The non-significant or trivial and small associations of performance variables with the SSG external load (included as part of the technical assessment during classification):

– Does this situation not reproduce the real demands of the game?
– How much the SSG variable constrains the relationships between impairment and/or performance?

The SSG situation could be used by classifiers to observe technical aspects or how the players perform sport-specific skills.
Project Supported by:

Project Conducted by:

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