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VALIDATION OF THE BARKEMEYER-CALLON-JONES MALINGERING DETECTION SCALE: THE ABILITY OF A SCALE DIFFERENTIATE SIMULATING MALINGERERS FROM CONTROLS AND PRIOR LITIGANTS FROM THOSE WITH NO LITIGATION EXPERIENCE WITHIN A SAMPLE OF MEN WHO HAVE ALL SUFFERED CHRONIC LOW BACK PAIN

By

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Abstract

Chronic low back pain costs the community, and several authors have suggested that individuals often attempt to exaggerate chronic low back pain. Currently no reliable and valid scale for assessing malingering in chronic pain populations exists, and there is a large difference in opinion on the ability of experts using clinical judgment to detect malingering. The current study seeks to provide a validation for the Barkemeyer-Callon-Jones Malingering Detection Scale (MDS) which has purported to be able to identify individuals attempting to malinger neurological conditions and pain. A simulation design was used, as in previous research, because it is difficult to identify actual malingerers in a known groups design. Thirty-two men with chronic low back pain were divided into two groups of sixteen. One group was asked to simulate malingering for the purposes of gaining an increased compensation while the other group is asked to be as honest as possible. The hypotheses tested were whether the responses to the MDS can: discriminate between simulating malingerers and controls, show an increased focus on severity rather than description of pain by simulating malingerers, show a relationship between malingering scores and reported pain levels, show that prior litigation contributes to either MDS scores or reported pain levels. Significance was assessed using chi square, t-test, bivariate correlation and two ANOVAs. While the MDS was able to discriminate to a significant level between participants asked to malinger and those being honest, methodological issues suggest that levels of pre-assessment injury contribute to malingering scores and that conscious intent is what separates malingering from psychological disorders (abnormal illness behaviour) is context bound. Litigation has no effect on reported pain level or MDS scores.

Declaration

I certify that this thesis does not, to the best of my knowledge and belief:

(i) incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;

(ii) contain any material previously published or written by another person except where due reference is made in the text; or

(iii) contain any defamatory material.

Signature: ... ...

Date: ... ...

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Secondly, I would like to thank my supervisor, Dr. Irene Froyland. Her encouragement, advice and tireless work at editing the manuscript allowed me to achieve my goal of completing this research in the allotted time. She has been everything I need in a supervisor, and the fact that her office door or home was always open for my research questions will never be forgotten.

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Fourthly, I want very much to thank Sergeant Mel Ainsworth of the Western Australian Police Service, who helped me to recruit participants for this research, when I ran into problems. I greatly value Mel as a friend and a colleague, but he went well beyond the

call of duty, and it is not unreasonable to say that he saved the research, which I cannot thank him enough for.

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Table of Contents

Page

List of Tables

List of Figures

Page

Introduction

Pain costs the community. It was recently estimated that pain cost the Australian community 15 billion dollars in direct and indirect costs (Pain Drain, 1997).

The purpose of the current research is to validate a structured interview tool, the Barkemeyer-Callon-Jones Malingering Detection Scale (1989) (MDS) (See Appendix 1), which purports to detect individuals attempting to malinger for pain and neurological conditions. If successful the scale could be used to recoup some of this loss to Australia for chronic pain. However, prior to using this scale as part of legal proceedings there needs to be significantly more experimental assessment of this instrument. Specifically, the very small research base of this instrument means that currently it could not be used under the Daubert rules (Daubert v Merrell Dow Pharmaceuticals, 1993) of scientific validity in the court room. Australian courts, while not directly following this precedent, adhere to many of the concepts of expert evidence founded by this decision. In fact, other than validation procedures completed by the authors of the scale, this scale has only been cited on four occasions (Dannebaum & Lanyon, 1993; Cunnien, 1997; Smith, 1997; Hall & Pritchard, 1996).

The conditions that will be assessed for use with the MDS are simulated malingering, chronic low back pain and the effect of previous litigation. The difference between this method and previous methods of validating malingering scales is that all participants will have the knowledge (all participants have suffered from chronic low back pain some time

in their life) to successfully malinger. First, an examination will be made of the different issues in assessing chronic low back pain that encompass the high level of suspicion towards this problem in regards to malingering. Second, an analysis will be conducted on the different issues involved in malingering and malingering research, especially in regard to pain disorders. Third, an analysis of the methods of assessing malingering will be completed, and their applicability to the current study discussed. Fourth, the impact of previous litigation will be examined in regard to both reported back pain and malingering. Finally, the methodological issues in the validation study (Callon, Jones, Barkemeyer & Brantley, 1989) already completed will be examined, then the purpose of the current study, its limitations and hypotheses as generated by the previous research will discussed.

Issues involved in Chronic Low Back Pain (CLBP)

This section explores the rationale behind pain assessment and demonstrates the need for an effective means of measuring both chronic pain and malingering. This section is broken into two subsections. The first looks at the issues pertaining generally to chronic low back pain, while the second focuses on specific issues in back pain assessment. Several issues are canvassed in the first section: the definition of chronic pain; the importance of focusing on only one form of chronic pain (lower back); the cost of chronic low back pain; yearly prevalence rates of chronic low back pain; difficulty of relying on objective imaging measures to reliably assess pathology of lower back and the incidence of malingering in chronic low back pain populations. The second part addresses the specific issues of: gender differences in pain assessment, reliance on objective tests

(imaging) is limited by the technology, differences between chronic low back pain patients and general community, pain assessment tools, effect of background of the patient, the subjectivity of the pain experience, the range of possible external goals for individuals with chronic low back pain and the application of the Barkemeyer Callon Jones Malingering Detection Scale within pain settings.

Definition of chronic pain

There are two elements to this definition. Firstly, the definition of chronic is currently defined by the WorkCover Authority of Western Australia as three months for low back pain, as most back pain injuries are resolved in two months. However, both the DSM IV and Turk and Melzack (1992) have suggested that the definition of chronic pain is six months. This will not affect the current study, however it is important to recognise the differences in label during the transition from acute to chronic. Secondly, pain has been defined as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (International Association for the Study of Pain, 1979, 249). It is generally accepted that the definition of lower back is the lumbar spine and most back pain is centred in this area (Waddell & Turk, 1992). Haldeman (1996) noted that "many of the assumptions made for acute back pain e.g. a direct correlation between symptamology, disability, and pathology – seem to breakdown when dealing with the patient in chronic pain" (p. 112).

Comparison of different pain conditions in research

Research involving pain assessment has often included different causes of pain (Turk & Melzack, 1992). For instance myofascial syndrome may be compared with whiplash injury. The issue is that the quality and quantity of different pain can vary substantially, yet it is often evaluated as simply representing a general level of pain. Melzack and Dubissson (1976), when evaluating the McGill Pain Questionnaire for discriminative ability with different clinical pain syndromes, found that it could distinguish between the syndromes. In fact, through the clustering of verbal pain descriptors in the questionnaire the type of pain syndrome could be determined with 77% accuracy on the basis of eight diagnostic categories. Looking at this result in an assessment context suggests that the type of pain will influence the assessment procedure. The fact that verbal descriptors are used in structured interview settings, similar to the current study, suggests the need to limit the assessment of any new instrument to only one pain syndrome. It is interesting to note that in their widely cited book on pain assessment Melzack and Turk (1992) included individual chapters for assessing chronic back pain, orofacial pain, myofascial pain, headaches and cancer pain.

Decision to focus on only those with chronic low back pain

The decision to focus only on chronic low back pain was made for a number of reasons. The first is that when validating a pain assessment tool, or tools that measure issues relating to that pain, as the current study is doing, it is important to focus on one pain syndrome at a time. Each syndrome has different effects and meanings for sufferers hence the decision to largely separate different pain syndromes by Ronald Melzack and Dennis when editing, arguably the seminal book in the area, Handbook of Pain

Assessment. Early research by Melzack and Dubuisson (1976), already discussed, clearly supports this approach. Second, is the staggering cost and effect that back pain, and particularly chronic back pain has on our society. Finally, Leavitt (1984) has suggested that due to its complexity chronic low back pain is the most likely syndrome to be malingered. For these reasons chronic low back pain was selected as the most appropriate syndrome to be assessed in this validation of the Barkemeyer Callon Jones Malingering Detection Scale.

Costs of chronic low back pain

The WorkCover Authority of Western Australia has estimated that chronic low back pain cost the state $105 million in the 91/92 period, $112 million in the 94/95 period and $81 million in the 96/97 period (WorkCover, 1998). In America, chronic pain affects 11 million people and costs $100 billion a year with 80% of this figure due to unexpected traumatic injuries (Weintraub, 1995). Of this figure, a significant proportion relates to chronic low back pain. Cats-Baril and Froymeyer (as cited in Haldeman, 1996) have suggested that the treatment of spinal disorder by 1990, in America, cost approximately 23.5 billion dollars but Leavitt (1985) has suggested that as many as 10% of people with chronic low back pain may be malingering. If this is the case then a significant amount of money, time of medical personnel, and drugs could be saved if those who do not suffer from genuine pain can be identified.

Yearly prevalence rates

Each year some 15%-20% of the population experience/report back pain (Andrews as cited in Haldeman, 1996) and surveys of working people show that 50% of this group

report some symptoms of back pain at some point in their career (Sternbach as cited in Haldeman, 1996). Back pain affects up to 80% of the population at some time during adult life (Murtagh as cited in Giles & Crawford, 1997). Back pain remains the most common cause of disability for persons under the age of 45 years (Cunningham & Kelsey as cited in Haldeman, 1996). In Western Australia it is second only to the common cold for work absences (WorkCover, 1998) and this is similar to American trends (Deyo & Tsui-Wu as cited in Giles & Crawford, 1997). Haldeman states that "despite the advances in understanding and the proliferation of diagnostic tests and treatment methods, there is still no evidence that there has been any decrease in the frequency or severity of neck and back pain"(1996, p. 103). This may be the reason that Giles and Crawford note that "the epidemic increase of sickness in the low back pain syndromes is actually threatening the social welfare system in societies with socialized medicine" (1997, p. 44).

Differences between chronic low back pain patients and general community

The decision to use chronic low back pain sufferers in both the experimental and control groups appears to have been supported by research. Specifically it has been shown that chronic pain patients view and react to pain differently from healthy participants and other those with other pain conditions. It would not be productive to ask healthy controls to malinger as previous studies have done (Leavitt, 1985; Clayer, Bookless & Ross, 1984) as they often have very little appreciation of the effects of chronic conditions. Peters and Schmidt (1991) measured pain perception threshold, maximal pain tolerance and pain discrimination between chronic low back pain patients and healthy controls. This was done by giving electric shocks to both groups and using forced choice answers

for participants to indicate which shock hurt the most and how quickly they perceive it. All participants completed a state-trait anxiety test prior to the experiment with chronic low back pain patients showing higher levels of anxiety. The results indicated that chronic low back pain patients are generally less sensitive to experimental pain than healthy controls; not only for pain perception threshold but also for pain tolerance, but are both more anxious about imminent pain and are generally have more anxiety than those who do not suffer from chronic low back pain.

Two theories were put forward by Peters and Schmidt (1991) to explain this result. The first is the adaptation level theory (Naliboff & Cohen as cited in Peters & Schmidt, 1991) which states that chronic pain patients are less inclined to label a stimulus as painful and would not consider experimental pain as severe because of their extensive experience with pain. The second theory is that pain inhibits pain due to the activation of the diffuse noxious inhibitory controls (DNIC) (Roby-Brami, Bussel, Willer & Le Bars as cited in Peters & Schmidt, 1991). This suggests that when two concurrent pains occur the body decides to reduce sensitivity to one of these sensations of pain. In addition to physiological issues, Kames, Naliboff, Heinrich and Schag (as cited in Fishbain, Cutler, Rosomoff & Rosomoff, 1994) demonstrated that chronic pain patients have greater issues than chronic illness patients in areas such as sleep, finances, appearance, body deterioration, inactivity, social activities, family/friends contact, assertion, medical interaction and marital difficulty. Waddell and Turk (1992) noted that chronic low back pain can severely impact on the levels of depression, avoidance of any movement likely to cause pain and a resulting problem with mobility; more than do most other chronic

pain conditions. This appears to be a relatively consistent result in Turk and Melzack (1992), Cherkin, Deyo, Wheeler and Ciol (1995) and Haldeman (1996) with comments from many of the participants in the current study supporting this premise about the global issues associated with chronic low back pain. Mendelson (1984a) found that those experiencing chronic low back pain had significant elevations of depression, neuroticism, state anxiety and trait anxiety when compared to the normal population. Overall, these results suggest that individuals who suffer from chronic low back pain are in the best position to malinger this disorder due to the specificity of symptoms and the fact that they present much differently to healthy participants.

Issues in pain assessment that impact on the present study

Gender differences in pain assessment

In a similar area, the differences in male and female perception of pain has received surprisingly little scrutiny (Turk & Melzack, 1992). While some results show males have a higher tolerance to pain than females (Feine, Bushnell, Miron & Duncan as cited in Craig, Prkachin & Grunanu, 1992) others research have found the reverse (Craig, Hyde & Patrick as cited in Craig et al., 1992). Hargraves (1996) found that men have higher pain thresholds than women for acute pain. Overall, these results suggest that rather than introduce possible gender differences into the reporting of pain, females could be assessed in later validation studies. In regards to malingering, little is known about the different methods the different genders use to malinger (Hall & Pritchard, 1996), although Leavitt (1991) suggests that there are no differences. This will not be assessed as part of this study.

Reliance on objective tests (imaging) is limited by the technology

Barkemeyer et al. (1989) notes that if the patient has a demonstrable injury then immediately he/she should not be considered a malingerer. The MDS does not need to be used. Part of the difficulty with back pain, in general, is the complexity of the spine's relationship with the nervous system. As Giles and Crawford (1997) note "pain may originate from different spinal tissues such as muscles, ligaments, dura mater, intervertebral discs, zygapophysial (facet) joint, and other spinal related joints such as sacroiliac joints" (Giles & Crawford, 1997, 44). In an analysis of 900 patients referred to an outpatient othropedic clinic Waddell (1982) suggested that based on clinical history patients could be divided into three broad diagnostic groups: 1) those with simple mechanical low back pain, 2) those with nerve root pain and 3) those with serious spinal pathology. Giles and Crawford (1997) note that back pain of mechanical origin is far more prevalent than back pain due to traumatic, inflammatory or other pathological processes. The latter represent only approximately 19% of cases (Ghormley, 1958 as cited in Giles & Crawford, 1997). Regardless of type of injury Resnick (1994) suggests that all people are ready to use illness for their own purposes. Malingering may involve, not the fact that pain exists but rather whether it was an injury sustained where a duty of care is owed or an individual is covered by a form of insurance. An evaluation of such deception, certainly should accompany any evaluation of a personal injury claim, but it will not be the focus of this study. Similarly, the type of injury the participants sustained will not be categorised other than whether they have experienced chronic low back pain at some point.

Specifically, Giles and Crawford (1997) suggest that when evaluating a patient with spinal pain of mechanical origin, multifactorial etiologies are possible but an inability to directly scrutinise the painful structures makes this difficult. As a result of this uncertainty, a tentative diagnosis is made on the basis of a precise case history, a routine physical examination, and the use of imaging or laboratory procedures. All this information generally indicates is that pathology can be eliminated. The actual cause of the pain remains obscure. Giles and Crawford (1997) suggest that

> diagnostic problems relate to 1) inadequacies in the precise anatomical knowledge of the spine, 2) the possibility of multiple causes of pain at a given level of the spine, and 3) limitations of the diagnostic yield of many imaging procedures such as plain film radiography, myleography, computerized tomography CT), magnetic resonance imaging (MRI) and bone scans (p. 45).

Certainly, there have been significant improvements in the resolution in spinal imaging (Deyo as cited in Giles & Crawford, 1997) however small abnormalities can still remain undetected. This has lead to the conclusion that despite

> multidisciplinary interest, it is still only rarely possible to validate a diagnosis in cases where the pain arises from the spine and, because it is not possible to establish the pathological basis of back pain in 80%-85% of cases this leads to uncertainty and suspicion (towards) some patients
> (Giles & Crawford, 1997, p. 45).

The imaging techniques used are not applicable to all cases of back pain and, even at the most sophisticated level of MRI, have problems detecting soft tissue pathology. Sometimes using plain film radiography there is a discrepancy between the degree of pain and the severity and radiographic changes (Stockwell as cited in Giles & Crawford, 1997). Finally, Giles and Crawford (1997) state that "it is imperative that, in the absence of a compelling reason to do so, physicians do not label patients as neurotic or

malingering when it is not possible to demonstrate objectively through imaging that they are, in fact, not fabricating symptoms" (p. 47).

Possible external goals for individuals with chronic low back pain

It is possible to be awarded damages or benefits through the no-fault workers' compensation systems or through common law claims for negligence. This can lead to abuse by individuals or groups. Workers' compensation systems are particularly vulnerable as low back pain is the most common type of compensated injury (WorkCover, 1998). Chaffin's (as cited in Waikar, Aghazadeh & Schlegel, 1991) findings indicate the type of work that is significant in low back pain compensation; specifically physically strenuous employment. It is for this reason that males were the focus in this study as they are more likely to suffer chronic low back pain due to employment in industries such as mining and construction. Interestingly recent WorkCover statistics (WorkCover, 1998) indicate that office workers are just as likely to suffer chronic low back pain in Western Australia due to poor posture and sitting for long periods of time. It is important to recognise that these workers are generally more likely to be female and, while research is inconclusive, they do appear to possess different tolerances and attitudes towards pain compared to men (Feine, Bushnell, Miron & Duncan as cited in Craig, Prkachin & Grunanu, 1992), which complicates cross gender studies.

Subjective nature of pain

Probably the greatest difficulty in the area of pain assessment lies in the inability of objective pain assessment (Rudy, Turk & Brody, 1992) to conclusively indicate the level of pain that an individual is experiencing (Dworkin & Whitney, 1992). Put simply, while the tissue trauma may be identical, one patient may report much higher levels of pain for biological reasons (less sensitivity in noinceptors, higher levels of endorphins), for social reasons (level of anxiety at the time, level of perceived spousal support) and for numerous other reasons (prior experience with pain). Given these reasons there is a strong reliance on the subjective responses of the individual in pain. Self report is the most common form of pain assessment yet "is likely to represent only a subset of what the individual is feeling, thinking, or prepared to admit at a particular time"(Craig et al., 1992, 258). Lantham (1987) states "pain is exactly where and how much the patient states it is" (p. 8). Chapman and Brena (1995) suggest that "self-report data often have (been) found to have questionable validity, as significant discrepancies between self-reports and observed behaviours have been found among chronic pain patients for ....activity level, social interaction and medication use" (p. 178). Overall, if one accepts that self report is often the major source of information, given possible external goals it can lead to the increased possibility of malingering.

An interesting experiment that attempted to combine the concept of physiological assessment and self report was completed by Salamy, Wolk and Shucard (1983). In this experiment, 7 chronic pain patients and 7 non-patient controls were separately asked a variety of questions related to pain, emotional state and neutral topics. All the

participants were assessed on specific physiological measures which have been suggested to be useful in the detection of deception: skin potential (sweat glands) and heart rate. Participants were assessed at specific points for each question on baseline, anticipation, reception, processing and responding. It was found that the processing of pain questions produced significantly larger changes in pain patients than in the non-pain controls. This may be a potential method of detecting malingering at an early point, however considerably more research is needed, as the number of participants is clearly very low. What this does indicate, is the futility of relying on polygraph or 'lie detector' tests in this area, as it will be virtually impossible to differentiate between someone lying (presumably about their pain) and a genuine pain patient discussing their pain.

Incidence of malingering in chronic low back pain populations

There are few estimates of the variations in the level of malingering in pain populations (Leavitt & Sweet, 1986). Probably the most often cited evidence of malingering in a pain setting is the change in pain self-report before and after litigation (Main & Spanswick, 1995) however this change has not been found in all studies (Mendelson, 1984a; 1992; Suter, 1998). Several authors (Leavitt, 1985; Main & Spanswick, 1995; Lees-Haley, 1986; Leavitt & Sweet, 1986; Chapman & Brena, 1995) have suggested that chronic low back pain patients not only present differently to those in other pain populations but they are overly represented in populations judged to be malingering. In Leavitt and Sweet's (1986) findings 60% of orthopedic surgeons surveyed estimated that malingering in low back pain occurs in 5% of cases. In Chapman and Brena's study approximately 10% of the low back pain patients were found to be inconsistent in their pain behaviour, and this

was interpreted as malingering. This finding gives support to Leavitt's (1985) earlier assertion that up to 10% of low back pain patients are malingering to some degree.

The reason why pain is chosen by those wishing to deceive, it could be assumed, is partially due to the strong reliance on self report in the assessment procedures however an additional explanation has been suggested. Lees-Haley (1986) suggested that pain is potentially easier to fake than psychiatric disorders, as it does not require specialised psychological knowledge of the disorder because we have all experienced pain at some time. Ossipov (as cited in Cornell & Hawk, 1989) stated that "every malingerer is an actor who portrays his illness as he understands it" (p. 382). Studies, such as Salamy et al. (1983) appear to dispute this conclusion and as Lees-Haley (1986) offers no evidence other than clinical experience, more research is needed before a conclusion can be drawn.

Effect of background on pain patients

The background of individuals can have an effect on how they experience pain. A study by Hargraves (1996) found that individuals who participated in regular aerobic exercise showed higher pain tolerance than those who were competing in either anaerobic activity or no activity at all. Research by Ryan and Foster (1967) noted that those who played sport showed significantly higher pain tolerance and taking this result even further Ryan and Kovack (1966) showed that those who played contact sports reported higher pain tolerance than those who did not play contact sport or any sport at all. This result does indicate the importance of viewing chronic pain as a unique state and when assessing an

individual for pain the importance of looking at his/her history for episodes of chronic pain to allow for a lowering in the perception of current pain

Pain assessment tools looking at the intensity of pain

There are an enormous range of pain assessment tools for assessing the intensity of pain ranging from the assessment of facial expressions to the fear and avoidance behaviour towards pain. The greatest difference lies in what the pain assessment is aiming to achieve, whether for diagnosis where a description is needed (i.e. tearing, sharp) or a management tool, to quickly gauge the level of intensity rather than the quality of the pain. The pain assessment technique used in the current study, the Numeric Rating Scale (NRS) was chosen for a number of reasons. First, it is the most widely used in the medical setting (Jensen & Karoly, 1992). Second, because of its use of numbers rather than a Visual Analogue Scale (VAS), in which the patient simply marks a point on a line, which is then measured by the evaluator and numbers assigned. Using this system, the patient can clearly indicate whether the pain is exactly the same as it was previously, without having to remember a point on a line. Generally these lines are only 10cm, however Jensen and Karoly (1992) recommend that the more points available, the greater the discrimination in pain hence a 50 point numeric rating scale is used to pick up subtle changes in pain. In Leavitt (1985), a 100 point numeric rating was used, however as Jensen and Karoly (1992) indicate, patients often tend to use blocks of 10 rather than utilise the discriminative potential of the scale. A compromise was the use of a 50 point scale. The decision to use a pain measure for 5 days prior to the assessment was due to the research by Linton and Melin (as cited in Chapman & Brena, 1995). They found that

there were significant discrepancies in subjective pain when measured daily compared to remembered pain after a delay from 3 to 11 weeks. It was concluded that retrospective self-report data is very unreliable.

Appropriateness of the Barkemeyer-Callon-Jones Malingering Detection Scale in evaluating pain

The application of the Barkemeyer-Callon-Jones Malingering Detection Scale (1989) is useful in pain settings due to its reliance on verbal behaviour which Reading, Everitt and Sledmere (1982) suggests is the most common method in clinical settings of assessing pain. The use of a verbal assessment tool for malingering appears to be supported by Lees-Haley (1986) who suggests that often malingerers will begin to contradict themselves in long interviews, they will tend to be obtrusive with their symptoms through wanting attention and they use language differently from the genuinely ill. In short the "malingerer's mind is on how to convince you. The genuinely disabled person's attention is on grieving the loss, denying it and looking for a way out."(Less-Haley, 1986, 110). Certainly Cunnien (1997) and Barkemeyer (1998) indicate this tool is applicable when assessing for malingering of neurological disorders however it is Hall and Pritchard (1996) that suggest it is applicable within pain settings.

Conclusion

On the basis of the current research it appears that the MDS is an appropriate tool, to utilise within pain setting. In addition, the measurement of the intensity of chronic low back pain by the NRS has considerable support in both research and clinical settings. By using just male, chronic low back pain participants, many of the issues of sex differences

and pain syndrome type can be avoided. As a result this research would have to be extended before it would apply to other groups.

Conceptual Issues in Malingering

The term malingering has a very specific definition, and the ramifications of this are important to understand within the context of pain. This section focuses on the issues in the definition of malingering, the different types of malingering, the construct of malingering, the use of the term malingering in legislation, and the role of forensic psychologists in assessing for malingering.

Definition of malingering

Crucial to the current study is an understanding of what malingering represents. The definition used by DSM IV is "the intentional production of false or grossly exaggerated physical or psychological symptoms, motivated by external incentives such as avoiding military duty, avoiding work, obtaining financial compensation, evading criminal prosecution or obtaining drugs"(DSM IV, 1994, 296). Another definition is from Mendelson (1988) who suggests that malingering can be defined as "the willful, deliberate and fraudulent feigning or exaggeration of symptoms of illness, done for the purpose of a consciously desired illness" (p. 196). It is specified that malingering differs from factitious disorder as it has distinct external incentives for the symptom production whereas the incentive in factitious disorder is just to take on the sick role (DSM IV, 1994). Evidence of an intrapsychic need as opposed to external need is required for a diagnosis of factitious disorder. Conversion disorder and other somatoform disorders are

distinguished from malingering as there are no external incentives in the former and symptom relief is not obtained by suggestion or hypnosis. An aspect of this definition important in the current study is that, contrary to popular thought that malingering is the complete falsification of symptoms, malingering is more likely to be an exaggeration of symptoms. Overall, the external goal that is often claimed is compensation from a workers' compensation system and/or claims for damages in civil litigation (Mendelson & Mendelson, 1996).

Malingering as a legal construct

Despite the use of malingering as a term available to psychologists and psychiatrists, the legal profession technically drew it from military law, making it an 'all or nothing' legal construct. The result of this, as Mendelson and Mendelson (1993) conclude is that

> while the psychiatric expert witness may draw attention to inconsistencies in the history obtained and on examination in the mental status, poor treatment compliance, lack of motivation during treatment or rehabilitation program, the presence or extent of any psychiatric impairment if applicable and the nature of or absence of a diagnosable psychiatric disorder using a specified system of diagnostic criteria and classification, the ultimate question of the veracity of the claimant is for the court to decide (p. 31).

Main and Spanswick (1995) also support this point noting "it is appropriate for the expert to highlight the inconsistencies in the client's presentation of symptoms and perhaps response to treatment but the interpretation of such findings is a matter for adjudication" (p. 749). Despite this Mendelson and Mendelson comments that "there is no evidence of sophisticated understanding (of malingering) by the legal profession" (1996, p. 26) so psychologists or psychiatrists are often used as experts. However, the psychiatric expert is not required to 'prove' that the plantiff is a liar or indeed confirm the validity of the

plantiff's entitlement in a compensation claim as this is the function of the court rather it is to provide commentary on the "nature, or absence, of a diagnosable psychiatric disorder using a specified set of criteria and classification" (Mendelson & Mendelson, 1996, p. 26).

It is vital to recognise that malingering is not a diagnosis, but in both DSM IV and the ICD-10 (1992)(International Classification of Diseases 10th Edition) it is considered an additional condition which may be the focus of future clinical attention or a category for general record keeping purposes. Despite this, Erikson (1990 as cited in Mendelson, 1995) has found through examining medical literature and law reports that many doctors consider the "detection of malingering as integral to the medical enterprise"(p. 428). Regardless of the veracity of the diagnosis, Mendelson (1995) notes that as soon as a medical practitioner uses this term in an evaluation the other will probably attempt to seek some form of legal remedy therefore, as previously mentioned, it has more relevance as a legal term. So in legal terms a definition of malingering Mendelson (1995) gives is "obtaining pecuniary or other gain by falsely pretending to suffer from an illness, disease or disability may also constitute an offence of fraud, and depending on the context of the litigation, the simulator may also be liable for the tort of deceit and the offence of perjury"(p. 429). The fact therefore remains that while the definition may 'psychological' it is a term that is generally used only in a legal context. Currently there is no common law definition, and therefore the psychological definition of faking for external gain will be used for the purposes of this paper.

Mention of malingering in Australian Statutes, in which it could become the basis for a criminal charge

Malingering is considered a specific statutory offence under some Australian statutes such as the Workers' Compensation Acts. For example, section 188 of the Workers' Compensation and Rehabilitation Act (1981) in Western Australia specifies:

> A person who fraudulently obtains or fraudulently attempts to obtain any benefit under this Act, by malingering or by making any false claim or statement, and any person who, by a false statement or other means, aids or abets a person in so obtaining or attempting to obtain, commits an offence.

A medical practitioner who is viewed as aiding the individual in this enterprise places him/herself at risk of prosecution too. To an extent, this would make health practitioners more likely to state that a person is malingering than to try to 'fight' for a diagnosis such as chronic pain, which is does not often have many objective measures and risk possible prosecution.

In Queensland, under section 11.2 of the Workers' Compensation Act (1990) it is offence to obtain compensation by fraudulent means or by malingering while claiming an injury. Under other compensation systems the term malingering does not appear, but it is clearly stated that is illegal to fraudulently gain benefits under a compensation system. Further to this, the provisions for fraud while differing within the different legislation of the states of Australia, would probably cover this situation. Still as previously mentioned the strict psychological definition would be utilised, it is assumed.

Types of malingerers

An alternative definition is offered by Travin and Protter (1984) where malingering is viewed as a "social psychological process which is influenced by both external and internal factors interacting with each other and serving an adaptive function" (p. 189). External factors are the consensually perceived context and goals which make for a high index of suspicion for diagnosing a malingering. Internal factors are the intrapsychic state of the malingerer. Travis and Protter (1984) conceptualise this state as a continuum ranging from malingering to malingering-like behaviour; that is; from full conscious awareness of the behaviour to much less awareness (unconscious) of the source of the symptoms. In this sense, the distinction can be made in terms of the conscious awareness of the source of the symptoms, as opposed showing no understanding why the symptoms are being produced.

Travis and Protter (1984) suggest that along the continuum there are three types of malingerers which are differentiated by their level of awareness of the reasons for the production of symptoms and their control over the symptoms. The first type of malingerer is the form that the DSM IV and virtually all other definitions of malingering use, where the patient is fully aware and control of their presentation of feigned symptoms, that is, they are consciously producing the symptoms for a specified goal. The second is the mid-range of category of symptoms where the patient is a malingering-like mixed deceiver, that is, the patient is aware that he/she is feigning the presented symptom but is not aware that other aspects of the presented symptom are beyond his/her

control (unconscious). The third category is the end-range malingering self-deceivers where the patient has completely deceived him/herself into realising the reality of the presented symptoms, believing instead that it is completely feigned. Unfortunately this topic is rarely covered in the literature, with most studies viewing malingering as a conscious act, however, Hall and Pritchard (1996) discussed the importance of analysing both conscious and unconscious malingering. The current study does not seek to analyse this, and actively indicates to participants the 'conscious' state they should be in for the assessment.

The premise that Travin and Protter (1984) follow was suggested by Fingarette (as cited in Travin & Protter, 1984) when he said that "rather than taking explicit consciousness for granted, we must come to take its absence for granted" (p. 190). According to Fingarette, to be considered consciously aware an individual must explicitly state his means of engaging the world in a clear and elaborate way (Travin & Protter, 1984). This appears contradictory to the very concept of deception, for it is not possible to assess the internal dialogue of an individual, and he/she is certainly not going to inform the assessor of his/her proposed method of dealing with the world. Another problem with this type of research is the use of case histories to support the continuum hypothesis, as all involved psychological disorders and four of the five also involved criminal law matters. This represents a potentially biased population of 'malingerers' from which certain judgments have been made. Quite simply the capacity for self-delusion (or self-deception) is naturally going to be higher for the psychologically ill, as a facet of their disorder. Travin and Protter (1984) do make the point, that everyone is capable of malingering, as an ego

defence. This is fraught with operational and conceptual problems and is not a topic that will be explored. Basically the type of malingering the current study is interested in involves primarily external gain. It is interesting to note that given the age of the Traven and Protter's study its concepts may well have now been introduced in mainstream diagnosis under the names of factitious disorder, somatoform disorders, and hypochondrasis. This effectively changes the definition of malingering to one for external gain, as the DSM IV and Mendelson's (1988) definition indicates.

Conclusion

Research into malingering is a difficult and complex process in which the definition must be constantly restated, or else the goals can be distorted. Specifically, intent must be shown in the attempt to exaggerate or completely feign symptoms. The use of malingering as a form of diagnosis is clearly inaccurate and when assessing for malingering the forensic psychologist must remember that the decision of malingering or 'fraud' is for the court. The expert can only comment on the consistency of symptoms with the claimed disorder, not to comment on what the intent of any deviation from this set of symptoms.

Methods of Detecting Malingering and Deception

This section of the introduction seeks to bring together some of the general research on deception, malingering for pain and the resulting assessment issues. Firstly, this section

will address the ability of professionals, particularly psychologists/psychiatrists, to be able to accurately assess those who are malingering and why this might be the case. Secondly, a variety of different psychological techniques or indicators for assessing for malingering will be presented. Thirdly, a physiological method of assessing for malingering for pain will be presented. Fourthly, a range of different methods that have been developed to assess for chronic low back pain will be presented. Fifth, an examination of the different methods of research into this area will be made. Finally, some comment will be made in regard to the application of malingering scales, and the importance of other factors. These points will then be explained in terms of the current study.

Recent interest in malingering as part of the deception literature

There has been increased interest in malingering, however despite its importance to clinical and forensic practice, it remains relatively unresearched. Malingering appears to be largely viewed as deception in the medical and/or psychological context, and most texts on deception (Rogers, 1988; 1997; Hall & Pritchard, 1996) give the topic consideration. The 'science' of detecting deception has undergone considerable change largely due to work reported in the book Clinical Assessment of Malingering and Deception (1st and 2nd Editions) edited by Richard Rogers (1988; 1997). This appeared to stimulate considerable comment and research into the field. Two significant areas were noted where a professional shift appeared to occur. First, the professions had to accept that there was a relatively poor ability exhibited by staff to successfully detect deception and second, that deception, and especially malingering is very difficult to detect. Indeed

recent research has suggested that the level of malingering in forensic evaluations may be as high as one sixth of all evaluations (Rogers, Salekin, Sewell & Goldstein as cited in Rogers & Cruise, 1998) the need for increasing knowledge in this area is clear. While on first impressions this figure is questionable give Cornell and Hawk's (1989) finding that in 314 psychiatric/legal evaluations approximately 8% of individuals presenting were 'diagnosed' as malingering, when the standard deviations in Rogers Salekin, Sewell and Goldstein are examined it is clear that both estimations fall within the same range.

Psychologists sometimes cannot distinguish between those clients/participants faking and genuine clients/participants

Increased focus has been placed on the ability of health professionals to detect deception. Since Rosenhan's (1973) classic study in which pseudopatients were admitted to a mental institution and diagnosed as having major psychiatric disorders, the medical and psychological professions have been forced to admit that occasionally they are fooled. Heaton, Smith and Lehman (as cited in Faust, 1995) found that neuropsychologists performed at only up to 20% better than chance when they attempted to differentiate between faking litigating individuals and genuine non-litigating participants. Faust, having reviewed limitations of malingering research, concluded that "clinicians' capacity to detect feigned emotional or cognitive disturbance is in doubt.... .contrary claims for proficiency at the task lack adequate scientific support" (1995, p. 57).

Evidence differs as to the ability of psychologists and other health professionals to successfully gauge whether an individual is malingering. Ekman and O'Sullivan (1991) indicate that, in general, health and legal professionals are not good at detecting faking

and due to the strength of the inverse relationship between the confidence of the professional and accuracy in detecting faking, this situation does not appear likely to change. Weintraub (1995) suggested that it is relatively easy to fool psychologists and pain experts (Faust, Hart, Guilmette & Arkes; and Faust, Hart & Guilmette, as cited in Weintraub, 1995). In contrast, Cornell and Hawk (1989) found a relatively high reliability between forensic psychologists, regarding the accuracy of diagnosis of psychiatric patients regarding malingering (35 malingerers and 25 genuine patients), suggesting that when a formalised series of symptoms are addressed the accuracy level rises. While this is useful in psychiatric settings it should be noted that research has already indicated that it is not difficult to deliberately score poorly on pain evaluation tools (Frazen, Iverson & McCracken as cited in Weintraub, 1995).

Why clinicians do not appear to be able to accurately detect an individual attempting to malinger

Faust (1995) has suggested that certain distinct factors underlie the research findings into why practitioners sometimes do incorrectly assess a person as not being deceptive. These reasons are clinical orientation, dependence on soft methods and evidence and finally the tendency of practitioners to underestimate the skills of their 'patients'. Simultaneously practitioners are overconfident in their ability to assess malingering. The orientation of clinicians is traditionally to assume dysfunction and sympathise with their patients. Indeed the training health care professionals receive is "based on an orientation emphasizing supportive, empathic and healing forms of rapport building, rather than attempts to penetrate deception"(Lees-Haley, 1986, 110). Further to this Faust (1995)

notes that when the physician's primary obligation shifts from the patient to uncovering the truth, he/she may now be an adversary rather than a support. As Chapman and Brena (1995) indicate there is a dependence in many conditions on the report of the patient for such information as history and symptomatic complaints.

Faust (1995) indicates that when plantiffs withhold or distort information about important issues that may account for symptoms, such as pre-injury condition or substance abuse, limitations in methodology and knowledge makes it difficult to determine whether his/her presentation makes sense medically. Finally, often patients are underestimated by the evaluator, in their knowledge, preparation and skills. Indeed some malingerers gain access to the literature on malingering assessment instruments, to help them avoid detection. This issue will be addressed later. Faust (1995) indicated that as the confidence of the practitioner increased their ability to detect malingerers was reduced. So when practitioners don't complete external checks on subjective information and instead follow clinical lore, which has not been properly validated, then they may be deceived (Faust, 1995).

A variety of psychological approaches have been suggested to detect malingering

The American Psychological Association (A.P.A), through the DSM IV (1994), acknowledge that malingering may be very functional. An example might be feigning sickness as a prisoner of war. In addition they suggest that beyond functionality, malingering should be "strongly suspected" when any combination of the following is noted: "medicolegal context of presentation, marked discrepancy between the person's

claimed stress or disability and the objective findings, lack of cooperation during the diagnostic evaluation and in complying with the prescribed treatment regimen, and the presence of Antisocial Personality Disorder"(p. 297).

Hall and Pritchard (1996; Paulsen & Hall, 1991) advocate that a framework be used when assessing deception rather than just relying on intuition. Paulsen and Hall (1991) have suggested that any assessment of malingering be broken into three areas: before, during and after the evaluation. Prior to the interview, Paulsen et al. (1991) suggest that the evaluator must gather source material, maintain independence from the referral party, assess examiner distortions and remain vigilant to the possibility to distortion. During the evaluation it is suggested that the interview is recorded, that questions are open-ended, focus is given to critical distortion issues, multiple assessment measures are used and the assessee is confronted with suggestions of distortion. After the evaluation Paulsen et al. (1991) recommend that the interviewer assess nondeliberate distortion of the assessee, differentiate between incident and evaluation distortion, report incomplete or invalid data and identify a feedback mechanism. The MDS can clearly fit into this model, however this model while providing suggestion does not specifically give a decision making framework for deciding whether an individual is malingering or not. Hence, the MDS and other deception detection tools, such as the SIRS, are still required to be part of any test assessment battery.

According to Faust (1995) there are currently three methods of detection: responses to the Minnesota Multiphasic Personality Inventory (MMPI) I and 2, symptom validity testing and atypical performance patterns in specialist assessment tasks. Mossman and Hart (1996) have suggested that clinical methods, malinger profiles and external information be used to make decisions about malingering. It should be noted however that Rogers and Salekin (1998) have noted significant problems with many of the approaches that Mossman and Hart (1996) advocated. These are too numerous for this paper to address. The MMPI has long been used as a malingering assessment instrument, as it assesses certain personality correlates. The F score and obvious items are often elevated for malingerers. The subtle items generally have a normal response rate as malingerers cannot distinguish which direction indicates abnormality. There is still some debate over the efficacy of the MMPI (1 or 2) at assessing malingering. Various meta-analyses have suggested that MMPI 1 (Berry, Baer & Harris, 1991) and 2 (Rogers, Sewell & Salekin, 1994) have found different validity scales are able to distinguish between the malingering or defensive group and the group taking the test honestly. In terms of external validity Greene (1997) points out that research has found that MMPI 1 and 2 has greater difficulty in distinguishing between the group instructed to malinger and actual patients than between simulators and normal individuals. Greene (1997) reported that the malingering a wide range of different disorders on the MMPI 1 and 2 have found that the malingering group could be distinguished, however the more severe psychopathology, the easier it was to detect malinger. A sobering point made by Berry, Lamb, Wetter, Baer and Widiger (1994) is that due to such widespread research and use the MMPI-2 has lost some of its integrity. Indeed Berry et al. (1994) suggest that the widespread publishing of

information about the MMPI-2 has reduced its effectiveness as a psychological assessment tool.

Symptom validity testing, which often involves a forced choice format, has been used in an attempt to make the malingerer overplay his 'sick' role and perform at a level lower than chance. In time this can produce evidence of systematically produced incorrect results. The major problem with this format it that it has limited sensitivity and if the feigned deficits are not gross, then the malingerer will not be detected (Faust, 1995). If these can be refined, it may represent an excellent method. Both the SIRS and the MDS utilise this format by suggesting improbable symptoms of a disorder for which there is no medical evidence. This is known as a false choice format but represents the overt agreement with any indication of disorder. This is, to an extent, utilised by the MDS.

Faust (1995) suggests that in time other approaches will be developed to detect malingerers such as reaction time and atypical patterns on cognitive tests. Mossman and Hart (1996) support such an approach with a distribution of scores on malingering assessment tools indicating probability of malingering rather than arbitrary cut off scores. This, it was suggested, is especially useful when presenting evidence of malingering to the court, however this will be commented upon later. Overall these approaches are still in the experimental stage and similar to symptom validity testing require significant levels of research before probability tables and profiles (typical versus atypical, age appropriate, gender based) can be generated which would allow this format to be used on a wide scale.

Main and Spanswick (1995) have suggested certain features which "should alert the assessor to the possibility of simulated incapacity" (p. 748) in which some are primarily suggestive of malingering and some are not. These features appear to be relatively similar to those described by the DSM IV. Features they suggest are primarily suggestive of malingering are: failure to comply with reasonable treatment, report of severe pain with no associated psychological effects, marked inconsistency in effects of pain on general activities, poor work record, history of persistent appeals against awards and previous litigation. Features that are not considered primarily suggestive of malingering are: mismatch between physical findings and reported symptoms, anger, report of severe or continuous pain, poor response to treatment and behavioural signs/symptoms. This, rather than being overly inclusive, gives some indication of areas in which malingering can be differentiated from associated pain disorders. While not in complete agreement it is interesting to note that Leavitt (1985) found that simulating malingerers reported 21% more clinical pain than actual patients and further focus on this result will be made.

Chapman and Brena (1995) has proposed that due to problems with self-report in pain assessment a label of malingering should only be diagnosed from a consistent pattern among multiple indicators. In their evaluation 175 low back pain patients were used, for reasons similar to the current study; the literature suggests that back pain is both common and often considered suspect. The method of assessment utilised client self report, physician assessment and three independent raters. The physician assessed all the patients involved in the study on a number of different measures. During the verbal pain

reports the level of dramatization was assessed. A rating was given on the severity of medical findings involving muscle strength, joint mobility, trigger points, sensory and motor losses, and results from radiological and other studies of severity. An assignment was made to one of the four categories in the Emory Pain Estimate Model. This model is based on medical findings, MMPI scales, drug intake and indices of pain behaviour. The patient's response to lumbar sympathetic two injections of saline and at least two injections of .25% bupivacaine was recorded. A rating of drug use during the week prior to treatment and the last week of treatment was made. This was based on subject's records of medication and was divided into classes of drug type: narcotics, sedatives/hypnotics, minor tranquillisers, phenothiazines, antidepressants, nonnarcotic pain medication and other drugs for pain. Each class was given a label of "no use" (averaging less than three tablets per week) or "use" (over three or more tablets per week). Finally a rating of physical impairment, in accordance with the AMA Guides for Evaluation of Permanent Impairment was given.

A physical therapist and psychologist, both gave independent ratings at the end of treatment relating to the patient's overall "attention and interest" in treatment, and "focus on pain". The physical therapist also gave ratings on each patient's "compliance with recommended exercises". All of these ratings were based on five categories ranging from very low to very high. Some patients were referred for an EMG examination where the consultant running the procedure was asked to rate whether he observed inconsistent tensing of a muscle that suggests that this patient was showing "submaximum effort" to fully contract the muscles during the examination.

The self-report data that was administered involved five paper and pencil measures. An MMPI was given at the start of treatment. An Activity Diary listing activities involving movement on one's feet was kept and a score indicating the mean daily total of minutes spent moving on one's feet was calculated for one week prior to treatment and the last week of treatment. Subjective pain intensity was assessed using a 0 - 100 visual analogue scale with end points labelled "no pain" and "pain as bad as it could be" was used to measure pain at the beginning and end of treatment. All the treatments offered were rated by patients as being "very helpful", "somewhat helpful", "not helpful" or "harmful". Finally the Multidimensional Health Locus of Control questionnaire was given halfway through the treatment to assess the extent to which patients saw their health as being dependent on their own actions.

Of 143 participants in Chapman and Brena's (1995) study, 17 inconsistent participants were unanimously rated by all three evaluators as showing at least one inconsistency. The behaviours judged as inconsistent covered a very wide range. First, contradictory statements to different staff members regarding pain, medication or compliance were made. Second, exhibiting behaviour which they have either claimed they could not do or they claimed to have done exercises but had not actually done them. Inconsistent patients were generally younger; all were inpatients, who have pending litigation or current disability status. These patients exhibited a higher focus on pain and dramatised complaints, however all had a low level of medical evidence to support their claims. Not surprisingly these patients had a low level of interest in treatment, show a poor

compliance to treatment and low level of physical activity. The flaw in this study which relates to the concept of an intent that the current study hopes to redress is that all the inconsistent patients were inpatients which suggests the possibility of institutionalization or at least some abnormal illness behaviour due to the environment. Chapman and Brena (1995) note that it is difficult to assess whether inconsistency was conscious or not, and issues such as institutionalisation take the conscious element out of the inconsistency. If this intent cannot be assessed then the issue may now not be malingering but rather factitious disorder or conversion disorder.

The difficulties of the differential diagnosis of malingering and factitious disorder with physical symptoms have been canvassed by Overholser (1990). He highlights important issues such as the strong similarity between malingering and many other pain or illness 'disorders'. Overholser (1990) has indicated that there are 4 domains in which differential diagnosis can be made: observed symptomology, course over time, response to treatment for somatic conditions and proposed etiology. Observed symtomology includes somatic symptoms, actual tissue damage, behaviour during interview and the typical setting in which each is encountered. The course over time looks specifically at onset of somatic symptoms, duration of episodes, discharge status, stability of problems and recurrent episodes. The patient/client's response to treatment for the somatic symptoms includes the nature of treatment provided, somatic response to this treatment, emotional response and behavioural response. Finally, the proposed etiology looks at the production of symptoms, control over symptoms, primary sources of motivation, external motivation, internal motivation and presumed personality. When this set of criteria is

used to actually differentiate malingerers and those with factitious disorder with physical symptoms, it appears the major differences occur in the proposed etiology through internal (factitious disorder) and external (malingering) goals, probable type of treatment, behavioural and emotional response to treatment, whether discharged by doctor or self, whether actual tissue damage has occurred and whether an outpatient or inpatient. Overall, Overholser (1990) acknowledges that this set of criteria has not been validated, and he is relying on clinical observations for his evidence in malingering. What this does demonstrate is the heavy reliance on assessing motivation (internal or external), even when conscious production of symptoms can be proven, in order to 'prove' malingering.

Hall and Pritchard (1996), presumably from clinical experience, have suggested that as malingerers would wish to avoid evaluators and treatment personnel, certain behaviours related to evaluation may be indicative of malingering. Behaviours such as the number of hospital admissions, length of stay in hospital, number of diagnostic procedures in hospital, help-seeking in regard to rehabilitation centres, days lost from work and number of patient-physician contact or specialists consulted constituted malingering. Hall and Pritchard (1996) have suggest a number of detection strategies; anatomical inconsistencies, drug responses discrepancies, clinical interview behaviour, presence of psychometric, inconsistency in community versus evaluation behaviour and lack of response to common interventions, Pritchard and Hall (1996) have noted that all chronic pain and sensation-loss syndromes can be targeted for deception. They did make the point however that evaluators should not confuse complainers with fakers. Matheson (as cited in Waikar et al., 1991) introduced the term symptom magnification syndrome as an

alternative to malingering in which the behaviour has an imputed motivation. Symptom magnification syndrome separates that behaviour from the motivation (Waiker et al., 1991), but Bourg, Connor and Landis (1995) argue that it is the circumstances that are crucial to the reason for the assessment, and therefore the assessment cannot be done in a vacuum.

A purely physiological method of assessing malingering in chronic low back pain populations

A physiological method of screening for malingerers using chronic low back pain was developed by Waikar et al. (1991) following work by Daniel (as cited by Waikar et al., 1991) and Kroemer and Marras (as cited in Waikar et al. 1991). Waikar et al. (1991) researched this area with three groups. The first group were healthy and were told to exert maximum lifting strength. The second group were also healthy but were told to only use half their effort. The final group were chronic low back pain sufferers who were told to exert their maximum safe strength without incurring pain or discomfort. The static strength measures were conducted in both the "squat" and "stoop" position that Chaffin (as cited in Waikar et al., 1991) suggested in accordance with the standardisd procedure proposed by Caldwell, Chaffin, Dukes-Dobos, Kroemer, Laubach, Snook & Wasserman as cited in Waikar et al., 1991). A single maximal voluntary contraction has a force output based on time for a sustained 5 second period. The strength score was taken as the mean value recorded in the middle three seconds of the exertion. A slope score is generated by the amount of weight lifted per second.

The finding of Waikar et al.'s (1991) study was that the average amount of force produced by the healthy subjects only trying with 50% exertion was only 38% when

compared to the maximum exertion of both the healthy subjects and the chronic low back pain patients. Across all three groups the average lifting strength was greater in the squat position than in the stoop position. Interestingly, the average strength scores for both the healthy subjects using their full exertion and the chronic low back pain patients were almost identical in each lifting condition. As no significant differences were found Waikar et al. (1991) suggested that this measure was inappropriate in distinguishing between chronic low back pain patients and healthy patients not exerting maximum effort. Using discriminant analysis based on seven variables from the strength testing yielded an accuracy rate of 91% but tended to misclassify more low back pain patients. The strength testing variables used were: mean strength for ten trials, strength standard deviation, mean slope for 10 trials, mean range for 10 trials, mean range/score ratio, ratio standard deviation and ratio coefficient of variation.

To use this method, Waikar et al. (1991) suggest that a participant be asked to exert his or her safe maximal strength each time in 10 trials following the protocols outlined. After calculating the values of these strength measures they could be inputed into the developed discriminant model, which would classify this person as either healthy and giving maximum effort, healthy but giving submaximal effort or having back injury and giving safe maximal effort. Clearly if the individual is classified as giving submaximal effort then it possible that they are malingering or symptom magnifying according to Waikar et al. (1991). Finally, it is recognised that this represents only an additional diagnostic tool for chronic low back pain and should be used in conjunction with other measures. Faust (1995) has indicated the problem with many of these physiological assessment

instruments, is that they must assume motivation to produce maximum effort; and it is there that the deception lies. The MDS does attempt to assess motivation, albeit in a very blunt manner, through the questions found in Part 2. The effectiveness of establishing motive does appear to be an field that is profoundly under-researched and given the definition of malingering, one that will need increased attention.

Malingering screening tools specifically designed for chronic low back pain

Screening tools for malingering, such as those used by John Hopkins Chronic Pain Centre (See Appendix 2) (Long, 1986), have been developed for specific reasons but generally they are not based on research. They tend to reflect an in-house approach to assessment. There are even malingering screening measures for back pain available on the Internet through the Mensana Pain Clinic (Mensana Pain Clinic, 1997) (Appendix 3). What is clear with both these instruments is that they rely heavily on examining the economic and social circumstances of the individual with back pain. This essentially is an examination of the conditions for which a person may have reason to malinger, that is, financial difficulties or attitudes to work. As with litigation, while the circumstances may be conducive to malingering, this is not evidence of the act. Put simply it is the difference between a motive and intent – with intent being the crucial factor in the definition of malingering.

A study by Leavitt (1991) using a low back pain simulation scale to predict disability time, evaluated the endorsement of different 103 pain words by 1679 individuals injured at work. This was developed following Leavitt's (1985) early work with simulating

malingering for low back pain when compared to genuine pain patients in which the results suggested that people who simulate back pain employ different pain language than those with clinical pain. Leavitt (1991) suggests that the low back pain simulation scale utilises 45 words that can differentiate those simulating from those with genuine pain. After administering this scale it was suggested 10.4% were in the simulating range, with this sample indicating that they felt more intense pain and would be disabled longer. A known groups design was utilised in which, the participants identified as simulating (10.4%) had generally previously been labelled as possible malingerers. The problems with this sort of design will be examined later. Overall this group had indicated that they experienced 21% more pain than those found not to be simulating. This is not surprising if the pain words identified as indicative of conscious exaggeration are more extreme in their intensity than the 'normal' pain language. In addition, the individuals who had been off work for over a year accounted for 33.9% of the high simulation group and 19.3% of the low simulation group. Leavitt (1991) suggests that, even when 25 participants from the high simulation range and 25 from the low simulation range and then rated by physicians for organic pathology and confidence that the individual is malingering there is a significant level of discriminative ability for those labelled as high simulators. In short, those with less tissue pathology report more pain and record the longest time for disability.

When validating or developing measures to assess malingering several problems emerge. Chapman and Brena (1995) note that it is virtually impossible to gain access to a

population of known malingerers, as by definition, these people make sure that they are not identified. This leads to two possibilities, the first being identifying participants who were inconsistent in their responses and therefore are probably malingerers or alternatively using a simulation design in which participants are asked to simulate malingering.

Several studies have used simulation designs for back pain (Leavitt, 1985; Clayer, Bookless & Ross, 1984) in which participants without back pain were asked to simulate low back pain when completing certain written evaluation tasks. These responses were then compared to the responses of authentic low back pain patients; and in both cases the evaluation tool showed differences between the two groups in the endorsement of pain words and cognitions relating to illness behaviour.

A major study, which from the results and methodology, was a significant basis for the current study is Leavitt (1985). Following from work on pain descriptors by Melzack (1975), Leavitt (1985) sought to use pain word descriptions as a means of differentiating between clinical and simulated low back pain. Basically he used 103 pain terms which covered the range of sensory and affective sensations typically reported by patients with low back pain. Eighty seven items were drawn from the Low Back Pain Scale (Leavitt, Garron, Whisler & Shenkop as cited in Leavitt, 1985). The remainder came from a general review of the clinical work on low back pain completed as part of the development of the final scale. There were two groups of participants: 553 patients with low back pain and 347 participants, obtained from the Chicago directory, who were asked

to "play the role of a person who is trying to convince a doctor that their back pain is severe enough to stop them from working at their regular job" (p. 497). This instruction, arguably then limits the type of low back pain, to being mechanical in origin rather than pathological or traumatic which Giles and Crawford (1997) have suggested are physiologically different. However for the purposes of this study, traumatic pain, is of greater interest, making this set of instructions slightly inaccurate.

A predecessor of the Barkemeyer-Callon-Jones Malingering Detection Scale was the Conscious Exaggeration scale (Clayer et al., 1984) based on the Illness Behaviour Questionnaire (IBQ) (Pillowsky & Spence, 1983). The IBQ was designed to assess abnormal illness behaviour whereas the conscious exaggeration scale was designed to differentiate between control participants, conscious exaggerators and those with neurotic pain. Pilowsky (1994) indicated that he did not consider that abnormal illness behaviour was the same as malingering. This will be discussed later. While not the same as abnormal illness behaviour there are similarities between this diagnosis and factitious disorder with physical symptoms, and given Overholser's (1990) highlighting of the similarity between factitious disorder with physical symptoms and malingering Pilowsky's (1994) comment clearly needs to be clarified. The study used a simulation design, similar to the one employed by the current study. Results showed that a conscious exaggeration scale could differentiate, at a significant level, between malingerers and those with neurotic pain, and between people with neurotic pain and controls.

In Clayer et al.'s (1984) study the items that differentiated the three groups most dramatically, as they were endorsed by the participants asked to exaggerate, fell into a wide range of cognitions. The most common (endorsed by over 75% of participants asked to malinger) groupings of items were: the participant thought there was something seriously wrong with his/her body, that other people did not recognise the seriousness of the problem and issues of depression. These clearly are not sufficient to objectively differentiate between malingerers and those with chronic pain, from a diagnostic perspective, and only suggest a general sense of catastrophising the level of impairment resulting from the pain, something that genuine patients do not to tend to do due to experience. Mendelson (1987) completed a study in which the conscious exaggeration scale (from the IBQ), a visual analogue scale and a list of pain related adjectives from the McGill Pain Questionnaire were given to chronic pain patients some of whom were litigating and others were not. It was found that conscious exaggeration scale could not distinguish between those litigating and those not. Mendelson (1987) ultimately suggests that there is "a high correlation between scores on the Conscious Exaggeration scale and personality factors, especially anxiety proneness, state anxiety, depression and hostility" (p. 709). The impact of this will be discussed later.

The current study seeks to use a simulation design, the difference being that all the participants are pain patients half of whom will be asked to consciously exaggerate their pain. When Clayer et al. (1984) conducted their research chronic pain was considered a neurotic condition hence the inclusion of neurotics as participants; this is no longer the case (Turk & Melzack, 1992). The flaw in this study that the current study seeks to

redress is that conscious exaggeration, can, by definition, only occur when some form of pain is felt, that is, something exists which can be exaggerated.

Currently no study has attempted to validate the Barkemeyer-Callon-Jones Malingering Detection Scale (1989) which, at this stage, seems to be the only malingering scale based upon research that purports to be applicable in pain settings. The Barkemeyer-Callon-Jones Malingering Detection Scale has only been cited on four occasions: Dannebaum and Lanyon (1992), Hall and Pritchard (1996) and recently Cunnien (1997) and Smith (1997). Donnebaum and Lanyon (1992) cited it as an example of subtle items in the detection of deception. Hall and Pritchard (1996) cited and reproduced the scale, in their book, as an example of an assessment tool for malingering for pain or loss of sensation. Similarly, Cunnien (1997) describes the scale but does not cite any validation procedure completed on the MDS by an independent body. Smith (1997) comments in the most detail on the MDS, and this will be discussed later.

Even when malingering assessment tools are developed certain procedures, if followed, give the assessment considerably more validity

Even when clinical tools are available for malingering Faust (1995) suggests several guides for the clinician, which will, he claims strengthen the health professional's position in the courtroom. First, it is important not let subjective confidence be the guide for whether an individual is malingering. A study has shown that clinicians who indicated that they were confident or very confident in their diagnoses had an error rate of 100% (Faust, Hart & Guilmette as cited in Faust, 1995). This may be due to the

relationship between overconfidence, premature conclusions, insufficient data collection, failure to use useful diagnostic procedures and decision rules (Kahneman, Slovic, Tversky as cited in Faust, 1995). Second, consider the degree to which the examinee has a motive to deceive, which can be extremely difficult to ascertain in legal proceedings, where there may be strong incentives to deceive. Faust (1995) suggests that "under such circumstances, the base rates for malingering is higher, and thus the index of suspicion needs to be greater, diagnostic thresholds need to be adjusted and more thorough and systematic assessment is indicated" (p. 261). It is interesting that no papers are cited to support this contention, and similar to Leavitt and Sweet's (1986) finding, it appears to be part of clinical folklore. The current study seeks to assess this link between the court process and malingering.

Conclusion

The literature on detecting malingering clearly gives disparate results. Certainly the ability of clinicians to detect malingering appears to be in doubt however the ability of standardised testing appears to be proven yet. Clearly, one cannot rely on one method to substantiate the other, which is what effectively occurred in the original validation of the MDS. Specifically, the detection of the malingering of pain has been approached through both physical and psychological methods. Neither has been proven conclusively and generally the methodology used to 'prove' the capacity of a malingering assessment has been controversial. While certain factors such as extreme responses on pain intensity and attitude to treatment, when compared to genuine patients, are suggested by the research, no conclusive technique has been found to address the element of why a pain patient is

attempting to malinger. This is crucial, given the criteria for malingering. What is perhaps more difficult to operationalise is the distinction between simulators being given a motivation and a 'real' malingerer, where there are perhaps multiple motivations and rationalisations within them.

Chronic Pain and Litigation

The relationship between litigation and chronic pain is well established, however it appears to lead to certain assumptions being made about those in litigation with chronic pain. Litigation, whether through a no fault system or a common law remedy, relies heavily on pain and suffering for the final level of compensation and this must prove tempting for those willing to manipulate the system. Several studies have indicated that a high degree of suspicion exists towards particularly low back chronic pain patients who are attempting some form of litigation. Interestingly while research suggests that there is little relationship between litigation and malingering, the stereotype still appears to be prevalent.

Pain is often central in litigation

A survey of only six plantiff attorneys indicated that in 1989 they handled a total of 69 cases involving back injuries for settlements totalling approximately 7 million dollars (Aghazadeh as cited in Waikar et al., 1991). With this in mind, Weintraub (1995) notes that people are compensated for "subjective and intangible pain and suffering, loss of consortium, and loss of life's pleasures... despite the fact that these losses cannot be

quantified, they are responsible for 80% of the reward" (p. 341). This system must prove tempting for some individuals to attempt to manipulate for personal gain, especially given the level of awards involved

Involvement as a litigant, whether prior or current, appears to be cause for suspicion of possible malingering

The comments by Faust (1995) and the DSM IV (1994) suggesting that litigation is an excellent indicator of the possibility of malingering are by no means unusual. Leavitt and Sweet's (1986) study, using a sample of 113 orthopedic surgeons, found that 50% of this group considered that when a back patient indicated that they were involved in some form of litigation or were considering becoming involved, could be considered a sign that this patient may be malingering. In support of this Chapman and Brena (1995) found that inconsistent participants (suspected of malingering) in their study were likely to have pending litigation or to be receiving current disability income and report a higher degree of pain. Main and Spanswick (1995) suggest that previous litigation is a strong indicator of the possibility of malingering. As malingering is strictly a legal term although a psychological definition is utilised, this may be acceptable, however the interest for this study is whether this assumption is correct. Travin and Protter (1984) lend some support to the study's approach when they state

> "malingering-like phenomenon.....are utilised in a wide range of perceived adaptive circumstances; and just as lying behaviour can blur and merge into subtle forms of self-deception it is only within the forensic context that with its sociopsychiatric and medico-legal overtones that one scrutinises the obvious motivations for the act" (p. 198).

Need to factor in legal system for any malingering validation especially one in which personal injury litigation is involved

As part of the validation of the MDS there needs to be a validation with those individuals who are aware of the rewards associated with malingering due to the sort of system that they have been operating in. The validation of the Structured Interview for Reported Symptoms (SIRS) (Rogers, 1988) is an excellent example of such a validation process. The SIRS is used in psychiatric settings to assess malingering, and, as with malingering measures, it primarily relies on assessing inconsistency in responses. The validation process the SIRS has undergone shows the value of simulation designs to assess the potential problems that a malingering population may present to a new scale such as discriminant and concurrent validity (Rogers, Gillis, Dickens & Bagby, 1991). In particular their ability to assess faking in a number of specific disorders (Rogers et al., 1992) and the effect on coaching on the discriminative ability of the scale (Rogers, Gillis, Bagby & Monteiro, 1991). For a complete validation the Barkemeyer-Callon-Jones Malingering Scale will have to show similar discriminative levels under similar conditions. It is for this reason and the influence of Leavitt and Sweet's (1986) findings that the responses of pain patients who have been involved in workers' compensation systems and/or legal system will be compared to the responses of pain patients who have not had contact with any adversarial system.

Research in this area is difficult because, it is difficult to know the level of pain prior to the injury, and then the effect of anxiety regarding financial concerns for the future. So studies that have indicated that perceived pain levels dropped after the litigation was completed (Mendelson, 1992) may be indicative of stress relief rather than malingering.

Certainly research by Guest and Drummond (1992) does suggest that no significant difference exists between litigants and non-litigants after the court process, and that emotional distress was not necessarily lessened after the court case. This research was slightly different to the current research as it utilised chronic low back pain sufferers who went to court and compared them to those who settled their claim prior to court. In the current research both groups would all be in the litigating group. Weintraub (1988) stated that chronic pain is generally regional, involving the back, neck, limbs or head however during litigation the locations of the symptoms are not random. Instead they seem to be concentrated in the functional domain of the sensory and motor systems of the injured area. This can be interpreted in a number of ways: malingering, compensation neurosis/accident neurosis or abnormal illness behaviour. Interestingly, Clayer et al. (1984) proposes that Pilowsky (as cited in Clayer et al., 1984) clearly includes compensation neurosis within his conception of abnormal illness behaviour, which would appear to negate a label of malingering under the current definition, requiring specific intent.

Compensation neurosis

Compensation neurosis has been termed by Foster Kennedy (as cited in Mendelson, 1992) as "a state of mind, born out of fear, kept alive by avarice, stimulated by lawyers and cured by a verdict' (p. 121). It has been suggested by Miller (as cited in Clayer, Bookess-Pratz & Ross, 1986) that there is substantial difficulty in distinguishing between compensation neurosis and malingering. Further to this Miller, in the same article, made the important point that such a term automatically prejudices an individual's case as it is

in effect an accusation, which presumes to understand the motivation of the patient (Voiss, 1995). Specifically the difference, it has been suggested, lies in the concept of conscious and unconscious motivation. Miller states that

> whether such exaggeration is conscious or unconscious is a question often by debated by lawyers and psychiatrists in court. To many psychiatrists it represents no problems, and they authenticate the complainant's unawareness of motivation with confidence that seems impressive – until one reflects that the differentiation between conscious and unconscious purpose is quite imperceptible to any scientific inquiry and that it depends on nothing more fallible than one man's assessment of what is probably going on in another man's mind (p. 296).

Hall & Pritchard (1996) express similar sentiments regarding the ability of an assessment to discern conscious deception from unconscious deception. This has probably lead to more accurate but no less difficult terms such as 'patterns of conscious failure to provide accurate self-report data' (Main & Spanswick, 1995) which has been used, perhaps to avoid the decision between conscious and unconscious exaggeration.

Studies specifically addressing the effect of litigation on chronic pain

All of the few studies that have looked at chronic pain in litigation, support Mendelson's (1982) contention that patients are not 'cured by a verdict'. Peck, Fordyce and Black (1978) studied the different response styles to chronic pain by claim tort litigants compared to non-litigants. Whilst acknowledging that there were very few differences between the two groups they did find that two pain behaviours identified the litigants. The litigants consulted fewer doctors and used more supportive devices such as crutches and prosthetics that cost more than $200. Non-litigants used more prescribed pain relieving medication than the litigants in the first month after injury however, by the sixth month, drug ingestion was significantly reduced for both groups.

There does not appear to be a significant difference between litigants and non-litigants in the self report of pain intensity. Mendelson (1984a) compared 47 chronic low back pain patients with 33 chronic low back pain patients not seeking compensation and found using a visual analogue scale, that there was no difference between the two groups in the level of reported pain intensity. This study was conducted close to or after litigation was completed which does not necessarily capture the levels of pain during the litigation process. Suter (1998) found that when litigants and non-litigants were compared on levels of pain and anxiety before, during and after litigation, there was a definite increase during litigation which returned to normal levels later. However the confounding relationship between pain and anxiety can be used to explain this result (Hawkins & Price, 1992; Guest & Drummond, 1992).

There is little doubt that there is substantial anxiety for litigants in the court process which the rise of therapeutic jurisprudence movement has shown (Wexler & Winnick, 1996). Leavitt's (1990) study into emotional distress among patients with chronic pain showed that patients with such an issue, were more likely to have a longer period of disability irrespective of whether they were in receipt of compensation payments. This interaction between response to litigation and injury has been addressed in a number of studies

An interesting analysis, completed by Binder, Trimble and McNeil (1991) showed that the relationship between financial compensation and outcome was reliant on several

different factors. The methodology utilised 18 participants who had complained of psychiatric symptoms during the litigation process and were recruited from a psychiatrist's files. Through reviewing the court documents and interviews with the participants, Binder et al. (1991) developed case examples which appeared to demonstrate complicated relationships between monetary compensation and outcome. Certainly some of the participants reported that they had improved after they had received compensation, however this appeared to be related to issues besides the money. Reasons such as feelings about impairment, family support, the loss or gain of a relationship, personality characteristics, personality characteristics and ability to work were all cited as issues that contributed the improvement. Clearly there are some qualitative issues with this methodology, specifically the lack of a non-litigating group, which limit the conclusions that can be drawn from the study. It does appear that a range of issues are related to any improvement and that the monetary factor is only one element that may or may not contribute to the secondary gain of the litigation.

Several researchers have suggested that while presentation at litigation is slightly more than pre-litigation gradually litigants returned to the same behaviours as non-litigants. Indeed Mendelson (1987) suggests that "the view that the prospect of financial gain is the sole, or even the predominant factor that maintains chronic pain and disability is not supported" (p. 710). When this was tested Mendelson (1984b) found that between 35%-75% of litigants continue to attend for medical treatment and remain disabled when interviewed 2-3 years after the litigation has concluded. The current research also seeks

to find different responses from former litigants to those without litigation experience to assess whether the litigation experience has an impact on malingering.

The existence of any change in pre and post litigation injury levels has been described (rather than explained) through the use of such terms as functional overlay, litigation response syndrome and compensation neurosis (Mendelson, 1992; Main & Spanswick, 1995; Lees-Haley, 1988). While debate rages over the empirical validity of this 'diagnosis' within Australian courts this has been accepted as a legitimate concept (i.e Kilpatrick v The Commonwealth Bank of Australia (1988) N82/156 Administrative Appeals Tribunal). With regards to litigation response syndrome Lee-Haley (1988) indicates that a series of symptoms such as depression and anxiety arise from the process of being personally involved in litigation that may hinder either defendants or plantiffs in their ability to protect their interests. One of these responses Lees-Haley (1988) suggests from his clinical experience is hysterical and hypochondrical responses in which symptoms may be exaggerated in number or degree. He does suggest that this exaggeration should pass at the conclusion of the litigation suggesting that the effect of litigation on chronic pain, is at best temporary.

The effect of litigation on the level of exaggeration of chronic pain patients

While treatment outcome does not appear to be affected by litigation, the mere involvement with the legal system appears to suggest that litigants are 'tainted' as they are more prone to exaggeration of their complaints for external gain. As was mentioned earlier, Mendelson (1987) assessed chronic pain patients of which 157 were receiving

compensation or had been involved in litigation and 106 had no entitlement to compensation. It was found that there was no significant difference between litigants and non-litigants on the Conscious Exaggeration Scale (as Clayer et al., 1984 used). This suggests, that litigants as opposed to non-litigants, are no more likely to be exaggerating. This appears contrary to some of the suspicions in relation to the assessment of pain (DSM IV, 1994; Faust, 1995).

Conclusion

Clearly the effect of litigation on both reported pain and malingering has been either explicitly or implicitly addressed both in assumptions made in assessment and in research. It has to be said, that currently there does not appear to be an effect on either the ability to malinger or on the level of reported pain according to the research however clinicians continue to believe otherwise. Whilst most assessment tools state that litigation is a crucial element in malingering, it could be said that its presence does not increase the likelihood, only that the reasons for external gain, are more clearly defined. Regardless of this, when a change in pain levels does occur, it could be due to stress in the litigating process rather than malingering, when no statement of intent exists. As this element of the study is yet to gain clear direction, the resulting hypothesis will be positive rather than negative, to assess whether a relationship exists at all.

Validation of Malingering Detection Scale by the author

Methodological Issues in Research

In this section the issues arising from the development and validation of the Barkemeyer Callon Jones Malingering Detection Scale are discussed with reference to the major issues in malingering research. Specifically the lack of internal validity in the development of the MDS is discussed and the attempt by the current research to redress this imbalance by using a combination of a known groups and simulation design is detailed. The issues arising from this approach are then discussed.

The development of the Barkemeyer Callon Jones Malingering Detection Scale

The Barkemeyer Callon Jones Malingering Detection Scale (MDS) is based on 26 malingering behaviours (See Appendix 1) that the authors have identified (Barkemeyer, personal communication) (Appendix 4). Their method of identifying specific malingering behaviour appears to come from clinical experience as no studies or pilot testing are discussed in either the paper by Callon, Jones, Barkemeyer & Brantley (1989) or in the manual for the MDS. Such experience may have come from Barkemeyer and Callon as they have extensive experience in neurology and behavioural neurology respectively. These 26 malingering behaviours represent 26 items in the scale while the remaining 3 examine the goals of such behaviour. Hence the MDS has a total of 29 items, an interviewee is given one point, for each behaviour or goal that they exhibits during the interview.

Original validation study

In the original validation study (Barkemeyer et al., 1989) a known groups design was employed in which external methods were utilised to define who was a malingerer and then the MDS was used to test whether the same individuals were identified. In this case it was one neurologist who made his/her judgements using an unstated criterion. Using this approach it was stated that the MDS was developed to "differentiate between patients who are malingering and those who have a recognisable organic disease" (Callon et al., 1989, p. 3). Furthermore the MDS attempts to provide a clinician with "positive inclusive evidence" (p. 3) that a patient is malingering whereas a conclusion that a patient is malingering is reached more frequently on the basis of exclusion evidence rather than direct evidence. The purpose of the original validation study (Callon et al., 1989) was to test the hypothesis that the test differentiates between "patients whose medical complaints were associated with physical evidence and those who were determined to be malingering"(p. 4). As Smith (1997) notes no demographic data was provided on the participants, which makes the effectiveness of the scale difficult to judge, as other features may be responsible for certain individuals being selected, and not just their behaviour that indicated malingering.

Research by Barkemeyer et al. (1989) indicated that the scale had high internal consistency (alpha coefficient of .93) and inter-rater reliability (r = .94). Predictive validity (r=.86), which is what the current study is primarily concerned with, was assessed by a criterion measure. This measure according to Callon et al. (1989) was designed to reflect a lack of cohesiveness in the patient's responses and the absence of

objective findings supporting the complaints. Specifically, the criterion score was derived from three items: the presenting complaints were not consistent with a defined symptom complex, the neurological examination failed to support the patient's complaints and laboratory test results were equivocal or did not support the patient's behaviour.

A board certified neurologist was used by Barkemeyer et al. (1989) to examine 122 adult neurology clinic patients, and to give a criterion score out of three using the criterion approach previously outlined. If the criterion was either two or three, the patient was considered to be malingering. Under this system 30 of the neurology patients were considered to be malingering while the remaining 92 were considered to be non-malingerers. When the MDS scale was applied it was found that the mean score for non-malingerers was only 1.3 out of 29 compared to the mean for the malingerers (13.87). This, Callon et al. (1989) suggests, is due to "the suspect behaviours tend(ing) to characterise the presentation of the malingerers" (p. 5). A discriminant function analysis indicated that a score of 7.6 differentiated between malingerers and non-malingerers. Finally a cross classification procedure was completed which showed that the MDS correctly identified 95% of patients as being in the same group that the criterion measure did.

Cross validation study

A cross validation study, discussed by Callon et al. (1989), was completed later using a completely different sample group of 66 neurology clinic patients and a non-neurologist.

The evaluator, who had some knowledge of neurology was either a medical resident on neurology rotation or was an experienced neurology nurse. An MDS was completed by the evaluator. A neurologist, blind to the evaluator's ratings, classified each of the patients as either malingering or not malingering. Barkemeyer et al. (1989) research indicated that an MDS score of 7-8 to differentiate between malingering and non-malingering was use in this study. A person who scored 7 or less was judged to be not malingering however a person who scored 8 or over was judged to be malingering. When the results were compared to the neurologist's assessment it was found that of the patients who scored 7 or less, 100% had been judged as not malingering. Of those who scored 8 or over, 94% had been judged by the neurologist as malingering. One person whose MDS score was below 7 was judged by the neurologist to be malingering.

Smith (1997) is only authority other than the authors to provide a substantial critique of the MDS but he tends to only note the similarity or originality of the different sections of the MDS rather than directly assessing its validity. Four points were made by Smith (1997). First, the development of the scale, specifically the basis of the items, was not clear. Second, the validation studies conducted by the authors of the scale did not supply any demographic information, which makes it difficult to directly assume that it was not features other than malingering, which caused this result. Third, the validity procedure was flawed as there was enormous potential for contamination of results, between predictors and criteria. Finally, Smith (1997) notes that research with additional populations is needed to determine the scales generalizability. Clearly the present study is part of this process as no validity study has been completed for the MDS and chronic

pain, despite Hall and Pritchard's (1996) assertion that the tool was to be used for assessing malingering in pain populations.

Reliance on expert's opinion

The issue that Smith (1997) highlights is the reliance on an expert's opinion. Further to this Clayer, Bookless-Pratz and Ross (1986) in exploring this problem with pain found that when two assessors (experienced psychiatrists) were asked to give a judgment of malingering they gained an overall correlation of .64 with the conscious exaggeration scale; developed in an earlier study (Clayer et al., 1985). This may suggest that the correlations between experts may be improved, but only when an instrument is employed. However in the validation of the instrument, it may be more beneficial to have a simulation design once a known groups design has been completed. Probably the worst example of this bias in malingering research is from Leavitt's (1991) research in which he validated his low back pain simulation scale by assessing a group of pain patients and then indicating that the scale had identified the same individuals that he had, who were suspected of malingering. The problem in this case being, that both the scale and Leavitt (1991) could be assessing something completely different to malingering. Callon et al. (1989) at least utilised another neurologist to indicate those he considered likely to be malingering making the MDS at least valid against the opinion of another professional in the field. However if the prior findings of clinicians' dubious ability to assess malingering are taken into account then it is inappropriate that an instrument is assessed against a clinician as opposed to another instrument known to be effective. The difficulty being that no such instrument exists for chronic pain yet due to the reliance on patients'

self report. What is certain is that the clinician used to denote malingering should not be a senior author of the assessment tool, which is what Smith (1997) claims occurs in the validation procedure.

Internal validity versus external validity

The current validation process will see the suggestion by Rogers (1997) that the measures of malingering should be validated with a combination of simulation design and known groups design being implemented. It is suggested in Rogers and Cruise (1998) that it is the convergence of the two methods that "offers the strongest evidence of accurate determinations because of their respective strengths: simulation design (internal validity) and known groups comparison (external validity)" (p. 281). Through having all participants with chronic low back pain, both of these elements are addressed because the only difference between a known group and simulation when all the participants have the same condition is the intent. In this case, this intent (workers' compensation lump sum) is not only given to participants but any prior experience participants may have had just is to an extent controlled by the usage of both litigants and non-litigants. So prior experience of compensation may make a participant more aware or more cynical of the potential for gain in such a system, which in turn, may regulate the strength of their intent.

Interestingly, the Barkemeyer Callon Jones Malingering Detection Scale was developed from clinical observations and essentially evaluated in the same manner, thereby losing internal validity. In contrast, Rogers (1997) states that any measures developed from

analogue research should then be cross validated with actual malingerers to gain external validity. As Brena and Chapman (1995) noted, malingerers by definition do not identify themselves, making a known group not feasible. The only possible group, would be malingerers who admit, without duress, that they were attempting to fake or exaggerate their symptoms, after the assessment procedure, thereby allowing the assessor to be completely blind to the deception. This would be an interesting follow up for the current research. Even malingerers who are 'caught', especially those with pain, have a myriad of 'disorders' they can be diagnosed with, if it cannot be shown whether the deception was conscious or unconscious. The decision in Boyd v General Industries (1987 as cited in Hall & Pritchard, 1996) in which an employee was found to be malingering back pain in a compensation claim, and the court ruled that the company pay for the treatment of the issues that lead to her malingering, indicates that possibly American courts advocate such an approach.

Is it malingering?

The difficulty with malingering research, as other studies such as Chapman and Brena (1995) indicated, is that despite a wide range of possible criteria, it is still impossible to conclusively separate individuals malingering from those showing abnormal illness behaviour. Pillowsky (1994), the major writer in the abnormal illness behaviour field, indicated he does not consider these two areas similar at all, and was very angry that elements of the instrument he developed, the Illness Behaviour Questionnaire, were used by Clayer et al. (1984) to distinguish simulating malingerers from control pain patients. Given this, it appears virtually impossible to define criteria for deciding who is a 'known'

malingerer, for those with chronic low back pain without a very specific statement of intent. It does appear possible to have a known groups design when validating instrument such as the SIRS (Structured Interview of Reported Symptoms) (Rogers, Gillis, Dickens & Bagby, 1991) because they are designed specifically to address discrete variables within psychiatric disorders. Pain is so multidimensional that currently this level of discrimination does not appear possible.

Simulation designs

There are several issues with simulation designs which make them much easier to experiment with, but most have problems with external validity. Rogers and Cavanaugh (1983) have indicated that the responses used in such validation studies are obtained by asking participants to simulate malingering in order to study 'true' malingerers. This, they suggest represents a paradox in asking participants to comply to instructions to fake in order to study participants who fake when asked to comply. Similar to this point Rogers, Cruise and Sewell (as cited in Rogers, 1997) noted the importance of very specific instructions to fake in which a stated goal must be made, rather than simply to 'try to fake'. Indeed Leavitt's (1985) instruction to try to play the role of a person trying to convince their doctor that they have severe back pain, is clearly not enough information. Rogers et al. (as cited in Rogers, 1997) suggest 6 elements be present in any instruction to malinger: comprehensibility, specificity, contextuality, relevance, motivation and believability. These have been incorporated into instructions to participants for the current research as much as possible.

Conclusion

The original development and validation of the Barkemeyer Callon Jones Malingering Detection Scale was lacking in internal validity, and so it is appropriate to complete a well controlled simulation design on this scale. This will strictly control the concept of intent, so the techniques used to simulate malingering will represent, to some degree, a known groups design. Specifically, a person already suffering chronic low back pain rather than someone with no experience of the problem is asked to exaggerate.

Purpose of the study

Callon et al. (1989) suggests that the Barkemeyer Callon Jones Malingering Detection Scale represents "a standardised means for organising one's observations of patient behaviour..it provides a systematic aid to decision (making)"(p. 6). This study seeks to verify that the MDS can distinguish between people with chronic low back pain who are exaggerating their symptoms and those who are being as honest as possible. In addition, this study seeks to assess whether, as some clinicians appear to believe, litigation is a fundamental basis for suspecting malingering in a chronic low back pain patient (Long, 1986; Mensana Pain Clinic, 1997; Leavitt & Sweet, 1986).

Limitations

This study has several limitations both general to malingering research and specific to this study. Faust (1995) outlines several limitations in most malingering research. These

are a restriction of information to clinicians and a failure to warn clinicians about the possibility of malingering. The current research addresses this by conducting an interview, in which questions can be actively asked by the clinician and the purpose of the interview is for a pain evaluation which directly impacts on an external system. Therefore, the possibility of malingering should also be assessed, albeit briefly, by an evaluator hence the purpose of the study. Hall and Pritchard (1996) suggest that involuntary malingering makes simulation designs obsolete, as this form of design presumes intent, as does the legal definition of malingering. However the present study seeks to closely focus on the scenario involving external rewards which Rogers et al. (as cited in Rogers, 1997) suggested, thereby focusing on conscious malingering. In this sense the study rejects the construct of unconscious or involuntary malingering, as a specific goal behaviour or intent must be expressed in some form, by definition, for malingering to occur.

Along a similar vein, recent research by Rogers and Cruise (1998) has found that when external incentives are provided for successful malingering and punishments for unsuccessful malingering are also included, the quality of malingering rises. This study does not provide incentives for either a negative or positive nature. In addition while positive incentives are relatively clear it must be questioned what form the negative incentives might take (perhaps fraud) given the liberal use of terms such as functional overlay and compensation neurosis which are still so commonly applied (Mendelson, 1992; Main & Spanswick, 1995). In Rogers and Cruise's (1998) research participants (students) were asked to asked to malinger a major depression for positive incentives

(class credit and possible financial reward) or negative incentives (loss of class credit and public posting of unsatisfactory performance). The results indicated that participants with negative consequences were more focused in their feigning than those with positive incentives and produced fewer symptoms unrelated to depression. The implications that Rogers and Cruise (1998) posit that came from this study (simulation design) was that incentives should are offered for both successful and unsuccessful malingering, both negative and positive incentives should be offered, the contexts used are relevant to the participants and germane to the psycholegal issue, and the groups assessed should be representative of the population to which such a forensic evaluation would be applied.

The final issue with this research is the lack of generalisability and lack of control over the condition of the participants. This study is really only generalisable to men who are claiming to suffer from chronic low back pain. Furthermore while this study went to some effort to only have participants with chronic low back pain, the respective condition of that patient was not controlled for. This was on two levels: level of injury/loss of function and medication. No attempt was made to ask the level of injury to the back prior to participating in the study. Second, no record of substance use when completing pain evaluation tasks was made. The effect that this would have on this study is unknown. This does reflect Smith's (1997) call for more studies validating the MDS with different populations. In this case the population is very specific but given the use of men aged from early to middle adulthood (Greene, 1997) with chronic low back pain (Long, 1986), represent two groups upon which considerable suspicion is placed on regarding malingering.

Design of the current study

The validation work by Barkemeyer et al. (1989) using a known groups design parallels the work by Chapman and Brena (1995) in which an expert's opinion is used to denote who is malingering and. This, in a sense, is circular because the tool is designed to be independent of the expert, and should be validated against another criteria with more objective evidence. Even the use of private investigators would be difficult given the discussion by Waddell and Turk (1992) on chronic low back pain which suggests that the loss of function can alter over time, and that some behaviours while not possible some days are possible on others. Similarly, functional testing, as was suggested by Waikar et al. (1991), may also have similar difficulties as the level of pain may have little to do with the functional capacity and as Bigler (as cited in Bourg, Connor & Landis, 1995) has mentioned the test for malingering should involve motivation rather than physical ability. The Barkemeyer-Callon-Jones Malingering Detection Scale does appear to assess this at some level.

Hypotheses

On the basis of the literature, six hypotheses have been generated to accurately determine whether the Barkemeyer Callon Jones Malingering Detection Scale is capable of differentiating between participants, all of whom suffer from chronic low back pain, half of whom are asked to malinger while the other half are asked to be honest. How and

where the scale is most successful will be examined, as will potential correlates such as previous experience with litigation and level of reported pain.

1. The scores on the Barkemeyer-Callon-Jones Malingering Detection Scale will be significantly higher for those asked to malinger than those asked not to malinger.
2. The criterion of a score of 7.6 on the Barkemeyer Callon Jones Malingering Detection Scale will differentiate, to a significant level, those participants asked to malinger, from those not asked to malinger.
3. The items on the Barkemeyer Callon Jones Malingering Detection Scale that will differentiate those asked to malinger from those asked not to, will be items 4 and 5 which focus on severity of the problem rather than description and part two of the scale in which the potential gains or benefits derived from the pain are examined.
4. There will be a significant relationship between scores on the MDS and reported level of pain.
5. Participants who are former litigants will have significantly higher scores on the Barkemeyer Callon Jones Malingering Detection Scale than those with no prior litigation experience regardless of whether they are asked to malinger or not.
6. Participants with previous experience in litigation will have significantly higher levels of reported pain than those with no prior litigation experience regardless of whether or not they were asked to malinger or not.

Method

Participants

There were 32 participants in this study, all of whom were men who had suffered chronic low back pain (3 months or longer). This criteria was made on the basis of the Western Australian WorkCover Authority's demarcation of 3 months after the injury, as most low back injuries heal within this time. Most participants were well within the standard criteria of 6 months suggested by the DSM IV (1994) and Turk and Melzack (1992). The average length of time that back pain was suffered was in fact 124 months with only two participants having pain for less than 6 months.

Although all participants were male chronic low back pain sufferers, the sample was drawn from a number of different sources but overall could be characterised as a convenience sample. Specifically, it included 13 serving officers from the Western Australia Police Service, 14 members of the community and 5 former clients of a pain centre in Perth. Initially, it was thought that all the participants could be recruited from the pain clinic, however there were not the number of willing participants available. This was primarily due to the specific focus on both gender and type of chronic pain (i.e. male and chronic low back pain). The aetiologies of the back pain were not controlled for and involved pathological, mechanical and traumatic diagnoses. All the participants had been involved in contact sports at some time which satisfied the issue of background of the pain sufferer (Hargraves, 1996; Ryan & Kovack, 1966). The age range of the participants was 19 to 57 years of age with a mean of 40.5 (SD = 10.15).

Of the 32 participants, 16 were chosen as having been involved in litigation as a result of their pain while the other 16 had not. The method used to differentiate litigation from not litigation followed a method similar to Mendelson's (1987) research. This involvement in the legal system may have been only transitory, as often occurs in the workers' compensation system, or it may have involved complex common law litigation proceedings spanning years. Primarily this litigation group comprised individuals, who received workers' compensation for their injury or compensation for motor vehicle accidents. It is unknown whether the claim was made under common law, prior to no-fault schemes being introduced, or was unrelated to either workers' compensation or vehicle accident. The type of compensation procedure varied with the type of employment. Some had involved lawyers directly while others had not.

The non litigation group comprised 16 participants suffering from chronic low back pain, who by their own report had no contact with the legal system with reference to their pain. The reasons why they did not enter into litigation varied, and were not explored by the researcher. Within this group, it was deemed acceptable if they had contact with the legal system for criminal matters, provided there was not an issue where feigning illness or disability would have lead to a reduction in the charge.

Tools

Two scales were used, the Barkemeyer Callon Jones Malingering Detection Scale (See Appendix 1) and a 50 point Numeric Rating Scale for pain intensity (See Appendix 5). In

addition, participants were given directions to 'malinger' (See Appendix 6) or 'not malinger' (See Appendix 7).

Barkemeyer Callon Jones Malingering Detection Scale.

The Barkemeyer Callon Jones Detection Scale (MDS) (Barkemeyer et al., 1989) consisted of 29 items designed to assess malingering in neurology patients. It has been suggested by Barkemeyer et al. (1989), Cunnien (1997) and Hall and Pritchard (1996) as a useful assessment tool for assessing malingering in medical settings. It is basically a series of behaviours that an assessor should look for during the course of a routine examination. Until now it has not been systematically evaluated by any group except the authors.

The scale is in two parts. The first part examines specific behaviour or responses of the interviewee during the interview while the second part examines the goals of the interviewee. Within the first part there are six phases: the introductory phase, history taking phase (Characteristics of the Patient's presentation), history taking phase (Manipulation attempts), patient's response to questions, examination phase and patient's response to disagreement. These phases will be described in more detail later. The second part does not have these phases and requires the examiner to specifically ask three questions which assess what the goals for the patient's behaviour are.

The 'Introductory Phase' has three items listed, which are to be judged from the spontaneous comments by the patient. These involve expressions of exaggerated

confidence in the examiner's ability, statements designed to enhance his/her position in society and statements denigrating those in the immediate community. The first 'History Taking Phase' has 9 items which the interviewer uses to assess the patient's; focus on the severity of the problem, focus on the impairment from the pain, exploration of alternative aetiologies, use of non-causally based associations, unusual responses to treatment (became worse or showed no improvement at all), denial of responsibility for clearly voluntary acts and his/her presentation included a constellation of inconstant complaints. In addition if the patient's disability was emphasised during the examination to the exclusion of any consideration of his/her abilities, where the interviewee makes no attempt to describe his/her strengths; only the impairment from the injury.

The second 'History Taking Phase' looks at attempts of manipulation by the patient, and covers five items, although these items actually assess seven behaviours. These behaviours involve citing another professional who agreed there was problem, describing the prestige of others who allegedly found a pathological process, quoting an authority on the suspected pathological process, using an irrational analogy to justify a claim of physical pathology, threatening to harm self or others if relief is not found, overstating the examiner's authority for intervening on the patient's behalf and making an implication that there might be legal retaliation for missed diagnosis or improper care.

The 'Patient's Response to Questions' is examined for two behaviours. The first is whether or not the patient questions the competence of the examiner to avoid answering questions as he/she is unsure of the answer. The second is whether or not the patient

gives an affirmative response to an inappropriate leading question, due to a lack of insight into the alleged illness or impairment.

The 'Examination Phase' is the only area in the MDS where some physiological knowledge is necessary. Two behaviours are looked for. The first is whether any physical effort whatsoever resulted in an enhancement of the patient's presentation of symptoms. The second is whether or not the patient's responses during the examination supported a physiological explanation.

Finally, the 'Patient's Response to Disagreement' is assessed by looking for the presence of three behaviours. The first behaviour is when the patient's response to the examiner's explanation suggests a distorted meaning of the examiner's statement. This is often used as a mechanism to avoid the acceptance of the examiner's explanation. The second behaviour occurs when a patient demands a prognosis based on inadequate data, knowing that level of information is insufficient to give an explanation. An examiner who obliges this request places him/herself in an unjustifiable position. The final behaviour is whether the patient questions the examiner's motives. Again this is sometimes used to avoid acceptance of the examiner's impression.

The second part of the MDS assesses the apparent goals for the patient's behaviour. This involves three elements. These elements assess whether the patient's complaints lead to; the avoidance of a normal responsibility or noxious activity, the gain of either a concrete entity or abstract quality and the retention of either a concrete entity or abstract quality.

The MDS was then placed in an interview format (Appendix 8) which involved phrasing appropriate questions to ask the participant. This was done for consistency in approach between participants. The process that saw the scale placed into an interview format involved writing item specific questions, drawing from the description and intention of each item, as stated in the MDS manual. These items were then piloted with on a male chronic low back pain sufferer, who is also a graduate level psychology student. Items that were confusing, or inappropriate were altered. This individual was not a participant in the experiment. The only issue being that questions were asked rather than comments (i.e manipulation attempts) volunteered or attempted by participants as opposed to a genuine physical assessment.

50 point Numeric Rating Scale of Pain Intensity.

The second scale used is a numeric rating scale for pain (NRS) similar to the one outlined in Leavitt (1985) and Turk and Melzack (1992). This scale lists numbers in chronological order from 0 to 50. Pain description statements suggests, that 0 represents "No Pain" while 50 represents "Pain is Unbearable".

Direction to 'Malinger' or 'Not Malinger'.

The direction to malinger was problematic as it had to be very specific. Having considered the instructions given by Clayer et al. (1984) and Leavitt (1985) it was decided that both were inappropriate as they were designed for controls not people in pain. An alternative direction was written with the help of the clinical psychologist (See

Appendix 6,7). This approach also satisfied all of the criteria specified by Rogers, Cruise and Sewell (as cited in Rogers, 1997) of comprehensibility, specificity, contextuality, relevance, motivation and believability.

The directions to malinger or not malinger was piloted on 4 individuals, all of whom had chronic low back pain. When asked directly how they would approach an interview having received these instructions, they said that they would alter their presentation in an attempt to gain more compensation, compared to if they had not received any instruction or an instruction to be genuine. Similarly, they clearly understood the direction to not malinger. For the pilot and participants recruited from the pain clinic the direction to malinger or not malinger was sent out as part of a letter but the other participants received the direction on an instruction sheet. The content was not altered at all (See Appendix 9).

Procedure

Ethical approval was received from Edith Cowan University Psychology Department's Research Ethics committee after they considered a proposal for the research.

The direction to malinger and not malinger, the pain evaluation and MDS interview were piloted and modified where necessary. This also provided practice for the researcher in the practical aspects of the study.

There were two methods by which participants were recruited. The reason that the community and police sample was involved was that due to a lack of willing research

participants from the pain clinic it was necessary to find an alternative source of men suffering from chronic low back pain. The former clients of a pain clinic were recruited through the clinic whereas the community and police sample were recruited through a slightly different method, described below.

Participants from the pain clinic

Initially it was hoped that all the participants could be generated from a sample of former pain patients treated by local clinical psychologist, who has worked in the field of pain for some time. He provided the names and phone numbers of 88 former patients from his practice. All of these former people were men, who were over 18 years old and suffered from chronic low back pain. All of these men had suffered from this pain for over 2 years.

Of this total of 88 patients, 42 had previously been involved in litigation while the remainder had not. The definition of litigation involved any contact with the legal profession as a direct result of pain. Generally the litigation involved motor vehicle accident compensation or workers' compensation.

These two groups were to be generated through contacting patients in the pool and asking whether they would agree to be part of the research. This followed a strict set of criteria for the phone call (See Appendix 10). People were told that the interview would take approximately 20 minutes and then 10 minutes for debriefing. If the person called agreed

to participate an interview was scheduled. All the interviews were conducted either at the participant's home or workplace.

During this phone conversation the former pain clinic clients who agreed to participate were told that they would receive a package in the mail that would contain:

- a letter indicating whether they were to pretend to malinger or not malinger
- 5 numeric rating scales, one for each day prior to the interview. They were asked to fill these out in accordance with their orientation of either 'malingering' or 'not malingering' but not until after the interview was completed
- a letter from the psychologist introducing the research and giving his support to it was also included (See Appendix 11)
- a comprehensive informed consent form was given, with pertinent phone numbers and a tear off consent section indicating that the participants had read and understood the purpose of the study (Appendix 12). This was to be signed and returned at the interview
- a reminder sheet was given listing the time and date of interview to avoid confusion (Appendix 13).

Participants were assigned to the 'malinger' or 'not malinger' orientation by a third party. This was achieved by the third party placing the letter in and then sealing the pack. The packages were arranged in such a way that half of each group had been involved in litigation. This package was then posted. The address was kept by the assessor for the interview, but this was destroyed immediately after as was the name of the participant to

avoid identification. A system of code numbers was generated to avoid the use of names and increase confidentiality. The only use of names for the remainder of the study was for the informed consent forms which were kept separately from the data in a locked room. These gave no indication of whether the participant had previously been involved in litigation and more importantly whether they were given an orientation of malingering or not. This was done to protect individuals who may decide to litigate in the future from any repercussions of being involved in a study which assessed their ability to malinger. Prior to the interview, the participants were asked for their signed informed consent form and then the interview begun.

Two participants withdrew from the assessment prior to the interview having received their information pack containing an explanation of the research. Both noted that they were ethically opposed to the assessment of malingering. They were thanked for their time.

Community Sample and Police Sample

The participants from both the police and within the community were recruited through word of mouth. The latter group was largely a convenience sample, where men were simply asked by either the researcher's or an acquaintance's social and professional contacts whether they suffered from chronic low back pain. If they indicated that they did, they were asked whether they would be willing to participate in an experiment looking at malingering and back pain. An interview time was then scheduled that was convenient for them. They were then asked to indicate whether they had prior litigation

experience when the definition was explained to them. As with former pain clinic clients, it was stressed that if they intended to litigate, it was probably not appropriate for them to participate due to the nature of the experiment (malingering). At this point their name was passed on to the third party and placed in the appropriate category (litigating, non-litigating). An envelope containing a direction to either malinger or not malinger was placed in an envelope marked with their name by the third party. This envelope was taken by the researcher to the interview in addition to five numeric rating scales for 5 days, an MDS, and an informed consent form.

Prior to the interview the researcher asked the participant to read and complete the informed consent form. Participants could ask any questions about the research other than those that might affect the outcome of the experiment. Next participants were asked to open the envelope and read the instructions/directions to malinger or not malinger without the researcher being able to see which set of instructions was being read. After this, they placed the direction underneath their seat. They were asked if they understood the instructions and the fact that this was an insurance assessment interview. All answered in the affirmative. They were asked to complete the 5 numeric rating scales over the next 5 days with reference to the direction they were given. The interview then began.

The interview

The interviews were identical for all participants. They were generally conducted at the participant's home or workplace. This was done for two reasons. The first being that as many were in chronic pain, the necessity and cost of taking transport to participate in the

study, seemed unfair and potentially unethical. The second being that in some cases, an insurance assessor may come to the home and certainly workplace to discuss the claim, and make certain decisions based on what he/she perceives to be occurring. Hence the use of the home or workplace rather than a more formal environment seemed appropriate.

After introductions, it was made certain that the informed consent form was signed correctly and that the participant was aware of the ramifications of this. Participants were asked again, regardless of their sample group whether they understood the directions to either malinger or not malinger.

The interview generally lasted 20 minutes, with both parties sitting facing each other. The participant was asked a series of questions from the MDS, and if necessary clarification was requested. Out of the view of the participant the researcher marked 1 or 0 beside each behaviour (1 = behaviour exhibited, 0 = behaviour not exhibited). At the completion of the interview, the participant was asked to return to the examiner the five Numeric Rating Scales for pain severity within 10 days of the interview. In some cases an addressed envelope was given to the participant. In most cases the NRS forms were left at a mutually agreed place i.e. front desk, researcher's workplace, with acquaintance.

At this point the researcher asked the participants if they had any questions about the study. These were answered in as much detail as possible. The interviewee was thanked for his time and told that a summary sheet would be available if he wished to receive one.

In this case, his address would be kept, until the results were completed after which they would be posted to him, and then his address would be destroyed.

Concluding the collection of data

When the required number of interviews were completed, there were four cells with 8 participants in each. These cells are: former litigating participants directed to malinger, former litigating participants directed to not malinger, non-litigating participants directed to malinger and non-litigating participants directed to not malinger. This gives a total of 32 participants. The third party notified the researcher when this condition was met and the interviews stopped. Possible participants in each sample who had agreed to participate were thanked for their preparedness to be part of the study.

The data were analysed using SPSS 7.5.

Results

The data were analysed in three different ways and are reported in three sections. The first assesses the stated hypotheses while the second assesses any possible interaction effects through multivaritate analyses. The third assesses the effect of different methods of generating participants and the effect this may have had on their subsequent MDS and reported pain scores. The third level of analysis was necessary to judge the impact of the convenience sample.

Where results for pain measures were missing (n=2), these were coded as missing. This occurred for one member of the malingering group and one member from the non-malingering group.

Hypotheses

The six hypotheses were assessed using a variety of statistical measures such as t-tests, chi squares and general descriptive measures. These low level analyses are used because the relatively low number of participants in this study would violate the assumption of homogeneity if multivariate analysis rather than a series of t-tests were completed. Despite this, an analysis using an ANOVA procedure was completed for future research possibilities, which is in line with Tabachinick and Fidell's (1996) assertion that multivariate analyses are with less than participants is non random samples does not necessarily violate homogeniatity. . This is presented in the second area of the results section.

Hypothesis 1 which stated that the MDS scores would be significantly higher for those participants directed to malinger than for those who are directed to be genuine, was tested using a t-test. There was a significant difference on a two tailed test (.035, $p<.05$) between those asked to malingerer ($\underline{M}$ = 7.37, $\underline{SD}$ = 3.09) and those asked to be as honest as possible ($\underline{M}$ = 5.31, $\underline{SD}$ = 2.08). As hypothesised those asked to malinger had significantly higher scores on the MDS.

Hypothesis 2 which stated that the MDS score criterion for malingering (if a participant scored over 7.6 he was considered to be malingering) would distinguish between participants directed to malinger, and those directed to be genuine was tested using a chi-square procedure. Participants were classified as malingering (above 7.6 on the MDS score) or not malingering (below) and this was compared with the instructions to malinger or not malinger. A chi square was applied to the data to test the confidence with which the MDS could be used to distinguish between those attempting to malinger and those not.

Table 1

MDS designation of malingering/not malingering when compared to the direction to malinger or not malinger (2 * 2 table)

	Directed to be honest	Directed to malinger
MDS Score – Not Malingering	15	9
MDS Score – Malingering	1	7

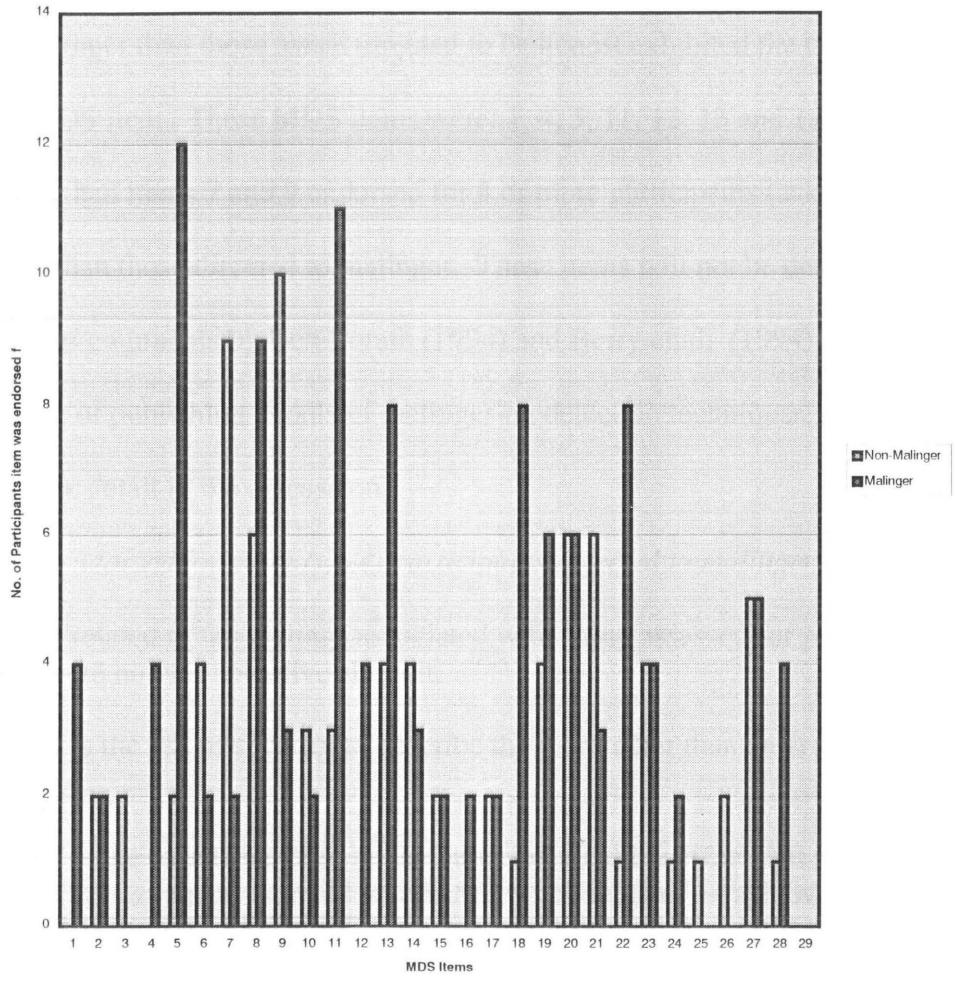
A goodness of fit test with d.f. = 1 gave a result of 5.12 which gives a significant positive result (.025, $p<.05$). This result indicates that there is a significant fit between the expected results of 16 true positives and 16 true negatives compared to the results presented in table 1. The reason for this significant result is found in the correct classification rates. The correct classification rates for Table 1 are a true positive rate of approximately 44% and a true negative rate of 94%. The false negative rate is 60% while the false positive rate is approximately 6%. Clearly the significant goodness of fit is due to the exceptionally high level of accurate classification of those participants asked not to malinger. In fact the correct classification rate for those asked to malinger is less than chance (44%). Minium, King and Bear (1993) suggest that when results are discrete (1 or 0) and the degree of freedom is 1 it is feasible to complete a one-tailed ANOVA. Despite the low participant numbers this was completed and found a significant result (.013, $p<.05$) in the between groups measure.

Hypothesis 3 predicts that the items of the MDS that will significantly differentiate those directed to malinger from those directed to be genuine will be those focussing on severity of injury rather than description of injury (items 4 and 5) and on the motivations for the gain with the pain (part 2: items 27, 28, and 29). Due to the low number of participants it is not feasible to complete a data reduction technique such as factor analysis and therefore a descriptive form (graph) will be generated to show differences between those directed to malinger and those directed to be as honest as possible. Each behaviour, as

defined by the 29 behaviours in the MDS, is given either 1 or 0 by the researcher for each participant. In the case of figure 1 the behaviours endorsed (given a 1) by the researcher for each participants are displayed for both those asked to malinger and those asked to be genuine.

Figure 1

Number of participants directed to malinger compared to those directed to not malinger endorsed for each MDS item



From this table it becomes clear that certain behaviours identified by the MDS were exhibited for those asked to malinger more so than those asked not to. In addition, certain behaviours noted by the MDS as indicative of malingering are endorsed for those asked to be genuine at higher rates than those asked to malinger.

An examination of the different behaviours was completed utilising an arbitrary figure of 4 (or more) participants to separate the two groups for each MDS behaviour. Using this arbitrary criteria an examination of the items where at least 4 more participants directed to malinger than those asked directed to be honest exhibited the behaviour indicated by the MDS item. These MDS items were: 1, 4, 5, 11, 12, 13 and 18. Those directed to be honest had items 7 and 9 endorsed for 4 or more participants (asked not to malinger) more than those directed to malinger. These items will not be described in detail on the basis of comments by Ben-Porath (1994) and Berry et al. (1994) regarding the ethical danger of publishing details of malingering detection techniques. This will be discussed in more detail in the discussion.

Items endorsed for more (=>4) participants directed to malinger than not:

Item 1 related to the feelings associated with being assessed for pain, and that generally they were not very positive about it.

Item 4 is the use of severity to describe the pain rather than an actual description of the pain.

Item 5 is the catastrophising by the participants of the effect that the pain has had on your life. The participant is asked whether they can think of an achievement they have had since they have had the pain.

Item 11 represents the extreme percentages given when a participant is asked for a percentage of normal behaviour that they can no longer do solely because of the pain, and what new skills they have attempted to learn to compensate for abilities lost due to the pain.

Item 12 is a negative comment by the participant when he is asked whether he will be able to learn new skills.

Item 13 relates to the negative comments made about medical practitioners with regards to their treatment methods and general attitude towards the problem.

Item 18 represents the overstating of the examiner's ability to help the problem or to intervene in the issue.

Items endorsed for more (=>4) participants directed to be honest rather than malinger:

Item 7 would ask for other explanations for why the pain might exist. To be endorsed this was answered in the affirmative.

Item 9 asked for any voluntary behaviour that might exacerbate the pain.

If more participants were available a factor analysis could have been completed giving more statistically pertinent results.

Hypothesis 4 predicts that there will be a significant correlation between MDS scores and the level of pain intensity as assessed by the numeric rating scale (NRS). A bivariate correlation was completed and found that there was no significant relationship between the average level of pain and the score on the MDS using a Pearson Product Moment test ($r = .253$). On the basis of this result a further analysis was completed when the MDS labels a participant as a malinger. Using a t-test on the pain average it will be assessed whether those labelled by the test as malingerers reported significantly higher levels of pain than those labelled non-malingerers. The major issue with this test is the disparate numbers of those labelled as malingerers (8) compared to those labelled non-malingerers (24). This assessment found that those labelled by the MDS to be malingering reported

significantly (.20, p<.05) higher levels of pain on a two tailed test than those asked not to malinger. The respective pain averages were 21.3 (SD = 14.3) and 35.6 (SD = 9.5). This does not necessarily answer the question regarding malingering per se, and so a further analysis was conducted using a t-test of the pain averages of participants asked to malinger and those who were asked to be as honest. There was a significant difference (.00, p<.05) between the mean reported level of pain for those asked to malinger (M = 35.08, SD = 8.3) and those asked to not malinger (M = 14.2, SD = 11.7). The respective standard deviations were not wide enough to explain these results with the standard deviation for both groups within 3 increments on the pain scale of each other. When looking at differences in malingering this appears to be a stronger result than when participants are labelled malingerers by the MDS. The reason being that the groups are equal and the difference between the two groups is greater than that for people designated by the MDS to be malingering or non-malingering.

Hypothesis 5 seeks to assess whether the experience of prior litigation will effect participants' MDS scores by raising them significantly compared to those not previously involved in litigation and regardless of whether they were asked to malinger or be honest. A t-test was completed to assess the differences between former litigants and non-litigants on scores on the MDS however no significant result was found (.578, p<.05). This suggests that the experience of formerly having litigated did not appear to affect a participant's score on the MDS. It is interesting to note that the average MDS mean score was actually slightly higher for the participants who had not been previously involved in

litigation (M = 6.62, SD = 2.6) compared to those who previously did have litigation experience (M = 6.06, SD = 2.9). Therefore the hypothesis is rejected and the null hypothesis is accepted that prior litigation does not appear to impact on MDS scores.

The final hypothesis predicts that participants who were previously involved in litigation will show significantly higher levels of reported pain regardless of orientation (malingering/non-malingering) compared to those who have not previously been involved in litigation. A t-test was completed to assess whether litigation made a difference to the level of reported pain and was found to be non-significant (.6, $p<.05$). Interestingly, for reported pain former litigants did report marginally more pain (M = 26.78, SD = 13.8) than participants without any previous litigation (M = 23.91, SD = 15.2). In both cases the standard deviation was relatively high (~14). This suggests that litigation is not necessarily indicative of higher levels of pain and given the large variance in the standard deviation clearly indicates that people respond in different ways suggesting that no direct causal attributions can be made to litigation regarding pain or MDS scores.

Finally, an analysis was completed to assess whether there was a relationship between the age of participants and their respective scores on the MDS or the pain rating scale. This was not hypothesised however some authors (Hall & Pritchard, 1996) have indicated that there may be some relationship between malingering and age while others have found no relationship (Mendelson, 1987). A bivariate correlation was completed. The MDS scores did not have a significant relationship with age (.447, 2-tailed Pearson product moment correlation). The reported pain intensity scores were also not significantly

correlated with age (.223, 2-tailed Pearson product moment correlation). Age of participants does not appear to affect either score.

Multivariate Analyses

Two 2-way ANOVAs were completed to assess for any interaction effects that may occur between the direction to malinger and former litigation. While some authors have indicated that the size of the current sample is not large enough to support the homogeneity of variance required for an ANOVA as previously mentioned Tabachinick and Fidell's (1996) indicated that this was not necessarily the case. It was considered that for future research it was important to assess the possibility of such an interaction existing for either MDS scores or reported pain. An ANOVA table will be used to demonstrate the calculations.

Table 2

ANOVA table for MDS scores with litigation (former litigant/non litigant) and malingering (asked to malinger/not malinger) conditions

Process	Effect	Sum of Squares	Mean Square	F	Sig.
Main Effects	Combined	36.5	18.2	2.5	.098
	Malinger	34	34	4.6	.039 *
	Litigation	2.5	2.5	.349	.559
2 Way Interact	Malinger * Litigation	3.7	3.7	.552	.476
Model		40.3	13.448	1.856	.16
Residual		202.8	7.246		
Total		243.2	7.8		

The results of this clearly indicate there is no interaction occurring, only a main effect for individuals asked to malinger (*), as was indicated by the t-test (0.039, $p<.05$).

A second ANOVA was completed to assess for an interaction effect of malingering and former litigation on reported pain.

Table 3

ANOVA table for NRS scores of pain intensity with litigation (former litigant/non litigant) and malingering (asked to malinger/not malinger) conditions

Process	Effect	Sum of Squares	Mean Square	F	Sig.
Main Effects	Combined	3319.6	1659.8	15.8	.00
	Malinger	3199.12	3199.12	30.47	.00 *
	Litigation	120.48	120.48	1.148	.294
2 Way Interact	Malinger * Litigation	50.996	50.996	.489	.492
Model		3439.2	1146.4	10.9	0
Residue		2729.6	104.9		
Total		6168.8	212.7		

This table, too indicates that there is no main effect between litigation and malingering. There is, as the t-test indicated a main effect (*) only for those asked to malinger (0.00, $p<0.05$).

Overall these results suggest that litigation does not have an impact on either scores on a malingering scale or on reported pain.

The effect of drawing participants (men with chronic low back pain) from a variety of populations

To test the possible effect of the sampling a comparison of each group was made on both measures. This was done by averaging the results within each group, and not withstanding the different sized groups or roles (former litigant or malinger/non-malinger) a perspective can be gained of possible discrepancies on the basis of the population from which the participants were drawn.

Table 4

Summary table showing the number of participants, average NRS pain intensity and average MDS score for each condition drawn from each of the sample groups

Sample	Condition	Number	NRS pain level	MDS score
Former Pain Clinic Client	Litigant/Mal	3	37.73	4
	NonLit/Mal	1	42	7
	Lit/Nmal	1	26.4	3
	NonLit/Nmal			
Police Sample	Litigant/Mal	3	26.7	9
	NonLit/Mal	5	30.24	8
	Lit/Nmal	5	18.95	4.4
	NonLit/Nmal			
Community Sample	Litigant/Mal	2	45.1	7.5
	NonLit/Mal	2	41	8.5
	Lit/Nmal	2	11	9
	NonLit/Nmal	8	11.11	5.25

While direct comparison is difficult given the different sample sizes and the disparity between the conditions it is clear that there may be some problems with deriving some conclusions from this research. As the numbers and conditions of participants were not controlled by population but rather by what was available some issues may arise which will be discussed later. Clearly, there is substantial difference between the groups however no one group appears to have altered the results of either the MDS or NRS pain scores in any demonstrable way. The lack of participants from each sample present in each condition makes conclusions difficult to draw regarding the conditions especially in the case of non-litigating and malingering where only the participants drawn from the community sample were used.

If the premise is supported that the use of different populations to draw the sample from has an effect on the scores then this is clearly a problem however there appears to be a wide range of responses, which is to be expected. As the goal of the experiment was never to assess sample against sample, but rather chronic pain patients as a single group, this breakdown was necessary only for the purpose of validation due to the change in design. Indeed most experiments with pain patients (former or current) do not examine the background of their patients this closely, especially when they have all come through a pain clinic.

Discussion

The results of this research through attempting to validate this assessment instrument have, in some senses, generated more questions than they answer, which leaves fertile areas for further research. There are some methodological deficits, however this research has avoided most of the pitfalls of previous malingering research as suggested by Rogers (1997). In fact, using the approach of all participants having suffered and therefore having some knowledge and experience of the condition they are supposed to be malingering, appears to be an excellent method of conducting research into malingering. Some of theories propounded by the authors of the scale, the authors of the DSM IV and clinicians in general, such as litigation being a significant correlate to malingering, have not been supported by this research.

Overall while the MDS did appear to be able to discriminate between males suffering chronic low back pain asked to malinger and those not attempting to malinger, there were problems in the design involving severity of injury and sampling issues that prohibit anything more than tentative support for the continuing use of the MDS. Specifically, the fact that some items on the MDS, presumably designed to assess malingering, were endorsed at much higher rates for those asked not to malinger raises particular issues for some of the bases of the MDS. In addition, the scale does not appear to be useful at all for detecting malingering as the name suggests but rather detecting those who are not malingering. In this sense it is more useful as a broad screening tool, than providing any form of diagnostic clarity. Clearly, much more research is needed with this tool, with a

variety of populations and under very strictly controlled experimental conditions, before it can be considered valid in any scientifically valid sense.

This chapter will address the hypotheses in the light of the results, methodological issues encompassing conceptual and procedural issues arising from the study, implications of the study, future research, and the conclusions that can be drawn from the study. Some of the issues regarding the validity of assessing for malingering that were discussed in the introduction are highlighted by the results of the validation of the MDS. These will be canvassed as they arise.

Hypotheses

Three out of the six hypotheses appear to be supported.

First Hypothesis

The first hypothesis was supported as those men asked to malinger obtained significantly higher scores on the MDS; higher scores being indicative of malingering according to the system for scoring the MDS. Based on the results, the only reason for this higher score is due to this group of participants trying to malinger. Another explanation could also be an effect of the instructional set for malingering, therefore more research is needed that uses different sets before it can be ascertained what exactly the MDS is finding.

Second Hypothesis

The second hypothesis supported the effectiveness of the criterion for malingering (MDS

score of 7.6 and above) established by Callon, Jones, Barkemeyer and Brantley (1989). The results found that the MDS could discriminate, to a significant level, between those attempting to malinger and those who are not. This result is deceptive because it appears that the scale was capable of pinpointing those who were asked to malinger, on closer examination of hit rates, it becomes clear that the hit rate for labelling a malinger accurately (true positive rate) was less than which would be achieved by chance. Instead it is the true negative rate that clearly caused any significant relationship in which those asked to be as honest as possible were correctly labelled close to 94% of the time.

The usefulness of this result over a true positive rate is important to recognise, for as Mendelson and Mendelson (1993) observed malingering is not a diagnosis but rather it represents a legal term. So a diagnosis cannot be substituted by malingering as an alternative diagnosis. To further this logic when a diagnosis already exists, in this case a high level of chronic low back pain, malingering may negate or lower the credibility of a diagnosis but it cannot replace it.

If a participant's honesty or 'lack of malingering' can be substantiated then the original diagnosis can be maintained. So patients complaining of chronic pain can have their honesty regarding their chronic pain assessed and if their scores do not place them in the malingering category then the diagnosis should remain. However, if patients return MDS scores that place them in the malingering category, under the present results, it is not possible to label them a malingerer with any degree of certainty (under chance). Instead, it can be said that his/her results are inconclusive and more collateral evidence is

required. In many senses the ability of any scale to conclusively label an individual a malingerer, given its legal definition, is highly suspect. Only comments stating his/her presentation is inconsistent with present diagnosis or complaint can be made with any degree of authority.

This logic is contrary to the American court decision of Boyd v General Industries (as cited in Hall and Pritchard, 1996) in which the court conceded that the employee was malingering her back injury but that the company would have to pay for her to be treated for the problems causing her malingering. In this case malingering effectively replaced the diagnosis because the court reasoned that because malingering was present there must be psychological problems which needed to be 'treated'. The company defending the case was responsible for that treatment.

Third Hypothesis

It is with the third hypothesis that many of the strengths and flaws of the MDS come to light. This hypothesis was only partially supported. Certainly as hypothesised from the comments and results from studies by Leavitt and Sweet (1986), Leavitt (1991), Clayer et al. (1984), Hall and Pritchard (1996) and Rogers (1997) it did appear that individuals who were attempting to malinger did show a tendency to focus on severity rather than description of the pain and tended to catastrophise the effect of the pain on their life (Items 4 and5). However, to give a definitive diagnosis of malingering and separate it from abnormal illness behaviour, it was hypothesised that the participants asked to malinger would have behaviours from part 2 endorsed. These behaviours involve

admissions of intent or possible motives for exaggerating pain. This was not supported with an equal number of participants from each condition having this behaviour endorsed for them.

Six MDS items were endorsed more for those asked to malinger than those asked to be honest, two items were endorsed more for those asked to be honest than those asked to malinger and one item was endorsed for both groups at an equal level (See Figure 1). These differences were not hypothesised, however it is important to examine these differences as it gives greater insight into the validity of the MDS. The decision to focus on specific MDS items was made on an arbitrary basis by counting the number of participants from malingering or non-malingering groups that each item was endorsed for. Basically when an item was endorsed for 4 more participants in one group than the other, it was commented on. This approach was used due to low participant numbers and the subsequent inability to use data reduction techniques, that would have given statistically sound arbitration points, such as factor analysis. Before an examination of the items is made, it is important to recognise that the major strength of the methodology employed in this study, is that as all participants have suffered chronic low back pain at some time. This means that the cognitions that might be attributed to only chronic low back pain sufferers cannot be used to explain the item endorsement.

Items endorsed more for those asked to malinger than those asked to be honest

The items that were endorsed more for those asked to malinger will be examined first and possible reasons for this result will be given. The first item on the MDS (Item 1) was

endorsed much more frequently for those asked to malinger and related to negative feelings associated with being assessed for their pain. While not hypothesised, the high level of endorsement of this item for those asked to malinger is in agreement with research conducted by Peck, Fordyce and Black (1979) in their discussion of behaviours commonly shown by individuals suspected of malingering.

The endorsement of item 11 was also not hypothesised but certainly contributed to the significantly higher scores on the MDS for those asked to malinger than those asked to be honest. This item involves an extreme percentage being given by participants when asked what effect the pain has had in their life. An extreme result was generally interpreted as 50% or greater which is clearly related to the catastrophising and overt focus on the impact of the pain that items 4 and 5 assessed. The difficulty was that some participants were clearly more injured than others. For example in several of the former pain clinic clients, they were clearly relatively disabled compared to other chronic low back pain sufferers.

An interesting item that goes towards assessing motivation is item 12 in which the participant gives a negative comment when asked whether he will be able to learn new skills and that he has not been trained in other areas. On one level this does appear to indicate a disinterest in returning to former function and placing this responsibility on to external factors which 'should' provide training; which some participants appeared to use as a general approach to malingering. Another explanation can be derived from the context in which the question is asked. This question follows on from an estimate of the

percentage of behaviour that the participant can longer participate in solely due to his pain, which would clearly impact on this question. It is not unreasonable to suggest that a patient would be experiencing significant depression due to his chronic low back pain (Mendelson, 1984a). The negative response that the MDS suggests is indicative of malingering, could also represent depression.

The response to item 13 that separated those asked to malinger and those being honest occurred when participants expressed very negative comments about medical staff whom they had contact with regarding their pain. While not an explanation for why those asked to malinger were endorsed for this item, there is some evidence that often the medical fraternity does not effectively treat low back pain. A survey of 1200 physicians by Cherkin, Deyo, Wheeler and Ciol (1995) found that while there was some consensus on some techniques of treating chronic low back pain there was considerable disparity in results. In addition, very few were recommending treatment that recent research has confirmed as particularly effective suggesting that many physicians are simply not specialised enough to provide treatment for their patients' chronic low back pain. It is possible that those asked to malinger chose to focus on the negative experiences as a method of discrediting further attempts by medical staff to assess their pain.

Finally, item 18 related to those asked to malinger, attempting to overstate the ability of the examiner (researcher) to intervene on their behalf. This may well be a form of manipulation on the part of the person playing the role of the malingerer as Barkemeyer et al. (1989) suggest. He makes the assumption that genuine pain patients are sure that

their pain will gain them the compensation, and regardless of who the insurance assessor is, the truth of their claim will be won out. Malingerers are not as confident according to Barkemeyer et al. (1989). Given this, if an individual is not as confident about his claim, then he would probably tend to assume that if he could convince this one person from the assessing body then he might be able to convince the entire body. It is difficult to explain why this result appeared to as to differentiate between participants asked to malinger and those who were asked to be honest, especially when there is prior experience of litigation. It may be due to the experimental design, where a participant, especially one with little knowledge of the insurance industry would assume that if they are told to malinger to the examiner for external gain, then by implication the examiner must have some power in the final decision for compensation.

Items endorsed more for those asked to be honest than those asked to malinger

There is some concern with the items that differentiated those asked to malinger and those being honest with the latter group being endorsed more frequently for the supposedly malingering behaviour than those asked to malinger. This suggests that the item may be measuring something other than malingering. This is of considerable concern as it could lead to false diagnosis, and it does suggest that this scale is not effective in some areas of assessment for chronic low back pain. This occurred with two items; 7 and 9.

Item 7 asked participants whether there were other explanations as to why the pain existed and closely looked at whether there was a cause and effect relationship. While not

apparent from the results there were several instances where the assumed aetiology of accident or disease was simply not applicable and therefore, using the MDS criteria, brings the client into suspicion. For example some individuals, even those being honest, discussed different aetiologies for their pain, some of which were seemingly harmless i.e. leaning through a car window, picking up a can of soft drink, turning over in bed. In these cases the requirement for a specific cause and effect, is not fulfilled because it is not unreasonable for the body to be able to perform the behaviour. In this sense the scale's inadequacy was highlighted by the complete lack of causality sometimes in chronic low back pain (FraudWatch, 1997). This item, more than any other demonstrated the importance of knowing about the condition that is supposedly being feigned rather than having a strong understanding of malingering in general. In this instance the MDS is perhaps not an appropriate tool for use with this condition.

Interestingly, item 9 related to individuals who voluntarily engaged in behaviour that they knew would exacerbate the pain but were still prepared to engage in this behaviour. The reasons for this varied from work to sport, however what became clear during the interviews was that often people engaged in such behaviour to retain their self respect. In addition, what constituted a behaviour that would cause pain was strongly related to the level of disability. One participant indicated that making a cup of tea caused him pain, but he was prepared to go through pain to gain his stated goal. In contrast, participants asked to malinger, may well have considered this question with some suspicion, and deliberately answered in the negative, however there is no evidence to support this.

Items where the level of endorsement was the same for both groups

Item 10 called for several pain or numbness conditions physiologically unrelated to low back pain to be suggested to participants as possible symptoms to test whether they would falsely endorse symptoms. These were endorsed for both groups in equal levels. Why this is important is that it is a technique that is widely used by medical practitioners according to Cunnien (1997) and Hall and Pritchard (1996). This result, rather than supporting this approach, suggests that it is problematic to suggest false symptoms to individuals as a method of differentiating participants exaggerating their level of pain. This is possible as the effect of chronic low back is so global (Mendelson, 1984a). This is perhaps a more valid technique when assessing for malingered mental disorders, where there is less awareness of symptomology in the community. Pain, as Lees-Haley (1986) suggested, especially back pain, is widely experienced in the community (Haldeman, 1996) making its symptomology easier for malingerers to describe accurately.

Item endorsement in this study compared to prior research

The items endorsed on the MDS can be compared to the self reported items used in Clayer et al. (1984), a study which also used a simulation design. There were three main differences: the pain syndrome was not specified, individuals asked to malinger were not asked their experience of chronic pain in the past and the items were derived from a questionnaire designed to assess abnormal illness behaviour rather than malingering. There appears to be a focus on catastrophising and severity rather than description of symptoms in the results of the current study, which does support Clayer et al.'s (1984) findings. In addition, the distrust or dislike of the medical community was also apparent

in the results of the current study, which supports some of Clayer et al.'s (1984) findings. This suggests that certain factors may be present, which when asked to malinger, even those with the experience of chronic pain, will still over-exaggerate to a significant level rather than rely on subtlety. This was despite a warning in the instructions, to attempt to be as subtle as possible.

Hypothesis 4

This hypothesis was not supported as the level of self reported pain was not significantly correlated with scores on the MDS. Participants who were labelled as malingering by the MDS had significantly higher levels of reported pain than those who were not labelled as malingering. This was confounded by the disparity in participants found to be malingering (n=8) compared to those labelled as not malingering (n=24). In addition, those asked to malinger had significantly higher levels of pain than those asked to be honest. Overall, these results suggest that, to an extent, there is a relationship between reported pain and MDS scores, however with generally low MDS scores, this relationship is not visible. Future research may be able to investigate this relationship further by not asking pain patients to malinger, but rather asking all participants to be as honest as possible. This may be feasible, once it can be conclusively shown the MDS can differentiate between those asked to malinger and those asked to be honest, which this study does suggest may be the case.

Hypotheses 5 and 6

Both hypotheses 5 and 6 were positive despite the research to the contrary as clinicians

appeared to consider that litigation was indicative of malingering (Leavitt & Sweet, 1987). Each hypothesis respectively tested whether former litigants likely to have similar scores on the MDS and levels of reported pain compared to non-litigants. As a collorary to this an ANOVA was completed to assess any interaction effects between direction to malinger and former litigation regarding both reported pain and scores on the MDS. The MDS scores were not significantly different for former litigants and non-litigants, which supports Mendelson's (1987) evaluation of the Conscious Exaggeration scale, as finding no difference between former litigants and non-litigants. Both litigants and non-litigants reported similar levels of pain which supports Mendelson's (1984a) findings. If anything, there was a non-significant trend of non-litigants giving higher reported pain scores than litigants. Neither ANOVA found any indication of an interaction effect between litigation and the direction to malinger/not malinger.

It is important to note that this research specifically asked only men who had completed litigation and did not express any desire to reinstate proceedings for their pain. This differs from other research which has looked at pain levels before, during and after the court case where results may be quite different. So while not the subject of this research, this other research has shown that higher pain and anxiety levels have been shown in pain patients during the court proceedings and are reduced but not eliminated once the litigation is completed (Mendelson, 1992; Suter, 1998). It has been suggested as evidence that individuals involved in litigation are more inclined to exaggerate their symptoms for the benefit of the court. Both Mendelson (1992) and the promising research by Suter (1998) has suggested that the issues pertaining to the court, cause

anxiety levels to rise and in turn, this influences the level of pain. Litigation and pain does not appear to be causally related despite appearing to have an association from which no conclusion can be drawn.

Methodological Issues

As was indicated, there are several methodological issues which have made this study difficult to generalise widely. These issues can be broken down into conceptual issues and procedural issues. Conceptual issues are: the effect on the results of the population from which participants are drawn, the lack of genuine financial incentive to malinger, the lack of negative incentives that occur through failure and the loose definition of litigation. Procedural issues are: changing procedures midway through research, the difficulty in maintaining the blind condition of the researcher and participant numbers. It should be said that these issues do not affect the data so much as to negate the results of the research, that is, that the MDS did differentiate at a significant level between those asked to malinger and those asked to be as honest as possible.

Conceptual Issues

The primary conceptual issue is the impact of the population from which the participants were drawn. When this research was begun, it was not anticipated that there would be as many problems gaining participants through the pain clinic as was ultimately encountered. As a result, virtually no attempt was made to control for any impact made by the different populations when dividing individuals into the different cells (malinger/litigant, non-malinger/litigant, malinger/non-litigant & non-malinger/non-

litigant). As a result the unlikely event has occurred where all 8 members of the non-malinger/non-litigant cell were drawn from the community sample. This is conceptually unsound and the very low pain rating compared to other groups does suggest that such a difference may have been at least partially due to the population from which the participants were drawn. Other participants drawn from this population appear to have pain ratings and MDS scores around the same level as those participants from the same conditions but drawn from different populations.

When the MDS scores and reported level of pain by police officers were examined it appeared that police were not necessarily more prone to being deceptive than other members of the population. It has been suggested by some writers that police, through constantly interrogating individuals who often attempt to be deceptive(Trankell as cited in Gudjonnson, 1992), probably learn quickly what works and what does not thereby making them potentially very effective malingerers. This does not appear to be the case with this sample.

Ideally, if the research had been completed as was originally planned, all the participants would have been chronic low back pain patients treated by the same therapist. In this sense there would have been more of a chance that the participants were genuine pain patients. At the very least they would have already been assessed for treatment purposes rather than relying, as the other groups do, on participants' self report. No screening test for malingering was made prior to allowing participants into the study, but, as previously mentioned, this would have been useful as a known groups design could then have been

completed. However, if such a screening tool were available then there would be little need for the current research except to assess construct validity.

There were two obvious differences between the 5 participants in the former pain clinic client group and the remainder of the sample: only 2 of the 5 were working full time, and 3 of them had their lumber spine fused. Clearly this sample had more severe injuries than those from the other sample. The usefulness of using extreme injury for a study into malingering is questionable. For example in one extreme case one participant asked to malinger stated "how could I exaggerate this, how could it be any worse than it already is". In this sense, such participants were not necessarily the target group that this research sought to examine. When this point is examined from an external validity perspective, such participants would automatically be ruled out as malingerers because of the willingness to have surgery and clear physiological damage as determined by objective imaging instruments. There are exceptions to this, which will be discussed later.

Overall, it must be said that the approach taken towards the sampling focussed on gaining participants who fitted the criteria, and less attention was paid to where the population came from provided they were male, suffered low back pain and had either had been involved in litigation or had not. It did happen that due to the groups of police used (traffic branch) many of the participants had been involved in compensation for vehicle accidents whilst working. This lead to requiring more members of the community sample who did not have a history of litigation to be used, thus in one cell only

participants drawn from that group were included. It is interesting to note that the Western Australian Police Service does not have any workers compensation requirements, making vehicle accidents the only area where any form of compensation will be paid. This may have altered the results, but there seems to be little evidence of this in the results as they have been analysed.

The commentary by Rogers (1997) and Rogers and Cruise (1998) regarding the need for incentives (both positive and negative) in malingering research is well taken. The original design did incorporate some payment for participation, but differential payment for participants based on performance was deemed not acceptable by the ethics committee at Edith Cowan University. Certainly any attempt to implement the negative incentives that Rogers and Cruise (1998) suggested would be met by similar refusals. Rogers and Cruise (1996) indicate that there are negative consequences for being 'discovered' exaggerating. Indeed, workers' compensation legislation in Western Australia and Queensland both mention fraud or malingering as criminal offences under the Act. However I would suggest that proving malingering, just utilising psychological assessment would be very difficult when there are terms such as 'compensation neurosis' and functional overlay that virtually allow you to have another illness (Main & Spanswick, 1995) as opposed to your original diagnosis. The decision in Boyd v General Industries (as cited in Hall & Pritchard, 1996) seems to indicate that an American court had a similar opinion.

Regarding incentives to malinger, the present study, appeared to rely on 'dupers delight',

a term coined by Ekman (as cited in Hall & Pritchard, 1996), to describe a sense of achievement through 'tricking' an evaluator/evaluation. When the reasons for the experiment were explained, the participants who had been given instructions to malinger, often expressed an interest in 'how they went' and would jokingly ask how much they could expect to get. With some men they expressed a sense of relief about being asked to exaggerate, as often they had to be so careful and underrate their pain when being assessed, for fear of being called a malingerer. These observations were made by the author and have not been recorded in the data.

The definition of litigation was problematic, partly due to the presence of a 'no fault' system (workers compensation & vehicle accidents) in place in which non-pecuniary damages are not accepted, and this may have negated some of the original assumptions regarding malingering, chronic pain and litigation. There were no participants with a common law claim, although some participants went through substantial legal wrangling with the insurance company before receiving any compensation. Guest and Drummond (1992) have found that there is little difference between the two groups on most measures, after the litigation has ceased, which is certainly the case with this study. When this research started it was assumed that more participants would be involved in common law claims rather just receiving treatment, lost wages and rehabilitation through an insurer.

Part of the impetus of this research was to assess the potential impact of lawyers in personal injury claims. Whether intentionally or not, lawyers might encourage their

clients to exaggerate their pain in order to gain more compensation. Indeed with the advent of contingency fee work for lawyers beginning now in Australia, the potential for this sort of behaviour is even greater. Kennedy's (as cited by Mendelson, 1992) comments where compensation neurosis is 'stimulated' by lawyers, are probably partially responsible for this perspective.

Under 'no fault' systems, unless the claim is disputed there is often little need for a lawyer. Indeed, many of the participants who had involvement with lawyers in their litigation expressed considerable disappointment towards both the legal system and the lawyer who represented them. This makes conspiracy theories about collusion between the lawyer and participant to defraud the insurance company or defendant much less likely than was originally thought might happen. To conclude, despite following Mendelson's (1987) criteria for litigants this definition of litigation was probably too loose, given the objectives of study, and therefore the result of having no effect on either levels of pain or scores on the MDS is not surprising. Similar research in a country such as America where the society is more litigious, and therefore there are more common law claims, may find an effect using the same experimental paradigm.

The definition of litigation included any personal injury litigation in which a physical injury was sustained and duly compensated. It did not have to be directly related to the back injury. At the same time it had to be a personal experience in litigation for an injury in the past so a participant could have been a lawyer who specialised in personal injury or an insurance assessor, however if they had no prior experience as a plantiff in a personal

injury claim, they would not be considered a litigant. Hence it was not legal knowledge but personal experience that decided whether a participant was designated a litigant or not. This was another area where perhaps the members of the police service, have a stronger than average knowledge of the legal service. As was indicated regarding legal personnel the police were not automatically used as litigants, unless they had a prior personal injury claim that involved a common law claim or compensation for the injuries sustained. Finally, as the results indicate, this did not appear to make any difference to the results.

Procedural Issues

The procedural issues can be broadly defined as issues in the methodology which were not planned for, and could be applied to most experimental research. The first issue involved changing procedures during the experiment, which was unfortunate but unavoidable due to the lack of adequate numbers of participants within the former pain clinic client group. The change in populations has already been discussed, however the change in format has not been. Essentially the instructions were changed from a letter format to a simple instruction sheet; the actual wording of the scenario or instruction was not altered in any way. While the instructions to participants were not altered at all, the time given to consider possible presentation strategies was substantially reduced; from a week down to only several minutes. The behaviour did not appear to change, indeed the pain patients often read the instructions for a second time in front of the interviewer, as if to remind themselves of their particular orientation. This did not suggest that they were

very well prepared for the assessment, at least no better prepared than those who were given the same instructions and several minutes to think about them. Unfortunately, as it is malingering detection scale that is being validated it is not appropriate to use this measure to determine whether a difference was made by the large increase in preparation time that the chronic pain patient population had. Certainly, when asked if they understood the instructions there did not appear to be any difference between the participants drawn from different populations.

The former point, to an extent, leads to the second. In the case of the chronic pain patient population, as it was clearly some time since they had read the instructions, virtually all the participants took the instructions with them to the assessment. This was regardless of whether the assessment occurred at their home or place of employment. Similarly, having opened the envelope the participants from the other populations would often place the instructions to one side and rarely removed them from the table. As the experimenter wrote the instructions, by even only briefly viewing the document, it was possible to discern which set of instructions the participant had been given. In addition, participants would often ask questions about the instructions, and while every attempt was made to avoid being told the 'orientation' of the instructions of a particular participant, it is clearly difficult not to take this into account. This naturally altered the blind nature of the interviewer and therefore reduced the validity of the results; indeed it could be used to explain the results completely. No record was kept of the number of times that the experimenter was in no doubt of the orientation of the participant, however is was probably close to one third of the participants.

The issue is not so much whether the participant made the experimenter aware of his orientation (malinger/non-malinger) but rather whether this made a difference to the way the items were endorsed by the experimenter. In the community and police sample, the participants were often assessed one after another with 6 participants tested on one day and 4 on several days. This fact alone meant that instructions/directions, by the nature of the research, were constantly changing. This made it extremely difficult to attempt to remember whether a particular participant was malingering or not. Even within the community sample close to one third were malingering during their interview, making the assessment almost automatic, with little regard for the orientation. Indeed the experimenter would often give the participant the envelope with instructions, answer as few questions about the instructions as possible, and then begin the interview without looking at the discarded instructions. Future research should specify clearly ways to keep the instructions from the interviewer as much as possible.

Finally, a substantial methodological issue was the low number of participants. The original intention was to have 60 participants, so a two way ANOVA that did not violate the homogeneity rule could be completed. This would have very clearly shown any relationship between malingering and litigation for both reported pain and scores on the MDS. Instead t-tests have been used, and the ANOVA's have been purely exploratory. Subsequent research into validating this, or any other tool, should use more participants, for no other reason than it would improve external validity.

Implications of this Research

This research, due to the relatively low number of participants, will probably only have a limited impact on malingering research, however the design considerations and issues arising from this study should be heeded by future research. A range of issues have arisen such as ethics in malingering research, subjectivity of pain and injury, the similarities between other psychological disorders and malingering, the possibility that successful malingering is not being detected by any of the scale currently used, and finally the most appropriate methods of utilising this scale in the court, given the results of the validation process. These issues are discussed in the light of the results of this study, and the commentary from other researchers who have studied the different aspects of this study.

Ethical issues in malingering research

Several authors have commented on the ethical considerations regarding research into malingering, especially when it directly reduces the capacity of professionals to accurately identify individuals who are malingering. Berry et al. (1994), Rogers (1997) and Ben-Porath (1994) have all expressed concerns with indiscriminate publishing of information directly related to a specific tool to assess malingering; or information about an assessment that allows individuals to perform better or worse than they otherwise would. Ben-Porath (1994) describes how the MMPI has lost much of its validity, especially in regard to the dissimulation scales, due to the widespread publication of results of studies. He states that a tension exists between needing to know problems with

tests and providing more information to 'coaching staff' for more efficient strategies to 'beat' tests. Given the focus on litigation and lawyers it must be recognised that lawyers are increasingly becoming psychologically aware; in part due to the journals designed for both professions and bodies such as the American Academy of Forensic Psychology and the Australian and New Zealand Association of Psychologists, Psychiatrists and Lawyers (ANZAPPL).

All of the above authors indicate that experiments involving the coaching of people asked to malinger are of the most concern. Regardless, Berry et al. (1994) has suggested that if it is accepted that the knowledge of how to successfully 'beat' tests will help malingerers then researchers in this area have three options. The first is to suggest that they have no ethical responsibility for this and research that will improve the tests should be placed in journals as much as possible for peer review. The second option is that the researcher assumes total responsibility, publishes few details and indicates in any publication that if explicit results are required then he/she can be contacted. This is clearly time consuming and will make follow up research more difficult. Finally, the researcher can choose to publish the results only in journals that he/she knows will be read primarily by other mental health professionals, rather than those from other disciplines. This, they suggested, could be only A.PA publications. As Berry et al. (1994) commented it would clearly be very difficult to assume that other professions are incapable of reading professional journals for mental health professionals. The perspective taken in this research is that explicit information will not be given in the body of this work but the author is open to sending more details to other mental health professionals.

Subjectivity of pain and injury

The hypothesis stating that the scale could classify to a significant level, those asked to malinger from those asked to be honest, was supported by the results. When one looks closer at the results of this study, without doubt, there is a much higher level of correct classification of participants who were not malingering (94%) rather than those who were malingering (44%). Further examination showed that participants not malingering had significantly lower levels of reported pain than those asked to malinger.

The method used by many individuals who were asked to malinger, when asked after the assessment, was as Lees-Haley's (1986) suggested, to remember prior extreme experience with pain. This was done to focus their comments on the description of the pain. For most of the participants the most extreme situation was nerve root pain, in which a nerve is trapped between two intevertebral discs. They described lying on the ground unable to move, and in total agony. The sensation left when the nerve was released.

This memory of extreme pain and incapacity may have then impacted on other MDS items that separated those asked to malinger and those asked to be honest. MDS items which involved: description of pain, severity of injury, estimates of percentage function lost and the potential to learn new behaviours may have been affected by this experience. This is where sampling might have had an effect. A large percentage (62.5%) of those who were not asked to malinger were drawn from the community sample. As previously

indicated, the method of deciding whether a person was a possible participant in the community sample was to ask them whether they had a 'bad back' or had injured their back at some time and the resulting pain had lasted for longer than 3 months. There was no other objective opinion given on whether a person had previously received an injury. This is in contrast to the former pain clinic clients where 4 out of the 5 participants from this population were asked to malinger. As was indicated most of this group had undergone significant surgery for their pain and some commented that they found it difficult to exaggerate their condition as it was already so extreme. Given this distinct difference in the experience of pain and the lack of experimental control for the level of injury, the reported percentages of behaviour that can no longer be completed were naturally very high for those with prior/current experience of severe injury rather than a direct attempt to malinger. This is not to say that some of the community sample had not experienced significant injury, and been told that surgery should be considered, however the pattern was not as common.

In this sense, what is being suggested is that a 'pain overlay' may be responsible for some of the results where participants' different experiences of pain (based on the population they were from) influenced their attempts at malingering in addition to a distinct attempt to deceive. It should be recognised that when a bivariate correlation was completed on malingering and reported pain scores there was not a significant relationship. This result indicates that the instruction to malinger, rather than the general response to the MDS is more predictive of increased pain. In this sense, the conclusion that must be reached is that while the population that the participants are derived from is an important factor, the

fact remains that all the participants had suffered from chronic low back pain at some time making all of their experience important.

In other studies looking at methods of measuring malingering in chronic low back pain populations this issue has emerged. In Chapman and Brena's (1995) study all those participants with chronic low back pain labelled as inconsistent were inpatients rather than in the community. Given this, theoretically these participants may be more injured than those receiving treatment in the community. Contrary to this suggestion Leavitt (1991) found that those participants who were labelled as malingerers by his low back pain simulation scale, on examination, had less tissue pathology yet reported more pain than other participants. This appears to vindicate the inclusion in the current study of chronic back pain sufferers with severe pathology or those who have undergone surgery as neither has a strong impact on specific items used to assess malingering.

Future research will need to control for the severity of prior injury and utilise patients already diagnosed by other professionals for internal validity, similar to Chapman and Brena's (1995) research, to ensure that this participants are not malingering already. This, in turn, would probably limit the use of severely injured chronic low back pain patients, for to have surgery means that an objective measure must have identified a physical deficit, which automatically would negate a label of malingering (Barkemeyer et al., 1989). A design that would eliminate this problem would have two pain groups, one suffering more pain than the other to see whether the group with more severe pain differed on the MDS from the less severe, and to see how it would compare with a group

asked to malinger. In the absence of such a group, it could be hypothesized given the current results from hypothesis 4, that a more severe pain group would not necessarily have higher MDS scores, in terms of just pain. The MDS places a strong focus on the level of disability directly as a result of injury and it is on this basis that those with significant injury (not necessarily reflected in pain intensity) would score higher on the MDS than the less injured. The problem here is clearly one of definition, because if pain is not used, but rather tissue damage, the argument becomes abstract, as definite long term tissue damage would probably not attract a label of malingering by definition.

Overlap of indicators of malingering with symptoms of Abnormal Illness Behaviour, Functional Overlay and Factious Disorder with Physical Symptoms

To take the concept of subjectivity and pain further the link between abnormal illness behaviour, which certainly includes chronic pain, and malingering will be examined. This is not a new link. Clayer et al. (1984; Clayer et al., 1986) have examined this concept. Abnormal illness behaviour is a defined as

> an inappropriate or maladaptive mode of experiencing, perceiving, evaluating or responding to one's own state of health which persists despite the fact that a doctor (or other appropriate social agent) has offered an accurate and reasonably lucid explanation of the nature of person's health status and the appropriate course of management (if any) with the provision of adequate opportunity for discussion, clarification and negotiation based on a thorough examination of all parameters of functioning: psychological, social and biological, and taking into account the individual's age, sex, education and socio-cultural background (Pilowsky, 1994, p. 567).

Essentially the only difference between malingering and abnormal illness behaviour that immediately comes to mind is the fact that malingering is very adaptive rather than maladaptive; hence the term compensation neurosis or functional overlay is then used. Clearly malingering is caught between these two definitions, and there seems to be no

way to separate adaptive from maladaptive except when a specific statement of intent to take advantage of a situation is made.

It is important to recognise that the definitions of functional overlay differ somewhat in the Australian legal and psychological arena. In Federal Broom Co v Semlitch (1960) 119CLR626 the term was used to explain why after a woman had been treated for her back injury, she then claimed that the injury had aggravated her schizophrenia, and that her employer was responsible for this as well. The reason given was that despite the schizophrenia being an existing condition under the legislation the employer was also responsible when a physical injury lead to a mental injury. In this sense the dormant schizophrenia was functionally activated directly as a result of the workplace injury. This then 'overlayed' the physical injury and after the physical condition was clear, the schizophrenic condition remained. This case is commonly cited in Australian law as an example of functional overlay.

Main and Spanswick (1995) suggested that "the term function overlay as frequently found in medicolegal reports is unhelpful and frankly at times misleading" (p. 750). They indicate that it is used generally to indicate a 'non-organic' aspect of the his/her presentation of the client's signs and symptoms. Frequently it is made in the absence of physical findings considered adequate to explain the level of dysfunction or continuing capacity of the client. Overall, Main and Spanswick (1995) suggest that this term should no longer be used, and as Giles et al. (1997) suggest that with the advances in imaging equipment, what is considered non-organic now may be considered a clear disorder in the

future. In this sense, the overlay should be caused by the physical injury whereas the legal definition appears to accept a pre-existing condition. This may be due to the older reference to neurotic pain, that Clayer et al. (1984) suggested. This is now clearly understood to be chronic, which is quite a different entity.

Main and Spanswick (1995) also advocate not using the term illness behaviour when examining low back pain for similar reasons. They suggest that any behavioural signs (guarded movements) or non-organic tests for illness behaviour (Waddell, McCulloch, Kummel & Venner as cited in Main & Spanswick, 1995) are only testing the difference between a distressed and non-distressed patient.

Pilowsky (1994) expressed the opinion that attempts to utilise items from the assessment tool for abnormal illness behaviour (Clayer et al., 1984, 1986) in the detection of malingering were "entirely misguided". While Pilowsky (1994) has this opinion, it is interesting that Clayer et al. (1984) found that certain scales from the Illness Behaviour Questionnaire could differentiate healthy participants asked to malinger from those asked to be honest. Such individuals were termed conscious exaggerators. However when suggesting the most appropriate method of diagnosing abnormal illness behaviour, it seems to involve a disagreement with the doctor over an "inaccurate view of his health status" (p. 570). Interestingly, it was a very similar item on the MDS (Item 13) that separated those asked to malinger from those asked to be as honest as possible. This does suggest that, at least in part, the difference between a diagnosis of malingering and one of

abnormal illness behaviour is entirely dependant on the value judgement of the assessor/health practitioner.

As Pilowsky (1994) himself notes

> from the doctor's point of view, the challenge resides in having to convince society that a person who refuses to cooperate with an 'appointed agent of society' is entitled to the sick role, because the refusal itself represents psychopathology and is the symptom of 'legitimate' illness. Society's stake in this concept cannot be overestimated..... For health services (and for the legal profession which is so often involved) the concept of an illness characterised by a mistaken belief in the presence of illness is difficult to assimilate. It goes without saying that lurking in the wings is always the spectre of the malingerer (p. 567).

Overall, this suggests, that as concepts such as adaptive and maladaptive are essentially context based there appears to little to separate abnormal illness behaviour and malingering.

Given the difference in the sample group used in this study (all chronic pain patients) and Clayer et al.'s sample (1984) (healthy conscious exaggerators, chronic pain patients and healthy controls) it is interesting to note what differences occurred. The items that Clayer et al. (1984) found differentiated between those asked to malinger and either chronic pain patients or controls involved: a greater emphasis on a change of emotions (relaxing, depression), feelings that others are not accurate in their diagnosis of your condition and the effect of the illness on family life. In this sense, Clayer et al.'s (1984) approach is flawed as those asked to malingerer are clearly 'guessing' about the possible internal emotions and effects on family life. In contrast, the individuals in the sample used here know about the effects of chronic pain, and exaggerate the severity of the injury and the

impact rather than the internal dialogue about being in more pain than others realise. Indeed the difference between the scores of those with chronic pain and healthy conscious exaggerators is large. This is because the conscious exaggerators do not know what they are exaggerating. As was discussed previously, from a real world perspective some injury is likely to occur during an accident, and exaggeration can occur however this 'knowledge' of the condition is not taken into account in Clayer et al.'s (1984) research.

Voiss (1995) supports some of Pilowsky's (1994) comments when he suggests that the determination of fraud in a particular clinical case is primarily the responsibility of the attending physician. However, he notes from his experience with 900 evaluations assessing the validity of occupational injury, that the attending physician has often relied on the subjective complaints of the patient and minimal if any objective data is used as the basis for conclusions. While this has probably become more strictly controlled recently, Giles et al. (1997) questioned even the validity of objective results for the assessment of back pain . Ultimately, Voiss (1995) suggests that collateral data should be obtained more often and this data integrated into the available information in order to make an accurate comment on malingering.

Yet another disorder that the symptoms of malingering are remarkably consistent with is factious disorder with physical symptoms. In his overview Overholser (1990) suggests that factious disorder can be discriminated from malingering through a number of measures, the primary issue being that factious disorder occurs when a person simulates

or creates somatic problems in the absence of clearly identifiable rewards. Gorman (as cited in Overholser, 1990) suggested that as motivation is what differentiated the two labels, one could look to psychological functioning rather than environmental factors as an indication of rewards. An interesting point that Overholser makes is that "once it has been determined that the patient's physical symptoms have been falsified, the conceptualisation of the patient's problems often leaves the medical arena and enters the realm of psychiatry or law" (p. 56). As was stated in the introduction Overholser (1990) suggests that differential diagnosis is possible on based on the course of the disorder over time, response to treatment and possible etiological factors.

When the differences between the two groups are examined again there is a reliance on the two premises that motivation can be adequately assessed and that the malingerer is not aware of the intricacies of a disorder. Lees-Haley (1986) clearly disagrees with the latter assumption in the area of pain. In addition, from any of the reported research or the MDS results it appears that given the item breakdown, it is not possible to adequately assess motivation to deliberately exaggerate pain for the specific purpose of gaining external rewards. The MDS, while attempting to assess goal and motives for the exaggerated pain in part 2, was not subtle enough to gauge the goals of participants, despite this goal being given to participants asked to malinger. This may have been a facet of the instructions to participants, as they were asked to be subtle in their responses. Overall, the likelihood of a person admitting that the pain will gain them money, and that they would maintain this state by having the pain, is not likely to be high.

Successful Malingering

The question that must be asked with any form of validation, is whether the instrument is measuring what it claims to. The nagging doubt that Rogers and Cruise's (1998) study generated for this, and indeed all malingering validation studies, is whether malingering, if successful, is actually detected. Surely successful malingering requires that it is not detected, meaning that the given diagnosis stands and therefore the malingerer goes unnoticed. In this situation, the instructions given to those asked to simulate malingering would be blamed for not explaining the direction to malinger in clear enough terms. Alternatively the participants may simply not have the ability to simulate malingering. Even in a known groups design, perhaps the patient who does not attract attention by being uncooperative, complaining of absolutely no lowering of pain through treatment and not expressing a strong desire to gain compensation is simply a more effective malingerer rather than a 'genuine' chronic pain patient. Despite these concerns the results of this study do appear to indicate that the participants did exaggerate their pain on the basis of the instructions given and the MDS did appear to detect this difference in response.

Presenting evidence of malingering in Court given these results

It is clear that matters of fact must still be decided by the court and while taking into account the opinion of experts, it is the court's role to decide. So Mendelson and

Mendelson (1993) suggest

> the task of the forensic psychiatric expert witness should be confined to issues of diagnosis of mental disorders, their aetiology, and the degree of psychiatric impairment. The psychiatrist may draw attention to inconsistencies in the histories obtained and on mental status examination, poor treatment compliance, and the lack of cooperation or motivation during the course of the treatment or rehabilitation program. However the specific question of the veracity of the claimant is for the court to decide (p. 34).

It is for this reason that Mendelson (1992) states that "the judicial system is paying increasing attention to the recent advances in the understanding of mechanisms which determine the experience of pain" (p. 122). Main and Spanswick (1995) note that it is 'customary' that the court will turn to the opinion of a pain specialist (psychologist, anaesthetist) in back injury only when orthopaedic evidence is irreconcilable or is unable to explain the persistence of pain or dysfunction.

In regard to presenting evidence of malingering to the court, several authors have made comments regarding the format and the credibility that should be given to an expert witness. Ogloff (1990) has identified 3 areas used to determine whether evidence is deemed admissible or not. First, it must be decided whether or not the evidence is relevant or not, and as was just indicated in cases where the identified tissue injury is approximately equal to the level of reported pain then it does appear that psychologist's discussion of malingering is probably not relevant. As Ogloff (1990) indicates, only when the issue of pain or the defendant's mental state becomes an issue will a psychologist be deemed eligible to enter the field, and within this context he/she can only safely comment on the veracity of a defendant's mental condition, not on the issue of

veracity in general. In Commonwealth v. Zamarripa (1988) 379 Pa.Super, 10 A.2d 980 it was held that

> the veracity of a particular witness is a question which must be answered in reliance on the ordinary experiences of life, common knowledge of the natural tendencies of human nature and observations of the character and demeanour of witness. As the phenomenon of lying is within the normal capacity of jurors to assess the question of a witness's credibility is reserved exclusively for jury.

Second, the process of labelling someone a malingerer, by a professional, is problematic within the legal system. Most legal jurisdictions accept that the probative weight of an expert's testimony value should not be outweighed by the risk of unfair prejudice. This is probably difficult to avoid, as the term malingerer, is strongly biased and as was previously stated, it is not a diagnosis but a legal and military label. As Ogloff notes "courts are especially reluctant to admit expert evidence, for fear of its prejudicial impact when the foundation of the testimony is at all equivocal" (1990, p. 38) and labelling an individual as a malingerer certainly has that element. At the same time however the term 'malingering' appears in legislation, so it must be defined and used within the court system at some point.

A possible means of countering this effect has been suggested by Mossman and Hart (1996) in which rather than a clinical decision of either malingering or not malingering, a comment on the likelihood of malingering is made instead. This, it is suggested would increase the predictive ability of clinicians, as a probability formulae would be utilised, rather than a simple decision made. It is proposed that a distribution be developed by the clinician using Bayes Theorem, from which estimates can then be compared within a

known groups design. This approach is actuarial in design, but the concern still remains about what to do with this information and Mossman and Hart (1996) provide little indication. For example does this result mean that if there is a 60% possibility that the plantiff is malingering his/her back pain, then similar to contributory negligence, should be lower the amount of compensation accordingly? Alternatively, should the fact that there is 60% possibility of malingering mean that this is more than the balance of probabilities (50%) and therefore in a civil case, the plantiff should lose the case? Clearly the answer does not necessarily lie with psychology but the way the courts choose to use the information.

One of the foundation premises that Mossman and Hart (1996) use is that "many malingering measures are highly accurate" (p. 286). The evidence presented in much of the research suggests that this is due to the types of validation procedure since no one test has been shown to be 'highly accurate' (Rogers, 1997). Ultimately, Mossman and Hart (1996) acknowledge that the tests used to assess their theory, assess misrepresentation rather than malingering. Given the previous discussion on conscious and unconscious motivation it appears that an assessment for malingering should assess the motivation for attempting to appear impaired before giving a conclusive label. Indeed, Rogers, Sewell and Goldstein (1994) have suggested that there are different types of reasons behind the motivations to malinger: pathological, criminological and adaptional. Their research indicates that medicolegal evaluations are generally adaptional which makes it applicable with the techniques employed by the MDS to assess malingering. Specifically, part 2 of the MDS does seek to assess the motivation, albeit very simplistically, and given the

range (0-29) of scores it is possible to generate, Mossman and Hart's (1996) probability approach might work with this scale. This presumably would replace the cut off point of 7.6, which might be more amenable for the court.

The final point is that the evidence given must satisfy the Daubert rules (Daubert v Merrell Dow Pharmaceuticals, 1993) in which the expert must have some special knowledge not generally available, the assessment procedures used must be based on research commonly accepted by the majority of the scientific community and above all they must be falsifiable. This is part of the problem because, through the use of known group designs where another professional has given some participants the label of malingerer this research indicates that it is not falsifiable, as it based on opinion. Similarly simulation designs may not sufficiently motivate participants to attempt to exaggerate their condition, to the same level as 'real' malingerers. Overall the reason for this problem is that evidence of a specific intent to deceive solely for the purpose of external gain is required for the label of malingering to be applied and currently, no study has assessed for this. Instead, many theorists have extrapolated from the context of the injured party, generally litigation, and assumed that the person is malingering for this reason. The result is that a number of diagnoses can be applied, such compensation neurosis or abnormal illness behaviour, which suggests that malingering as a concept has not been shown to be falsifiable.

The case of Frye v United States (1923) 293 F.1013 from which the rules regarding the admissibility of scientific evidence were developed prior to the Daubert decision, is of

interest as it concerned the ability of science to detect deception through an early lie detector. In Frye v United States it was noted that

> just when a scientific principle or discovery crosses the line between experimental and demonstrable stages is difficult to define ... somewhere in this twilight zone the evidential force of the principle must be recognized .... the thing from which the deduction was made must be sufficiently established to have gained acceptance in the particular field in which it belongs.

Research into malingering, while having generated considerable levels of research, has largely failed to show that clinicians have effective means by which to assess deception (Ogloff, 1990). Indeed Ogloff (1990) concluded by saying

> trouble may be brewing for clinicians and attorneys who attempt to admit testimony about malingering and deception ... although expert testimony regarding the admissibility of malingering and deception has not been challenged too frequently in the past, attorneys who become aware of the inherent limitations of clinicians to accurately identify malingerers may begin to challenge expert testimony more often (p. 41).

Overall, Ogloff (1990) indicated that the rules of evidence are still probably broad enough to allow the admissibility of expert testimony regarding malingering, if the expert has first hand knowledge of the suspect or plantiff, but not as a concept in general. What is important therefore, is that an expert must not misrepresent his/her skills to the court, and given the current state of research into malingering and deception this criterion does appear difficult to fulfil.

Future Research

The results of this study and the comments by some participants, in the light of the literature, suggests that there is some scope for future research into the malingering of

pain conditions. The areas of future research cover both conceptual and procedural issues. While there are many potential areas, the specific areas identified are: the relationship between age and motivation, the use of money as an incentive, asking a participant to differentiate between their responses when asked to malinger and when giving a true response, and finally, what the best method is of assessing whether a client presenting with chronic low back pain is exaggerating or not.

Age and motivation

Areas that were not directly related to the research questions such as the effect of age on malingering and age on pain were assessed to look for possible covariates to the main effects. Hall and Pritchard (1996) suggested that generally malingerers are in their late 20's and early 30's. The current study clearly does not represent this group with the average age around 40 years old. When bivariate correlations were completed on age for both MDS scores and reported pain levels neither showed a significant relationship. This result was supported by Mendelson (1987) who also found no relationship between age and the conscious exaggeration scale. As one participant, who admitted exaggerating an earlier wrist injury, suggested when you are young you want to work again and just want to have an extended rest. He then made the point that older people (specifically workers) when they near retirement age, may exaggerate an injury to get out of the work force earlier than they would if they retired. Several authors have suggested that the rate of workers' compensation claims rises when a company announces it is downsizing for similar reasons (Bowles, Duggan, Forbes & Tongs, 1997). This suggestion does have some intuitive appeal and while it was not a significant correlation in the current study,

this was probably due to the homogeneity of the sample age and the impact of the instructions to malinger.

Future research should firstly assess whether an age effect does exist on MDS scores and levels of reported pain with those relatively early in their career and those towards the end of their career. Measures such as the MDS without the direction to malinger could simply be given and the scores assessed as to whether a difference does exist on the basis of age. If this were so, further interviewing could be completed to assess the different goals that individuals have on the basis of age. Then the different strategies employed by individuals of different ages when attempting to malinger to gain these goals could be assessed.

Money as an incentive

When this research was proposed the possibility of positive incentives for malingering was canvassed on the basis of Rogers's (1997) discussion of external validity. The issue immediately arose of how could this be done? Should money be used as the reward for (un)successful malingering in which a client does score highly on a malingering scale, and if so how much? Certainly the $50 incentive Rogers and Cruise (1998) offered students is a good reward for this population, but how does this compare to individuals who are attempting settlements worth hundreds of thousands of dollars? The conclusion was that very little could be offered in financial terms for incentive and as was previously indicated the University ethics committee would not allow such action. Future research may have to conduct interviews as part of any pilot research for simulation designs so

accurate rewards can be defined on an individual participant basis. Overall, it does not appear possible to use direct financial reward as a means of motivating participants familiar with the system of compensation, as no researcher would have the financial resources to make the positive incentive as great as it is in the litigation system.

Ask participant what a true response would have been to differentiate responses

Currently a control group is used to denote what would have been expected for a person asked not to malinger. However, it seems appropriate to ask participants who were asked to malinger what their responses would be if asked to be as honest as possible. This could be completed in a repeated measures design. This does not appear to have done in malingering research yet which is problematic as it is still not entirely clear what aspects of behaviour alter due to the instruction to malinger. Indeed, such research would allow greater insight into the most effective method of asking individuals to malingerer when validating instruments. Even with Rogers, Cruise and Sewell's (as cited in Rogers, 1997) instructions, it is not conclusive whether instruments are measuring an attempt at malingerer or some other behaviour. This differential is critical given the overlap that this research is suggesting exists between abnormal illness behaviour and malingering.

What methods does this research suggest may make it possible to detect malingering in individuals presenting with chronic low back pain

There are several points that can be made on the basis of this research and the arguments made by some researchers, which allow psychologists, to some degree, to detect malingering. The first point that is that the goal of the malingerer is to perform in the assessment, but then quickly remove himself from treatment, as he/she wants the

pecuniary benefits rather than the problem solved. Given this Ogloff (1990) suggests, as a means of separating individuals with factitious disorder with physical symptoms and those who are malingering, that the client who indicates a readiness to undergo surgery is more likely to be presenting with a factitious disorder with physical symptoms than malingering. Australian courts may not accept this however, according to Mendelson (1996), and he cites the case of Basili v Australian Telecommunications Corporation (1991, Unreported Federal Court). In this case the plantiff developed low back pain at work and subsequently had a spinal fusion. It was held that despite the plantiff undergoing, what the AAT (para 20 Administrative Appeals Tribunal) noted was "the most painful and, indeed dangerous, surgical procedure of spinal fusion" they held that this had been "a deliberate and calculated attempt to obtain compensation for an injury which has long since recovery" (para 19 of Federal Court decision).

A second point is that of the participants interviewed for this research often had complex symptoms and aetiology's which unlike a malingerer, they were very keen to talk about. The third point is that all the participants could precisely identify behaviours which cause them pain, and would show some fear-avoidance behaviour when asked to show where the pain occurs. The fourth point, is that contrary to the presentation of constantly high levels of pain, all participants reported significant variation in the level of pain, and that with some treatments short term relief was experienced. In this sense, an unsophisticated malingerer would probably attempt to show that no relief has been gained. The results of the MDS, even those asked to malinger, do not show this occurring.

The importance of assessing motivation is crucial and measures must go beyond establishing just a need (i.e. individual is not wealthy) but rather establish intent, just as in criminal trials. There needs to be a greater focus within the definition of malingering on the difference between external and internal goals and the use of pain as a tool for manipulation. In the case of malingering, it is deemed to be fraud under workers' compensation legislation, because the community is having to pay money to an individual who does not deserve it, however in factitious disorder with physical symptoms a person who uses his pain to avoid housework is seen as lazy. Conceptually I consider the same intent is operating, just with different consequences. Part 2 of the MDS showed this in the types of goals mentioned by participants, very few were directly related to money which is what compensation neurosis assumes. In short, while the same techniques of emphasising pain behaviour are occurring; it is the social context of where it is occurring that dictates whether the label of malingerer is applied. There needs to be more discussion on what the underlying factors of deception are, and what they attempt to address rather than allowing the social context to dictate whether a person is malingering or suffering from abnormal illness behaviour. Currently, the researchers are not tapping into this area of motivation, and instead both labels, from the research appear to present in the same way.

Conclusion

This research, rather than validating the MDS has given valuable insight into the possibilities for future malingering research. Forensic psychology currently has considerable research into this area, however there is an over reliance on so called

'known groups' designs, by targetting those with litigation and the assumption that the potential malingerer is operating from a completely ignorant standpoint regarding his/her faked/exaggerated condition. This has made much of this research unusable for the courts. Overall, the results do indicate that the instructions, which Rogers (1997) suggested are often the weakness in a study, do appear to have had some effect on the participants' performance. Certainly, these results are only applicable to men with chronic low back pain with more research required before any comment can be made about the MDS with either females or other pain/neurological disorders. The MDS, appears to successfully differentiate between participants attempting to malinger from those who are not; essentially on the basis of an over-estimation of pain and severity by the participant. This subjective response clearly, overlaps with many of the concepts of abnormal illness behaviour and it is only through researchers strictly controlling the level of injury (and the population from which the participants are drawn) and focussing on motivation that this will any method of differentiation can be reliably developed.

A difficulty with the measurement of pain and malingering is the reliance on self report which would appear to lend itself to malingering. The subjectivity of pain sensation is well documented (Dworkin & Whitney, 1992) making direct objective comparison difficult and the point must be made, that pain does not necessarily involve tissue damage. Perhaps as Giles et al. (1997) suggest, it is only through the progression of imaging technology, that patients accused of malingering will be vindicated and those attempting to malinger will be less confident. Finally, the greater the level of understanding about the different qualities of individual pain syndromes, the more

difficult they will be to malinger. However, attempting to assess malingering of pain as an individual entity, in the absence of a specific diagnosis, is, on the basis of the current research and at a level accepted so it would accepted by the court, virtually impossible.

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Appendices

APPENDIX A

I. INTERVIEW BEHAVIORS

INSTRUCTIONS: For each of the behaviors described below, check those that occurred during your evaluation of the patient.

A. INTRODUCTORY PHASE: SPONTANEOUS COMMENTS BY THE PATIENT

___1. The patient expressed exaggerated confidence in the examiner's ability.

___2. The patient made statements or presentations that would appear in some way to enhance his position in society.

___3. The patient made denigrating statements about others in the immediate community.

B. HISTORY TAKING PHASE: CHARACTERISTICS OF THE PATIENT'S PRESENTATION

___4. The patient focused on the severity of the reported problem.

___5. The patient focused on the impairment resulting from the reported problem.

___6. The patient's reasoning included no alternatives.

___7. The patient made temporal associations that are not known to represent cause and effect relationships.

___8. The patient described an atypical or very unlikely response to treatment.

___9. The patient denied responsibility for clearly volunatary acts.

___10. The patient presented a constellation of complaints that are not consistent with a recognized abnormality of an anatomical substrate.

___11. The patient's disability was emphasized during the examination to the exclusion of consideration of his abilities.

___12. The patient denied the ability to learn new skills to compensate for those lost.

C. HISTORY TAKING PHASE: MANIPULATION ATTEMPTS

___13. The patient cited another professional who allegedly agreed there was a problem.

___14. The patient described the prestige of other people who allegedly found a pathological process.

___15. The patient quoted an authority on the subject of the suspected pathological process.

___16. The patient used an irrational analogy to justify a claim of physical pathology. For example, another examiner ignored similar symptoms in another patient, who subsequently died.

___17. The patient threatened harm to himself or others if relief is not found.

___18. The patient overstated the the examiner's authority for intervening on the patient's behalf.

___19. The patient implied there might be legal retaliation for a missed diagnosis or improper care.

D. PATIENT'S RESPONSES TO QUESTIONS

___20. The patient questioned the competence of the examiner.

___21. The patient gave an affirmative response to an inappropriate leading question.

E. EXAMINATION PHASE

___22. Any physical effort resulted in enhancement of the patient's presentation of symptoms.

___23. The patient's responses during the examination did not support a physiological explanation.

F. PATIENT'S RESPONSES TO DISAGREEMENT

___24. The patient's response to the examiner's explanation suggested a distorted meaning of the examiner's statement.

___25. The patient demanded an explanation based on inadequate data.

___26. The patient questioned the examiner's motives.

II. APPARENT GOALS FOR PATIENT'S BEHAVIOR

INSTRUCTIONS: Rate each of the following according to the likelihood of their correctness. If the statement appears to be correct in this instance, place a check mark beside it.

___27. The patient's complaints lead to the avoidance of a normal responsibility or a noxious activity.

___28. The patient's complaints result in the gain of either a concrete entity or an abstract quality.

___29. The patient's complaints result in the retention of either a concrete entity or an abstract quality.

APPENDIX B

SCREENING TEST - JOHN HOPKINS CHRONIC PAIN CENTRE DESIGNED SPECIFICALLY FOR BACK PAIN (Dr Donlin Long)

1. When did you first notice the pain that you now experience?
a) Sudden onset after/with an accident or definable event.
b) Slow, progressive onset with sharp accompanying pain.
c) Slow progressive onset without sharp accompanying pain.
d) A sudden onset of pain without an accident or event to which you can tie the pain.

2. Where do you feel the pain?
a) One specific well defined place.
b) Several different places.
c) One place but hard to tell exactly where.
d) Its hard to describe exactly where the pain is and it feels differently in different places. No physician has ever been able to tie it to a specific source.

3. Do you have trouble sleeping at night?
a) If yes then go to question 4
b) If no then go to question 5

4. What keeps you from falling asleep at night?
a) I have trouble falling asleep at night because of the pain and I'm awakened by the pain at night.
b) Because of the pain I have trouble falling asleep about three times a week or more and I'm awakened by the pain from sleep more than three times a week.
c) I have trouble falling asleep more than three times a week but I'm not awakened from sleep by the pain more than twice a week.
d) I have no trouble falling asleep because of the pain and it does not wake me once I am asleep.
e) I have trouble falling asleep or I'm awakened early in the morning - but its not because of the pain.

5. Does the weather affect your pain?
Cold and Wet -- Doesn't affect

6. How would you describe the type of pain you have now?
Burning sharp --- Excruciating, unbearable

7. How frequently do you have pain?
Constant -- Occasionally present 25% of time

8. How does movement of position have an effect on the pain?
Unrelieved by position change or when don't use part of body that hurts. Numerous operations for the pain. --- No change in pain with position change or not using hand but there is no operations for pain.

9. What medications have you used in the past month?
No medication at all
Non narcotic pain reliever or a mild tranquillizer (non-benzodiazepam) or an antidepressant.
Strong pain killer or a sleeping pill less than 3 times a week or I've taken benzodiazepam) tranquillizer less than three times a week.
I've used either a pain killer or sleeping pill or tranquillizer more than four times a week.

10. What hobbies do you have? Can you still participate in them?
I am unable to participate at all in any hobbies I used to enjoy. --- I still participate the same as before.

11. How frequently did you have sex and orgasms before the pain? How frequently do you have sex and orgasms now?
Formerly good (3 to 4 times a week) Now less than once a week-----I am unable to have any sexual contact since the pain and I had difficulty with orgasms or erection prior to the pain.

12. Are you still working or doing your household chores?
I work every day at the same job prior to the pain at the same level with the same duties.---I don't work any more someone else does my household chores.

13. What is your income now compared to the time before your injury or beginning of your pain? What are the sources of your income?
I'm experiencing financial difficulty and my family income has been cut in half or more since the onset of pain.
b) Family income 50 - 75% prepain
c) I am unable to work and recieve some compensation and my spouse works. My income is at least 75% or prepain.
d) My income is about eighty percent or more of my gross pay before the pain and my spouse does not work.

14.Are you suing anyone or is someone suing you or do you have an attorney helping you with compensation or disability payment?
a) I have no suits pending and do not have an attorney
b) I have a suit pending but it is not related to the pain
c) I am being sued as the result of an accident
d)I have a suit pending, or workers compensation and I have a lawyer involved.

15. If you had three wishes for the world for anything in the world what would you wish for?
a)Get rid of the pain would be the only wish
b)Get rid of pain would be one of the three wishes.
c)Something of a personal nature such as more money

d) Something for others such as an end to world hunger.

16. Have you ever been depressed and thought of suicide?
a) Depressed or have been depressed in addition to having pain. My depression makes me cry sometimes or think of suicide.
b) Because of the pain I have been depressed and felt guitly and angry
c) I felt depressed before the pain as I suffered a financial or personal loss and now with the pain here I also have some depression.
d) I don't feel depressed, I don't have crying jags or I don't feel blue.
e) Before the pain I had a history of suicide attempts.

17 points - Coper: 94% you have a physical problem that would be identified by at least one objective test.

18-20 points Exaggerator/Coper: 75% you have an organic problem that will show up with testing but you may also have had some problems prior to the pain

21-31 points Exaggerator: Surgery recommended with caution. Test shows you may have found a use for chronic pain. Treatment emphasis on attitude change toward chronic pain.

32+ points Psychiatric consultation needed. Surgery should not be carried out without psychiatric evatuation as you freely admit that prior to the pain you had many problems.

APPENDIX C

Mensana Clinic Back Pain Test

Next Page

Name:_____

MENSANA
Mensana Diagnostics Corporation

MENSANA CLINIC BACK PAIN TEST
SELF - ADMINISTERED FORM
(Seventh Edition)

DATE COMPLETED (MON DAY YEAR) | CUST ID | DATE OF BIRTH (MONTH DAY YEAR)

MARKING INSTRUCTIONS
- Use pen or pencil, but do not use red.
- Make dark marks that fill circle completely.
- Make erasures cleanly.

RIGHT MARK ✓ WRONG MARKS ✗ ⊗

DIRECTIONS
Mark only ONE ANSWER to each question unless otherwise instructed.

CLAIMANT NO. | FIRST 5 LETTERS OF LAST NAME

How long have you had pain?

- ○ 0 - 6 months *(STOP test)*
- ○ Longer *(Go on)*

SECTION I

1. **How did your pain first begin?** *(Mark only one answer)*
   - ○ An accident or injury
   - ○ After surgery
   - ○ Slowly got worse over time
   - ○ Slowly got worse over time and suddenly got even worse
   - ○ Came on suddenly, but I don't know how or why

SECTION II

2. **Where do you have pain most of the time? (Do NOT include areas of the body where you have only occasional pain)** *(Mark all that apply)*
   - ○ Face
   - ○ Head
   - ○ Chest
   - ○ Abdomen
   - ○ Sexual area
   - ○ Other

3. **Where do you have pain most of the time?** *(Mark all that apply)*
   - ○ Joints
   - ○ Fingers or toes
   - ○ Neck
   - ○ Upper back and/or shoulders
   - ○ Other

4. **Where do you have pain most of the time?** *(Mark all that apply)*
   - ○ Right arm
   - ○ Left arm
   - ○ Right hand
   - ○ Left hand
   - ○ Low back and/or buttocks
   - ○ Other

5. **Where do you have pain most of the time?** *(Mark all that apply)*
   - ○ Right leg
   - ○ Left leg
   - ○ Right foot
   - ○ Left foot
   - ○ Other

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PAGE 1

Products Literature Sample Questionnaires About MDC Contact MDC

Mensana Clinic
Back Pain Test

Previous Page Next Page

SECTION III

6. **Do you have trouble falling asleep at night?**
   - ○ No (Skip questions 7 & 8, and go to question 9)
   - ○ Yes

7. **How many nights a week?** ***(Answer only if you marked "Yes" to question 6) (Mark only one answer)***
   - ○ Every night ○ 3 - 6 nights ○ 2 or fewer

8. **What keeps you awake?** ***(Answer only if you marked "Yes" to question 6) (Mark only one answer)***
   - ○ Pain ○ No trouble getting to sleep
   - ○ Just lie in bed and can't get to sleep

9. **Do you awaken during the night?**
   - ○ Yes ○ No (Skip questions 10 & 11, and go on to question 12)

10. **How many nights a week?** ***(Answer only if you marked "Yes" to question 9) (Mark only one answer)***
    - ○ Every night ○ 3 - 6 nights ○ 2 or fewer

11. **What awakens you from sleep?** ***(Answer only if you marked "Yes" to question 9) (Mark only one answer)***
    - ○ Pain wakes me up
    - ○ Don't know, but I wake up early some mornings and can't get back to sleep
    - ○ Wake up to go to the bathroom
    - ○ Not awakened from sleep
    - ○ Sleep is restless. I toss and turn, but I'm not really awakened

SECTION IV

12. **Does the weather affect your pain?** ***(Mark only one answer)***
    - ○ My pain is always worse with BOTH damp and cold weather
    - ○ My pain is always worse with EITHER damp or cold weather
    - ○ My pain is sometimes worse with EITHER damp or cold weather
    - ○ Weather has no effect on my pain, and I HAVE had surgery in the area where I now have pain
    - ○ Weather has no effect on my pain, and I HAVE NOT had surgery in the area where I now have pain

SECTION V

13. **What does your pain feel like?** ***(Mark only one answer)***

    The pain I have:
    - ○ feels like a burning pain
    - ○ feels like constant sharp, shooting pain
    - ○ feels like coldness
    - ○ feels like numbness
    - ○ feels like pins and needles
    - ○ feels like a dull, aching pain with OCCASIONAL sharp, shooting pains
    - ○ is BEST described as a spasm-type pain
    - ○ is a nagging, bothersome pain
    - ○ is BEST described as unbearable or overwhelming, or crippling or devastating or can't be described

14. **Heat and/or massage help my pain.**
    - ○ True
    - ○ False

SECTION VI

15. **I have at least one type of ache or pain that is present:** ***(Mark only one answer)***
    - ○ 80 - 100% of the time ○ 25 - 50% of the time
    - ○ 50 - 80% of the time ○ Less than 25% of the time (occasionally)

Products Literature Sample Questionnaires About MDC Contact MDC

Mensana Clinic Back Pain Test

Previous Page Next Page

SECTION VII

16. Which statement best describes the effect of movement on your pain? *(Mark only one answer)*

- ○ No matter what position I'm in, the pain stays the same
- ○ Walking, or lifting, or bending, or standing makes my pain worse
- ○ I can't tell if movement makes my pain worse
- ○ Shifting position relieves my pain for a while
- ○ Leaning backwards or to one side worsens my pain

17. Have you had any operations to try to relieve the pain?

○ Yes ○ No

18. Coughing, or sneezing, or bowel movements worsen my pain.

○ True ○ False

SECTION VIII

19.1 Have you taken any medications during the past month?

○ No *(Skip to question 22)* ○ Yes *(Go on to question 19.2)*

19.2 Below is a list of medications used to treat pain, anxiety, muscles, depression, arthritis, and sleep. Have you taken any of these during the past month?

○ No *(Skip to question 20/21)* ○ Yes *(If yes, then mark the medications you have taken during the past month and then go on to question 20/21)*

LIST OF MEDICATIONS *(Mark all that apply)*

- ○ Adapin® (doxepin HCL)
- ○ Asendin® (amoxapine)
- ○ Atarax® (hydroxyzine HCL)
- ○ Aventyl®
- ○ BCG®
- ○ Buspar® (buspirone)
- ○ Capastat® (capreomycin sulfate)
- ○ Compazine® (Prochloroperazine)
- ○ Depakene® (valproic acid)
- ○ Desyrel® (trazodone HCL)
- ○ Effexor® (venlafaxine)
- ○ Elavil® (amitriptyline HCL)
- ○ Endep® (amitriptyline HCL)
- ○ Eskalith® (lithium carbonate)
- ○ Etrafon® (perphenazine)
- ○ Haldol® (haloperidol)
- ○ INH®
- ○ Inapsine® (droperidol)
- ○ Inderal® (propranolol HCL)
- ○ Innovar® (fentanyl citrate)
- ○ Lithane® (lithium carbonate)
- ○ Lithium Carbonate®
- ○ Loxitane® (loxapine HCL)
- ○ Ludiomil® (maprotiline HCL)
- ○ Marplan® (isocarboxazid)
- ○ Mellaril® (thioridazine)
- ○ Moban® (molindone HCL)
- ○ Nardil® (phenelzine sulfate)
- ○ Navane® (thiothixene)
- ○ Norpramin® (desipramine HCL)
- ○ Pamelor® (notriptyline HCL)
- ○ Parnate® (tranylcypromine sulfate)
- ○ Paxil® (peroxitine)
- ○ Permitil® (fluphenazine HCL)
- ○ PMB®
- ○ Prolixin® (fluphenazine HCL)
- ○ Prozac® (fluoxetin HCL)
- ○ Raudixin® (rauwolfia serpentina)
- ○ Rifadin® (rifampin)
- ○ Rimactane® (rifampin)
- ○ Serentil® (mesoridazine)
- ○ Serpasil® (reserpine)
- ○ Sinequan® (doxepin HCL)
- ○ Stelazine® (trifluoperazine HCL)
- ○ Surmontil® (trimipramine mal.)
- ○ Tegretol® (carbamazepine)
- ○ Thorazine® (chlorpromazine)
- ○ Tofranil® (imipramine pamoate)
- ○ Tranceopal® (chlormezanone)
- ○ Trecator® (ethionamimde)
- ○ Triavil® (perphenazine - amitr.)
- ○ Trilafon® (perphenazine)
- ○ Tylenol® (acetaminaphen)
- ○ Vivactil® (protriptyline)
- ○ Wellbutrin® (bupropion)
- ○ Zoloft® (sertraline)

The brand names of the above mentioned drugs are registered marks of the companies that manufacture them. Generic names are shown in parentheses.

Products Literature Sample Questionnaires About MDC Contact MDC

Mensana Clinic
Back Pain Test

Previous Page Next Page

SECTION VIII

20/21. Mark how often you have taken the medicines listed below during the past month.
(Mark only those you have taken)

LIST OF MEDICATIONS *(Mark all that apply)*

1 TO 3 DAYS A WEEK	MORE THAN 3 DAYS A WEEK	1 TO 3 DAYS A WEEK	MORE THAN 3 DAYS A WEEK
	Anexsia® (hydrocod. bit. & acet)		Nembutal® (pentobarbital sodium)
	Alfenta® (alfentanil HCL)		Noludar® (methprylon)
	Alurate® (aprobarbital)		Nubain® (nalbuphine HCL)
	Astramorph PF® (morphine sulfate)		Numorphan® (oxymorphone HCL)
	Ativan® (lorazepam)		
	Bancap® (hydrocod. bit. & acet.)		Pantopan® (HCLs of opium alk.)
	B & O Supprettes® (belladonna)		Paxipam® (halazepam)
	Buprenex® (buprenorphine HCL)		Percocet® (oxycodone HCL)
			Percodan® (oxycodone HCL & terep.)
	Centrax® (prazepam)		Phenaphen® (acetaminophen)
	Co-Gesic® (hydrocod. bit. & acet.)		Placidyl® (ethchlorvynol)
			Ponstel® (mefenamic acid)
	Dalmane® (flurazepam HCL)		
	Damason - P® (hydrocodone bitartrate)		Restoril® (temazepam)
	Darvocet - N® (propoxyphene naps.)		Roxanol® (morphine sulfate)
	Demerol® (meperidine HCL)		Roxicodone® (oxycodone HCL)
	Deprol® (meprobamat & benact.)		
	Dilaudid® (hydromorphone HCL)		Serax® (oxazepam)
	Doluphine® (methadone HCL)		Stadol® (butorphanol tartrate)
	Doriden® (glutethimide)		Sublimaze® (fentanyl citrate)
	Duramorph® (morphine sulfate)		Sufenta® (sufentanil citrate)
			Synalgos - DC® (dracode bitart.)
	Esgic®		
			Talwin® (pentazocine hydrochloride)
	Fiorinal®		Tranxene® (chlorazepate)
			Tylox® (oxycodone & acetaminophen)
	Halcion® (triazolam)		
	Hydrocet® (hydrocod. bit. & acet.)		Valium® (diazepam)
			Valmid® (ethinamate)
	Levo-Dromoran® (levorphanol tart.)		Valrelease® (diazepam)
	Librital® (chlordiazepoxide)		Vicodin® (hydrocod. bit. & acet.)
	Librium® (chlordiazepoxide HCL)		
	Limbitrol® (chlordiaz. & amitr.)		Wygesic® (propoxyphene HCL)
	Lorcet HD® (hydrocodone)		
	Lorcet Plus® (hydrocod. & acet.)		Xanax® (alprazolam)
	Lortab® (hydrocodone)		
			Zydone® (hydrocod. bit. & acet.)
	Mentrium®		
	Mepergan® (meperidine & promet.)		
	Meprospan® (meprobamate)		
	Methadone®		
	Miltown® (meprobamate)		
	Morphine®		
	MS Contin® (morphine sulfate)		
	MSIR® (morphine sulfate)		
	Myambutol® (ethambutol HCL)		

The above names of the above mentioned drugs are registered names of the companies that manufacture them.
Generic names are shown in parentheses.

Products Literature Sample Questionnaires About MDC Contact MDC

Mensana Clinic
Back Pain Test

Previous Page Next Page

SECTION IX

22. To what degree do you participate in hobbies that you once enjoyed? *(Mark only one answer)*

- ○ Can't do any of them anymore
- ○ Do fewer hobbies and less active
- ○ I still do it but it hurts a lot
- ○ Do the same hobbies as before

SECTION X

23. How has your pain affected your sex life? *(Mark all that apply)*

- ○ I have to stop sex in the middle because of pain
- ○ Had regular sexual contact before pain; Now sexual contact is less frequent, probably cut in half because of pain
- ○ No change in the number of times per week of sex and orgasm
- ○ Have trouble with low sex interest and orgasm for the first time in my life since pain started
- ○ Have had trouble with little sex before the pain OR have always had trouble with orgasm, even before the pain
- ○ Have had no sexual contact since the pain began AND had difficulty with orgasm or erection before the pain began
- ○ Religious vows, or partner's illness or death prevented sex

SECTION XI

24. Are you still working and/or doing your household chores? *(Mark only one answer)*

- ○ I still work at the same job and/or still do the same household chores *(Skip the calculations A - H and go on to question 25)*
- ○ I still work everyday but the job is not the same (reduced responsibilities or reduced physical activity) *(Complete the calculations A - H and then answer question 25)*
- ○ I still work or do household chores now and then, but at a reduced level of physical activity *(Complete the calculations A - H and then answer question 25)*
- ○ I no longer work or do any household chores *(Complete the calculations A - H and then answer question 25)*

PLEASE TURN THE PAGE AND CONTINUE

Products Literature Sample Questionnaires About MDC Contact MDC

Mensana Clinic
Back Pain Test

Previous Page Next Page

DO THE FOLLOWING CALCULATIONS BEFORE ANSWERING QUESTION 25

A. BEFORE the pain, my WEEKLY take-home (after taxes) pay was:

WEEKLY TAKE HOME PAY (AFTER TAXES)

B. BEFORE the pain, my WEEKLY income from spouse's income, extra work, odd jobs, overtime, rents and other was:

SPOUSE'S INCOME + EXTRA WORK + ODD JOBS + OVERTIME + RENTS + OTHER = TOTAL

DOLLARS ONLY – NO CENTS

ANSWER ONLY IF OUT OF WORK FOR ONE YEAR OR MORE:

C. If I worked NOW, my WEEKLY take-home (after taxes) pay would be:

WEEKLY TAKE HOME PAY (AFTER TAXES)

D. NOW add either B + C OR A + B (whichever is greater) ..... Yes
(Use this space for your calculations)

1. Total of items marked in B (above) ..... $
2. Line 1 + A (above) ..... $
3. Line 1 + C (left) ..... $
4. Write the greater amount from Line 2 or 3 ..... $

E. NOW, my WEEKLY income is:

SOCIAL SECURITY + DISABILITY INCOME + WORKERS' COMPENSATION + SALARY TAKE-HOME = TOTAL

Products Literature Sample Questionnaires About MDC Contact MDC

Mensana Clinic
Back Pain Test

Previous Page

SECTION XIII

26. Which statement BEST describes your legal situation? (*Mark only one answer*)

- ○ No legal problems, no suits pending, and do not have an attorney for problems relating to my pain or disability
- ○ I have an attorney and am involved in a lawsuit, but it is NOT related to my pain, disability, or an accident causing pain
- ○ I am being sued as a result of the accident causing my pain
- ○ I am suing someone else as a result of my pain OR I have an attorney involved in my Workers Compensation benefits

SECTION XIV

27. If you had three (3) wishes for anything in the world, which of the following would you choose? (*Mark up to three answers*)

- ○ Get rid of the pain
- ○ Have my health
- ○ Be the same as I was
- ○ Go back to work again
- ○ Have more money
- ○ Have my spouse be nicer to me
- ○ Have my kids behave better
- ○ Have a nicer home
- ○ Have my parents feel better
- ○ Have my spouse feel better
- ○ Have my spouse, or parents or child be alive again
- ○ Peace for the world
- ○ Good health for the Pope
- ○ Have my neighborhood improve
- ○ Have better weather
- ○ My ONLY wish is not on this list

SECTION XV

28. Have you ever felt depressed? (*Mark only one answer*)

- ○ EVEN BEFORE THE PAIN, I have felt depressed, sad, or blue, due to a personal loss, or some other reason that I know
- ○ EVEN BEFORE THE PAIN, I have felt depressed, but I don't know why
- ○ EVEN BEFORE THE PAIN, I have felt depressed enough to take medicine or see a doctor for it
- ○ ONLY SINCE THE PAIN, I have felt depressed, or guilty, or angry or had crying spells
- ○ I have NEVER felt depressed, had crying spells, or felt blue

29. Have you ever thought of suicide or tried it? (*Mark only one answer*)

- ○ EVEN BEFORE THE PAIN, I have tried to kill myself (suicide)
- ○ ONLY SINCE THE PAIN have I thought of suicide
- ○ EVEN BEFORE THE PAIN, I have thought of suicide
- ○ ONLY SINCE THE PAIN, I have tried suicide
- ○ I have NEVER thought of suicide or tried it

[redacted] DATE

09120

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[redacted]

Summary of Malingering Techniques

1. The malingerer may express an exaggerated degree of confidence in the physician's ability to diagnose his alleged neurological disorder.

2. The malingerer may make self enhancing statements .

3. The malingerer may make denigrating statements about the competence of other physicians and/or denigrating statements about the character of other patients.

4. The malingerer may emphasize the severity of his alleged neurological symptoms.

5. The malingerer may emphasize the severity of his alleged neurological impairment.

6. The malingerer may emphasize a specific etiology of his alleged neurological disorder without the consideration of alternative etiologies.

7. The malingerer may emphasize a temporally associated event, not known to have a cause and effect relationship with his alleged neurological disorder, as the etiology of his alleged disorder.

8. The malingerer's symptoms may not be improved by symptomatic treatment.

9. The malingerer may allege that his neurological disorder is responsible for what was clearly a voluntary act.

10. The malingerer may present a constellation of symptoms not consistent with those of an established neurological disorder.

11. The malingerer may emphasize his alleged inability to perform his job related activities..

12. The malingerer may deny the ability to learn new skills to compensate for those allegedly lost from his alleged neurological disorder.

13. The malingerer may emphasize the certainty of another physician's diagnosis of his alleged neurological disorder.

14. The malingerer may emphasize the prestigious status of another physician who allegedly diagnosed his alleged neurological disorder.

15. The malingerer may quote an alleged authority on the subject of his alleged neurological disorder.

16. The malingerer may use an irrational analogy to stress the seriousness of his alleged neurological disorder.

Pain Intensity Scale

Please rate your pain by circling the most appropriate number

at 4pm, every day for one week.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

No Pain

Worst Pain Imaginable

Day One

APPENDIX E

APPENDIX F

Instructions

For the purposes of research, you have been asked to participate in a 20 minute pain evaluation interview. Please pretend that the interviewer is an insurance appointed health practitioner with the purpose of determining what compensation you will receive for your chronic low back pain. The more realistic you can make this interview the value of the research increases. You do not have to plan what you are going to do, but rather do what you would think would best meet your goals.

During the interview, try to convince the assessor that your pain is very bad, worse than it actually is, in order to gain more compensation. Use all your experiences, if you have involved in workers' compensation or litigation use these experiences to increase the amount of your claim. Use any experiences that you have had in your life, or advice you have received from other people. Subtlety is important. Remember that the pain rating scale sheets with 1 - 50 are part of the evaluation so also use these to show how much pain you want the assessor to think that you have. Overall, keep in mind that the more pain that the health practitioner believes that you have, the higher your claim will be.

If you have any questions at the end of the interview the assessor would be more than happy to answer them and to explain fully the goals of the research.

APPENDIX G

Instructions

For the purposes of research, you have been asked to participate in a 20 minute pain evaluation interview. Please pretend that the interviewer is an insurance appointed health practitioner with the purpose of determining what compensation you will receive for your chronic low back pain. The more realistic you can make this interview the value of the research increases. You do not have to plan what you are going to do, but rather do what you would think would best meet your goals.

During the interview, try to be as honest as possible about your pain. When you fill out the five 1 - 50 pain rating scales prior to the interview, try to be as accurate as possible. Overall, you feel confident that you will gain the compensation that you are entitled to.

If you have any questions at the end of the interview the assessor would be more than happy to answer them and to explain fully the goals of the research.

MALINGERING DETECTION SCALE INTERVIEW SCHEDULE

PART ONE
Introductory Phase

Greetings
Preferred Name:
Code Number:
Date of Birth _____

How long have you been in pain?_____

1. How do you feel about me assessing you for your pain?
2. Do you think that it will make a difference for you (Exaggerated Confidence)
3. What is your position in society? (Increase his social status) (Denigrate others)

Must be Spontaneous Comments by Patient

History Taking Phase

Focus is on the Severity of the Pain

1. Tell me about the pain (Evasive?) Can you describe the pain (Describes using severity instead of actual description)
2. What has the pain affected in your life, what have achievements have you had in spite of your pain (Exaggerates degree of impairment, Genuine patient can and will describe achievement)
3. Tell me about how and when the pain began (Is this a cause and effect relationship that has some validity or does this give no rationale for the pain)
4. Are there any other explanations for why the pain exists (Consider alternatives when not obvious, can you describe what occurred before the pain began)
5. Have you attended treatment previously and how did you respond (Beneficial response does not help the malinger, no improvement at all)
6. Did you have any unusual responses to treatment (Again is this rational, or does this indicate perhaps a reason to avoid treatment)

- (In general are they denying responsibility for clearly voluntary acts despite behaviour clearly being motivated, provoked, directed or complex)

7. What other symptoms do you have because of your condition (Are these symptoms reasonably connected to the pathology, and can they be explained in a rational manner)

Leading Questions: a) Do you feel pins and needles in your hands
b) Do you get a aching feeling in the soles of your feet
c) Do you get a burning sensation in your eyes

9. Can you give a percentage of normal behaviour that you can no longer do solely because of your pain.
(Look for extreme results "can't do anything")
10. Have you attempted to learn new skills to compensate for those abilities lost due to pain (Malingerer has not attempted to learn new skills)
11. Do you think that you will be able to learn new skills
12. If not, why not. Have you received training in other areas (He will stress that he has not been trained in other areas)

History Taking Phase

Manipulation Attempts

1. Have you been to other health practitioners - Were they good?
2. (Emphasises the prestige of another examiner who has allegedly found a pathological condition and/or quoting an authority on the subject.)
(Any attempt to create self doubt in the examiner. Should question whether history and examination are consistent with these alleged authoritative quotations.)

3. What were their findings (Were their findings positive then say that they were the best or denigrate them if findings were inconsistent with patients views)

4. (In general did the patient irrationally suggest other situations or examples where an examiner ignored similar symptoms and the patient suffered or died. This forces the examiner to disprove an irrational analogy thereby gives the malingerer control and demonstrating a lack of knowledge and reasoning ability)

4. What will you do if relief cannot be given (Threatening self harm or harming others, and malingerer is responsible for the threat not the examiner)

5. What do you think that I can do (Overstating the examiner's authority for intervening on the patient's behalf, common technique – based on inadequate information by the malingerer. Genuine pain patient concerned with truthful authoritative position as this allows him to anticipate the benefits of working with this examiner. Or the truly ill may lack concern for the examiner's authority believing that illness or impairment is an adequate reason for appropriate support regardless of the examiner's authority. No benefit is made to the truly ill patient by falsely inflating his examiner's authority)

6. What will you do if I choose to say that you have less back pain that what you claim (The malingerer may threaten the examiner with legal retaliation for a missed diagnosis or improper care which can cause self-doubt and fear of retaliation in the examiner. This attempt at manipulation should increase examiner's degree of

uncertainty regarding the patient's diagnosis. The results alone should be able to justify the examiner's decision.)

Remember: Patient's answers to questions

- General: Patient questioned the competence of the examiner to avoid answering questions
- Patient gave an affirmative response to an inappropriate leading question: See before

Examination Phase

1. What actually causes you pain. Can you suggest some activities and show me why? (Any physical effort resulted in enhancement of the patient's presentation of symptoms)

2. Patient's responses during the examination did not support a physiological explanation. Explanation is given but is irrational and clearly manufactured.

Patient's response to disagreement

- Patient's response to the examiner's explanation suggested a distorted meaning of the examiner's statement. Continuously misunderstanding examiner's statement to avoid acceptance of the examiner's explanation, despite the explanation provided on an appropriate cognitive level for the individual.

- Patient demanded an explanation based on inadequate data. They demand an explanation of symptoms based on inadequate data, not possible to give as diagnosis is unjustifiable

1. Why do you think I am asking you these questions? (This is another mechanism to avoid acceptance of the examiner's impression. If the examiner is discredited then his impression becomes invalid. The examiner should question the reason why the patient would reject his impression especially if the examiner's impression carries a good prognosis.

PART TWO

Apparent goals for patient's behaviour

1. By having this pain what responsibilities or activities, that you do not enjoy, can you no longer perform.
2. What will you gain by having this pain? (A goal was identified for all the patients classified as malingerers by the MDS i.e. money, disability status, narcotics)
3. What do you maintain by having this pain?

APPENDIX I

EDITH COWAN UNIVERSITY
PERTH WESTERN AUSTRALIA
JOONDALUP CAMPUS

100 Joondalup Drive, Joondalup
Western Australia 6027
Telephone (08) 9400 5555
Facsimile (08) 9300 1257

Dear _____,

With regards to our phone conversation I wish to thank you for agreeing to be part of this research by Edith Cowan University in association with Brain Suter and Dr. Phil Finch. This research is part of a Master's thesis and should be useful in reducing conflict between patients and the insurer.

For the purposes of research, you have been asked to participate in a 20 minute pain evaluation interview. Please pretend that the interviewer is an insurance appointed health practitioner with the purpose of determining what compensation you will receive for your chronic low back pain. The more realistic you can make this interview the value of the research increases. You do not have to plan what you are going to do, but rather do what you would think would best meet your goals.

During the interview, try to be as honest as possible about your pain. When you fill out the five 1 - 50 pain rating scales prior to the interview, try to be as accurate as possible. Overall, you feel confident that you will gain the compensation that you are entitled to.

If you have any questions at the end of the interview the assessor would be more than happy to answer them and to explain fully the goals of the research.
Please find enclosed:

a) 5 pain rating scales, to be completed daily, and started 5 days prior to the interview. I will take these at the interview.

b) An informed consent form. Please read this and sign the tear off section. I will take this at the interview.

c) A reminder slip for your fridge, with the interview time clearly stated.

d) A cover letter from Brian Suter and Dr. Phil Finch, explaining their role in, and endorsement of, the research.

APPENDIX J

Telephone Contact with potential participants

1. Ask for individual by name (Mr)
2. Greetings - Full Name
3. Masters Student in Psychology at Edith Cowan University
4. Conducting research in association with Brian Suter and Dr Finch.
5. Asked for a list of individuals who have suffered chronic low back pain
6. Have not seen personal files, only been phone numbers.
7. I am ringing to ask you to participate in this study
8. The study is designed to "reduce the conflict between health practioners conducting assessments of pain for insurance conflicts"
9. Many of the claims made that a person is faking pain is made on the basis of the practioners 'gut feeling', which is not acceptable.
10. It will involve filling out giving an indication of how much pain you are feeling at a particular time each day (from 0 to 50) and a 15 minute interview to be conducted at your home, Brian Suter's office or Edith Cowan University at the best time for you.
11. Some of the patients will be asked to pretend that they are in pain while others will not. People who are pretending will be asked to try and convince the interviewer using whatever means they wish. This will be an opportunity to use some of the negative experiences you have had, especially in the Workers Compensation arena.
12. Your participation will not affect your current treatment whatsoever and no one else will have access to this information. You can pull out of this research at any time, even after you have agreed.
13. Are you interested?
14. No - thank you for time, if you become interested later my contact number is 94005418
15. Yes - Thankyou for agreeing to participate.
16. You will be sent a package in the mail containing an informed consent form, a letter giving you instructions to either pretend to have more pain or give honest answers, 5 pain sheets which are to be filled out starting from the day that you receive the package, a reminder sheet for your fridge for the time and day of the interview and a letter from Brian Suter and Dr Finch explaining their role and support for this project.
17. What is your address so I can send you the package?
18. We need to set a time for the 15 minute interview to take place. A time preferably when their will not be too many distraction would be ideal. I have fairly flexible times both during the day, at night or on the weekend. What time best suits you?
19. That time will be fine, is your postal address different from where you live? If so where do you live?
20. Thankyou for your time, if you need to change the time please ring me on 94005418 or 92444012 as soon as possible so we can work out a mutually agreed time. I look forward to seeing you on ---------- at ----------.

Bryan Suter
B.Soc.Sc.(Hons), M.A.(Clin.Psych.)
Clinical Psychologist

BS:vg\cunrd25.S05

APPENDIX K

25 May 1998

Dear

This is to introduce David Cunrow, a second year Masters student in the School of Psychology at Edith Cowan University. I was approached by David and the university to conduct research on the ways individuals express their pain in and outside of a litigation situation. I agreed to participate and provided him a list of names and telephone numbers of previous patients whom I felt would be motivated to participate in this study and who met the requirements of the study. No further records were accessed, nor was information regarding your presenting problems, history or treatment shown to David Cunrow or his supervisor. At no stage will he nor anyone associated with this research have access to this or other confidential treatment information.

As you may know, I am a firm believer in ongoing research. I appreciate that this research project involves a reasonable time commitment. Nevertheless I would request your favourable consideration of participation. Should you agree to participate, you are welcome to withdraw your participation at any time.

Should you have any questions regarding this research, please do not hesitate to contact me on the number below, or alternatively contact David or his supervisor, Dr Irene Froyland, on 9400-5414.

I hope this letter finds you well.

With best wishes

Yours sincerely

BRYAN SUTER

cc Psych File

18 Hardy Street (PO Box 734) South Perth WA 6951. Tel (08) 9367 4466. Fax (08) 9367 2299.

APPENDIX L

Information and Consent Form

My name is David Curnow and I would like to thank you for your decision to participate in research, for my Masters thesis, in the School of Psychology at Edith Cowan University, into chronic low back pain and malingering. The research itself is being undertaken in association Brian Suter's clinic.

This research is not related to treatment in any way, and if you are still in treatment then this research will have no bearing on your future treatment needs. The research is interested in the methods that people with chronic lower back pain would use to 'pretend' that they have more pain than they really feel. In addition, it seeks to reduce the conflict that often occurs between an insurance appointed assessor and chronic pain patients in workers compensation claims. As all the participants will have chronic low back pain there is a sense that they are the experts, and the researcher is trying to learn from them. Basically you have been asked because, you are male, have chronic low back pain, have previously attended Brian Suter's clinic and may or may not have been involved in litigation.

Having indicated on the phone that you are willing to participate in the research you will find enclosed a letter which asks you either to attempt to exaggerate how much pain you feel or to give an accurate indication of your pain. It is important that you understand that you will be designated either as an "exaggerating" or "accurate" pain patient on a purely random basis and no prior testing or medical records have played a part in this decision.

Also enclosed are five numeric rating scales for pain. You will be asked to fill these out each day, for one week prior to going to the interview. The numeric rating scale involves noting which number best represents your pain and is probably similar to other pain measures you have completed.

Finally, as was indicated in the introductory phone call, a twenty minute pain evaluation will be conducted at a place most convenient to you. This may be your home, Brian Suter's clinic or Edith Cowan University. This interview will be a simulation of the sort of interview you would have to undergo for compensation. Your daily pain rating scales and consent form will be collected by the interviewer at the conclusion of the interview.

When being interviewed you may use your own history or alter it slightly; provided the basic facts and feelings surrounding your pain experience remain relatively accurate as this is major reason for the research. Whether or not you give an accurate personal history, is largely irrelevant, as the focus on the research is how you depict the issues involved. The results of the interview and the pain rating scales will be stored in a locked cupboard in a security-coded room at the Edith Cowan University. Once this study has enough participants the list containing the names and addresses will be destroyed and only identification numbers will be used. Hence, the participants in this study will be anonymous. The results of this research will only be available to the researcher, David Curnow (2nd Year Masters student) and his supervisor, Dr Irene Froyland. The results of this research may be published, at least as a thesis, but in a form, where group results will be used making it impossible to

identify participants in the study. The processed data will also be available to participants who ask for copies.

No individual data will be made available to the clinic or Brian Suter or any other person or institution, unless there is a legal obligation to do so. However due to certain procedural mechanisms it will very difficult to tell which responses were made by a particular participant.

During the research you may withdraw at any time. You do not need to give any explanation. If you do not wish to answer a question then you do not have to do so. In addition, if you wish to ask questions, you may so at any time. It is important to recognise that Brain Suter's clinic is not directly participating in this research, and it is a researcher from Edith Cowan University that is completing the research.
If you are still involved in any legal action, or contemplate future legal action, in regard to the incident related to your pain, you must preferably not participate in this research project. If at any stage you need more information about the study you can phone myself, or my supervisor, Dr Irene Froyland, on 9400-5415.

All participants will be debriefed after the interview. Participants who have chosen to withdraw from the study will be given the opportunity to be debriefed when they withdraw.

If an aspect of this interview disturb you then please contact Dr Irene Froyland at Edith Cowan University on 9400-5415 regarding your concerns. If there are problems that arise during the interview, then Brian Suter will be available for consultation.

When you have decided to be part of the research please detach the consent form underneath and give it to the interviewer. These forms will be kept, but through the use of code numbers as identification it will not be possible to identify the results of individual participants. If you have decided that you no longer wish to be part of this study please ring David Curnow on 9400 5418 at the earliest possible time.

Thankyou for your support,

David Curnow

This will be collected at the time of the interview

I, _____ (Please print)

* have read and understood the consent form
* have had an opportunity to assess what is being asked of me
* have received adequate information
* can show that I understand the implications of this research

I, _____ (Please print) wish to participate in this study.

Sign: _____ Date: _____

Witness: _____ Date: _____

Don't Forget your Appointment

Remember that you have a pain evaluation interview for compensation on

_____ at _____