

Title:

Cognitive Learning and Sensorimotor Function Provide a Protective Effect From Disability in Low Back Pain

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Abstract: (Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 300 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

Introduction

It is well established that pain and disability are not directly related. Recent research shows that cognitive learning function (CLF) is associated with psychological reactions and cognitive errors such as fear or anxiety, which are linked to disability.

Methods

A cross sectional study was performed on 263 individuals who had chronic low back pain (LBP) for more than a year from the age of 18-60 (147 female; 116 male). They completed the Roland Morris Disability Questionnaire (RMDQ), the Patient Specific Functional Questionnaire, the Quadruple Numerical Rating Scale, and the Motor Control Abilities Questionnaire (MCAQ). Work status was assessed with the work measure subgroup of the F4 Functional Scale. The MCAQ consists of items that rate aspects of CLF, sensorimotor function (SF). Previously determined cut off points of 20 and below and 80 or greater were used. Statistical analysis was done with a t test and rate ratio from a standard 2 x 2 table.

Results

23 Subjects who scored 20 or under on the MCAQ minimal disability associated with their pain. The mean RMDQ score was 1.7. The mean pain level was 5.7. The subjects who scored above 80 on the MCAQ (n=18) had a mean pain score of 6.8 and a mean RMDQ score of 16.8. This was significant ($p < 0.05$). The rate ratio of being disabled from work if the score is below 20 was 0.03.

Discussion

The results from this study allow us to hypothesize that certain aspects of CLF and SF may provide a preventative effect from disability due to LBP. It is hypothesized that CLF deficits do not allow normal problem solving to develop, limit normal appraisal of the threat value of pain and contribute to the development of psychological reactions. The identification of cognitive learning abilities may be an important new sub-classification method. A larger sample size is required to confirm these findings.