

PAIN EXTENT AND FUNCTION IN YOUTH WITH PHYSICAL DISABILITIES

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Background and aims: Pain location and pain extent (i.e., the total number of body areas where pain is experienced) have been found to be associated with function over and above the effects of global pain intensity in adult populations [1]. However, the role that the spatial qualities of pain play in the function of pediatric populations with chronic pain is very limited. The aim of this study was to increase our understanding of the role that pain extent plays in function among young people with disabilities and chronic pain.

Methods: Participants were a convenience sample of 115 young people with physical disabilities and chronic pain between 8 and 21 years old (mean age=14.4 years; SD=3.3).

Table 1. Description of the study sample

Variable	N	Percent
Sex		
Boys	65	56.5%
Girls	50	43.5%
Diagnosis		
Cerebral palsy	39	33.9%
Amputation	4	3.5%
Limb Deficiency	3	2.6%
Spina Bifida	27	23.5%
Muscular dystrophy	29	25.2%
Spinal Cord Injury	11	9.6
Amputation & Limb Deficiency	2	1,7%

Measures:

Pain intensity: Numerical Rating Scale – 11. Participants were asked to rate their average pain intensity in the past week and for each of their pain locations.

Pain location: Participants were asked to indicate in which of 12 body location categories (that included 11 specific locations as well as an “other” category) they experienced pain as well as the intensity of the pain at each one of those locations. The 12 locations were: head, neck, chest, shoulders, back, arms, hands, bottom/hips, belly/pelvis, legs, feet, and “other”.

Pain interference: modified version of the Brief Pain Inventory (BPI; [2]).

Psychological functioning: 16-item Mental health scale of the Child Health Questionnaire (CHQ-CF87; [3]).

Disability: 15-item Functional Disability Inventory (FDI; [4]).

Results:

Table 2. Multiple Regression Analyses Predicting Pain Interference

Step and Variables	Total R ²	R ² change	F change	Beta
1. Average pain intensity in previous week	.38	.38	69.95**	.36
2. Pain extent	.46	.08	16.42**	.30
3. Back Pain Intensity	.49	.02	5.33*	.29

* p<.05 ** p<.001

Table 3. Multiple Regression Analyses Predicting Disability

Step and Variables	Total R ²	R ² change	F change	Beta
1. Average pain intensity in previous week	.13	.13	16.27**	.36
2. Pain extent	.21	.08	11.33*	.30
3. Bottom/Hips Pain Intensity	.27	.06	8.73*	.29

* p<.05 ** p<.001

Table 4. Multiple Regression Analyses Predicting Psychological Functioning

Step and Variables	Total R ²	R ² change	F change	Beta
1. Average pain intensity in previous week	.21	.21	30.15**	-.46
2. Pain extent	.35	.14	22.59**	-.38
3. Shoulders Pain Intensity	.37	.02	4.41*	-.18

* p<.05 ** p<.001

There was a positive association between pain extent and intensity with pain interference, and a negative association with psychological functioning and disability in the study sample. Moreover, pain intensity at specific sites contributed to the prediction of pain interference (back pain), psychological functioning (shoulder pain) and disability (pain in the bottom/hips).

Conclusions:

The findings support the importance of assessing pain intensity at specific locations as part of a thorough evaluation of young people with disabilities and chronic pain. Furthermore, this preliminary results call our attention about the need to identify potential risk factors of pain extent, and develop and evaluate the benefits of treatments that are designed to reduce pain extent and target pain at specific sites, when managing pain in this group of youth.

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