



The impact of continental association affiliation and inequality-adjusted human development index level on NPC team size, gender split and medal success at the summer and winter Paralympic Games.

Catalysts for this research

- Alongside the issues of health, inclusion and empowerment that are addressed as part of the sport for development agenda, the most visible challenge faced by the IPC, with direct significance to its legitimacy as an international advocate for disability rights, is the gulf in resourcing for Para-sports, between resource-poor and resource-rich regions. This gulf creates an asymmetry between national teams, evident in levels of representation and podium success at Para-sport events, significant enough to challenge the very notion of the Paralympic Movement as truly international in its reach.

(Beacom, 2017; In Press)

- Novak (2014) claims that there is a failure “to recognize a persistent ‘disability divide’ between the communities who possess the economic means to compete on the playing field and those who do not” (p.57).

Inequality-adjusted Human Development Index (IHDI)

According to the United Nations (2015) the Human Development Index (HDI) is a summary measure of average achievement by countries in key dimensions of human development: a long and healthy life, being knowledgeable and having a decent standard of living. However, the IHDI takes into account not only the average achievements of a country on health, education and income, but also how those achievements are distributed among its population by “discounting” each dimension’s average value according to its level of inequality. Countries are then placed into four categories of development; Very High (lowest inequality), High, Medium and Low (highest inequality).

Method

Data from the IPC results database, including team sizes (total and by gender) and medal success, was taken for all summer Paralympic Games from Sydney 2000 and all winter Paralympic Games from Nagano 1998 onwards and placed into Excel spreadsheets. Each competing NPC at a particular Games was then assigned with its corresponding rank (Very High, High, Medium and Low) from the United Nations IHDI ranking list (United Nations, 2015). Each set of data (Team Size and Medals won) was then grouped according to this assigned ranking. In terms of medal success data only countries winning at least one medal was included.

Participation

Average NPC team size by IHDI and gender at the last three summer Paralympic Games (2008-2016)

		Average Number				Average Number				Average Number		
		in Team (Beijing 2008)				in Team (London 2012)				in Team (Rio 2016)		
Country	NPCs	Men	Women	Total	NPCs	Men	Women	Total	NPCs	Men	Women	Total
IHDI Band												
Very High	51	31.71	17.49	49.20	53	31.02	17.66	48.68	51	30.41	19.76	50.17
High	41	20.22	10.02	30.24	45	19.53	10.96	30.49	43	20.04	12.74	32.78
Medium	30	4.27	1.97	6.24	30	5.83	2.17	8.00	29	6.17	2.34	8.52
Low	24	2.29	0.83	3.12	36	2.25	0.81	3.06	34	1.59	1.32	2.91

Team Size

Number of NPCs by IHDI group with only one, three or less and 5 or less athletes and no men or no women at the Rio 2016 summer Paralympic Games

	NPCs	1	3 or <	5 or <	No Men	No Women
Very High	51	3	9	11	3	4
High	43	4	18	21	1	5
Medium	29	10	18	19	0	13
Low	34	18	27	31	2	17
Total	157*	35	72	82	6	39

* Does not include the two male Independent Paralympic Athletes

Medal Success

Percentage of all available medals won by IHDI group at the last five summer Paralympic Games.

	1. Very High	2. High	1 + 2	3. Medium	4. Low	3 + 4
Sydney 2000	77.6 (41)	17.1 (19)	94.7 (60)	4.1 (4)	1.2 (4)	5.3 (8)
Athens 2004	67.1 (43)	26.8 (20)	93.9 (63)	4.5 (7)	1.5 (5)	6.0 (12)
Beijing 2008	58.0 (41)	36.6 (23)	94.6 (64)	3.8 (9)	1.6 (5)	5.4 (14)
London 2012	55.1 (40)	39.7 (23)	94.8 (63)	3.8 (8)	1.4 (4)	5.2 (12)
Rio 2016	55.4 (41)	37.5 (23)	92.9 (64)	5.6 (12)	1.5 (7)	7.1 (19)

Numbers in brackets are the number of NPCs from that IHDI ranking winning medals

Correlations

Pearson Correlations for NPCs participating at the Rio 2016 summer Paralympic Games (N=157)

	IHDI Rank	Team Size	Women	Medals
IHDI Rank 1= V. High, 4= Low	1	-.352**	-.330**	-.245**
Team Size	-.352**	1	.983**	.895**
Women	-.330**	.983**	1	.923**
Medals	-.245**	.895**	.923**	1

** Correlation is significant at the 0.01 level (2-tailed)

Medals won by countries in the Low IHDI ranking

Medals won by NPCs in the Low IHDI Group at the last three summer Paralympic Games (2008-2016).

Beijing 2008					London 2012					Rio 2016				
NPC	G	S	B	T	NPC	G	S	B	T	NPC	G	S	B	T
Kenya	5	3	1	9	Nigeria	6	5	2	13	Nigeria	8	2	2	12
Nigeria	4	4	1	9	Kenya	2	2	2	6	Kenya	3	1	2	6
Angola	0	3	0	3	Angola	1	0	1	2	Ethiopia	0	1	0	1
Pakistan	0	1	0	1	Ethiopia	0	1	0	1	Ivory Coast	0	1	0	1
Papua New Guinea	0	1	0	1						Uganda	0	1	0	1
										Mozambique	0	0	1	1
										Pakistan	0	0	1	1

Breakdown of Athletics medals won by countries in the Low IHDI ranking by classification

Classification of events where countries with a Low IHDI ranking have been successful at the last three summer Paralympic Games.

Type of Event	Number of Medals
Blind and visually impaired track races (T11-13)	25
Upper limb deficiency e.g. missing hand (T46)	7
Seated throw (minimal disability i.e. F57/58)	5
Mild Cerebral Palsy (F37/38)	2
Seated Throw (F54)	1
Short Stature (F40)	1

Winter Games Medal Success

Percentage of all available medals won by IHDI group at the last five winter Paralympic Games

	1. Very High	2. High	1 + 2	3. Medium	4. Low	3 + 4
Nagano 1998	89.1 (19)	10.9 (2)	100.0 (21)	0	0	0
Salt Lake 2002	87.3 (19)	12.7 (3)	100.0 (22)	0	0	0
Torino 2006	61.5 (16)	38.5 (3)	100.0 (19)	0	0	0
Vancouver 2010	65.5 (18)	34.4 (3)	100.0 (21)	0	0	0
Sochi 2014	50.0 (16)	50.0 (3)	100.0 (19)	0	0	0

Numbers in brackets are the number of NPCs from that IHDI ranking winning medals

Conclusions

- The anecdotal claims appear to be clearly backed up by the empirical evidence
- Participation in terms of team size and medal success is dominated by NPCs from resource rich nations.
- Where nations are successful from the less well resourced nations it is in sports and events not requiring access to expensive technology or facilities.
- The gulf in resourcing for parasport between high and low resource nations remains significant enough to challenge the very notion of the Paralympic movement as truly international.

Thank you for your attention

