

**DIFFERENCES IN PAIN RATINGS BASED ON
GENDER AND ETHNICITY OF PATIENT**

THESIS

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by

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CHAPTER I

INTRODUCTION

The International Association for the Study of Pain (IASP) defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” (Merskey & Bogduk, 1994). Pain is a common experience. It occurs among people of all ethnicities, genders, ages, and socioeconomic statuses. Over 80% of office visits to physicians (approximately 70 Million visits per year) were because of pain (Koch, 1986 as cited in Turk & Melzack, 2001).

Of patients presenting for pain-related distress, a substantial percentage described themselves as experiencing chronic pain. Chronic pain, by definition, lasts longer than six months and may persist in the absence of tissue damage (Miller & Kraus, 1990). Joranson & Lietman, (1994) found that 50 million, or one in five, Americans experience chronic pain (as cited in Turk & Melzack, 2001).

The frequency of pain reports among medical patients has caused healthcare accrediting agencies to examine pain assessment procedures. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has recently implemented new standards for pain assessment and management. These standards include a stricter regimen for assessing and managing patients’ pain. This has resulted in increased

pressure on healthcare workers to develop and follow standardized pain assessment and pain management standards.

Because pain is a subjective experience, it is difficult to assess. Research has shown that, when assessing pain, health care workers routinely underestimate or overestimate patients' pain levels (Bondestam, Johansson, Herlitz, & Holmberg, 1987; Choineiere, Melzack, Girard, Rondeau, & Paquin, 1990; Hovi & Laurie, 1999; Larue, Fontaine, & Calteau, 1997). To further complicate matters, research repeatedly finds that gender and ethnicity both affect pain assessment (Calvillo & Flaskerud, 1993; Levine & De Simone, 1991; Robinson & Wise, 2003; Zatzick & Dimsdale, 1990). Given the difficulty in assessing pain, it is more important than ever to understand what factors affect pain assessment.

Theories of Pain

Despite years of investigation, we still do not have one overarching theory of pain experience. Instead, several competing theories attempt to describe why and how pain occurs. At present, the field of pain research uses three different theoretical approaches: Specificity theory, pattern theory, and the gate control theory.

Max Von Frey proposed a theory of the cutaneous senses, which provided the basis for the specificity theory (Melzack, 1973). The specificity theory argues that there are specific receptors for different types of pain. According to Von Frey, there are four types of receptors for sensation and those are touch, cold, warmth and pain (Melzack, 1973). Each specific type of pain receptor will accept only certain types of pain information from the sensory nerve fibers.

This theory has partly survived because it is a simple explanation of the pain process. Specific pain receptors receive pain information and the information is sent through a pain pathway to a pain center in the brain (Melzack, 1973). The main reason for the survival of the specificity theory is because of the physiological assumption of the theory. The basis of the theory, which proposed there are distinct, specialized types of skin receptors has not been disproved and has come to be known as a biological principle (Melzack, 1973).

The major flaw of the specificity theory is the psychological assumption that “pain receptors” receive only pain information and send it to the brain where the pain is felt. It implies that only pain can be sensed from the receptors. It also implies that all the information is obtained at the site of the receptor and is sent through a pathway where the brain does nothing but receive the information (Melzack, 1973).

Goldscheider moved away from the specificity theory by proposing that it is not merely a receptor receiving a single piece of information but the intensity and summation of the stimulus that determines pain (Melzack, 1973). The pattern theory of pain perception holds that it is not individual neurons or specific pain receptors that distinguish one type of pain from another, but rather the *pattern* of activation from a given set of sensory nerve fibers. Once the sensory neurons have reached a critical excitatory level, a specific “pain” pattern forms, and the chemicals that activate pain fibers are released and pain is felt (Matlin & Foley, 1997).

The pattern theory has carried on because the idea that information is received through patterns and summation of stimuli is now a basic concept in physiology and the study of pain (Melzack, 1973). This theory was able to explain unusual occurrences

dealing with pain. It explained how certain people would experience burning pain after several brief applications of a warm test tube to the skin when most people would feel no pain. (Melzack, 1973). These people had reached their critical level and, consequently, experienced pain. The problem with this theory is that it is vague and does not identify specific patterns that create the pain sensation (Melzack, 1973).

A new theory emerged attempting to integrate several aspects of pain creating a general, yet specific theory. In 1965, Melzack and Wall proposed the gate control theory of pain, which included specialized receptors and pathways and patterns to communicate information, but also included information on psychological processes dealing with pain and several different clinical phenomena with regard to pain (Melzack & Wall, 1983).

The gate control theory of pain states that special pathways mediate pain in the central nervous system. Pain travels from sensory neural fibers to transmission cells in the spinal cord. Once the sensory information reaches the spinal cord, different afferent sensory information is parsed according to the type. Pain information is sent to the brain through specialized transmission cells (or gates), and the individual feels pain (Matlin & Foley, 1997). These specialized transmission cells in the spinal cord “act as a gate that can increase or decrease the flow of nerve impulses from peripheral fibers to the spinal cord cells that project to the brain” (Miller & Kraus, 1990). This theory argues that if you can stop the pain information from getting past the spinal cord to the brain, or close the “gate”, you can prevent the experience of pain.

The gate control theory not only provides a physiological explanation for pain. It explains pain as an interactive process with several systems (sensory-physiological, affect, cognition, behavior) continually affecting one another and modifying the process

of pain. The theory proposes a physiological basis for the psychological portion of pain (Turk, 2001). One reason this is a widely held theory is because of the integration of systems that affect one another. It includes many aspects of pain that other theories had not attempted to understand. It moved beyond the streamlined idea that pain information is received at the receptor sites and the information is sent to the pain center in the brain to an integrative process of pain where a number of variables affect the development of pain and pain perception.

These theories of pain have helped health professionals to begin understanding the mechanisms of pain by giving explanations of how pain occurs. In addition, as Keefe et al., (2002) assert “the introduction of the gate-control theory of pain in the 1960s ushered in an era where the conceptualization of pain was broadened to include social and cultural influences.” These theories have paved the way for health care workers to move beyond understanding pain simply as a physical sensation. Pain is now understood to affect and be affected by psychological and behavioral factors.

Knowledge, Attitude, and Ability to Estimate Pain

Many medical professionals assess pain on a daily basis. Unfortunately there are many factors that make pain difficult to measure including different types of pain and individual differences in pain experience and expression among people.

Research indicates that health care professionals often underestimate others' pain. Poor pain treatment may also stem from insufficient knowledge about pain medicine and dosing (Bondestam, Johansson, Herlitz, & Holmberg, 1987; Brown, Bowman, & Eason, 1999; Brunier, Carson, & Harrison, 1995; Hamilton & Edgar, 1992; Hovi & Lauri, 1999; Larue, Fontaine, & Colleau, 1997; McCaffery & Ferrell, 1995). In order for medical

professionals to address and possibly resolve the pain problems of the patient, accurate pain assessment is important. If the estimation of the patients' pain level is inaccurate, the patient will receive improper treatment, and will possibly continue to experience pain (Bondestam, et al., 1987; Larue et al., 1997; Watt-Watson, Stevens, Garfinkel, Streiner, & Gallop, 2001).

Because nurses are the healthcare providers most likely to conduct pain assessments, most studies of pain assessment have focused on them. Patient self-report is the most common way to assess patients' levels of pain. Patients' self-reporting of pain includes the patient writing or verbalizing their level of pain to a health care professional. Unfortunately, health care workers are often reluctant to accept patients' self-reported assessment of pain. As a result, they often underestimate or overestimate patients' pain. Hovi and Lauri (1999), for example, found that nurses underestimated patients' intense pain experiences when the nurse had insufficient knowledge about pain medications. The nurses in their study also believed that patients tolerated more pain than the patient would actually admit to tolerating. If health care workers believe that the patient can tolerate more pain than he or she will admit to tolerating, the workers are less likely to provide sufficient analgesic medication or other pain relieving treatments.

In a similar study, Brown et al. (1999) found that more than half of the nurses in their study believed that 10% of patients consistently overreport pain. Patients may overreport pain, but because pain is subjective, there is no way to measure overreporting or underreporting pain. Since there is no measure, an issue that needs to be addressed is how often nurses believe the patients' self-reports. Examining an international sample of nurses from Australia, Canada, Japan, Spain and the U.S., McCaffery & Ferrell (1995)

found that nurses from each country thought many patients overreport pain. Other studies have found, when compared to patient report, that nurses both underestimate and overestimate patients' pain, 23% and 20% of the time, respectively (Bondestam et al., 1987). In another study, 27% of nurses surveyed did not feel they should believe patients' pain reports (Brunier et al., 1995).

In a more sophisticated effort to examine the relationship between pain ratings and patient reports of their pain experiences and to investigate the implicit criteria that nurses use when assessing pain, McKinley and Botti (1991) found significant differences between nurses' pain rating and those reported by the patients assessed. In their study of 115 nurse and patient pairs in a university teaching hospital, they found that the nurses in their sample *overestimated* rather than underestimated patients' pain levels. In their investigation of the criteria nurses use while rating patients' pain, they found that nurses placed the most importance on what the patient said, the patients' report of the severity of pain, the patients' facial expression and the patients' posture" (McKinley & Botti, 1991).

The difficulties with assessing pain are also complicated by differing ideas about of pain severity. Several studies (Brunier et al., 1995; Hovi & Laurie, 1999; Larue et al., 1997) found that health care professionals were more likely to underestimate a patient's pain when the patient is in severe pain. In the Larue et al. (1997) study, physicians were asked to assess pain in a sample of patients with HIV. Physicians were more likely to underestimate patients' pain when they were assessing patients who reported severe pain than patients who reported little pain (Larue et al., 1997). Hovi and Lauri (1999) found that nurses' pain assessments differed significantly from patients' self reports when severe pain was involved.

Nurses' knowledge and attitudes toward patients' self report of pain is important because it determines how well and how often they assess patients' pain. Nash, Edwards and Nebauer (1993) found that attitudes, subjective norms and perceived control regarding the assessment of pain predicted nurses' intention to assess patients' pain. Nurses with a positive attitude regarding patients' self reports of pain or those who felt that they had control of the patients' situation intended to assess patients' pain more often. In another study looking at nurses' attitudes and knowledge about pain, Brown et al. (1999) found that only one-fourth of nurses rated their ability to manage patients' pain at a nine or ten on a ten-point scale. They also reported the mean score on the Nurses' Knowledge and Attitudes Survey Regarding Pain Scale was 64.58% out of a possible 100% (Brown et al., 1999). Support for the finding that nurses lack knowledge of pain control comes from Hamilton and Edgar (1992) who found that 45% of the nurses in their sample obtained a score of less than 60% on a questionnaire measuring knowledge of pain control. More troubling still, 7% scored less than 50% correct (Hamilton & Edgar, 1992). Watt-Watson and colleagues (2001) administered the Toronto Pain Management Inventory (TPMI) to a sample of nurses in an effort to examine their knowledge about pain management. They found that only 15% of the nurses had a score of 75% or higher.

International studies of nurses' knowledge of pain control produce strikingly similar results. McCaffery and Ferrell (1995) examined nurses from five different countries, using the World Health Organization's guidelines for cancer pain relief. Results showed that nurses from all five countries lacked adequate knowledge of pain control methods (McCaffery & Ferrell, 1995).

Several studies have found that nurses tend to lack specific knowledge about pharmacological treatments for pain. Nurses tend to overestimate the likelihood of addiction for patients receiving opioids (Brunier, et al., 1995; Hamilton & Edgar, 1992; McCaffery & Ferrell, 1995). Hamilton & Edgar (1992) found that more than 20% of the nurses they surveyed believed 50% or more of people treated with opiate analgesics would become addicted. Watt-Watson and colleagues (2001) interviewed 94 nurses along with 225 of their assigned patients. The results showed that 44% of the nurses believed that 10% of all hospitalized patients become addicted to their pain medication. Not surprisingly, they also found that patients were only given 47% of the average analgesic dose prescribed to them.

Instruments for Pain Assessment

Because pain is a subjective experience, and individuals respond differently to pain, it is difficult to measure. As a result, many different instruments are used to assess pain. These include, but are not limited to, the McGill Pain Questionnaire (MPQ), the Visual Analog Scale (VAS), the Numerical Rating Scale (NRS), and the Pain and Impairment Relationship Scale (PAIRS). The MPQ, VAS and NRS are self-report measures patients will use to report their pain level. The PAIRS is used to gather information on the pain patients' attitudes and beliefs about their pain (Slater, Hall, Atkinson, & Garfin, 1991).

Some instruments work better than others for certain patients. For example, when time is limited, many healthcare professionals prefer the NRS because it is simple to administer and score (Jensen, Karoly, & Braver, 1986). If a more thorough pain instrument is required, the MPQ is the instrument of choice. Some instruments measure

only one aspect of pain while other instruments measure several dimensions of pain. The VAS and the NRS only measure the level of the patients' pain. The MPQ, on the other hand, measures several dimensions of pain including three classes of word descriptors (Melzack, 1975).

In a now classic study Melzack and Torgerson (1971) had people look at different words used to describe pain. Although there are numerous descriptors for pain, they found that “there is a high level of agreement that the words fall into classes and subclasses that represent particular dimensions or properties of pain” (Melzack & Torgerson, 1971). They found this agreement despite differences in cultural, socioeconomic, educational and linguistic backgrounds. The agreement on the words within different classes and subclasses provided the basis for the McGill Pain Questionnaire.

The MPQ measures three facets of pain by using three different classes of words. The first class describes the sensory qualities of pain, the second assesses the affective or emotional qualities of the pain experience, and the third is an evaluative component. Four types of data can be obtained from the MPQ: (1) A pain rating index based on the patients' mean scale values—(PRI(S)); (2) A pain rating index based on the rank values of the words—(PRI(R)); (3) The number of words chosen—NWC; and (4) The present pain intensity—PPI (Melzack, 1975). The MPQ has been demonstrated to be reliable and valid. It has been translated into several languages and been used in over 100 studies (Melzack & Katz, 2001).

In 1987, Melzack (1987) created the Short-Form McGill Pain Questionnaire (SF-MPQ). The SF-MPQ is a shorter, simpler version of the full-length MPQ. In a study

comparing the short form with the standard MPQ, McDonald and Weiskopf (2001) found that most of the adults used exact words or synonyms of words in the SF-MPQ without having seen the instrument. They took this to mean the short form has descriptors that patients can relate to.

A simpler measure of pain is the Visual Analog Scale. The VAS is measured on a single continuum. It is a 10 cm line with anchors asking subjects to rate their pain from “1-no pain at all” to “10-worst pain I ever had.” Patients express their level of pain by making a mark on the line representing their pain level. The VAS and the Numerical Rating Scale are similar in that they both are measured on a continuum. The main difference is that VAS is a line with anchors while the NRS has numbers of either 1-10, 1-20 or 1-100. The lower numbers on the scale represents “no pain” and the higher number represents the other extreme “worst pain”. Williams, Davis and Chadury (2000) found that the majority of patients they tested preferred the NRS to the VAS because they tended to quantify pain instead of verbalizing it.

Ethnicity and Pain

Numerous studies find that cultural beliefs and norms can influence pain tolerance, the expression of pain, and attitudes toward others in pain. Different ethnic and cultural groups respond differently to people in pain. One study looked at pain expression in college students from India and the United States and found participants from India were less likely to accept overt pain expression than participants from the United States (Nayak, Shiflett, Eshun, & Levine, 2000). The same study compared pain tolerance and intensity ratings in the college students and found no differences in the pain ratings of

subjects from both cultures but did find differences in pain tolerance. Participants from the United States had a lower pain tolerance than those from India (Nayak et al., 2000).

Thomas and Rose (1991) studied the pain experiences of Afro-West Indians, Caucasians and Asians. They found clear differences in the pain experiences for all three ethnicities. Asians reported the highest levels of pain followed by Caucasians, while the Afro-West Indians reported the lowest levels of pain. Another study looked at differences in pain sensitivity with both controlled noxious stimuli and clinical pain reports in the same sample (Edwards, Doleys, Fillingim, & Lowery, 2001). The sample included African American and Caucasian chronic pain patients. Participants completed multiple standardized questionnaires and underwent a tourniquet procedure producing experimental ischemic pain. It was found that African American participants had significantly higher perceived pain severity and pain-related disability than the Caucasian participants. African American participants also showed a lower pain tolerance when stimulated with ischemic pain (Edwards et al., 2001).

A study looking at pain responses in Caucasians, African-Americans and Latinos found Latina women had the highest pain tolerance levels followed by Mexican-American men (Lawlis, Achterberg, Kenner, & Kopetz, 1984). Latinos also reported that their daily activities were affected by pain on fewer days than their non-Latino Caucasian counterparts (Perez-Stable, Springer, Miramontes, 1997).

While most research has examined the role that cultural beliefs play in the experience and expression of pain, there are also indications that the ethnicity of the healthcare provider may influence pain assessment. This is particularly important when the ethnicity of the healthcare provider differs from that of the pain patient. Calvillo and

Flaskerud (1993) conducted research comparing the pain responses of Latina and Caucasian women with the pain ratings of their nurses. No differences were found between the Latina and Caucasian women in their responses to pain. The researchers did, however, find that nurses assessed Caucasians as having more pain than the Latinas (Calvillo and Flaskerud, 1993).

Although some research finds that ethnicity affects the way health care professionals estimate patients' pain, other research finds no relationship between patients' ethnicity and pain assessment. Todd, Lee, & Hoffman (1994) studied Hispanic and Anglo patients with extremity trauma in an emergency department. They found no differences in either overall pain scores or in relative pain ratings between patients and physicians.

There are several reasons why there may be discrepancies in pain estimation and outcomes based on ethnicity. The literature has shown that there are differences in pain tolerance implying the cause to be ethnicity (Edwards et al., 2001; Nayak et al., 2000; Perez-Stable et al., 1997; Thomas and Rose, 1991). Calvillo and Flaskerud (1993) found that there were no differences in the pain responses of patients with different ethnicities, but there was a difference in nurses' pain estimation of the patient based on the patients' ethnicity. This research has shown that it is not simply ethnicity alone that causes differences in pain estimation, but that the differences may only be an issue when the ethnicity of the patient is different from that of the healthcare provider.

One of the reasons for discrepancies may be language commonalities or language barriers. Perez-Stable and colleagues (1997) found that "physician-patient language concordance was associated significantly with better functioning on three overall health

status scales and six subscales". A study looking at specific pain terms for Hispanics, American Indians, African-Americans and Caucasians found that all four groups rated pain terms similarly with the term "ache" rated as the lowest intensity, "hurt" as a middle intensity and "pain" the highest intensity term (Gaston-Johansson, Albert, Fagan, & Zimmerman, 1990). Differences in pain experience and expression may also result from cultural beliefs about appropriate levels of pain and suffering. For example, many traditional Hispanics believe that suffering is expected. Adults are expected to be stoic in their response to pain (Calatrello, 1980). They may believe that God is punishing them and they must suffer through the pain.

Gender and Pain

Gender may also affect the experience and expression of pain. Societal and cultural beliefs about gender can affect the way males and females deal with pain and their tolerance for and expression of pain. One study measuring gender differences in pain experience found that females reported more pain than males when the stimulus was at medium and high levels. Females were found to have faster and greater pupil reactions (an important index of pain intensity) to the stimulus than the males (Ellermeier & Westphal, 1995). Lawlis and colleagues (1984) assessed sex differences in response to pain and found that women identified their pain as significantly worse than the males.

However, some studies find no differences between males and females in their reaction to pain (Thomas & Rose, 1991). Sheffer and colleagues (2002) looked at sex differences and chronic low back pain by using the Short Form McGill Pain Questionnaire and the Multidimensional Pain Inventory. They found no significant differences between genders (Sheffer, Cassisi, Ferraresi, Lofland, & McCracken, 2002).

Levine and De Simone (1991) examined how the gender of the experimenter affected the pain report of males and females. Sixty-eight participants were randomly assigned a male or a female experimenter. The pain report came from the participant's participation in a cold pressor test. Cold pressor tests consist of asking participants to place their hand in a bucket filled with ice water. The experimenter then records the participants' self-reported pain rating. Levine and De Simone (1991) found that females reported significantly higher levels of pain than males. They also found that males reported lower pain levels to the female experimenter than to the male experimenter. However, there were no differences between males and females when the participant reported their pain levels to an experimenter of the same gender. Although females reported higher levels of overall pain, the authors believe pain reporting is influenced by the gender of the person to whom the pain is reported because of social factors that dictate gender-appropriate expressions of pain (Levine & De Simone, 1991).

Gender differences in pain expression might be attributed to several societal and cultural factors. Males and females both believe that it is more appropriate for females to express pain overtly than it is for males to. Females are more accepting of pain expression in males than males, while males tolerate more pain expression in females (Nayak et al., 2000).

The present study is largely based on previous research. Boothe (2002) studied the impact of gender and ethnicity on pain estimation. Specifically, he examined whether or not the gender and ethnicity of the rater had an impact on their rating of patients' pain levels. The results showed that females rated patients with higher pain levels than males. He also found that patients' pain levels were rated higher by Anglo females and Hispanic

males while Anglo males and Hispanic females rated the patients with lower pain levels (Boothe, 2002).

Hypotheses

The present study examines the roles that gender and ethnicity play in affecting pain assessment. Research has shown that the ethnicity of both the patient and the rater affects the assessment of pain (Calvillo & Flaskerud, 1993; Ng, Dimsdale, Rollnik, & Shapiro, 1996). Research has also shown that gender affects the assessment of pain (Robinson & Wise, 2003). Based on these findings, my hypotheses are as follows:

1. Raters' assessment of patients' pain experience will be affected by patients' ethnicity.
2. Raters' assessment of patients' pain experience will be affected by patients' gender.

CHAPTER II

METHODOLOGY

The research occurred in two phases. Videos of actual patients who have chronic pain were obtained. These patients answered questions from the Pain and Impairment Relationship Scale, and then completed the SF-MPQ. Then the videos were shown to participants who rated the patient's pain, also using the SF-MPQ.

Study Participants

Participants were recruited through Introductory Psychology courses and through student organizations at a mid-sized Texas university. The students from the psychology courses were offered extra credit for their participation. The sample consisted of 80 participants. There were 40 Anglos and 40 Hispanics with 20 males and 20 females in each ethnic group. The mean age of the sample was 19.4 with an age range of 17 to 26. 57.5% of the participants were freshman, 17.5% were sophomores, 12.5% were juniors and 12.5% were seniors.

Apparatus/Pain Patient Videos

Four patients (one Anglo male, one Anglo female, one Hispanic male, and one Hispanic female) were recruited from a chronic pain clinic in a large Texas city (Boothe, 2002). The patients were videotaped while being interviewed using the Pain and Impairment Relationship Scale (PAIRS). After completing the PAIRS, the camera was

turned off, and each patient completed the Short-Form McGill Pain Questionnaire (SF-MPQ).

Procedures

Upon arrival, participants read and signed an informed consent form. They were then directed toward a computer. Participants first answered questions about their gender, ethnicity, university classification, and age. The computer informed each participant that he/she would be shown a video clip of a patient. The ethnicity and gender of the patient he/she would be watching was included in the information. Each participant then watched one of four videos: Anglo male, Anglo female, Hispanic male or Hispanic female. There were a total of 80 participants with 20 participants (5=Anglo male; 5=Anglo female; 5=Hispanic male; 5=Hispanic female) watching the Anglo male video, 20 watching the Anglo female video, 20 watching the Hispanic male video and 20 watching the Hispanic female video. In order to keep cell sizes equal, with five people from each group watching the videos, participants were assigned a computer showing a specific video. The videos were of actual patients and were not scripted. Keeping cell sizes equal controlled for differences that might exist due to variations in the patients' answers on the video.

After watching the video, each participant read on the computer screen that he/she would answer questions regarding the patient he/she just saw (Boothe, 2002). The first question asked the participant to rate the patient's current pain level (CPL) with a number from 0-10. The participant continued by filling out a computerized version of the SF-MPQ reflecting their estimates of the patient's pain experience. Each participant was asked to rate the patient's pain with regard to each of the 15 adjectives that comprise the SF-MPQ using a four-point scale with 0-none, 1-mild, 2-moderate, and 3-severe. Next

each filled out a Visual Analog Scale (VAS) on a sheet that was placed next to the participant's computer. Going back to the computer screen, participants were asked to rate the patient's current pain level using one of six descriptors (no pain, mild, discomforting, distressing, horrible, excruciating). Once they finished, participants were informed that they had completed the study, and were thanked for their participation.

Participants' answers were recorded by Reaction Time Software. Once data collection was completed, the information was transferred into Microsoft Outlook and then transferred into SPSS 11.0. Five variables were used to measure pain estimation. They included current pain level (CPL), the Visual Analog Scale (VAS) and the sensory total, affective total and the Present Pain Intensity (PPI) from the SF-MPQ (Boothe, 2002). Difference scores, which were used for analyses, were created by subtracting patients' ratings of their pain from the ratings provided by the subjects. Difference scores were used to examine differences between the participants' rating of the patient's pain and the patients' rating of his or her own pain.

This study used a between-subjects design. Because more than one factor was analyzed and a comparison needed to be made, Analyses of Variance (ANOVAs) were used. Five individual 2x2 ANOVAs were used to assess each of the five separate variables. Gender and Ethnicity were the independent variables used for all ANOVAs.

The first ANOVA compared the variance between the patients' rating of their own CPL and the participants' rating of the patients' CPL. The second ANOVA examined the differences between participants' VAS rating of the patient and the patients' own VAS rating. A third ANOVA evaluated the differences between the participants' PPI rating of the patient and the patients' rating. The last two ANOVAS

compared differences between the participants' and patients' ratings of the patients' total sensory and affective scores.

The design of this study allowed me to answer the question of whether or not the gender and ethnicity of the patient made a difference when other people rated the patients' pain levels. Part of the design consisted of the numbers dealing with gender and ethnicity of the participants being kept equal in order to control for any effect that unbalanced numbers might have created. The design also included each participant being assigned one specific video in order to control for comparison effects.

CHAPTER III

RESULTS

I computed the descriptive statistics, which consisted of means and standard deviations for participants' ratings of patients' pain levels. The different ratings included the current pain level (CPL), Visual Analog Scale (VAS), Sensory total, Affective total, and Present Pain Index (PPI). The results are shown in Table 1.

Table 1
Means and Standard Deviations for participants' current pain level, Visual Analog Scale, sensory total, affective total, and Present Pain Intensity ratings of patients.

Patient Ethnicity and Gender	Rating Scale	Mean	SD
Anglo Male	CPL	-.55	1.47
	VAS	-.95	1.82
	Sensory	-.45	4.96
	Affective	-2.60	3.22
	PPI	.10	.79
Anglo Female	CPL	2.05	1.20
	VAS	1.70	1.78
	Sensory	-3.20	4.84
	Affective	-4.85	2.70
	PPI	-.05	.83
Hispanic Male	CPL	-.80	1.74
	VAS	-1.00	1.78
	Sensory	1.05	3.63
	Affective	-1.40	2.23
	PPI	.45	.61
Hispanic Female	CPL	.40	1.14
	VAS	.65	1.23
	Sensory	1.95	4.52
	Affective	1.15	2.80
	PPI	.30	.73

I predicted that raters' assessment of patients' pain experience would be affected by the ethnicity and gender of the patient. Difference scores between the raters' assessments of patient pain and the patients' own rating of their pain were used for analyses. Difference scores in current pain level (CPL), Visual Analog Scale (VAS), Present Pain Index (PPI), Sensory Total, and Affective Total served as the dependent variables in separate 2 X 2 ANOVAs. Using a 2 X 2 ANOVA for each of the variables, I examined both main affects and interactions. Because five variables were used, the Bonferroni adjustment was made producing an alpha level of .01.

The first ANOVA compared the patient's rating of his or her own CPL to participant's rating of the patient's CPL. Male patients were rated significantly lower by the participants than were the female patients ($F = 36.61, P < 0.001$) and Hispanic patients were rated significantly lower than the Anglo patients ($F = 9.15, P < 0.005$). There was a trend, although not significant, toward an interaction with Anglo females being rated at higher pain levels than the Hispanic females ($F = 4.97, P < 0.05$) (see Table 2).

Table 2
2 X 2 Analysis of Variance of participants' current pain level ratings of patients' pain.

Source	<i>df</i>	<i>F</i>	<i>p</i>	η
Ethnicity	1	9.15*	.003	.107
Gender	1	36.61*	.000	.325
Ethnicity x Gender	1	4.97	.029	.061
Error	76	(1.97)		

Note. Values enclosed in parenthesis represent mean square errors

* $p < .01$

With regard to the VAS, the male patients were rated significantly lower than the female patients ($F = 33.19, P < 0.001$). Participants consistently underestimated the pain experience of the male patients while overestimating the pain experience of the females. There was no difference associated with patient ethnicity with respect to pain levels ($F = 2.17, P > 0.01$) (see Table 3).

Table 3
2 X 2 Analysis of Variance of participants' Visual Analog Scale ratings of patients' pain.

Source	<i>df</i>	<i>F</i>	<i>p</i>	η
Ethnicity	1	2.17	.145	.028
Gender	1	33.19*	.000	.304
Ethnicity x Gender	1	1.80	.184	.023
Error	76	(2.79)		

Note. Values enclosed in parenthesis represent mean square errors

* $p < .01$

The ANOVA examining the sensory total produced significant results. The Anglo patients were assessed and had significantly lower sensory scores than the Hispanic patients ($F = 10.83, P < 0.005$). Participants underestimated the sensory pain of the Anglos while overestimating the sensory pain of Hispanics. There were no significant differences regarding gender ($F = 0.84, P > 0.01$) (see Table 4).

Table 4
2 X 2 Analysis of Variance of participants' sensory total ratings of patients' pain.

Source	<i>df</i>	<i>F</i>	<i>p</i>	η
Ethnicity	1	10.83*	.002	.125
Gender	1	.84	.036	.011
Ethnicity x Gender	1	3.26	.075	.041
Error	76	(20.42)		

Note. Values enclosed in parenthesis represent mean square errors

* $p < .01$

The findings from the ANOVA examining the affective total showed that the Anglo patients were rated with significantly lower affective scores than the Hispanic patients ($F = 34.04$, $P < .001$). There was also a significant interaction with the Anglo female patients being rated much lower than the Hispanic females ($F = 15.13$, $P < 0.001$) (see Table 5).

Table 5
2 X 2 Analysis of Variance of participants' affective total ratings of patients' pain.

Source	<i>df</i>	<i>F</i>	<i>p</i>	η
Ethnicity	1	34.04*	.000	.309
Gender	1	.06	.809	.001
Ethnicity x Gender	1	15.13*	.000	.166
Error	76	(7.61)		

Note. Values enclosed in parenthesis represent mean square errors

* $p < .01$

With the PPI, there were no significant results. Although not significant, there was a trend toward the Anglo patients being rated lower than the Hispanic patients ($F = 4.44, P < 0.05$) (see Table 6).

Table 6
2 X 2 Analysis of Variance of participants' Present Pain Intensity ratings of patients' pain.

Source	<i>df</i>	<i>F</i>	<i>p</i>	η
Ethnicity	1	4.44	.038	.055
Gender	1	.82	.369	.011
Ethnicity x Gender	1	.00	1.000	.000
Error	76	(.55)		

Note. Values enclosed in parenthesis represent mean square errors

* $p < .01$

CHAPTER IV

DISCUSSION

This study examined the ways in which gender and ethnicity affect pain assessment. Given the findings of previous researchers, I hypothesized that the patients' gender and ethnicity would affect raters' assessment of patients' pain experiences (Calvillo & Flaskerud, 1993; Ng et al., 1996; Robinson & Wise, 2003). Specifically, I hypothesized that males and Anglos would be rated lower than females and Hispanics. Altogether, the results confirmed this hypothesis revealing that gender and ethnicity do affect pain assessment.

I first examined the differences in pain rating according to the gender of the rated patient. Analyses revealed that male patients' pain was rated lower by observers than the patient's own rating. The difference between observer rating and patient self-rating was significantly larger for male patients than for female patients. However, analyses of the sensory total scores and the present pain intensity (PPI) revealed no significant differences between genders.

There are several reasons why male patients' pain might have been rated lower than the female patients' pain. Societal and cultural beliefs about how males and females deal with pain can affect the way pain is assessed. Nayak et al. (2000) found that both males and females believe it is more appropriated for females to express pain overtly than

it is for males to express their pain overtly. It is possible that these or similar societal beliefs about pain expression led raters to underestimate the pain intensity of the male patients. In another study examining pain beliefs and gender, Robinson et al. (2001) found that both men and women expect men to be less willing to report pain than women. They also found that both men and women expect men to be less sensitive to pain and to have higher pain endurance.

It is also possible that these social values worked in the other direction. Perhaps because people are less accepting of males expressing their pain, the male patients in the videos did *not* express their pain as overtly as the women did. The male patients might have been in more pain than they would show because they were so used to controlling the expression of their pain. Thus, when the male patients were being rated on their pain level, the rater assessed them lower than females. Some support for this explanation can be found in Wise, Price, Myers, Heft & Robinson's (2002) study of the pain reports of individuals by using the Gender Role Expectations of Pain (GREP) questionnaire. They found that males were less willing to report pain than females.

In a study that demonstrates the complex interaction between the effect of pain perception on men's and women's expression of pain and the affect of these same beliefs on observer ratings of pain. Robinson & Wise (2003) studied gender bias and pain ratings using video clips of subjects participating in a cold pressor task. They found that observers rated the males in the videos as experiencing less pain than the females. Consistent with my results, this finding suggests that societal stereotypes about what constitutes "proper" pain experience and expression affect observers' ratings of pain.

When examined together, gender and ethnicity produced significant interaction effects with Anglo females having significantly larger difference scores than Hispanic females. However, when examining ethnicity alone, my findings lacked consistency. For both the sensory and affective total scores raters estimated that the Anglo patients experienced significantly less pain than did the Hispanic patients. Although not significant, the analysis for the PPI also showed a trend toward Anglo patients being rated lower. In contrast, the analysis for the CPL found that Hispanic patients were rated with a significantly larger difference than the Anglo patients with Hispanics having lower scores than Anglos. Finally, the results of the VAS scores revealed no significant differences between ethnicities.

Previous studies have found that ethnicity plays a part in pain assessment and management. Ng and colleagues (1996) studied patient-controlled analgesia in Asians, Blacks, Hispanics and Whites. Interestingly, they found no differences in how much narcotic was self-administered, but there were differences in how much narcotic was prescribed by the physician. Specifically, they found that Whites were prescribed larger doses of analgesia than Hispanics.

In a study addressing pain assessment in Hispanic and Anglo women, Calvillo & Flaskerud (1993) found no significant differences between Hispanics and Anglos on any of the self-reported measures of pain. When the nurses assessed the pain of the women, however, Anglos were rated as experiencing more pain than the Hispanics.

Certain limitations in the present study limit the generalizability of my findings. First, I used university students who do not necessarily represent the population as a whole. Second, even though I had a sample of 80 participants, the cell sizes were small

with only five participants from each group (Anglo male, Anglo female, Hispanic male, Hispanic female) watching one video. Increasing the number of participants could give a more precise picture of the relationships among gender, ethnicity and pain. Third, it would have been beneficial to have more videos representing each group (Anglo male, Anglo female, Hispanic male, Hispanic female).

Further research should be done to better clarify the relationships among gender, ethnicity and pain. Future research could include more participants, using multiple videos with more patients from each group and using people other than university students (e.g. nurses/physicians) as participants. Future studies could also look at the influences that stereotypes might have on pain estimation. For example, researchers could discretely obtain information about a person's stereotypes dealing with gender and/or ethnicity and then have them rate other people's pain.

Pain and pain estimation is a complicated issue with many variables coming into play. It is extremely subjective in nature and very difficult to measure. Despite the difficulties, it is necessary to continue studying it because it affects many people on a daily basis. It is important to learn as much information as possible to help those people who must deal with pain.

APPENDIX A

Patient Consent Form

PERMIT FOR INTERVIEW/PHOTOGRAPH/VIDEOTAPING

This is to certify that I, _____, do hereby consent to an (interview/photograph/videotape) by Jason Boothe for the purpose of education/research. Christus Santa Rosa Outpatient Center is only providing the space used for filming. Therefore, this consent is expressly intended to release from liability all personnel of Christus Santa Rosa Outpatient Rehabilitation Center and Santa Rosa Healthcare Corporation.

Patient

Date

Witness

Date

APPENDIX B

Participant Consent Form

Student I. D. Number _____

AN AGREEMENT TO BE IN A RESEARCH STUDY at SOUTHWEST TEXAS STATE UNIVERSITY

STUDY NUMBER/TITLE: Gender, Ethnicity, and Observer Ratings of Pain

INTRODUCTION:

You are being asked to volunteer for a psychological research study. Before you decide to volunteer, you should read this form. This form, called a consent form, explains the study. Please ask as many questions as needed so that you can decide whether you want to be in the study.

We anticipate that a minimum of 80 participants from Southwest Texas State University will take part in this study.

PURPOSE OF STUDY

We want to examine estimations given by participants after viewing videotapes of chronic pain patients.

WHAT WILL HAPPEN DURING THE STUDY

Participants will be asked to view a series of videotapes and then will be asked a number of questions pertaining to the videos.

WHAT WILL HAPPEN DURING FOLLOW-UP

There will be no follow-up for the study participants.

LENGTH OF STUDY

The interview process will take approximately 30 minutes/participant.

SIDE EFFECTS AND OTHER RISKS

None

POSSIBLE BENEFITS OF THE STUDY

There will be no direct benefits to the participants of this study, unless the student has arranged for extra-credit for participation in this study.

OTHER TREATMENTS

Not Applicable

IN CASE OF AN INJURY RELATED TO THIS RESEARCH STUDY

In the event that you feel a need to speak with someone as a result of your participation in this study, you will be referred to the Counseling Center at Southwest Texas State University.

PAYMENT FOR PARTICIPATION

We cannot pay you to take part in this study. You will be responsible for all costs caused by this study.

COSTS OF THE STUDY

There will be no costs associated with the interview process for the participant(s). You have the right to ask what it will cost you to take part in this study.

WHOM TO CONTACT

You may contact the principal investigator for answers to questions about this research study, to report related injury or for information about the study procedures at the following e-mail address:

Mr. Dale Ryder & Ms. Lori Vanderpool, Principal Investigators
krypton@att.net loribeth13@hotmail.com

This consent form and study have been approved by Southwest Texas State University Institutional Review Board (SWT IRB). SWT IRB is a group of scientific and non-scientific people who watch over research involving humans. Questions about your rights

as a study volunteer may be addressed to the principal investigator or the SWT Office of Research and Sponsored Programs at: 512-245-2314.

LEAVING THE STUDY

Your decision to be in this study is up to you. You have the right to stop the study and withdraw at any time. The principal investigator will tell you about any important new findings which develop during the course of this research which may affect your willingness to continue or take part. If you do not want to be in the study, or if you leave this study, it will not affect your participation in future studies.

If you wish to leave this study, please tell the principal investigator.

Upon completion of this study, you may be given the option of participating in additional research studies that may be appropriate for you, if such studies exist.

In order to ensure the safety of the participants the following retain the authority to terminate the study should information be found that indicates that this would be in the interest of the participants:

- the principal investigator
- the Southwest Texas State University IRB

If you do not follow the study procedures you may be taken out of the study.

NEW FINDINGS

Significant new findings may develop during the course of this study that could affect your decision to continue in the study. If these new findings should occur, we will provide you with this information in the form of a revised informed consent or addendum to the informed consent. At this time you will be given the opportunity to decide whether you would still wish to continue this study.

RELEASE OF RECORDS AND PRIVACY

We will keep everything we learn in the study confidential and disclose it only with your permission. If we publish the results of the study in a scientific journal or book, you will not be identified in any way. A record of your progress on the study will be kept in a confidential file at Southwest Texas State University. The study results may be made available to:

- the Southwest Texas State University Institutional Review board
- the Principal investigator

AGREEMENT TO BE IN THE STUDY

This consent form contains information to help you decide if you want to be in the study. If you have questions that are not answered in this consent form, please ask one of the investigators. Please ask yourself the following questions. If you cannot answer 'yes' to each question then speak to the investigators.

- a. Have you understood the consent form?
- b. Have you had an opportunity to ask questions and discuss this study?
- c. Have you received satisfactory answers to all your questions?
- d. Have you received enough information about the study in order to make a decision?
- e. Do you understand that you are free to leave the study at any time without having to give a reason?

By signing this form you agree that:

- You have had a chance to ask questions.
- You volunteer to be in the study.

BY AGREEING TO THIS CONSENT YOU HAVE NOT SIGNED AWAY ANY OF YOUR RIGHTS.

If you wish to have a copy of this form, we will give you a copy to keep for your records.

Signature of Volunteer/Participant

Date

Print Name Here

Signature of Person Explaining Consent

Signature of Investigator

Signature of Witness

Detach the bottom portion of this sheet and take it with you to your computer. This is your "Student I. D. Number" that you will be asked to enter.

Student I. D. Number _____

APPENDIX C

PAIRS

PAIN AND IMPAIRMENT RELATIONSHIP SCALE (PAIRS)

Name: _____ Date: ____/____/____

The following questionnaire includes a number of statements that reflect thoughts, beliefs, and opinions which you may have as a consequence of your pain.

We would appreciate your studying these and determining, for each statement, whether it is one which you agree, disagree, or simply feel neutral. Your responses will enable us to more fully understand your pain condition. Please respond by placing a checkmark over the point on the line below each statement corresponding to the extent to which you agree or disagree. Do not place a checkmark between the points.

- 1) I can still be expected to fulfill my work and family responsibilities despite my pain.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 2) An increase in pain is an indication that I should stop what I'm doing until the pain decreases.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 3) I can't go about my normal life activities when I am in pain.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 4) If my pain would go away, I could be every bit as active as I used to be.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 5) I should have the same benefits as the handicapped because of my chronic pain problem.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 6) I owe it to myself and those around me to perform my usual activities even when my pain is bad.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 7) Most people expect too much of me, given my chronic pain.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 8) I have to be careful not to do anything that might make my pain worse.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 9) As long as I am in pain, I'll never be able to live as well as I did before.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 10) When pain gets worse, I find it very hard to concentrate on anything else.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 11) I have come to accept that I am a disabled person, due to my chronic pain.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 12) There is no way that I can return to doing things I used to do unless I first find a cure for my pain.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

13) I find myself frequently thinking about my pain and what it has done to my life.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

14) Even though my pain is always there, I often don't notice it at all when I 'm keeping myself busy.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

15) All of my problems would be solved if my pain would go away.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

APPENDIX D

**PAIN AND IMPAIRMENT RELATIONSHIP SCALE (PAIRS)
(Modified Version)**

Name: _____ *Date:* ____/____/____

The following questionnaire includes a number of statements that reflect thoughts, beliefs, and opinions which you may have as a consequence of your pain.

I would appreciate your listening to these and determining, for each statement, whether it is one which you agree, disagree, or simply feel neutral. Your responses will enable us to more fully understand your pain condition. I will read you a statement and then after each statement, ask you whether you completely disagree, disagree, disagree somewhat, are neutral, agree somewhat, agree, or completely agree with the statement. Please respond by indicating the extent to which you agree or disagree.

- 1) I can still be expected to fulfill my work and family responsibilities despite my pain.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 2) An increase in pain is an indication that I should stop what I'm doing until the pain decreases.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 3) I can't go about my normal life activities when I am in pain.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

- 4) If my pain would go away, I could be every bit as active as I used to be.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

5) I should have the same benefits as the handicapped because of my chronic pain problem.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

6) I owe it to myself and those around me to perform my usual activities even when my pain is bad.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

7) Most people expect too much of me, given my chronic pain.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

8) I have to be careful not to do anything that might make my pain worse.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

9) As long as I am in pain, I'll never be able to live as well as I did before.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

10) When pain gets worse, I find it very hard to concentrate on anything else.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

11) I have come to accept that I am a disabled person, due to my chronic pain.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

12) There is no way that I can return to doing things I used to do unless I first find a cure for my pain.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

13) I find myself frequently thinking about my pain and what it has done to my life.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

14) Even though my pain is always there, I often don't notice it at all when I 'm keeping myself busy.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

15) All of my problems would be solved if my pain would go away.

Completely disagree	Disagree	Disagree somewhat	Neutral	Agree somewhat	Agree	Completely agree
---------------------	----------	-------------------	---------	----------------	-------	------------------

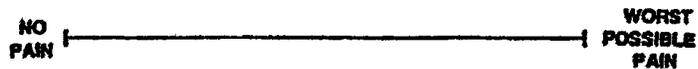
APPENDIX E

SF-MPQ

SHORT-FORM MCGILL PAIN QUESTIONNAIRE
RONALD MELZACK

PATIENT'S NAME: _____ DATE: _____

	NONE	MILD	MODERATE	SEVERE
THROBBING	0) _____	1) _____	2) _____	3) _____
SHOOTING	0) _____	1) _____	2) _____	3) _____
STABBING	0) _____	1) _____	2) _____	3) _____
SHARP	0) _____	1) _____	2) _____	3) _____
CRAMPING	0) _____	1) _____	2) _____	3) _____
GNAWING	0) _____	1) _____	2) _____	3) _____
HOT-BURNING	0) _____	1) _____	2) _____	3) _____
ACHING	0) _____	1) _____	2) _____	3) _____
HEAVY	0) _____	1) _____	2) _____	3) _____
TENDER	0) _____	1) _____	2) _____	3) _____
SPLITTING	0) _____	1) _____	2) _____	3) _____
TIRING-EXHAUSTING	0) _____	1) _____	2) _____	3) _____
SICKENING	0) _____	1) _____	2) _____	3) _____
FEARFUL	0) _____	1) _____	2) _____	3) _____
PUNISHING-CRUEL	0) _____	1) _____	2) _____	3) _____



PPI

- 0 NO PAIN _____
- 1 MILD _____
- 2 DISCOMFORTING _____
- 3 DISTRESSING _____
- 4 HORRIBLE _____
- 5 EXCRUCIATING _____

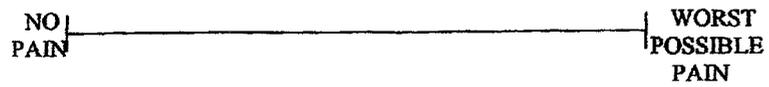
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APPENDIX F

VAS

Student I.D. Number _____ Computer Number _____

Please indicate (using a vertical line) at which point on the line you would rate this patient's pain level.



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