The Reliability and Validity of a Measure of Perceived Functional Capacity for Work in Chronic Back Pain

Libby Gibson and Jenny Strong

Psychosocial factors, including perceived disability and self-efficacy, are important determinants of outcome for individuals with chronic back pain. Consequently, there is a need for an evaluation and consideration of such factors in occupational rehabilitation. This study evaluated the reliability and validity of a tool, the Spinal Function Sort, as a measure of perceived capacity for work-related tasks with 42 rehabilitation clients with chronic back pain. Results provided support for the internal consistency (Cronbach's alpha of 0.97), test-retest reliability (ICC of 0.89) and construct validity of the Spinal Function Sort as a measure of perceived capacity for work-related tasks in persons with chronic back pain. Measures of similar constructs were significantly correlated with the Spinal Function Sort and were highly predictive of the Spinal Function Sort on multiple regression. Relationships between perceived work capacity and pain intensity and gender are discussed. The need for the consideration of perceived capacity in the evaluation and rehabilitation of persons with chronic back pain is highlighted.

KEY WORDS: back pain; work disability; self-efficacy; functional capacity evaluation; measurement; reliability; validity.

INTRODUCTION

The high cost of back pain, both in financial and personal terms is well recognized. Early intervention and functional restoration approaches have demonstrated success in minimizing costly disability from back pain (1-3). However, there continues to be a small percentage of people who develop chronic pain and who require relatively high expenditure in terms of medical, compensation, and rehabilitation costs (3-11).
Models of back pain and disability (12-15) commonly refer to a complex interplay of factors in determining disability and long-term outcome. They include biological, medical, psychological, social, economic, demographic, and environmental factors. Return to work is an important outcome measure of disability from back pain (1, 16, 17). Some studies examining predictors of disability from chronic back pain have highlighted the greater value of psychosocial over physical factors in predicting vocational outcome (5, 18-21). A recent study which followed up subjects with acute low back pain after 1 year also found psychosocial factors to be more predictive of disability than physical findings obtained from clinical examination (22). Consequently, there has been a call for greater attention to such psychosocial factors in disability determination (5, 18) and in the early stage of back pain management (22) and rehabilitation (2, 6, 14, 19).

Psychosocial factors which are strong predictors of vocational outcome for the person with chronic pain include the person's own perceptions of his or her disability and of the likelihood of returning to work. A comparison of working and nonworking groups of subjects with chronic pain found that perceived physical disability, along with other psychosocial and environmental job factors, was a significant discriminator between the two groups, with the nonworking group reporting significantly higher levels of perceived physical disability (6). In a prospective study of persons with chronic low back pain undertaking a vocational rehabilitation program, the strength of the person's own prediction of whether he or she would return to work was a significant predictor of vocational outcome at follow-up 1 and 4 years later (23). Similarly, a predictive analysis of symptoms and signs and psychosocio-demographic factors for vocational outcome of a group of rehabilitation clients with chronic pain found the person's belief in the likelihood of return to work to be one of the most significant predictors (20). In contrast, the symptoms and signs recorded by a physician had only limited predictive value of return-to-work outcome.

The person's expectation of return to work, along with other psychological factors, has been found to also be significantly related to performance on so called “objective” tests of function of persons with chronic pain (24, 25). Papciak and Feuerstein (24) found significant correlations between measures of psychological variables and performance on isokinetic trunk strength testing. Low return to work expectations and heightened perceived disability have also been shown to be significantly associated with failure of clients with chronic low back pain to complete a multidisciplinary rehabilitation program (26).

Some authors (6, 24, 25, 27) have suggested that the strong influence of the person's perception of his/her disability on function and potential for work is explained in part by self-efficacy theory (28, 29). Self-efficacy theory recognizes the importance of the effect of the person's perceptions and cognitions on behavior (6). For persons with chronic pain, self-efficacy expectancies, defined as “a belief about one's ability to perform a specific behavior” (30, p. 263), have been found to be strongly related to adjustment and coping (31) and the actual performance of physical tasks (31, 32). Self-efficacy measures are also significantly related to perceived functional status in subjects with chronic back pain (33, 34). Measures of self-efficacy have been better predictors of performance of low back pain pa-