This study evaluated the relationship between pain self-efficacy, occupational performance and satisfaction with performance in clients with chronic pain who participated in a hospital-based pain management program. Self-efficacy was measured using the Pain Self-Efficacy Questionnaire (PSEQ) (Nicholas, 1988). Occupational performance and satisfaction were measured using the Canadian Occupational Performance Measure (COPM) (Law, Baptiste, Carwell, McColl, Polatajko & Poliack, 1998). Data was collected from 64 clients who completed both PSEQ and COPM pre and post a three-week pain management program. Results of the study demonstrated a positive difference between pain self-efficacy and occupational performance (t=4.43, df=62, p<.05), and satisfaction (t= 4.02, df=62, p<.05). This research suggests that therapy should address the beliefs of clients about their ability to perform occupations when living with chronic pain (Strong, 1995), as well as adding weight to the utilisation of the PSEQ and COPM as reliable and valid assessment measures for those with chronic pain.
Self-beliefs about Pain and Occupational Performance:

A Comparison of Two Measures used in a Pain Management Program.

Key Words: Pain Self-Efficacy Questionnaire, Canadian Occupational Performance Measure, chronic pain, compensation status.

ABSTRACT

This study evaluated the relationship between pain self-efficacy, occupational performance and satisfaction with performance in clients with chronic pain who participated in a hospital-based pain management program. Self-efficacy was measured using the Pain Self-Efficacy Questionnaire (PSEQ) (Nicholas, 1988). Occupational performance and satisfaction were measured using the Canadian Occupational Performance Measure (COPM) (Law, Baptiste, Carswell, McColl, Polatajko & Pollack, 1998). Data was collected from 64 clients who completed both PSEQ and COPM pre and post a three-week pain management program. Results of the study demonstrated a positive difference
between pain self-efficacy and occupational performance \((t=4.43, df=62, p<.05,\) and satisfaction \((t=4.02, df=62, p<.05)\). This research suggests that therapy should address the beliefs of clients about their ability to perform occupations when living with chronic pain (Strong, 1995), as well as adding weight to the utilisation of the PSEQ and COPM as reliable and valid assessment measures for those with chronic pain.

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People experiencing chronic pain may feel its impact in many areas of their lives. Psychological, behavioural, social, cultural and environmental factors can directly affect performance in daily occupations. Therefore chronic pain has been stated as affecting the person as a whole and not just the painful bodily part (Rey, 1993). This can lead to the person affected experiencing increased feelings of helplessness and loss of meaning in life (Sternbach, 1974), which leads to a resultant disruption in occupational role performance (Strong, 1996). As such, utilising a medical model as sole intervention may not cater for the various dimensions and perceptions of the individual living with chronic pain.
The International Association for the Study of Pain defines chronic pain as “A persistent pain that is not amenable, as a rule, to treatments based upon specific remedies, or to the routine methods of pain control such as non-narcotic analgesics” (Merskey & Bogduk, 1994, p. xii). Thus alternatives to these remedies have been developed. One of these is Cognitive Behavioural Therapy (CBT). This approach was first applied to the management of chronic pain by Turk and Hozman (1986) and is widely used in chronic pain programs including the one described in this study. This method assists clients to alter their thoughts, negative perceptions, and pain behaviours. It also promotes the use of adaptive cognitive and behavioural coping skills, which have been shown to improve physical and psychological functioning (Turner 1996; Turner, Jensen & Romano, 2000). This will be discussed further in the background to the study section.

The construct of self-efficacy was first introduced by Bandura (1977). According to Bandura, individuals possess a self-system that enables them to exercise a measure of control over their thoughts, feelings, motivation and actions, in reference to some type of goal (Bandura, 1986).

The use of self-efficacy as an outcome measure in pain management programs has been examined in a number of studies (Asghari & Nicholas, 2001; Dolce, Crocker & Doleys, 1986; Jensen, Turner & Romano, 1991).

There have been a number of instruments developed for assessing an individual’s self-efficacy beliefs related to chronic pain. These include the Movement and Pain Prediction Scale (MAPPS) (Council, Ahern & Follick, 1998), The Self-Efficacy Gauge (Gage, Noh, Polatajko & Kasper, 1994), and the Pain Beliefs Questionnaire (Gottlieb, 1984, cited in Strong, 1995). The Pain Self-Efficacy Questionnaire (Nicholas, 1988) was used in this study. Its characteristics are described in the Methods section.
A number of studies have examined the relationship between self-efficacy beliefs and physical performance outcomes related to patients with chronic pain. (Dolce et al., 1986; Dolce, 1987; Jensen et al., 1991). Dolce et al. (1986) explored self-efficacy in relation to treatment outcome following a behavioural program. Higher self-efficacy ratings were significantly related to return to work status, decreased medication levels, and continued exercise. In a study by Williams, Nicholas and Richardson (1993), cited in Strong (1995), patients who had participated in a cognitive-behavioural chronic pain program showed significant improvement post-treatment for several factors including self-efficacy and physical condition.

Barry, Guo, Kerns, Duong, and Reid (2003) demonstrated a positive relationship between pain-related disability and functional self-efficacy. As the level of functional self-efficacy decreased, the likelihood of experiencing pain-related disability increased.

Altamier, Russell, Kao, Lehmann and Weinstein (1993) found gains in self-efficacy (occurring as a treatment effect) were associated with improved functioning and lower self-reports of pain at 6-month follow-up.

There has also been a steadily increasing body of work in the field of occupational therapy exploring the importance of pain self-efficacy, its relationship to occupational performance and the impact of this on people with chronic pain (Gage et al., 1994; Strong 1995; Carpenter, Baker & Tyldesley, 2001; Walsh, Kelly, Johnson, Rajkumar & Bennetts, 2004). Occupational performance has been defined in this instance as a hierarchy of roles, occupations, actions, and tasks, of an individual as he or she goes about his or her daily life (Christiansen & Baum, 1997, p.54).
Previous studies have reported on the relationship between pain-self efficacy and occupational performance using the PSEQ and the COPM such as those conducted by Carpenter et al. (2001) and Walsh et al. (2004). However, in the Carpenter study approximately half the subjects (49.5%) demonstrated no improvement at follow up compared to their pre program score on the COPM. This study replicates aspects of the Carpenter et al. (2001) and Walsh et al. (2004) studies with reference to the assessment tools used.

Compensation status, i.e., whether or not clients receive a compensation benefit for an injury sustained at work, has been considered in a number of studies as both a risk factor to developing pain chronicity and a possible indicator of failure to improve when undertaking chronic pain treatment programs. In a discussion and summary of chronic pain and compensation issues, Mendelson, (1994, chap. 78), cited in Wall and Melzack (1994), considered the response to various treatment programs for people presenting with chronic pain who received compensation and those who did not. He conducted a systematic review of the literature and noted that studies have shown inconsistent results between compensability and treatment outcome. Kendall et al. (1996), cited in Wall and Melzack (1999) identified possible “yellow flags” of risk factors for pain-related disability for the New Zealand Accident Rehabilitation and Compensation Insurance Corporation. These included compensation issues centred on negative beliefs about the work environment from both a job task and human support perspective and lack of financial incentive to return to work. These were seen as related to possible negative treatment outcomes for chronic pain intervention.

Goosens, Vlayen, Hidding, Kole-Snijders and Evers (2005) expected disability compensation to be one of the factors that may influence pre-treatment factors and
post-treatment outcome. Their study was undertaken using two randomised control trials of 171 participants involved in three different intervention programs ranging from a cognitive-behavioural focus to a waiting-list control group. Forty-four percent of their participants were receiving a compensation benefit. They found that those who were receiving a lower percentage of compensation had higher levels of pre-treatment expectancy. However, in post-treatment scores the association was not apparent and thus analysis and discussion of this were limited in their study.

Persson, Rivano-Fischer and Eklund (2004) studied occupational performance (measured using the COPM), and the relationship between this pre and post pain program intervention, on a number of clinical and demographic factors including compensation status. The findings indicated a statistically significant positive change in occupational performance for those receiving compensation compared with those who did not.

Due to the equivocal results shown in the above research, it was decided (out of author interest), to assess the effect of compensation status, considering that 59% of participants were receiving a compensation benefit.

**Background of the study**

This study was part of ongoing research that took place over 12 months at the Wodonga Regional Health Service (WRHS) Pain Program, and arose from questioning by the occupational therapists involved as to how individuals’ perceptions of their ability to undertake activity may influence their actual performance of occupations.
The WRHS is located on the border of Victoria and New South Wales in regional Australia. This accredited Pain Program is situated on site utilising the existing allied health area, conference room, and a specific office/interview area. Clients are offered a three-week intensive residential program, based on a bio-psychosocial model of pain (Cronin Mosey, 1974, cited in Strong, 1996). This model considers that the body, mind and environment of the individual cannot be separated when working with people who have chronic pain. Thus, the focus of the program is on psychosocial, biomechanical, and medical aspects of pain management and how these factors interact with the person’s environment (Cronin Mosey, 1974, cited in Strong, 1996).

The primary psychological component of the program is aimed at cognitive-behavioural modification (Turk & Hozman, 1986). This aims to challenge negative thoughts and beliefs about pain, teach specific coping skills and pro-active strategies to deal with flare-ups, and help clients reconceptualise how they can live with pain in the future (Turk & Meichenbaum, 1994, cited in Strong, 1996). The physical reactivation component of the program looks at clients actively re-engaging in valued occupations by grading tasks and using principles of energy conservation and postural adjustment (Waddell, 1984). The focus of this is to develop clients’ beliefs consistent with a self-management approach and thereby reduced reliance on health care professionals. Prior to acceptance into the program, clients undergo a rigorous multidisciplinary screening assessment.

The screening assessment consists of medical, psychological, physical and functional interviews to determine client suitability for the program. During screening several measures are administered including the PSEQ and COPM. The PSEQ scale was being trialled by the WRHS Pain Program to ascertain its value as one of the outcome measures for the program, which is why it was utilised in this study. The COPM had been included as an outcome measure in the WRHS Pain Program since its inception in 1995. Some measures have been used historically in the program and are being re-evaluated to gauge their continuing usefulness. The Modified Barthel Index (Mahoney & Barthel, 1965), is an example here. People who require more than minimal assistance with self-care tasks are not considered
suitable for the program due to the self-management focus. As most participants have a high level of functioning in self-care and thus obtain an independent score the data gained from this measure does not show any significant difference from pre to post program.

Clients are eligible to attend the program if they have chronic non-malignant pain, are eighteen years of age or older, and agree to participate in the screening process. Clients are considered to be unsuitable for the program if they are actively abusing alcohol or drugs, have current suicidal ideation or active psychotic symptoms, are not independent in personal activities of daily living, or are contemplating or undertaking procedural interventions such as surgery. During the three-week program, clients attend on a daily basis from 8.30 a.m. to 5.00 p.m. and return home on weekends. Clients are required to attend all sessions. These sessions include twice-daily physical reactivation (stretching, walks, hydrotherapy, and an exercise circuit with some individual exercises), daily lectures (consisting of education regarding the nature of chronic pain, psychological impact of chronic pain, body mechanics, goal setting, and activity planning), rationalisation and reduction of medication use, and effective use of relaxation techniques with different methods being trialled on a daily basis. Development of a maintenance plan to assist with carryover of strategies to home on discharge is also facilitated. The program is staffed by a multidisciplinary team, that consists of a pain management consultant, musculoskeletal physician, psychologist, probationary psychologist, registered nurse, physiotherapist, occupational therapist and an allied health assistant. Clients who complete the program attend a review, six weeks post completion of the program, which consists of psychological, physical and functional reassessment. The same questionnaires are completed at review.
Aims of the study

The study had the following aims: to evaluate the program outcomes and determine if participants had benefited from the program in terms of increased self-efficacy, enhanced performance and greater satisfaction with performance as reflected as scores on the PSEQ and COPM; to determine the relationship between the Pain Self-Efficacy Questionnaire (PSEQ) and Canadian Occupational Performance Measure (COPM), and to examine possible factors related to differential outcomes on the COPM. It was hypothesised that the PSEQ would be a predictor of improvement on the occupational variables (performance and satisfaction with performance) but that effect would be moderated by compensability status. The research question was would those who improved in performance/satisfaction be differentiated from those who did not in terms of pain self-efficacy beliefs?

The following hypotheses were examined:

a) That PSEQ scores will be higher at a six-week review than pre-program
b) That scores on the PSEQ at the six week review will differentiate between those performing better on the COPM (performance and satisfaction measures), compared with those who have not improved.
c) That there will be a difference in outcome on the above measures related to compensability status. As previous research indicated conflicting results, the direction of this difference was not predicted.

METHOD
Participants

Of the 114 people eligible to participate in the study, 64 met the inclusion criteria. Prospective participants were excluded if they did not complete the program or did not attend the six-week review. The high exclusion rate of participants will be further addressed in the discussion section. Any participants who did not voluntarily consent to participate were not included. Of the 64 participants, 28 (43.8%) were male, and 36 (56.2%) were female.

Table 1 indicates the pain sites reported by participants and those who were not included in the study. Apart from a slightly higher percentage of reported cervical pain in the non-participant group, the groups would otherwise not appear to be significantly different. As can be seen from the table the majority of subjects reported having low back pain as their primary pain site.

(Insert Table 1)

The average age of clients was 46. Clients participating over the 12-month period presented with pain varying from 7 to 300 months. The mean length of pain duration was calculated at approximately 5 ½ years. Of those participating, 38 were receiving a compensation benefit (Group C+), with 26 being non-compensable (Group C-). Eleven participants had completed tertiary education, whilst the remaining 53 had completed at least two years of secondary education. The majority of clients reported being in continuous pain (53) with 11 clients reporting pain frequency of several times a day.

Measures

The PSEQ

The Pain Self-Efficacy Questionnaire (Nicholas 1989, cited in Asghari & Nicholas, 2001), was one of the measures utilised in this study. It is a 10-item scale that was developed specifically for people with chronic pain (Strong, 1995, p 98). It measures confidence in coping with activities of daily living despite pain. Ten statements are rated using a 0-6 scale, where 0 = not confident and 6= completely confident. The
higher the score, the greater the degree of self-efficacy in coping with pain (Carpenter et al., 2001). Studies have reported the test-retest reliability and internal consistency of the PSEQ at 0.79 and 0.92 (Nicholas 1989, cited in Asghari and Nicholas, 2001). In studies by Gibson and Strong (1996) and Asghari and Nicholas (2001), internal reliability measured using Cronbach’s α, was 0.94 and 0.92 respectively. The measure’s validity was also noted in the Gibson and Strong study (1996) with high correlations evident between PSEQ scores and work-related tasks.

The COPM

Law et al. developed the Canadian Occupational Performance Measure (COPM) in 1994. This takes the form of a semi-structured interview, which “examines the individual’s performance and satisfaction with performance in the areas of self-care, productivity and leisure” (Law et al., 2000, p 68). Any activities that the client sees as a problem are rated in terms of importance on a scale of 1-10, with 1= not at all important, and 10= extremely important. The five highest rating problems are then the focus of intervention and subsequent outcome measurement. Using a similar scale, the client is then asked to rate satisfaction with performance in the five problem areas pre and post-intervention. The two scores are calculated separately. A two-point difference in either direction is seen as indicating significant change. (Carpenter et al, 2001). Thus in this study, only score increases of 2 or greater are considered to indicate improvement. The reliability, validity, and client utility of the COPM have also been established (Walsh et al. 2004; Chan and Lee, 1997).
**Procedure**

All clients attending the pain program between August 2002 and November 2003 were eligible to participate in the study. Ethics approval was obtained from both a hospital based ethics committee and the Charles Sturt University Human Ethics Committee. Informed consent was gained for all participants.

The PSEQ was administered on day 1 of the program and again at six weeks post-program at review. The COPM was administered in the first week of the program and again at the post-program review. Program staff collated the participant’s PSEQ and COPM forms using an identifying number and data was recorded using a secure computer system.

**Data Analysis**

A paired samples t-test was conducted to test the first hypothesis, that PSEQ scores would be higher at review than pre-pain program. Paired samples t-tests were also used for the COPM performance and satisfaction ratings pre and post program. Independent t-tests were used to test the second hypothesis that higher PSEQ scores at six-week review would indicate those who performed better on the COPM. Descriptive statistics means and standard deviations for those who improved, retained equal scores or deteriorated on the COPM were also calculated. The authors had hypothesised that compensation status would affect improvement on both PSEQ and COPM scores (hypothesis c). Descriptive statistics, means and standard deviations were calculated between those receiving compensation or not on COPM post-test scores. In order to test whether or not compensability was statistically related to improvement on the COPM and PSEQ, difference scores
(taking into account baseline scores on the measures) were also considered. The score values pre-intervention was then subtracted from the scores at post program review. *T*-tests for independent samples were then calculated to identify any differences between those receiving or not receiving compensation. All analyses were conducted using Windows 2000, Statistical Package for the Social Sciences (SPSS), computer software.

**Results**

With regard to the first hypothesis, there was a significant difference in PSEQ score from pre-program to review (*t*= 3.20, *df* 63, *p* <.01) (Table 2).

(Insert Table 2). For the second hypothesis difference scores on the COPM were calculated by subtracting the score at review from the score pre-program. The group was then divided into two categories, those who had improved at review on both satisfaction and performance (a positive difference score greater than 2), and those who had not (a decrease or a difference score less than 2). There were 26 participants who had an improved performance rating with an additional 6 participants who recording a higher satisfaction rating. Thirty-eight people performed relatively equal or worse on the performance rating, while 32 participants had equal or worse scores on the satisfaction rating.

(Insert Table 3).

The participants who had improved on COPM-scores had significantly higher scores on the PSEQ than the group that had not improved (COPM performance, *t* =4.434, *df* = 62, *p* <.05; COPM satisfaction, *t*=4.02, *df*=62, *p*<.05 ). This supports the second hypothesis. The previous division ‘dissolved’, the participants were then divided into two groups of those receiving compensation (C+) and those who were not (C-) (see Table 4).
It had been hypothesised that compensation status would affect improvement on both PSEQ and COPM performance and satisfaction scores. Positive scores indicated improvement, while negative scores indicated deterioration, and zero indicated no change. There was no significant difference between those receiving compensation or not (COPM performance $t=.91$, $df=62$, $p>.05$; COPM satisfaction $t=.626$, $df=62$, $p>.05$; PSEQ $t=1.21$, $df=62$, $p>.05$). (Table 5)

Discussion

Pain self-efficacy scores, using the PSEQ assessment scale, were found to be higher at review 6 weeks following the WRHS pain program. This result appears to be directly influenced by the participants’ involvement in the cognitive-behavioural program, which supports the results of other studies using a similar methodology (Carpenter et al, 2001; Walsh et al., 2004). Improvement on the PSEQ was related to improvement in occupational performance measured by the COPM. This would suggest the validity of using these two measures in cognitive-behavioural based, chronic pain programs. This supports the authors’ aims of exploring the utility of the PSEQ and COPM as outcome measures for pain management programs and the relationship between the two measures which appear to be correlated.

However, there are limitations within the study that need to be noted.

There was a high rate of incomplete data that could not be utilised from the initial subject numbers (114 down to 64, being 56%). This was related to participants not completing the whole program, not attending the six-week review, or not completing all review assessments. Similar rates of exclusion by active withdrawal have been noted in studies where voluntary
follow-up is required (Asghari & Nicholas, 2001). It was decided to use only complete data sets rather than using mean within subjects’ substitution to calculate missing scores (Strong, 1995, p. 99), to remain true to the data.

It should be noted that although the COPM has been shown to be a reliable outcome measure across a number of studies, Walsh et al. (2004) recommended caution in interpretation of separate performance and satisfaction scores. Within the Walsh study, there appeared to be a high positive correlation between these two scores after intervention and also to that of the PSEQ. Walsh et al. (2004) have stated that the PSEQ and the COPM may “reflect self-efficacy and satisfaction more than the participants’ perception of their actual performance” (p. 9). We consider that this is a possible consideration to be aware of.

Similarly, to the Carpenter et al. (2001) study, approximately half of the participants did not benefit from the program in terms of improvement in performance and satisfaction on the COPM and in improved pain self-efficacy on the PSEQ. Indeed it was noted that for some participants there were inconsistencies in improvement on only one measure, or marked deterioration on one or more measures between their pre-test and post-test scores. This raises the issue as to whether cognitive-behavioural programs meet the needs of all clients participating in them. Vlaeyen and Morley (2005, p. 3) noted that although cognitive-behavioural interventions are generally effective there are significant numbers of clients who do not improve. A critical review of studies using a cognitive-behavioural approach was also conducted by Law, Stewart, Pollock, Letts, Bosch, Westmorland and Philpot (1999). This review noted that, although there were more positive outcomes compared to non-intervention, the results varied markedly from study to study depending on outcome measures used and level of significance of results. This should be considered by occupational therapists working in pain management programs utilising a cognitive-behavioural framework.

This study did not show compensable status to have a significant effect on the key variables, the PSEQ and COPM. This would support Mendelson’s (1994) review of this issue where he noted that although compensation status could have adverse effects on treatment
response this varied enormously between studies. Goosens et al. (2005), found that compensation status did not affect treatment expectancy beliefs about the success of a given pain treatment on the final treatment outcome. It is worth noting that as the mean length of pain duration of participants’ was 5 ½ years in this study, compensation issues may have been longstanding. Therefore, return to work was not always a focus of the program for those participating.

Both measures (PSEQ & COPM) are based on self-perception as opposed to objective measurement. However, as stated by Strong (1995, p. 101), “a patient’s perception of his or her level of functional ability or its corollary, disability, is of importance in terms of what the patient will actually do.” There is therefore a need for research to explore the influences on pain program participant’s perceptions in order to improve the predictive validity of instruments such as the PSEQ. Such research (in the authors’ opinion) will need to consider qualitative methodologies to consider other factors that may affect the success or otherwise of pain programs for participants.

These findings should inform occupational therapy practitioners about the importance of engaging clients not only in the doing experience of the occupation but the beliefs clients have about their ability to do. Emphasis is needed on promoting positive self-efficacy perceptions to impact on activity performance. Fleming, McKenna, Murchison, Wood, Nixon, Rogers and Hutcheson (2003), studied self-efficacy as a client-centred outcome measure. They noted that Bandura’s principle of self-efficacy is becoming a more prominent concept in health care as it emphasises empowerment and self-management, and encourages people to take control of key tasks in their lives. This would appear to support the underlying philosophy of occupational therapy, which encourages clients to have an active role in decision making about what is important in their lives, identifies what occupations have personal priority, and enables the re-engagement in these occupations for people who may be living with the physical, psychosocial, and task-related limitations of chronic pain. It is therefore pertinent to consider the PSEQ and COPM as valid outcome measures of pain programs when considering evidence-based funding where occupational
therapists are increasingly required to show the benefits of the services that they provide to clients.

Acknowledgements

The authors would like to acknowledge the support and assistance of Ms Kate Brady; Wodonga Regional Health Service Pain Program and Drs Suzy Gattuso and Robert Trevethan for invaluable editing and analytical assistance. The authors would also like to note the contribution of the anonymous reviewers, whose critical appraisal of this article provided a valuable learning opportunity for novice researchers.

Papers based on this research have been presented at the 22nd National O.T. Australia Conference, April, 2003 and the 25th Annual Scientific Meeting of the Australian Pain Society, March, 2004.

References


Bandura, A. (1986). *Social foundations of thought and action: A social cognitive*


783-790.


Table 1

Reported Pain Sites and Percentages for Study Participants and for Those Excluded From the Study.

<table>
<thead>
<tr>
<th>Pain Site</th>
<th>Participants (N=64)</th>
<th>Non-participants (N=50)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Cervical region</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Shoulder and upper limbs</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Thoracic region</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Abdominal region</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Lower back, Lumbar spine Sacrum</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>and Coccyx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower limbs</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Pelvic region</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Non-participants were those who did not complete the PSEQ and/or COPM at post programme review or withdrew from the program prior to completion.
Table 2

Means and Standard Deviations for Pre/Post PSEQ and COPM scores

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M(SD)</td>
<td>M(SD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSEQ</td>
<td>27.48 (10.625)</td>
<td>34.15 (15.95)</td>
<td>3.2</td>
<td>63</td>
<td>.01*</td>
</tr>
<tr>
<td>COPM Satisfaction</td>
<td>3.57 (2.35)</td>
<td>5.57 (2.92)</td>
<td>7.72</td>
<td>63</td>
<td>.01*</td>
</tr>
<tr>
<td>Performance</td>
<td>3.89 (1.86)</td>
<td>5.57 (2.33)</td>
<td>3.19</td>
<td>63</td>
<td>.01*</td>
</tr>
</tbody>
</table>

Note. PSEQ: range 0-60, COPM: range 1-10. Paired samples t-test comparisons between pre and post test: PSEQ; COPM satisfaction; COPM performance.

*Correlation is significant at the 0.01 level.
Table 3

Means and Standard Deviations of PSEQ Scores for Participants who Improved or had Same or Deteriorated Scores on COPM Post-Test.

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COPM Performance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved</td>
<td>43.36(12.95)</td>
<td>26</td>
</tr>
<tr>
<td>Same or deteriorated</td>
<td>27.85 (14.82)</td>
<td>38</td>
</tr>
<tr>
<td><strong>COPM Satisfaction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved</td>
<td>41.34(13.74)</td>
<td>32</td>
</tr>
<tr>
<td>Same or deteriorated</td>
<td>26.96(14.87)</td>
<td>32</td>
</tr>
</tbody>
</table>

*t-test of independent means: COPM performance t=4.43, df= 62, p<.05; satisfaction t=4.02, df=62, p<.05.*
Table 4

Means and Standard Deviations for Participants Dependent on Compensation Status on COPM Post-test.

<table>
<thead>
<tr>
<th></th>
<th>Compensation (C+)</th>
<th>Non-Compensation (C-)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Improved (≥2)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$M \ (SD)$</td>
<td>3.16 (1.22)</td>
<td>3.44 (1.21)</td>
</tr>
<tr>
<td>$N$</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td><strong>Equal (&gt;−2 and&lt;2)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$M \ (SD)$</td>
<td>.61 (.73)</td>
<td>.57 (.81)</td>
</tr>
<tr>
<td>$N$</td>
<td>19</td>
<td>11</td>
</tr>
<tr>
<td><strong>Deteriorated (≤−2)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$M \ (SD)$</td>
<td>-3.30 (1.84)</td>
<td>0.00</td>
</tr>
<tr>
<td>$N$</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 5

Means and Standard Deviations on COPM Performance, COPM Satisfaction and PSEQ Difference Scores for Participants Dependent on Compensation Status

<table>
<thead>
<tr>
<th></th>
<th>Compensation (C+)</th>
<th>Non-Compensation (C-)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=38</td>
<td>N=26</td>
</tr>
<tr>
<td>COPM Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>1.55 (1.93)</td>
<td>1.96 (1.54)</td>
</tr>
<tr>
<td>COPM Satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>1.90 (2.25)</td>
<td>2.23 (1.78)</td>
</tr>
<tr>
<td>PSEQDIF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M (SD)</td>
<td>8.76 (14.69)</td>
<td>3.62 (19.27)</td>
</tr>
</tbody>
</table>

t-test of independent means: COPM performance difference  t=.91, df= 62, p>.05; COPM satisfaction difference  t=.626, df=62, p>.05; PSEQ difference  t=1.21, df= 62, p>.05.