

# Exercise self-efficacy in newly injured versus chronically injured persons with spinal cord injury

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## INTRODUCTION

- Perceived self-efficacy is defined as the "beliefs in one's capabilities to organize and execute the course of action required for producing given attainments" (Bandura, 1997).
- Persons with SCI are at high risk for leading a sedentary lifestyle, which may increase risk for a variety of secondary conditions.
- The SCI Exercise Self-Efficacy Scale (ESES) was designed to measure exercise self-efficacy (ESE) among this population.
- This poster presents data analysis that emerged as a continuation of two separate projects on studying exercise specifics in the SCI population.
- Our objective was to explore differences in exercise self-efficacy (ESE) and the frequency of physical activity in individuals with newly acquired versus chronic spinal cord injury (SCI)

## METHODS

- The data analysis was based on a cross-sectional design with static group comparison aimed at identification of differences in the domains of exercise self-efficacy (ESE) and exercise frequency.
- The ESES is a 10-item 4-point Likert scale that has been tested and found to be reliable with high internal consistency, and construct validity when correlated with the Generalized Self-Efficacy Scale (Jerusalem & Schwarzer, 1992).
- Two groups, newly ( $\leq 2$  years post injury) versus chronic SCI ( $\geq 10$  years) with similar demographics and level of injury were compared.
- Data on exercise habits, and ESE were collected using the ESES.
- The 'acute' group (n=22) were assessed locally; the 'chronic' group (n=22) were matched from a subsample of a larger nation-wide survey (n=627).
- Bi-variate analysis was performed to identify any significant associations between the variables within and between the 2 groups.

## RESULTS

A positive significant association between ESE and physical activity in the chronic group ( $r=0.51$ ,  $p=0.01$ ) was revealed using Spearman's RHO. However, such an association was not found in the newly injured group ( $r=0.27$ ,  $p=0.23$ ). Group comparison using a Mann-Whitney U non-parametric measure showed significant differences in ESE ( $Z=2.3$ ,  $p=0.02$ ) with the chronic group demonstrating a higher level of ESE.

TABLE 1: Demographic Information

	Newly injured group n= 22	Chronically injured group n=22
<b>Gender</b>		
Female	3 (13.6%)	10 (45.5%)
Male	19 (86.4%)	12 (54.5%)
<b>Age</b>		
Mean	36.09	45.8
Range	22-57	23 - 72
<b>Ethnicity</b>		
Caucasian	4 (18.2%)	7 (31.8%)
African American	14 (63.6%)	14 (63.6%)
Hispanic	4 (18.2%)	1 (4.5%)
<b>Years since injury</b>		
Mean	1.2	12.8
Range (yrs)	0.6 – 2	2 - 32
<b>Level of Injury</b>		
Tetraplegia	12 (54.5%)	9 (40.9%)
Paraplegia	10 (45.5%)	13 (59.1%)
<b>Exercise frequency</b>		
Mean (SD)	3.1 (1.08)	1.3 (0.9)
<b>ESE Total score</b>		
Mean (SD)	30.2 (4.6)	33.1 (5.6)

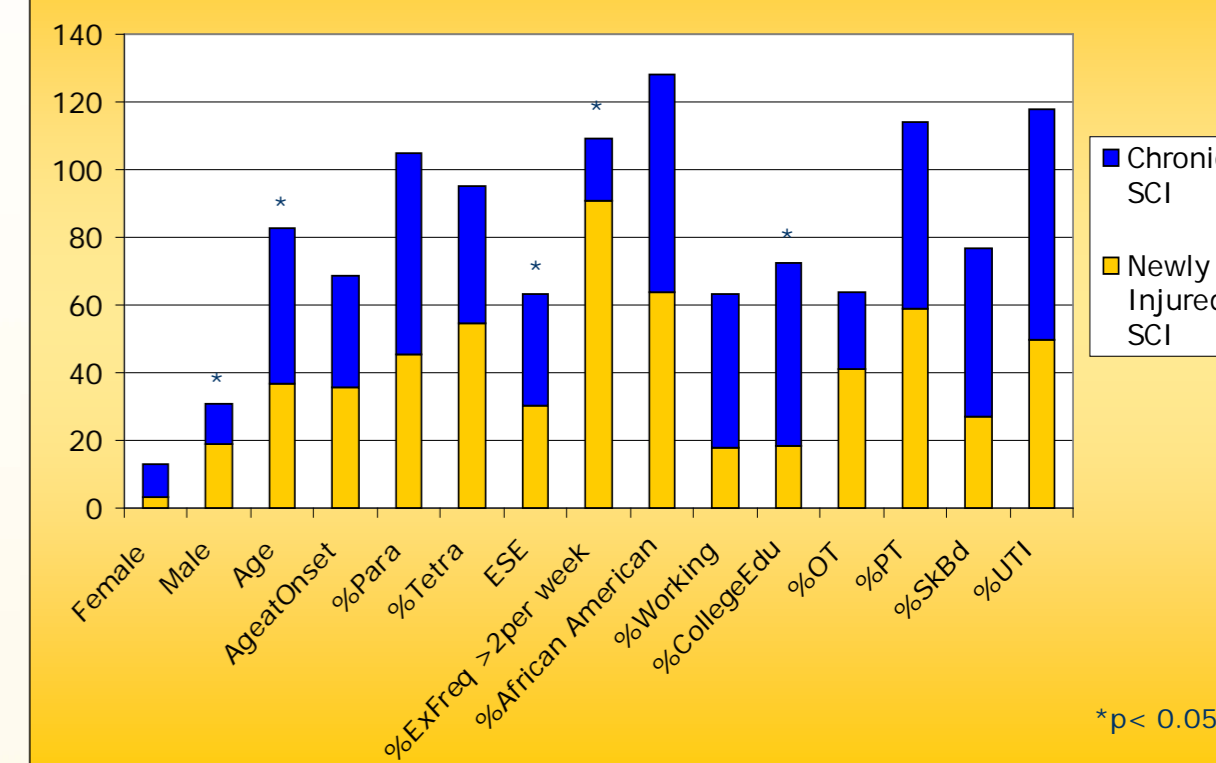
## The SCI Exercise Self-Efficacy Scale (ESES)

I am confident:	Not at All True	Rarely True	Sometimes True	Always True
that I can overcome barriers and challenges with regard to physical activity and exercise if I try hard enough	1	2	3	4
that I can find means and ways to be physically active and exercise	1	2	3	4
that I can accomplish my physical activity and exercise goals that I set	1	2	3	4
that when I am confronted with a barrier to physical activity or exercise I can find several solutions to overcome this barrier	1	2	3	4
that I can be physically active or exercise even when I am tired	1	2	3	4
that I can be physically active or exercise even when I am feeling depressed	1	2	3	4
that I can be physically active or exercise even without the support of my family or friends	1	2	3	4
that I can be physically active or exercise without the help of a therapist or trainer	1	2	3	4
that I can motivate myself to start being physically active or exercising again after I've stopped for a while	1	2	3	4
that I can be physically active or exercise even if I had no access to a gym, exercise, training, or rehabilitation facility	1	2	3	4

## DISCUSSION & CONCLUSION

- Persons with chronic SCI have a higher level of ESE and are characterized by an established link between exercise and self-efficacy. Such a finding demonstrates an association between intention (exercise self-efficacy) and actual performance (frequency of exercise) in persons with longer SCI duration.
- Study results suggest that people with chronic disability such as SCI can develop self-management skills over time that enable them to maintain functional status through coordination of self-perception (intentionality) and execution of planned actions (actual performance of exercise).
- The findings suggest the importance of educational efforts targeting self-management skills development in newly injured individuals in order to support sustainability of individual functioning, including exercise, later in life.

Newly Injured SCI vs. Chronic SCI: Group Comparison



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