SPOUSE BELIEFS, CRITICISM AND SUPPORT: THEIR ASSOCIATION WITH BELIEFS, COPING STRATEGIES, AND ADJUSTMENT AMONG PERSISTENT PAIN SUFFERERS

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BY

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A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree of

MASTER OF ARTS

in Clinical Psychology

Department of Psychology
University of Manitoba
Winnipeg, Manitoba

ISBN 0-612-13378-8

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SPOUSE BELIEFS, CRITICISM AND SUPPORT: THEIR ASSOCIATION WITH BELIEFS, COPING STRATEGIES, AND ADJUSTMENT AMONG PERSISTENT PAIN SUFFERERS

BY

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A Thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

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ACKNOWLEDGEMENTS

I want to express my appreciation to a number of people that have contributed in making this project an enjoyable and rewarding experience. Thank you to Dr. Michael Thomas, my research advisor, and to the other members of my committee, Professor Ranjan Roy, and Dr. Mike Lebow, for their support and encouragement. I would like to thank Andrew Cook and Brad Issac for their helpful comments and for allowing me to learn from their experiences. Thank you to my parents, Earl and Claudette, for their tremendous support and for always believing in me.

Above all, I would like to thank my dear wife, Debbie, for being my constant source of joy and delight, for being willing to do so much while I was so busy, and for being able to remember our goals and dreams that made making sacrifices easier.

ABSTRACT

The operant conditioning model of pain behaviour and the cognitive-behavioral perspective of pain were evaluated in this study. This was accomplished by examining the relationships between beliefs, criticism and support of spouses and their persistent pain partner's beliefs, coping strategies, and adjustment. In addition, level of marital satisfaction was investigated. Two hundred middle aged, marital couples participated in this study. The pain subjects and spouses each completed a questionnaire package that included demographic and pain related questions, the West Haven-Yale Multidimensional Pain Inventory, the Survey of Pain Attitudes, the Coping Strategies Questionnaire, the Beck Depression Inventory, and the Marital Adjustment Test.

Results indicated that this study's sample differs greatly from chronic pain samples reported in the literature. Pain severity, pain interference, and negative mood were found in the non-clinical range. Spousal support and criticism were both found to be positively associated with the pain subject's reported level of pain interference. Spousal pain-specific beliefs were significantly associated with their pain partner's beliefs. The pain subject's disability belief was found to be positively associated with their reported levels of pain severity, pain interference, negative mood, and depressive symptoms. The pain sufferer's usage of coping strategies was found to be an unimportant factor in this study. Marital satisfaction was found to be positively associated with spousal support and negatively associated with spousal criticism. Couples who reported low marital satisfaction included a pain sufferer who reported higher pain severity, interference, and negative mood. Other results revealed many

other significant relationships between the spouse's belief, criticism and support and the pain subject's beliefs and adjustment.

For this sample, the cognitive-behavioral perspective of pain was found to be a more relevant model compared to the operant conditioning model of pain behaviour. The significance of these findings and the implications for further research are discussed.

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INTRODUCTION

People who have persistent pain appear to report wide variability in their physical and psychological adjustment. Some people who have persistent pain seem to function and lead normal lives. These people seem to have adequate social supports, behavioral strategies, cognitive appraisals, and/or emotional stability to deal effectively with their pain. Others seem completely overwhelmed by their pain resulting in their pain becoming the primary focus of their lives. These people usually believe their pain will be permanently disabling and they may use maladaptive coping strategies to deal with their pain. Researchers are attempting to identify important variables that relate to these different outcomes in reaction to pain.

Pain has been conceptualized as a complex multidimensional phenomenon with bio-physiological, psychological and social components. Hence, it is becoming standard for pain patients who seek treatment to undergo a comprehensive assessment that evaluates not only the patient's medical findings, but also, the patient's coping strategies, psychological adjustment, and activity level (William & Keefe, 1991). Also, pain-specific beliefs have been recognized as adding to the understanding of the pain experience. These beliefs have been shown to be associated with the pain patient's choice of coping strategies and level of adjustment (Jensen & Karoly, 1991). In addition, the social context in which the pain patient dwells is viewed as an important variable. For instance, Burman and Margolin (1992) conducted an extensive review evaluating the relationship between the marital relationship and health problems. From this review, they concluded that sufficient evidence is available to

strongly support the hypothesis that the patient's social context is a significant contributor to the patient's health or illness.

The purpose of this study was to investigate the relationships between the spouse's pain-specific beliefs, supportive and critical responses and the pain subject's pain-specific beliefs, coping strategies, and adjustment. First, this paper will review some of the literature related to pain and the marital relationship. Then a brief summary of research on pain-specific beliefs and coping strategies will be outlined. It will be hypothesized that the spouse's pain-specific beliefs, supportive and critical responses are important when attempting to understand the pain subject's pain-specific beliefs, coping strategies and adjustment. Also, marital satisfaction will be hypothesized as a significant variable to be considered in some of the above relationships.

Marital Relationship

Some spouses and their pain partners reported added strain in their relationship due to the pain (Shanfield, Heiman, Cope, & Jones, 1979). For instance, couples tend to report more marital and sexual problems (Mohamed, Weisz, & Waring, 1978). Roy and Thomas (1989) found that chronic pain patients and their spouses both reported impairment of family functioning as compared to normal controls. Also, Ahern, Adams, and Folick (1985) evaluated low back pain patients and their spouses on emotional status, marital satisfaction, and functional impairment. They found that the spouses who were emotionally distressed also had chronic pain partners who were emotionally distressed and rated higher levels of functional impairment. In addition,

Kerns and Turk (1984) found that the spouses reported level of marital satisfaction and supportiveness was negatively related to depression in chronic pain partners. Finally, Mohamed et al. (1978) found that depressed chronic pain patients reported greater distress in their marital relationship as compared to depressed only patients.

Thus, for some couples, the presence of pain adds strain to the marriage relationship. Therefore, when one spouse experiences persistent pain, it seems likely that the couple will be vulnerable to marital difficulties. If marital distress is present, it may be reported by either the pain sufferer, the spouse, or both. Marital distress may be also related to family functioning, the couple's sexual relationship, and/or the couple's individual coping and psychological adjustment (Schwart, Slater, Birchler, & Atkinson, 1991). With two people interacting closely together, there is a strong likelihood that their negative behaviours and thoughts influence one another (Baucom & Epstein, 1990).

In contrast in the literature, Saarijarvi, Hyyppa, Lehtinen, and Alanen (1990) found that chronic pain patients and their spouses reported a high level of marital satisfaction as compared to a control group. Also, some researchers have suggested that pain can provide a stabilizing role in the family system (Jamison & Virtis, 1990). Rowat and Knafl (1985) found that over 50% of their sample of spouses of chronic pain subjects reported little or no distress regarding life and family due to their spouse's pain. In addition, these spouses held a positive outlook regarding their relationship, for example, saying that the pain had "brought [the couple] closer together". (p. 266) So, not all spouses and pain sufferers experience distress because

of the pain. Some spouses would seem to have the appropriate social supports, cognitive appraisals, and/or emotional stability to deal with the additional strain due to their spouse's pain (Subramanian, 1991). Furthermore, Payne and Norfleet (1986) reported that chronic pain sufferers reported adaptive adjustment to their pain when they had a supportive family environment and an emotionally stable spouse. Thus, this reported discrepancy in the literature may be due to variations in the spouse's beliefs and level of supportiveness towards the chronic pain subject. Additional research is needed to investigate if the marital relationship contributes to our understanding of the persistent pain sufferers beliefs, coping strategies, and level of adjustment.

The Spouse's Behavior

The cognitive-behavioral perspective of pain suggests that the emotions, cognitions, and behaviour all play a role in the pain experience. For instance, this model of pain suggests that negative cognitions and the decline of activity are important variables when looking at the level of adjustment of pain sufferers (Goldberg, Kerns, & Rosenberg, 1993). In addition, the emotions, cognitions, and behaviour of the spouse may also add significantly to the understanding of pain (Baucom & Epstein, 1990). For example, Flor, Kerns, and Turk (1987b) found that spouses who were more supportive towards their pain spouses had pain spouses who reported lower activity levels. In comparison, they found that spouses who were more critical towards their pain spouses had spouses that reported higher activity levels. However, they commented that it was unclear whether the spouse's behaviour

determined the activity level, the activity level caused the spouse's behaviour or an extraneous variable influenced each of them. Nevertheless, it could be that the supportive or critical behaviours of the spouse reinforced or punished their partner's pain behaviours, respectively.

Gil, Keefe, Crisson, and Van Dalfsen (1987) examined the role that support from significant others played with regard to the perceived adjustment of the chronic pain patient. They found that patients who reported satisfaction with their support from others also reported higher levels of pain behaviour. In addition, Block, Kremer, and Gaylor (1980) found that patients that perceived their spouse as supportive were more likely to rate their pain higher when observed by their spouse that when observed by neutral observers. Flor, Kerns, and Turk (1987a) found that patients reported greater pain intensity and decreased activity levels when the patients perceived their spouse as supportive. Thus, these results suggested that supportive spousal responses towards their pain spouse can act to reinforce their spouse's pain behaviours, thus supporting Fordyce's (1976) operant conditioning model of pain behaviour.

However, Lousberg, Schmidt, and Groenman (1992) reported that the spouse's perception of being supportive towards the patient, but not the patient's perception of having a supportive spouse, was associated with greater pain and less activity reported by the patient. These results are difficult to interpret. It may be that the patients' perception were influenced by their level of pain or disability thus making their spouse's perception closer to reality. That is, the spousal reports would be more germane because the patients may have reported having a less supportive spouse

because of their level of discomfort. However, this finding does create confusion when trying to understand it in relation to the operant conditioning model of pain behaviour. If the patients did not perceive their spouse as being supportive, it is questionable whether the pain patient's behaviours were being reinforced. Thus, it seems important to examine both the spouse and the pain subject's perception of specific variables to further our understanding into these apparent discrepancies.

In contrast to the operant conditioning model of pain behaviour, Manne and Zautra (1989) found that spousal criticism was related to their partner's use of maladaptive coping strategies and poor psychological adjustment to pain (Manne & Zautra, 1990). In addition, they found that spousal support was related to their partner's usage of adaptive coping strategies and good psychological adjustment to pain. Goldberg et al. (1993) examined the relationship between spousal supportiveness of chronic pain patients and the level of activity and depression of the patient. They found that patients with highly supportive spouses reported less depression than patients with non-supportive spouses but this relationship was a function of the level of activity reported by the patient. That is, patients who reported low activity were greatly impacted by the level of spousal supportiveness where as patients who reported high activity levels were less influenced by spousal support. Thus, the literature is unclear as to whether a supporting spouse is an uniformly helpful or unhelpful response towards the pain subject.

Overall, the literature seems to support Fordyce's (1976) operant conditioning model of pain but a few studies have reported the opposite relationship between

spousal behaviours and adjustment of the pain subject. This discrepancy becomes clearer in light of Flor, Turk, and Rudy's (1989) study. They investigated the operant conditioning model of pain with married couples. Their results indicated that there was a positive relationship between pain impact (i.e., where higher scores were related to greater pain severity and pain interference) and spousal support for male patients but was only found in female patients when they perceived the marriage as satisfactory. The relationship did not hold when evaluating all the female patients or when the marital relationship was perceived as not satisfactory by the patient. Thus, the patient's level of marital satisfaction and gender played a significant role in the relationship between pain impact and spousal support. So, it seems possible that in the studies supporting operant conditioning reviewed above, the marital relationships were satisfactory thus resulting in these consistent findings. However, no data on marital relationships were obtained so this conclusion is speculative. Possibly other variables as well may have influenced this relationship.

Spouse's Pain-Specific Beliefs

An important question that needs to be addressed is: are the spouse's pain-specific beliefs important in our understanding of the pain sufferer's beliefs, coping strategies, and level of adjustment? From a cognitive-behavioral perspective of pain, it is suggested that the cognitions of the spouse influence his or her spouse's cognitions and behaviour (Baucom & Epstein, 1990). One of the few studies that assessed cognitive and emotional factors of the spouse was Block and Boyer (1984). They found that spouse's positive cognitive appraisals of their spouse's pain was related to

their spouse's emotional adjustment and marital satisfaction. In addition, spouse's beliefs about pain may also be related to the pain sufferer's beliefs about the pain, usage of coping strategies and adjustment (Goldberg et al., 1993). Thus, it seems that the spousal relationship may play a key role in the pain sufferers adaptation to pain (Manne & Zautra, 1989).

Pain-specific beliefs of the spouses have received minimal attention. In one study assessing the spouses, Rowat and Knafl (1985) conducted a detailed investigation of spousal responses and cognitions related to their spouse's pain. Spousal behaviours, attitudes, beliefs, perceptions, knowledge, coping strategies, expectations, and history were assessed with the usage of open-ended questions in a semi-structured interview. They found that 60% of the spouses reported beliefs that their spouse's pain was permanent and unchangeable. Seventy-seven percent of the spouses reported that they were experiencing some form of emotional or social disturbance due to their partner's pain. Forty percent of the spouses reported having beliefs that there was nothing they could do to change their partner's pain experience. Questions examining if these spouses' pain-specific beliefs related to their partner's level of adjustment to the pain remain unanswered. Unfortunately, no correlations were conducted between spousal beliefs and their pain spouse's adjustment. Examining this relationship may have revealed important beliefs that related to their partner's level of adjustment.

Pain-Specific Beliefs and Adjustment

In the last 10 years, researchers have shown a growing interest in the study of pain-specific beliefs and pain coping strategies of pain subjects and how these

variables relate to their level of adjustment (Keefe & Williams, 1990). Beliefs about pain can be defined as one's understanding of the pain in relation to himself or herself. Some examples of pain subjects' beliefs could be their appraisal of: (a) their control over their pain, (b) the degree that they think they are disabled, (c) their expectancies with regards to medication, family, and doctors, and (d) their perception of importance of psychological well-being. Such beliefs may hinder or facilitate a pain subject's ability to adapt to his or her pain. For example, Williams and Thorn (1989) examined the relationship between chronic pain patients beliefs and their reports of adjustment. They observed that the chronic pain patients who reported having the belief that their pain will be enduring also reported greater pain intensity.

In addition, Affleck, Tennen, Pfeiffer, and Fifield (1987) assessed beliefs, mood, and adjustment of rheumatoid arthritis patients. They found that patients who reported greater personal control over their medical care and treatment also reported positive mood and psychosocial adjustment. Also, Shutty, DeGood, and Tuttle (1990) found that middle aged, chronic pain patients who had beliefs related to the potential helpfulness of their treatment, upon finishing their treatment, reported less pain intensity, increased physical activity, and higher treatment satisfaction than patients who did not hold the belief that the treatment would be helpful. Furthermore, Riley, Ahern, and Follick (1988) observed that patients who believed that their pain was severely disabling reported greater physical and psychological dysfunction than patients who did not hold this belief regardless of their reported pain severity. Keefe and Williams (1990) observed that patient's beliefs related to their control over their

pain was negatively associated with depression, but not a general measure of psychological distress.

Furthermore, Jensen and Karoly (1992) reported that patients who believed that their pain was disabling reported lower levels of activity and psychological well-being. Also, they found that patients who believed that family members should always be supportive of them due to their pain reported greater levels of psychological distress than those that did not have this belief. Williams and Thorn (1989) found that the beliefs that chronic pain patients held related to pain had an impact on their pain reports, psychological functioning, and treatment compliance. In addition, Jensen, Turner, and Romano (1992) found that patients who believed that they had control over their pain also reported greater psychosocial functioning and less depression than those patients who did not hold this belief. Lastly, Elliott, Trief, and Stein (1986) found that married chronic pain patients who reported having the belief of being in control of important circumstances in their lives also reported less marital stress, more use of negotiation, less selective ignoring, and less depression than those patients who did not hold this belief. Thus, there is strong evidence that patients' pain-specific beliefs are associated with their level of adjustment (Affleck et al., 1987).

Pain-Specific Beliefs and Coping

Beliefs about their pain has been suggested to be associated with the selection of coping strategies used by chronic pain patients (Jensen & Karoly, 1991). For example, Jensen and Karoly (1991) reported that certain pain-specific beliefs were related to coping strategies. Moreover, Jensen and Karoly (1992) found that patients who had

beliefs regarding their ability to control their pain were more apt to use active rather than passive coping strategies. However, they found that patients who had beliefs related to the disabling features of their pain reported usage of more passive than active coping strategies. Also, Strong, Ashton, and Chant (1992) found that having beliefs regarding the ability to control pain were related to the usage of pain coping strategies that involved ignoring the pain. They also found that having beliefs that the pain is disabling and that the family should always act supportively were associated with the use of a maladaptive coping strategy. It is unclear as to whether these pain-specific beliefs indirectly related to adjustment by way of coping strategies or if beliefs directly related to adjustment independent of which coping strategies were used (Strong et al., 1992).

Williams and Keefe (1991) reported that patients who held beliefs that their pain was enduring and mysterious were less likely to use adaptive coping strategies and more likely to catastrophize over their pain experience than patients who did not hold these beliefs. Also, Elliott et al. (1986) found that married chronic pain patients who reported having the belief of being in control of important circumstances in their lives also reported using more adaptive coping strategies to deal with stress. It is unclear from this study whether pain-specific beliefs or coping strategies are more important when examining adjustment (Lazarus & Folkman, 1984).

Regardless, it seems clear that certain pain-specific beliefs are associated with certain pain coping strategies. Certainly, cognitive appraisals are important factors in the selection of coping strategies but research is still needed to understand the pain

sufferer's social context which may be related to his or her cognitions about pain (Zautra & Manne, 1992).

Coping Strategies and Adjustment

Keefe and his colleagues found that the usage of different coping strategies had different outcomes for psychological and physical adjustment. Rosenstiel and Keefe (1983) reported that high scores on a maladaptive coping strategy were related to high anxiety and depression. Also, they found that patients who used adaptive coping strategies reported greater activity level than those that did not use these strategies. Moreover, Turner and Clancy (1986) reported that high scores on a maladaptive coping strategy was related to higher scores of disability and psychosocial impairment. Jensen and Karoly (1991) found that chronic pain sufferers who used coping strategies that included either ignoring the pain, the use of positive self statements or the use of activities as a distraction reported less psychological distress than those that did not use these coping strategies. Also, Weickgenant, Slater, Patterson, Atkinson, Grant, and Garfin (1993) reported that depressed chronic low back pain patients reported greater use of maladaptive coping strategies than non-depressed patients. In addition, Jensen et al. (1992) found that catastrophizing and reinterpreting pain sensations coping strategies were related to psychosocial distress and depression. Also, they found that the usage of the pray and hoping coping strategy was related to poor physical functioning. Unfortunately, operational definitions of adaptive and maladaptive coping strategies are not consistent across the literature. Although coping strategies seem to play a role in the pain subject's reported level of adjustment, specific comparisons

between coping strategies are still needed.

In order to address some of the limitations of the literature previously reviewed, this study focused on middle aged, persistent pain sufferers, their spouses, and their perceptions and beliefs about pain. Much of the reviewed literature dealt with chronic pain patients as the research is sparse relating to persistent pain samples. Van Korff, Dworkin, and Le Resche (1990) conducted an epidemiological study in which they found 12% of their sample experienced chronic pain. A further 45% reported experiencing recurrent or persistent pain. Given the high prevalence, more research is needed to further understand persistent pain, as well as chronic pain.

Crook, Tunks, Rideout, and Browne (1986) investigated chronic pain patients from a Canadian specialty pain clinic and persistent pain subjects from community sample. They found that the chronic pain patients reported greater pain intensity and disability than the persistent pain subjects. Also, the persistent pain subjects reported less impairment of physical functioning and less psychosocial difficulties as compared to the pain patients. Notably, with a persistent sample, a smaller effect size was expected primarily caused by lower reported pain intensity. However, a persistent pain sample was still important to investigate for a number of reasons: (a) meaningful comparisons were made between persistent pain and chronic pain; (b) the persistent pain sample revealed adaptive and maladaptive pain-specific beliefs and coping strategies that may be useful knowledge for chronic pain patients; and (c) relationships were found in this persistent pain sample that had probably been missed in a chronic pain sample because of strong contaminating variables, such as, pain intensity,

depression, and level of disability.

This Study's Objectives

The thrust of this study was to evaluate the relationships between spouses' pain-specific beliefs, supportive and critical responses with their pain partner's pain-specific beliefs, coping strategies, and level of adjustment. This study also investigated if the spouse's pain-specific beliefs were related to their level of supportiveness or criticalness. In addition, the pain subjects' beliefs and coping strategies were examined in relation to their reported level of adjustment.

Hypotheses

The following hypotheses were investigated: (a) That the spouse's pain-specific beliefs are associated with the pain subject's pain-specific beliefs (Hypothesis 1); (b) That the spouse's pain-specific beliefs are associated with the pain subject's reported usage of cognitive coping strategies (Hypothesis 2); (c) That the spouse's pain-specific beliefs are associated with the pain subject's level of adjustment (Hypothesis 3); (d) That the spouse's pain-specific beliefs are associated with his or her responses towards the pain subject as reported by the pain subject and the spouse (Hypothesis 4); (e) That the spouse's and pain subject's reported response of the spouse are associated with the pain subject's level of adjustment when level of marital satisfaction is statistically controlled (Hypothesis 5); (f) That the spousal responses as reported by the pain subject and spouse are associated with the pain subject's usage of cognitive coping strategies (Hypothesis 6); (g) That the spousal responses as reported by the pain subject and spouse are associated to the pain subject's pain-specific beliefs

(Hypothesis 7); (h) That the pain subject's pain-specific beliefs are associated with the usage of cognitive coping strategies (Hypothesis 8); (i) That the pain subject's pain-specific beliefs are associated with level of adjustment (Hypothesis 9); (n) That the pain subject's usage of cognitive coping strategies are associated with level of adjustment (Hypothesis 10). Figure 1 shows the first four hypothesized relationships the were evaluated in this study. Figure 2 shows the fifth through to seventh hypothesized relationships the were evaluated in this study. Figure 3 shows the eighth through to tenth hypothesized relationships the were evaluated in this study.

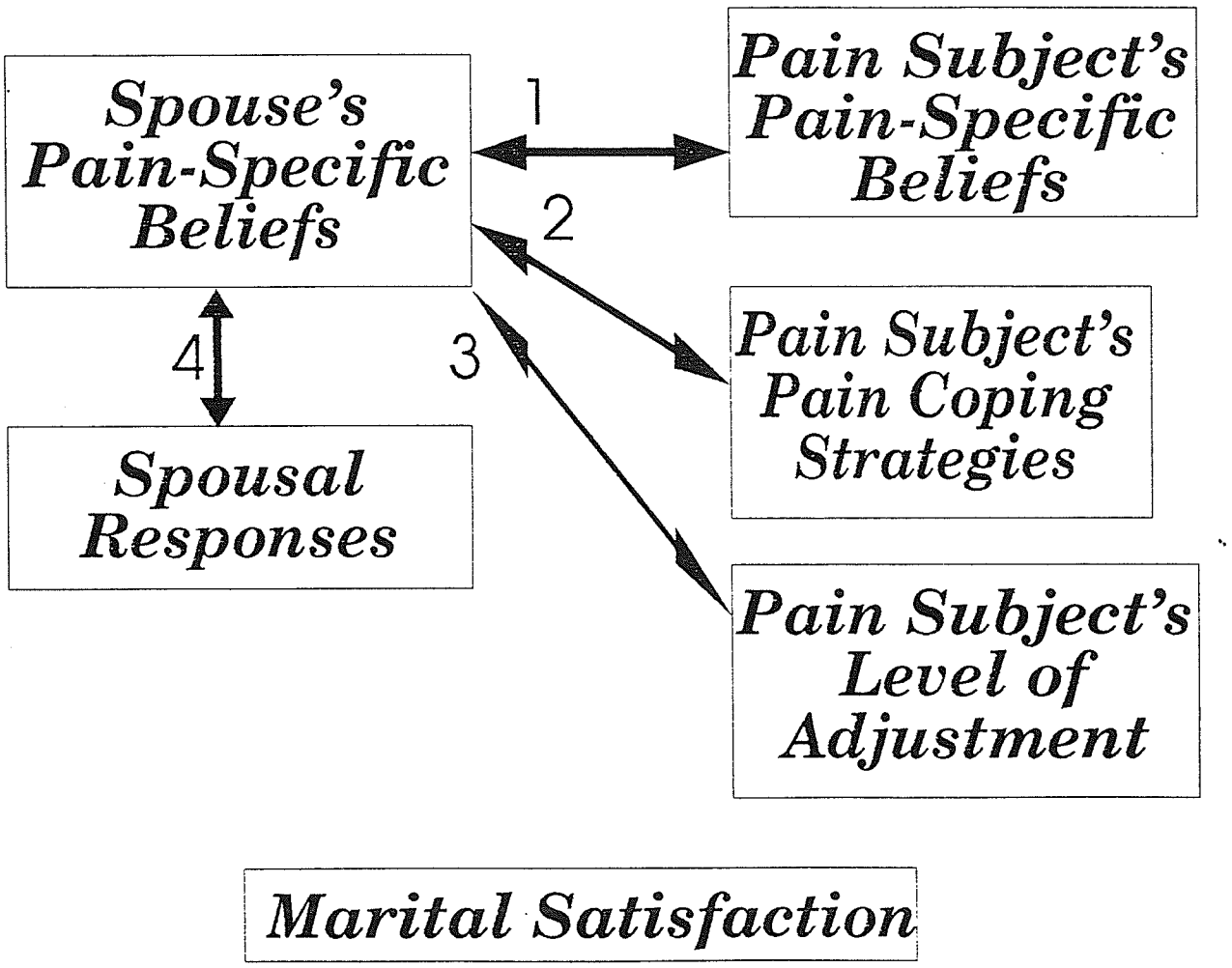

Figure 1. First through to fourth hypothesized relationships for this study.

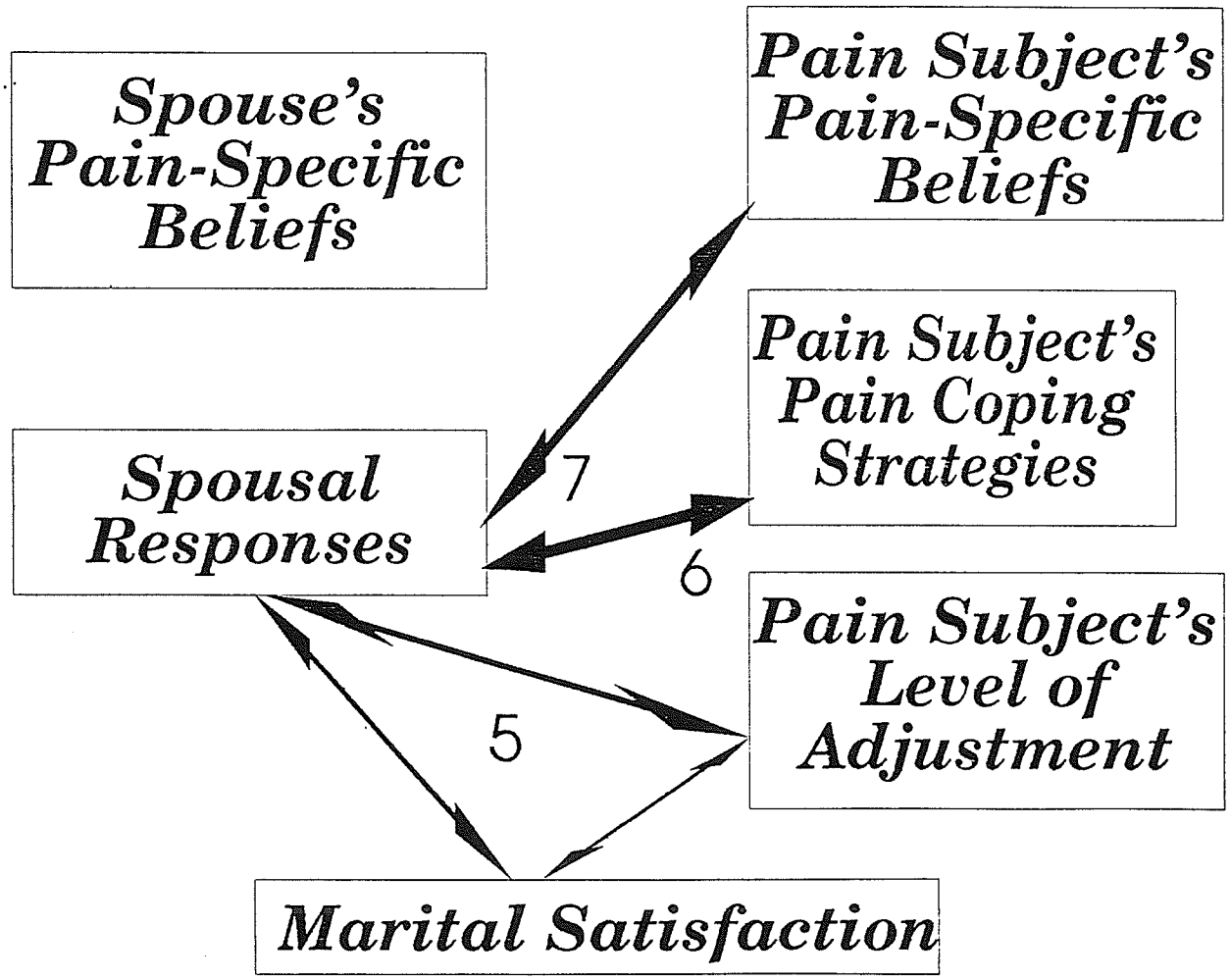

Figure 2. Fifth through to seventh hypothesized relationships for this study.

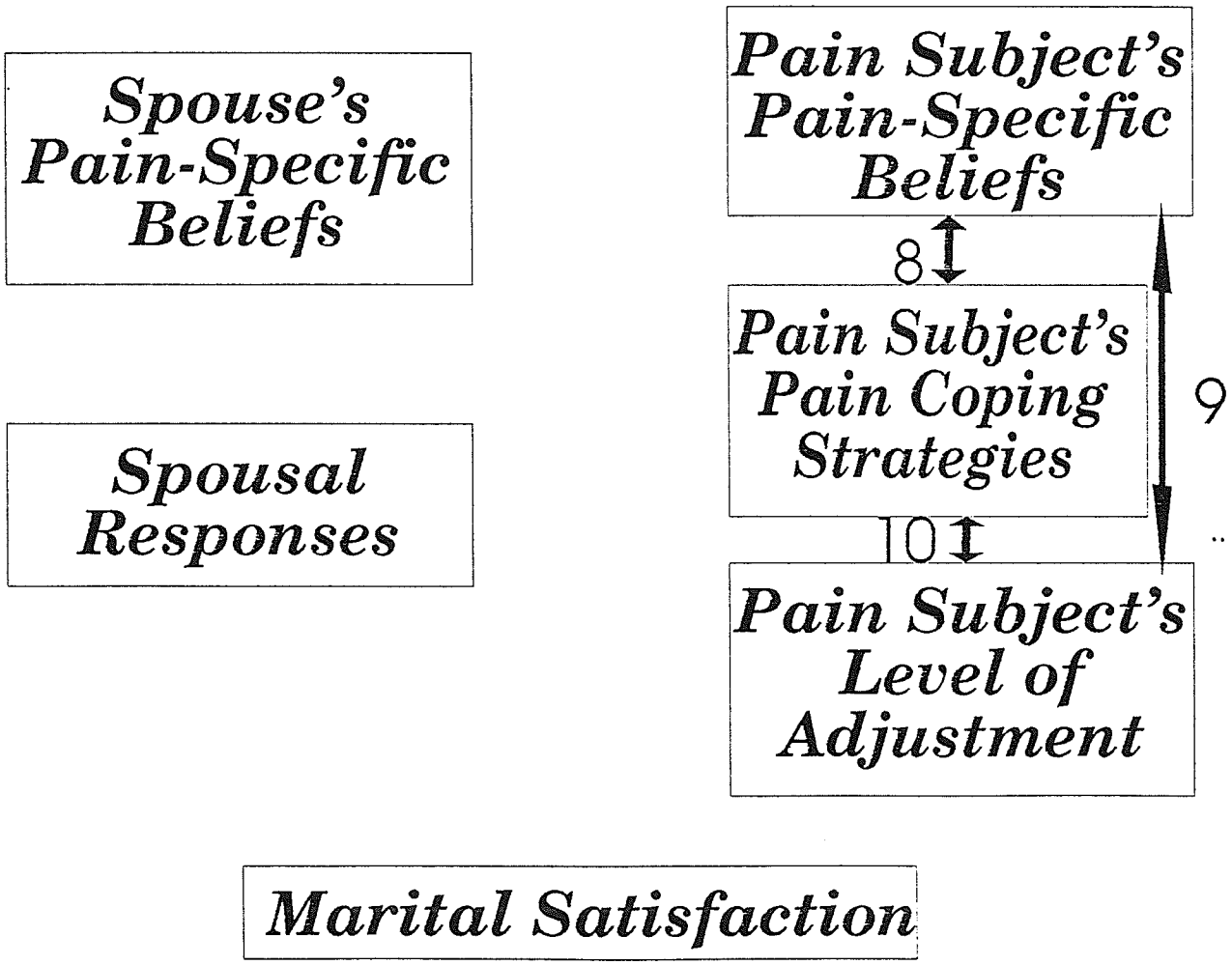

Figure 3. Eighth through to tenth hypothesized relationships for this study.

METHOD

Subjects

Two hundred middle aged, non-clinical subjects reporting persistent pain and their spouses participated in this study. Persistent pain was defined as having pain for one or more episodes a week for three months or longer. One hundred and five (52.5%) persistent pain subjects were male. The average age of the pain subjects was 47 years old (SD = 5 years; Range = 34-67 years). The average age of the spouses was 48 years old (SD = 5 years; Range = 33 - 65). The couples reported having been married an average of 23 years (SD = 5 years; Range = 1 - 42 years). The pain subjects reported completing an average of 13 years (SD = 3 years; Range = 6 -21 years) of formal education and the spouses reported completing an average of 14 years (SD = 3 years; Range = 4 - 21 years).

Sixty-six percent of the pain subjects reported having a full time occupation, 19% reported working part time, 9% reported being a homemaker, 4% reported being on disability and 3% reported none of the above categories. Seven-three percent of the spouses reported having a full time occupation, 17% reported working part time, 7% reported being a homemaker, and 3% reported none of the above categories. The couples reported a median income between $51-60,000. Ten percent of the pain subjects reported that they were receiving financial compensation due to their pain, 1% reported that the decision was pending regarding financial compensation, and 89% reported that they were not receiving any compensation. Seventy-one percent of the pain subjects had marital satisfaction ratings within the well adjusted range, whereas,

75% of the spouses had ratings within this range. Seventy-four percent of the couples had an average marital satisfaction rating within the well adjusted range.

Measures

As a comprehensive exploratory evaluation, the pain subjects and their spouses completed a number of standardized questionnaires in a questionnaire package. Each questionnaire was shown to have good psychometric properties. In addition, important demographic and pain related questions were collected from both the pain subject and spouse (see Appendix A & B).

Adjustment was measured by a number of questionnaires. The concept of adjustment pertains to a multi-dimensional construct with psychological, physical and pain severity components (Jensen & Karoly, 1991). In this study, the following variables were used as measures of adjustment to pain: (a) pain severity, (b) depression, (c) negative mood, (d) activity level, (e) self control, and (f) pain interference (Jensen & Karoly, 1991; Jensen et al., 1992).

The West Haven-Yale Multidimensional Pain Inventory (WHYMPI) and the Spousal WHYMPI. The WHYMPI is a comprehensive self-report questionnaire that has demonstrated good internal reliability (alphas .70 to .90). Also, it has good test-retest reliability (r=.62 - .91) and good discriminant validity (Kerns et al., 1985). The WHYMPI consisted of three sections that measured a total of 12 scales. Section 1 measured five scales that pertained to the subject's perception of (a) the interference that the pain causes, (b) spousal support, (c) pain severity, (d) control over life (i.e., self control), (e) negative mood. Section 2 was comprised 3 scales developed from 14

spousal responses that are in reaction to the pain subject. The three scales were: (a) criticizing behaviours, (b) solicitous behaviours, and (c) distracting behaviours. In Section 3, there was a list of common activities that measured four subscales: (a) household chores, (b) outdoor activities, (c) social activities, and (d) activities away for home. In addition, a general measure of activity level was generated from these four scales by averaging the four subscale totals. All scales were evaluated on a seven point Likert scale with end point labelled accordingly. The Spousal WHYMPI was identical to the WHYMPI except that the spouses responded in regards to their appraisals of the their spouse's pain. Flor et al., (1987b) reported good internal reliability (alphas .63 to .92), and test-retest reliability ($\underline{r}$ = .76 to .95) for the spousal scale.

Survey of Pain Attitudes (SOPA(R)) and the Spousal SOPA(R). The SOPA(R) had 57 items assessing seven pain-specific beliefs (Jensen & Karoly, 1991). The scale assessed: (a) Control (belief that they were able to control their pain), (b) Disability (belief that they were permanently unable to function because of their pain), (c) Harm (belief that pain was equivalent to damaging themselves so they should avoid all exercise), (d) Emotional (belief that their emotions influenced their experience of pain), (e) Medication (belief that medications were appropriate treatment for chronic pain), (f) Solicitude (belief that family members, especially their spouses, should be supportive in response to their experience of pain), and (g) Medical Cure (belief that a medical cure will be found for their pain problem). All items were evaluated on the level of agreement of each item by using a five point Likert-like scale labelled: (0)

This is very untrue for me; (1) This is somewhat untrue for me; (2) This is neither true nor untrue for me (or it does not apply to me); (3) This is somewhat true for me; and (4) This is very true for me. In the original scale development sample, the internal reliabilities were adequate (alphas .42 to .71). The test-retest reliabilities was very good (r=.80 - .91) and all scales had criterion-oriented validity (Jensen et al., 1987; Jensen, 1991).

Coping Strategies Questionnaire (CSQ). The CSQ had 42 items representing seven pain coping strategies and two items that rated the pain subjects' ability to control pain and ability to decrease pain (Rosenstiel & Keefe, 1983). Each strategy was made up of six items and each rating scale had only one item. The coping strategies were: (a) diverting attention, (b) reinterpretation pain sensations, (c) coping self statements, (d) ignoring pain sensations, (e) praying and hoping, (f) catastrophizing, and (g) increasing activity level. Only the first five cognitive coping strategies were used in this study. In addition, a general measure of cognitive coping strategies was computed by averaging the first five coping strategies listed above.

Each item on the CSQ was rated on a seven-point scale. The labels were never (0), sometimes (3), and always (6). The control over pain and ability to decrease pain items were rated on a seven point scale ranging from no control/cannot decrease it at all (0) to complete control/can decrease it completely (6). Research has shown the Coping Strategies Questionnaire to be internally reliable (r=.72 to .89) and have good test-retest reliability (r=.54 at 10 weeks later and r=.58 at 26 weeks later) with a variety of pain populations (Crisson & Keefe, 1988; Keefe, 1992; Rosenstiel & Keefe,

1983; Turner & Clancy, 1986).

Beck Depression Inventory (BDI). The BDI was used as a measure of depressed mood for both the pain subjects and the spouse (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The BDI is a 21 item questionnaire developed to assess the severity of depressive symptoms in adults. Answers were provided on a Likert-type scale for each section ranging from 0 to 3, indicating absence of the problem to extreme problem, respectively. Standard BDI screening suggested using cut-off scores of 13 for identifying subjects as depressed for research. Thus, subjects were labelled as non-depressed if they scored under 13 and subjects that scored 13 or above were labelled as depressed. Internal consistency (Cronbach's coefficient alpha) of .82 has been reported for the standard form. Test-retest reliability is very good ($r = 0.87$). Overall, the reliability ($r = 0.74$) and validity of this measure is very good (Beck et al., 1961; Rehm, 1976).

Locke-Wallace Marital Adjustment Test. The Locke-Wallace Marital Adjustment Test is a 15 items scale that measured the couple's perceived level of marital satisfaction (Locke & Wallace, 1959). Possible scores for this test ranged from 2 to 158. The first nine items were Likert-like items related to the couple's relationship compatibility. The last six items dealt with general relationship dynamics. They reported high reliability ($r = .90$) and adequate validity. Locke and Wallace (1959) were able to discriminate 96% of the well-adjusted couples and included only 17% of the maladjusted couples in their study by making the cut-off point at 100.

Procedure

Introductory psychology students at the University of Manitoba were asked to solicit the participation of their parents in which one parent reported having persistent pain. During recruitment, each student received a request for participation form to bring home for their parents to sign (see Appendix C). When the students arrived at their designated time to complete their questionnaires, 90% brought the request for participation form that was signed by both parents. The students completed a questionnaire (see Appendix D) which was examined for exploratory purposes but was not included as part of this thesis. Two hundred and twenty-three students received two questionnaires to bring home to their parents. An information sheet containing a phone number that the parents could call if they have any questions about the study was included (see Appendix E). Only one parent called to ask for clarification regarding the criteria for participation in this study. In addition, the information sheet included asking for permission to phone the subjects if there was any clarification needed on their completed questionnaires. Eighty-seven percent of the subjects gave permission to be phoned if necessary.

Arrangements were made to collect the questionnaires after the parents had completed them. Eight couples did not complete the Locke-Wallace Marital Adjustment Test. Five common-law couples who completed the questionnaires were excluded from this study. Two hundred usable marital couple questionnaires were returned. This was a 90% return rate. This return rate is consistent with a similar study done at the University of Manitoba (Mogilevsky, 1993). All students received

experimental credits toward their introductory psychology course for the questionnaires that they return.

Both the students and their parents signed a volunteer consent form. This form explained that the questionnaire data will be kept strictly confidential and that they could withdraw from the project at any time. After their participation, all subjects read a debriefing sheet.

RESULTS

Pain Related Questions

Forty-five percent of pain subjects reported that they were receiving treatment for their pain and fifty-two percent of them reported that they were taking medication for their pain. Pain subjects reported their pain duration to be on average 8 years (SD = 7 years and 10 months; Range = 3 months - 33 years). Eighty-seven percent of the pain subjects reported that they have not had surgery due to their pain, 10% reported having one surgery, and 4% reported having two or more surgeries. In addition, 18% of the pain subjects reported that they had attended a pain clinic in the past.

Table 1. Pain subjects reported pain sites (N=200).

Pain Site	Subjects[a] (%)	Females (%)[b]	Males (%)[b]
Back	94 (29.6)	38 (40.4)	56 (59.6)
Joints	70 (22.0)	35 (50.0)	35 (50.0)
Head	58 (18.2)	46 (79.3)	12 (20.7)
Muscle	36 (11.3)	21 (58.3)	15 (41.7)
Neck	31 (9.7)	17 (54.8)	14 (45.2)
Stomach	20 (6.3)	14 (70.0)	6 (30.0)
Chest	6 (1.9)	3 (50.0)	3 (50.0)
Tooth/Ear	3 (0.9)	1 (33.3)	2 (66.6)

[a]Subjects column total to greater that 200 due to some subjects having multiple pain sites.
[b]Females and Males percentages total to 100% for each pain site.

Fifty-eight percent of the pain subjects reported one pain site, 25% reported two pain sites, and 17% reported three or more pain sites. Table 1 shows the frequency of reported pain sites by the pain subjects.

Hypothesis 1

Pain-specific beliefs reported by the pain subjects and their spouses were evaluated by calculating the means, standard deviations, and Cronbach's alpha coefficients (Cronbach, 1970; see Table 2). On average, the pain subjects and their spouses both reported that their strongest belief was that medications are an appropriate treatment for chronic pain. The pain subjects and the spouses both reported that their weakest belief was that the pain subjects are disabled or permanently unable to function because of their pain. Paired t-tests were conducted on the pain subjects and spousal beliefs using the Bonferroni approach for determining significance level. Only two of the beliefs were significantly different. One of the belief was that family members, especially the spouse, should be supportive in response to their experience of pain. Interestingly, this was a weak belief for pain subjects and a stronger belief for their spouse. The other was the belief that the pain subjects' emotions influenced their experience of pain. This was a weak belief for the pain subjects and a stronger belief for their spouse.

Hypothesis 1 stated that the spouse's pain-specific beliefs are associated with the pain subject's pain-specific beliefs. Table 3 shows correlations between the spouses' beliefs and the pain subjects' beliefs. For the same beliefs, correlations between the pain subjects and their spouse (i.e., the diagonal correlations) ranged between .27 and

.53. The weakest of these correlations was found to be the belief that family members, especially the spouses, should be supportive in response to their experience of pain. The strongest correlation was found to be the belief that medications are appropriate treatment for chronic pain.

Table 2. Means, standard deviations, and Cronbach's alpha coefficients for the pain subjects' pain-specific beliefs and spouses' pain-specific beliefs (N = 200).

	Pain Subject			Spouse					
Subscales	M[a]	SD	α	M[a]	SD	α	df	SE	t
Cont	2.04	.80	.79	1.97	.64	.66	199	.057	1.19
Disa	1.53	.68	.66	1.64	.79	.66	199	.052	-2.18
Harm	1.88	.74	.60	1.93	.67	.62	199	.055	-.092
Emot	1.58	.95	.81	1.79	.87	.82	199	.067	-3.26**
Med	2.47	.87	.72	2.53	.75	.68	199	.056	-1.06
Sol	1.63	1.00	.83	2.47	.72	.68	199	.075	-11.27****
MC	1.82	.68	.63	1.89	.61	.70	199	.053	-.139

Note. Cont=control belief, Disa=disability belief, Harm=harm belief, Emot=emotional belief, Med=medication belief, Sol=solicitude belief, and MC=medical cure belief.
[a]scale ranges from 0 to 4.
**p < .01. ****p < .0001.

Table 3. Correlations between the spouses' pain-specific beliefs and the pain subjects' pain-specific beliefs (N = 200).

Pain Subjects' Pain-specific Beliefs	Spouses' Pain-specific Beliefs						
	Cont	Disa	Harm	Emot	Med	Sol	MC
Cont	.40****	-.11	-.13	.08	-.11	-.11	-.13
Disa	-.22**	.51****	.15*	-.01	.04	.22**	.10
Harm	-.29****	.32****	.39****	-.08	.13	.10	.07
Emot	.16*	.02	-.08	.46****	.14	.17*	.22**
Med	-.22**	.16*	.08	.02	.53****	.09	.17*
Sol	-.02	.09	.03	.25***	.18*	.27****	.12
MC	-.07	.15*	.09	-.04	.20**	-.04	.33****

Note. Cont=control belief, Disa=disability belief, Harm=harm belief, Emot=emotional belief, Med=medication belief, Sol=solicitude belief, and MC=medical cure belief. *p < .05. **p < .01. ***p < .001. ****p < .0001

Next, simple regressions were conducted with each of the spouse's beliefs and the corresponding beliefs that were reported by the pain subject (see Table 4). The spouse's belief that medications are an appropriate treatment for chronic pain explained the greatest variance (R^2 = 29%) of the pain subject's same belief. The spouse's belief that the pain subject is disabled or permanently unable to function because of the pain and the belief that the pain subject's emotions influenced the experience of pain each explained a moderate amount of the variance, (R^2 = 26% and R^2 = 21%, respectively) of the pain subject's same beliefs.

Table 4. Simple regressions for the spouses' pain-specific beliefs and pain subjects' pain-specific beliefs (N = 200).

Dependent Variable	Independent Variable				
Pain Subjects' Pain-Specific Beliefs	Spouses' Pain-Specific Beliefs	B	SE B	β	R^2
Control	Control	.50	.082	.40****	.16
Disability	Disability	.44	.052	.51****	.26
Harm	Harm	.43	.072	.39****	.15
Emotional	Emotional	.50	.068	.46****	.21
Medication	Medication	.62	.070	.53****	.29
Solicitude	Solicitude	.38	.095	.27****	.07
Medical Cure	Medical Cure	.36	.075	.33****	.11

****p < .0001

Hypothesis 2

Table 5 shows the means, standard deviations, and Cronbach's alpha coefficients for the pain subjects' cognitive coping strategies. The coping self statements was reported to be the most used coping strategy for pain, whereas, reinterpreting pain sensations was reported to be the least used coping strategy. Cronbach's coefficient alphas that generated a measure of internal reliability were found to range from .74 to .88.

Table 5. Means, standard deviations, and Cronbach's alpha coefficients for the pain subjects' cognitive coping strategies (N = 200).

Subscales	M[a]	SD	α
Diverting Attention	2.01	1.23	.75
Reinterpreting Pain Sensations	1.20	1.28	.86
Coping Self Statements	3.78	1.10	.74
Ignoring Pain Sensations	2.70	1.28	.82
Praying and Hoping	2.36	1.49	.79
Average of Cognitive Coping Strategies	2.41	.85	.88

[a]scale ranges from 0 to 6.

Hypothesis 2 stated that the spouse's pain-specific beliefs are associated with the pain subject's reported usage of cognitive coping strategies. Table 6 shows the correlations between the spouses' pain-specific beliefs and pain subjects cognitive coping strategies. The largest correlations were found between the praying and hoping coping strategy and the spouse's beliefs that medications are an appropriate treatment for chronic pain (r = .23) and belief that a possible medical cure for the pain would be found in the future (r = .32).

Table 6. Correlations between the spouses' pain-specific beliefs and pain subjects cognitive coping strategies (N = 200).

Pain Subjects' Cognitive Coping Strategies	Spouses' Pain-specific Beliefs						
	Cont	Disa	Harm	Emot	Med	Sol	MC
DA	.01	.10	.00	.14	.20**	.13	.13
RPS	.11	.01	-.06	.13	.07	.08	.13
CSS	.12	-.09	-.03	-.03	-.04	-.01	.00
IPS	.17*	-.08	.05	-.01	-.01	-.05	.01
P & H	-.16*	.14	.06	.05	.23**	.14*	.32****
Coping	.06	.04	.01	.09	.15*	.09	.19**

Note. Cont=control belief, Disa=disability belief, Harm=harm belief, Emot=emotional belief, Med=medication belief, Sol=solicitude belief, MC=medical cure belief, DA=diverting attention, RPS=reinterpreting pain sensations, CSS=coping self statements, IPS=ignoring pain sensations, P & H=praying and hoping, and Coping=average of cognitive coping strategies.
*p < .05. **p < .01. ****p < .0001

Table 7 shows the multiple regressions for the spouses' beliefs and pain subjects' cognitive coping strategies. All the spouses' beliefs were entered into the multiple regression equations simultaneously. For each multiple regression analysis conducted in this study, the best model equation was determined by evaluating the coefficient of multiple determination, R^2, for each of the variables in combination. The multiple regression analysis that explained the greatest amount of the variance (R^2 = 16%) for a coping strategy included the spouse's beliefs that: (a) a medical cure will be found for the pain subject's pain problem, (b) medications are an appropriate treatment for

chronic pain, and (c) that the pain subject is able to control the pain, which predicted the praying and hoping coping strategy.

Table 7. Multiple regressions for the spouses' pain-specific beliefs and pain subjects' cognitive coping strategies (N = 200).

Dependent Variable	Independent Variables				
Pain Subjects' Coping Strategies	Spouses' Beliefs	B	SE B	β	R^2
Coping	Medical Cure	.23	.10	.16*	
	Medication	.13	.08	.11	.05
Diverting Attention	Medication	.30	.11	.19**	
	Emotion	.17	.10	.12	.05
Ignoring Pain Sensations	Control	.35	.14	.17*	.03
Praying & Hoping	Medical Cure	.74	.16	.30****	
	Medication	.31	.13	.16*	
	Control	-.42	.15	-.18**	.16

Note. Coping=average of cognitive coping strategies. None of the spouse's pain-specific beliefs explained a significant portion of the variance for the coping strategies: Reinterpreting Pain Sensations and Coping Self Statements.
*p < .05. **p < .01. ****p < .0001

Hypothesis 3

Table 8 shows the means, standard deviations, and Cronbach's alpha coefficients for the pain subjects' adjustment variables. Pain subjects rated their pain severity to be, on average, 2.57 on a scale ranging from 0 to 6. In addition, pain subjects rated their level of control to be, on average, 4.41 on the same scale range. Activity levels for the pain subjects ranged from 2.45 to 4.01.

Table 8. Means, standard deviations, and Cronbach's alpha coefficients for the pain subjects' adjustment variables (N = 200).

Subscales	M[a]	SD	α
Pain Severity	2.57	1.17	.69
Pain Interference	2.11	1.35	.92
Self Control	4.41	1.23	.75
Negative Mood	2.32	1.17	.75
Household Activities	4.01	1.75	.89
Outdoor Activities	2.45	1.54	.80
Activities away from home	2.80	1.09	.63
Social Activities	2.64	1.04	.55
Average of four Activities subscales	2.97	.78	.73

[a]scale ranges from 0 to 6.

Hypothesis 3 stated that the spouse's pain-specific beliefs are associated with the pain subject's level of adjustment. Table 9 shows the correlations between the spouses' beliefs and pain subjects' adjustment measures. The strongest association was between the spouse's belief that the pain subject is permanently unable to function because of the pain and the pain subject reported pain interference (r = .57). A moderate association was found between the spouse's belief that the pain subject is permanently unable to function because of the pain and the pain subjects reported pain severity (r = .35). Also, the association between the pain subject's reported negative mood and the spouse's belief that family members, especially the spouse, should be

supportive in response to their experience of pain was found to be moderate (r = .28).

Table 9. Correlations between the spouses' pain-specific beliefs and pain subjects' adjustment measures (N = 200).

Pain Subjects' Adjustment Measures	Spouses' Pain-specific Beliefs						
	Cont	Disa	Harm	Emot	Med	Sol	MC
PS	-.24***	.35****	.29****	-.05	.12	.07	.14
INT	-.24***	.57****	.24***	.08	.12	.19**	.16*
SC	.03	-.19**	-.07	-.21**	-.07	-.17*	-.14*
NM	-.05	.26***	.09	.23***	.13	.28****	.13
BDI	-.04	.26***	.12	.25***	.12	.16*	.09
Activity	.13	-.14*	-.10	.04	-.09	-.03	-.01
Household	.01	.01	-.09	.11	-.02	.19**	.15*
Outdoor	.08	-.13	.00	-.05	-.07	-.20**	-.12
Away	.22**	-.09	-.08	.10	-.04	-.02	-.02
Social	.02	-.14	-.07	-.09	-.10	-.08	-.08

Note. PS=pain severity, INT=pain interference, SC=self control, NM=negative mood, BDI=Beck depression inventory, Activity=average of four activities subscales, House=household activities, Outdoor=outdoor activities, Away=away from home activities, and Social=social activities.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Multiple regressions were conducted to evaluate the amount of explained variance accounted by the spouse's beliefs when examining the pain subjects' adjustment measures (see Table 10). The spouse's beliefs that the pain subject is permanently

unable to function because of their pain and that a medical cure will be found for their pain problem accounted for 35% of the variance when examining pain interference. In addition, the spouse's beliefs that the pain subject is permanently unable to function because of their pain and that pain is equivalent to damage so the pain subject should avoid all exercise explained 15% of the variance when examining pain severity.

Table 10. Multiple regressions for the spouses' pain-specific beliefs and pain subjects' adjustment measures (N = 200).

Dependent Variable	Independent Variables				
Pain Subjects' Adjustment Measures	Spouses' Beliefs	B	SE B	β	R^2
Pain Severity	Disability	.42	.11	.28****	
	Harm	.32	.12	.18**	.15
Pain Interference	Disability	.97	.10	.56****	
	Medical Cure	.30	.13	.14*	.35
Self Control	Disability	-.29	.11	-.18**	
	Emotional	-.30	.10	-.22**	.08
Negative Mood	Disability	.33	.10	.22**	
	Emotional	.23	.09	.17*	
	Solicitude	.32	.11	.20**	.15
Beck Depression Inventory	Disability	.13	.04	.25***	
	Emotional	.12	.03	.24***	.13

Note. Spouse's beliefs explained less than 5% of the variance of household activities, outdoor activities, activities away from home, social activities, and the average of the four activities, thus, are not reported.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Spouse's beliefs explained less than 5% of the variance of household activities, outdoor activities, activities away from home, social activities, and the average of the four activities, thus, are not reported.

Hypothesis 4

Table 11 shows means, standard deviations, and Cronbach's alpha coefficients for the pain subjects' perceived ratings of their spouse's responses towards them and the spouses' perceived ratings of their responses towards the pain subject. Paired t-tests were conducted using the Bonferroni approach for determining significance level. Only one of the reported responses were significantly different. A significant difference was found for the usage of distracting responses by the spouse as perceived by the spouse and the pain subject. The pain subjects perceived less distracting

Table 11. Means, standard deviations, and Cronbach's alpha coefficients for the pain subjects' perceived ratings of their spouse's responses towards them and the spouses' perceived ratings of their responses towards the pain subject (N = 200).

	Pain Subjects' Ratings			Spouses' Ratings					
Subscales	M[a]	SD	α	M[a]	SD	α	df	SE	t
SUP	3.37	1.55	.81	3.59	1.17	.70	199	.10	-2.14
SOL	2.71	1.52	.83	2.93	1.22	.76	199	.10	-2.21
DIST	1.58	1.21	.62	1.86	1.10	.62	199	.09	-3.12**
CRIT	1.44	1.37	.84	1.43	1.12	.82	199	.10	.09

Note. SUP=perceived spousal support, SOL=perceived solicitous responses of spouse, DIST=perceived distracting responses of spouse, and CRIT=perceived critical responses of spouse.
[a]scale range from 0 to 6.
**$p < .01$.

responses as compared to what the spouses perceived. Overall, both the pain subject and the spouse reported that the spouse was much more support and displayed solicitous responses in comparison to critical responses when the pain subject was feeling pain.

Table 12. Intercorrelations between the pain subjects' perceived rating of their spouse's responses towards them and the spouses' perceived ratings of their responses towards the pain subject (N = 200).

	Pain Subjects' Ratings				Spouses' Ratings			
	SUP	SOL	DIST	CRIT	SUP	SOL	DIST	CRIT
Pain Subjects' Ratings								
SUP	---							
SOL	.64****	---						
DIST	.44****	.55****	---					
CRIT	-.38****	-.28****	-.15*	---				
Spouses' Ratings								
SUP	.50****	.42****	.26***	-.09	---			
SOL	.34****	.49****	.22**	.03	.56****	---		
DIST	.16*	.20**	.38****	-.02	.29****	.46****	---	
CRIT	-.20**	-.22**	-.02	.40****	-.24***	.-.14*	.15*	---

Note. SUP=spousal support, SOL=perceived solicitous responses of spouse, DIST=perceived distracting responses of spouse, and CRIT=perceived critical responses of spouse.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Furthermore, intercorrelations between the pain subjects' perceived rating of their spouse's responses towards them and the spouses' perceived ratings of their responses towards the pain subject revealed many significant results (see Table 13). Correlations were found to range from .38 to .50 on the spouse's responses rated by the spouses and pain subjects.

Hypothesis 4 stated that the spouse's pain-specific beliefs are associated with his or her responses towards the pain subject as reported by the pain subject and the spouse. Table 13 shows that many of the spouses' beliefs were associated with the perceived spousal responses. Interestingly, the spouses' critical responses were significantly associated to the spouses' belief that the pain subjects' emotions influenced their experience of pain ($\underline{r}$ = .33 when spouses' rated their own responses and $\underline{r}$ = .22 when pain subjects' rated their spouse's responses). In addition, the spouses' solicitous responses were significantly associated to the spouses' belief that medications are an appropriate treatment for chronic pain ($\underline{r}$ = .34 when spouses' rated their own responses and $\underline{r}$ = .18 when pain subjects' rated their spouse's responses). Also, the spouses' supportiveness was negatively associated to the spouses' belief that the pain subject can control the pain ($\underline{r}$ = -.24 when spouses' rated their own responses and $\underline{r}$ = -.23 when pain subjects' rated spouse's responses).

Table 13. Correlations between the spouses' perceived responses towards pain subjects, pain subjects' perceived responses of their spouse towards them and the spouses' pain-specific beliefs (N = 200).

Spouses' Pain-Specific Beliefs	Pain Subjects' Ratings				Spouses' Ratings			
	SUP	SOL	DIST	CRIT	SUP	SOL	DIST	CRIT
Cont	-.23***	-.09	.01	.08	-.24***	-.16*	.10	.18*
Disa	.26***	.18**	.17*	.12	.24***	.23**	.04	.07
Harm	.07	.03	.02	-.01	.14*	.01	-.11	-.03
Emot	-.05	.02	.17*	.22**	-.13	.01	.17*	.33****
Med	.10	.18*	.07	.11	.17*	.34****	.11	-.01
Sol	-.06	.03	.08	.15*	.07	.23**	.17*	.23***
MC	-.08	.03	.01	.16*	.13	.17*	.17*	.13

Note. SUP=perceived spousal support, SOL=perceived solicitous responses from spouse, DIST=perceived distracting responses from spouse, CRIT=perceived critical responses from spouse, Cont=control belief, Disa=disability belief, Harm=harm belief, Emot=emotional belief, Med=medication belief, Sol=solicitude belief, and MC=medical cure belief.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Table 14 shows the multiple regressions for the spouses' perceived responses towards the pain subject, the pain subjects' perceived responses of their spouse towards them and the spouses' pain-specific beliefs. It is interesting to note that the spouses' belief that the pain subject is disabled and permanently unable to function because of the pain was retained in every model that examined the pain subjects' rating of their spouse's responses toward them. Also notable is that the spouse's beliefs that the pain subject is disabled and permanently unable to function because of

Table 14. Multiple regressions for the spouses' perceived responses towards pain subjects, pain subjects' perceived responses of their spouse towards them and the spouses' pain-specific beliefs (N = 200).

Dependent Variable	Independent Variables				
Perceived Spousal Responses	Spouses' Beliefs	B	SE B	β	R^2
Pain Subjects' Ratings					
Spousal Support	Disability	.50	.13	.26***	.07
Solicitous Responses	Disability	.33	.13	.17*	
	Medication	.33	.14	.16*	.06
Distracting Responses	Disability	.25	.11	.16*	
	Emotional	.22	.10	.16*	.05
Critical Responses	Emotional	.31	.11	.20**	
	Medical Cure	.30	.16	.13	
	Disability	.18	.12	.10	.08
Spouses' Ratings					
Spousal Support	Control	-.31	.13	-.17*	
	Disability	.25	.11	.17*	
	Medication	.23	.11	.15*	.11
Solicitous Responses	Medication	.52	.11	.32****	
	Disability	.32	.10	.21**	.16
Distracting Responses	Emotional	.17	.09	.14	
	Solicitude	.20	.11	.13	.05
Critical Responses	Emotional	.37	.09	.29****	
	Solicitude	.34	.11	.15*	.13

*p < .05. **p < .01. ***p < .001. ****p < .0001

the pain and that medications are an appropriate treatment for chronic pain were retained in the models for spouses' ratings of their support and solicitous responses toward the pain subject. Critical responses were predicted by the belief that the pain subject's emotions influenced the experience of pain and the belief that family members, especially the spouse, should be supportive in response to their experience of pain, which accounted for 13% of the variance in the multiple regression.

Hypothesis 5

Table 5 shows the correlations between the perceived spousal responses as reported by the spouse and pain subject and the pain subject's adjustment measures. Interestingly, the pain subjects' reported level of self control was negatively associated to the pain subjects' rating of critical responses from their spouse (r = -.33). Notably, a moderate correlation was found between the pain subject's reported level of pain interference and the pain subject's (r = .27) and spouse's (r = .30) rating of supportiveness of the spouse. Also, a moderate correlation was found between the pain subject's reported negative mood and the pain subject's (r = .28) and spouse's (r = .26) rating of criticalness of the spouse. Marital satisfaction was significantly associated to all but one of the pain subject's adjustment measures. Although marital satisfaction was significantly associated with each of the pain subject's ratings, only one of the spouse's rating was significant.

Table 15. Correlations between the spouses' perceived responses towards pain subjects, pain subjects' perceived responses of their spouse towards them and the pain subjects' adjustment measures (N = 200).

Perceived Spousal Responses	Pain Subjects' Adjustment Measures						
	PS	INT	SC	NM	BDI	Act	MS[a]
Pain Subjects' Ratings							
Spousal Support	.17*	.27****	.11	.07	.05	-.05	.27****
Solicitous Responses	.10	.22**	.05	.08	.04	.08	.25***
Distracting Responses	.14	.26***	-.02	.15*	.06	.04	.17*
Critical Responses	.15*	.29****	-.33****	.28****	.22**	.-.14	-.40****
Spouses' Ratings							
Spousal Support	.25***	.30****	-.03	.14*	.23**	-.13	.06
Solicitous Responses	.19**	.24***	-.06	.17*	.15*	-.08	.05
Distracting Responses	.11	.18*	-.08	.12	.06	-.05	.01
Critical Responses	.15*	.17*	-.24***	.26***	.15*	-.01	-.35****
Average of Pain Subjects' and Spouses' Ratings							
Marital Satisfaction[a]	-.20**	-.20**	.34****	-.24***	-.20**	-.05	----

Note. PS=pain severity, INT=pain interference, SC=self control, NM=negative mood, BDI=Beck depression inventory, Act=average of four activities subscales, and MS=average marital satisfaction for the couple.

[a] n = 192

* p < .05. ** p < .01. *** p < .001. **** p < .0001

Table 16. Hierarchical regressions with the pain subjects' perceived responses of their spouse towards them and pain subjects' adjustment measures with marital satisfaction as a statistically controlled variable (N = 192).

Dependent Variable	Independent Variables				
Pain Subjects' Adjustment Measures	Spouses' Responses	B	SE B	β	R^2
Pain Severity	Marital Satisfaction	-.59	.20	-.22**	
	PS-Spousal Support	.22	.06	.29****	
	PS-Critical	.13	.07	.15	.12
Pain Interference	Marital Satisfaction	-.56	.21	-.18**	
	PS-Spousal Support	.41	.06	.47****	
	PS-Critical	.38	.07	.38****	.28
Self Control	Marital Satisfaction	.69	.21	.25***	
	PS-Critical	-.21	.07	-.23**	.16
Negative Mood	Marital Satisfaction	-.47	.20	-.18*	
	PS-Critical	.20	.07	.23**	
	PS-Distracting	.20	.07	.21**	.13
Beck Depression	Marital Satisfaction	-.14	.07	-.14	
	PS-Critical	.04	.02	.14	.06

Note. PS-Spousal Support=spousal support as rated by the pain subject, PS-Critical= perceived critical responses by spouse as rated by pain subject, and PS-Distracting= perceived distracting responses by spouse as rated by pain subject.

Hypothesis 5 stated that the spouse's and pain subject's reported spousal responses are associated with the pain subject's level of adjustment when level of marital satisfaction is statistically controlled. Table 16 shows the hierarchical regressions with the pain subjects' perceived responses of their spouse towards them and pain subjects' adjustment measures with marital satisfaction as a statistically controlled variable. As

marital satisfaction was a statistically controlled variable, it was entered into each regression first and retained regardless of its beta coefficient. Next, the other variables were entered into each regression equation simultaneously. Marital satisfaction was a significant predictor for all the pain subjects' adjustment measures except for the Beck depression inventory. The perceived critical responses by the spouse reported by the pain subjects was retained in all the regression analysis.

Hypothesis 6

Hypothesis 6 stated that the spouse's behavior as reported by the pain subject and spouse are associated with the pain subject's usage of cognitive coping strategies. Table 17 shows the correlations between the spouses' perceived responses towards pain subjects, pain subjects' perceived responses of their spouse towards them and the pain subjects' cognitive coping strategies. The strongest correlation was found between the perceived solicitous responses as rated by the pain subject and the pain subject's usage of the praying and hoping coping strategy ($r = .27$). Table 18 shows the multiple regressions for the pain subjects' perceived responses of their spouse towards them and pain subjects' cognitive coping strategies. For each multiple regression, the spousal responses towards the pain subjects as reported by the pain subjects accounted for only a small portion of the variance of the coping strategies utilized by the pain subjects.

Table 17. Correlations between the spouses' perceived responses towards pain subjects, pain subjects' perceived responses of their spouse towards them and the pain subjects' cognitive coping strategies (N = 200).

Spouses' Pain-specific	Pain Subjects' Ratings				Spouses' Ratings			
Beliefs	SUP	SOL	DIST	CRIT	SUP	SOL	DIST	CRIT
DA	.20**	.25***	.26***	.11	.21**	.25***	.22**	.09
RPS	.07	.11	.15*	-.03	.04	.14*	.10	.04
CSS	.08	.02	.06	-.07	-.01	-.01	-.05	-.06
IPS	-.05	-.09	.02	-.05	-.02	-.07	-.08	.03
P & H	.20**	.27****	.23***	.11	.26***	.23***	.25***	-.03
Coping	.15*	.17*	.22**	.03	.16*	.17*	.14*	.02

Note. SUP=perceived spousal support, SOL=perceived solicitous responses from spouse, DIST=perceived distracting responses from spouse, CRIT=perceived critical responses from spouse, DA=diverting attention, RPS=reinterpreting pain sensations, CSS=coping self statements, IPS=ignoring pain sensations, P & H=praying and hoping, and Coping=average of the five cognitive coping strategies.
*p < .05. **p < .01. ****p < .0001

Table 18. Multiple regressions for the pain subjects' perceived responses of their spouse towards them and pain subjects' cognitive coping strategies (N = 200).

Dependent Variable	Independent Variables				
Pain Subjects' Coping Strategies	Spouses' Responses	B	SE B	β	R^2
Diverting Attention	PS-Distracting	.18	.08	.18**	
	PS-Critical	.17	.06	.19**	
	PS-Solicitous	.16	.07	.20*	.12
Reinterpreting Pain Sensations	PS-Distracting	.16	.07	.15*	.02
Praying & Hoping	PS-Solicitous	.26	.07	.27****	.07
Coping	PS-Distracting	.16	.05	.22**	.05

Note. PS-Spousal Support=spousal support as rated by the pain subject, PS-Critical=perceived critical responses by spouse as rated by pain subject, PS-Distracting=perceived distracting responses by spouse as rated by pain subject, PS-Solicitous=perceived solicitous responses by spouse as rated by pain subject, Coping=average of five cognitive coping strategies. None of the pain subject's perceived spousal ratings explained a significant portion of the variance for the coping strategies: coping self statements and ignoring pain sensations.
*p < .05. **p < .01. ****p < .0001

Hypothesis 7

Hypothesis 7 stated that the spousal responses as reported by the pain subject and spouse are associated to the pain subject's pain-specific beliefs. A moderate correlation was found between the perceived critical responses from the spouse as reported by the pain subject and the pain subject's belief that family members, especially their spouse, should be supportive in response to their experience of pain (r = .40). Other moderate correlations were found between the perceived critical

responses from the spouse as reported by the pain subject and the pain subjects' belief that their emotions influenced their experience of pain (r = .30) and between the perceived solicitous responses from the spouse as reported by the pain subject and the pain subject's belief that medications are an appropriate treatment for chronic pain (r = .30).

Table 19. Correlations between the spouses' perceived responses towards pain subjects, pain subjects' perceived responses of their spouse towards them and the pain subjects' pain-specific beliefs (N = 200).

	Pain Subjects' Ratings				Spouses' Ratings			
	SUP	SOL	DIST	CRIT	SUP	SOL	DIST	CRIT
Cont	-.01	.03	.06	-.07	-.13	-.15*	-.03	-.04
Disa	.21**	.17*	.14*	.14	.30****	.23***	.16*	.02
Harm	.05	-.04	-.01	.14*	.22**	.17*	.13	.03
Emot	-.15*	-.02	.07	.30****	-.01	.08	.17*	.14*
Med	.18**	.30****	.06	.01	.20**	.32****	.16*	-.12
Sol	-.13	-.04	.04	.40****	-.02	.03	.02	.14*
MC	.10	.16*	.10	.08	.21**	.11	.15*	-.04

Note. SUP=perceived spousal support, SOL=perceived solicitous responses from spouse, DIST=perceived distracting responses from spouse, CRIT=perceived critical responses from spouse, Cont=control belief, Disa=disability belief, Harm=harm belief, Emot=emotional belief, Med=medication belief, Sol=solicitude belief, and MC=medical cure belief.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Table 20 shows the multiple regressions with the pain subjects' perceived responses of their spouse towards them and pain subjects' pain-specific beliefs. In one

of the multiple regressions, the pain subjects' perceived spousal support and critical responses explained 10% of the variance of the pain subjects' belief that they are permanently unable to function because of their pain. In another regression analysis, the pain subjects' perceived critical responses by their spouse explained 16% of the variance of the pain subjects' belief that family members, especially their spouse, should be supportive in response to their experience of pain.

Table 20. Multiple regressions with the pain subjects' perceived responses of their spouse towards them and pain subjects' pain-specific beliefs (N = 200).

Dependent Variable	Independent Variables				
Pain Subjects' Pain-specific Beliefs	Spouses' Responses	B	SE B	β	R^2_T
PS-Disability	PS-Spousal Support	.13	.03	.31****	
	PS-Critical	.12	.04	.25***	.10
PS-Harm	PS-Critical	.12	.04	.14*	.02
PS-Emotional	PS-Critical	.21	.05	.30****	.09
PS-Medication	PS-Spousal Support	.17	.04	.30****	.09
PS-Solicitude	PS-Critical	.29	.05	.40****	.16
PS-Medical Cure	PS-Spousal Support	.07	.03	.16*	.03

Note. Spousal Support=spousal support as rated by the Pain subject, PS-Critical=perceived critical responses by spouse as rated by pain subject, and PS-Distracting=perceived distracting responses by spouse as rated by pain subject. None of the pain subjects' perceived ratings of their spouses responses explained a significant amount of the variance of the pain subject's control belief.

Hypothesis 8

Hypothesis 8 stated that the pain subject's pain-specific beliefs are associated with cognitive coping strategies. Table 21 shows the correlations between the pain subjects' pain-specific beliefs and cognitive coping strategies. Moderate correlations were found between the praying and hoping coping strategy and the beliefs that medications are an appropriate treatment for chronic pain (r = .30), that family members, especially their spouse, should be supportive in response to their experience of pain (r = .36), and that a medical cure will be found for their pain problem (r = .37). Other moderate correlations were found between the pain subjects' belief that they are permanently unable to function because of their pain and the cognitive coping strategies: coping self statements (r = -.30), ignoring pain sensations (r = -.29), and praying and hoping (r = .27).

Table 22 shows multiple regressions for the pain subjects' pain-specific beliefs and cognitive coping strategies. The pain subject's reported usage of the praying and hoping coping strategy was found to be predicted by the pain subjects' beliefs that a medical cure will be found for their pain problem, that family members, especially their spouse, should be supportive in response to their experience of pain, that they are permanently unable to function because of their pain, and that medications are an appropriate treatment for chronic pain, which accounted for 27% of the variance. Interestingly, the pain subject's belief that they are able to control their pain was retained in five of the six multiple regression models.

Table 21. Correlations between the pain subjects' pain-specific beliefs and cognitive coping strategies (N = 200).

Cognitive Coping Strategies	Pain-specific Beliefs						
	Cont	Disa	Harm	Emot	Med	Sol	MC
DA	.09	.13	.11	.26***	.11	.27****	.15*
RPS	.22**	-.10	-.11	.19**	-.04	.04	.09
CSS	.23***	-.30****	-.06	-.13	-.12	-.14*	.01
IPS	.20**	-.29****	-.11	-.12	-.26***	-.16*	-.05
P & H	-.19**	.27****	-.17*	.18*	.30****	.36****	.37****
Coping	.15*	.04	.01	.13	.01	.13	.19**

Note. Cont=control belief, Disa=disability belief, Harm=harm belief, Emot=emotional belief, Med=medication belief, Sol=solicitude belief, MC=medical cure belief, DA=diverting attention, RPS=reinterpreting pain sensations, CSS=coping self statements, IPS=ignoring pain sensations, P & H=praying and hoping, and Coping=average of the five cognitive coping strategies.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Table 22. Multiple regressions for the pain subjects' pain-specific beliefs and cognitive coping strategies (N = 200).

Dependent Variable	Independent Variables				
Pain Subjects' Coping Strategies	Pain Subjects' Pain-specific Beliefs	B	SE B	β	R^2
Diverting Attention	Solicitude	.26	.09	.21**	
	Emotional	.21	.10	.16*	
	Medical Cure	.22	.12	.12	
	Control	.17	.11	.11	.13
Reinterpreting Pain Sensations	Control	.32	.11	.20**	
	Emotional	.20	.09	.15*	
	Medical Cure	.18	.13	.10	.08
Coping Self Statements	Disability	-.49	.12	-.30****	
	Control	.30	.10	.22**	
	Emotional	-.17	.08	-.14*	
	Harm	.20	.11	.14	.15
Ignoring Pain Sensations	Disability	-.43	.13	-.23**	
	Medication	-.29	.10	-.20**	
	Control	.16	.11	.10	.14
Praying & Hoping	Medical Cure	.61	.14	.28****	
	Solicitude	.38	.10	.26****	
	Disability	.32	.14	.15*	
	Medication	.23	.11	.14*	.27
Coping	Medical Cure	.23	.09	.18**	
	Control	.19	.07	.18**	
	Solicitude	.12	.06	.14*	.08

Note. Coping=Average of the five cognitive coping strategies.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Hypothesis 9

Hypothesis 9 stated that the pain subject's pain-specific beliefs are associated with level of adjustment. Table 23 shows correlations between the pain subjects' pain-specific beliefs and pain subjects' adjustment measures. Moderate correlations were found between the pain subjects' belief that they are permanently unable to function because of their pain and pain severity (r = .38), pain interference (r = .64), and negative mood (r = .35). Other moderate correlations were found between negative mood and the belief that family members, especially their spouse, should be supportive in response to their experience of pain (r = .41), between the pain subjects' belief that their emotions influenced their experience of pain and self control (r = -.35), and between the pain subjects' belief that pain is equivalent to damaging themselves so they should avoid all exercise and pain interference (r = .40).

Table 24 shows the multiple regressions for the pain subjects' pain-specific beliefs and adjustment measures. The pain subject's reported pain interference was found to be predicted by the pain subjects' beliefs that they are permanently unable to function because of their pain and that family members, especially their spouses, should be supportive in response to the pain, which accounted for 44% of the variance. In addition, the pain subject's reported negative mood was found to be predicted by the pain subjects' beliefs that they are permanently unable to function because of their pain, that their emotions influenced their experience of pain, and that family members, especially their spouse, should be supportive in response to the pain, which accounted for 28% of the variance.

Table 23. Correlations between the pain subjects' pain-specific beliefs and pain subjects' adjustment measures (N = 200).

Pain Subjects' Adjustment Measures	Pain Subjects' Pain-specific Beliefs						
	Cont	Disa	Harm	Emot	Med	Sol	MC
PS	-.24***	.38****	.37****	-.03	.20**	.14*	.02
INT	-.22**	.64****	.40****	.16*	.24***	.32****	.16*
SC	.13	-.32****	-.18*	-.35****	-.03	-.29****	-.10
NM	-.17*	.35****	.23**	.33****	.16*	.41****	.04
BDI	-.10	.28****	.32****	.33****	.12	.22**	.13
Activity	.07	-.18*	-.10	.04	-.02	-.06	.03
Household	-.03	-.01	.08	.18*	.07	.20**	-.02
Outdoor	.06	-.17*	-.05	-.12	-.09	-.27****	.06
Away	.14*	-.12	-.18*	-.01	-.07	-.06	.02
Social	.02	-.14	-.17*	-.22**	.04	-.05	.00

Note. PS=pain severity, INT=pain interference, SC=self control, NM=negative mood, BDI=Beck depression inventory, Activity=average of four activities subscales, House=household activities, Outdoor=outdoor activities, Away=away from home activities, and Social=Social activities.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Table 24. Multiple regressions for the pain subjects' pain-specific beliefs and adjustment measures (N = 200).

Dependent Variable	Independent Variables				
Adjustment Measures	Pain-specific Beliefs	B	SE B	β	R^2
Pain Severity	Disability	.44	.12	.25***	
	Harm	.35	.12	.22**	
	Control	-.18	.10	-.12	.21
Pain Interference	Disability	1.20	.11	.60****	
	Solicitude	.23	.07	.17**	.44
Self Control	Emotional	-.37	.09	-.28****	
	Disability	-.48	.12	-.27****	
	Solicitude	-.15	.08	-.12	.22
Negative Mood	Solicitude	.32	.08	.27****	
	Disability	.46	.11	.27****	
	Emotional	.26	.08	.21**	.28
Beck Depression Inventory	Emotional	.15	.03	.33****	
	Harm	.19	.04	.32****	.22

**p < .01. ***p < .001. ****p < .0001

Hypothesis 10

Hypothesis 10 stated that the pain subject's usage of cognitive coping strategies are associated with level of adjustment. Table 25 shows correlations between the pain subjects' cognitive coping strategies and pain subjects' adjustment measures. Moderate correlations were found between the praying and hoping coping strategy and pain interference (r = .30), self control (r = -.19), and negative mood (r = .22). In addition, moderate correlations were found between the diverting attention coping strategy and pain interference (r = .29), negative mood (r = .22), and the Beck

depression scale (r = .20).

Table 25. Correlations between the pain subjects' cognitive coping strategies and pain subjects' adjustment measures (N = 200).

Pain Subjects' Adjustment Measures	Pain Subjects' Cognitive Coping Strategies					
	DA	RPS	CSS	IPS	P & H	Coping
PS	.17*	.01	.00	-.11	.12	.06
INT	.29****	.04	-.11	-.20**	.30****	.11
SC	-.15*	-.03	.20**	.19**	-.19**	-.01
NM	.22**	.03	-.06	-.19**	.22**	.08
BDI	.20**	.09	.01	-.03	.17*	.14
Activity	.02	.00	.09	.09	-.04	.05
Household	.15*	-.02	-.01	-.08	.14*	.06
Outdoor	-.15*	.04	.09	.16*	-.18**	-.02
Away	.00	.01	.09	.09	-.08	.03
Social	.02	-.03	.07	.07	.00	.03

Note. PS=pain severity, INT=pain interference, SC=self control, NM=negative mood, BDI=Beck depression inventory, Activity=average of four Activities subscales, House=household activities, Outdoor=outdoor activities, Away=away from home activities, and Social=social activities.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Table 26 shows the multiple regressions for the pain subjects' cognitive coping strategies and adjustment measures. The pain subject's reported pain interference was found to be predicted by the pain subjects' reported usage of the praying and hoping, ignoring pain sensations, and diverting attention coping strategies, which accounted for

16% of the variance. In addition, the pain subject's reported self control was found to be predicted by the pain subjects' reported usage of the coping self statements, praying and hoping, and diverting attention coping strategies, which accounted for 11% of the variance.

Table 26. Multiple regressions for the pain subjects' cognitive coping strategies and adjustment measures (N = 200).

Dependent Variable	Independent Variables				
Adjustment Measures	Cognitive Coping Strategies	B	SE B	β	R^2
Pain Severity	Diverting Attention	.18	.07	.19**	
	Ignoring Pain	-.13	.06	-.14*	.05
Pain Interference	Praying & Hoping	.13	.08	.15	
	Ignoring Pain	-.25	.07	-.23***	
	Diverting Attention	.26	.09	.24**	.16
Self Control	Coping Self Statements	.30	.08	.27***	
	Praying & Hoping	-.12	.07	-.15	
	Diverting Attention	-.15	.09	-.15	.11
Negative Mood	Diverting Attention	.25	.07	.26***	
	Ignoring Pain	-.21	.06	-.23***	.10
Outdoor Activities	Praying & Hoping	-.10	.09	-.10	
	Ignoring Pain	.21	.09	.18*	
	Diverting Attention	-.15	.11	-.12	.06

Note. None of the cognitive coping strategies explained a significant portion of the variance of the following adjustment measures: Beck depression inventory, activities away form home, social activities, household activities, and the general measure of activity level.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Post Hoc Analyses

Post hoc analysis were conducted to identify the most salient pain subject and spousal variables that predicted each of the pain subjects' beliefs, coping strategies, and measures of adjustment. First, Table 27 shows the multiple regressions predicting the pain subjects' pain-specific beliefs from the spousal and pain subjects' variables. The pain subject's belief that medications are an appropriate treatment for chronic pain was found to be predicted by the spouse's belief that medications are an appropriate treatment for pain, the pain subjects' reported usage of the ignoring pain coping strategy, the pain subjects' perceived solicitous responses by the spouse, and pain interference, which accounted for 40% of the variance. In addition, the pain subjects' belief that they are permanently unable to function because of their pain was found to be predicted by pain interference, the spouse's belief that the pain subject is permanently unable to function because of the pain, the pain subjects' reported usage of the coping self statements and praying and hoping coping strategies, which accounted for 52% of the variance.

Table 27. Post hoc multiple regressions predicting the pain subjects' pain-specific beliefs from the spousal and pain subjects' variables (N = 200).

Dependent Variable	Independent Variables				
Pain Subjects' Pain-specific Beliefs		B	SE B	β	R^2
PS-Control[a]	S-Control	.40	.08	.33****	
	Pain Severity	-.10	.05	-.14*	
	Marital Satisfaction	.20	.12	.11	
	Coping	.20	.12	.11	.20
PS-Disability	Pain Interference	.23	.03	.46****	
	S-Disability	.18	.05	.21***	
	Coping Self Statements	-.16	.03	-.25****	
	Praying & Hoping	.06	.02	.14**	.52
PS-Harm	Pain Interference	.12	.04	.22**	
	S-Harm	.30	.07	.27****	
	Beck Depression	.32	.12	.18**	
	S-Control	-.15	.08	-.13*	.29
PS-Emotional	S-Emotional	.39	.07	.36****	
	Self Control	-.12	.05	-.16*	
	Diverting Attention	.15	.05	.19**	
	PS-Spousal Support	-.10	.04	-.16*	
	Beck Depression	.30	.15	.14	.34
PS-Medication	S-Medication	.57	.07	.49****	
	Ignoring Pain	-.15	.04	-.22***	
	PS-Solicitous	.10	.03	.17**	
	Pain Interference	.07	.04	.10	.40
PS-Solicitude	Negative Mood	.21	.05	.25****	
	PS-Critical	.20	.04	.28****	
	Praying & Hoping	.17	.04	.26****	
	Outdoor Activities	-.11	.04	-.18**	
	Self-Statements	-.12	.05	-.13*	.37
PS-Medical Cure	Praying & Hoping	.14	.03	.30****	
	S-Medical Cure	.26	.08	.23***	.19

Note. PS-Control=pain subject's control belief, S-Control=spouse's control belief, coping=average of the five cognitive coping strategies, PS-Disability=pain subject's disability belief, S-Disability=spouse's disability belief, PS-Harm=pain subject's harm belief, S-Harm=spouse's harm belief, PS-Emotional=pain subject's emotional belief, S-Emotional=spouse's emotional belief, PS-Spousal Support=pain subject's perceived spousal support, PS-Medication = pain subject's medication belief, S-Medication=spouse's medication belief, PS-Solicitous=pain subject's perceived spousal solicitous responses, PS-Solicitude=pain subject's solicitude belief, PS-Critical=pain subject's perceived spousal critical responses, PS-Medical Cure=pain subject's medical cure belief, and S-Medical Cure=spouse's medical cure belief.

[a]n = 192.

*p < .05. **p < .01. ***p < .001. ****p < .0001

Table 28 shows multiple regressions predicting the pain subjects' coping strategies from the spousal and pain subjects' variables. The pain subject's usage of the praying and hoping coping strategy was found to be predicted by the pain subject's beliefs that a medical cure will be found for their pain problem and that family members, especially their spouse, should be supportive in response to the pain, the pain subject's perceived solicitous responses by the spouse, and the spouse's beliefs that a medical cure will be found for their spouse's pain problem and that the pain subject is able to control the pain, which accounted for 34% of the variance.

Table 29 shows multiple regressions predicting the pain subjects' adjustment from the spousal and pain subjects' variables. One multiple regression revealed that the pain subject's reported pain interference was found to be predicted by the pain subject's belief that his or her pain is disabling, pain severity, negative mood and the spouse's belief that his or her partner's pain is disabling, which accounted for 68% of the variance. The pain subject's reported negative mood was found to be predicted by the pain subject's reported level of self control, pain interference, belief that family members, especially their spouse, should be supportive in response to the pain and the depression measure, which accounted for 54% of the variance.

Table 28. Post hoc multiple regressions predicting the pain subjects' coping strategies from the spousal and pain subjects' variables (N = 200).

Dependent Variable	Independent Variables				
Pain Subjects' Cognitive Coping Strategies		B	SE B	β	R^2
Diverting Attention	PS-Distracting	.21	.07	.21**	
	PS-Solicitude	.24	.08	.19**	
	S-Solicitous	.18	.07	.18**	
	PS-Emotional	.22	.09	.17*	.20
Reinterpreting Pain Sensations	PS-Control	.37	.11	.23**	
	S-Solicitous	.18	.07	.17*	
	PS-Emotional	.19	.09	.14*	.10
Coping Self Statements	PS-Disability	-.42	.11	-.26***	
	PS-Control	.24	.10	.17*	.12
Ignoring Pain Sensations	PS-Disability	-.47	.13	-.25***	
	PS-Medication	-.32	.10	-.22**	.14
Praying & Hoping	PS-Medical Cure	.47	.14	.21***	
	PS-Solicitude	.46	.09	.31****	
	PS-Solicitous	.22	.06	.22***	
	S-Medical Cure	.53	.15	.22***	
	S-Control	-.33	.14	-.14*	.34
Coping	PS-Distracting	.15	.05	.21**	
	S-Medical Cure	.29	.10	.21**	
	PS-Control	.17	.07	.16*	.11

Note. Coping=average of the five cognitive coping strategies, PS-Distracting=pain subject's perceived distracting responses by the spouse, S-Medical Cure=spouse's medical cure belief, PS-Control=pain subject's control belief, PS-Solicitude=pain subject's solicitude belief, S-Solicitous=spouse's perceived solicitous responses, PS-Emotional=pain subject's emotional belief, PS-Disability=pain subject's disability belief, PS-Medication=pain subject's medication belief, PS-Medical Cure=pain subject's medical cure belief, PS-Solicitous=pain subject's perceived solicitous responses by spouse, and S-Control=spouse's control belief.
*p < .05. **p < .01. ***p < .001. ****p < .0001

Table 29. Post hoc multiple regressions predicting the pain subjects' adjustment from the spousal and pain subjects' variables (N = 200).

Dependent Variable	Independent Variables				
Pain Subjects' Adjustment Measures		B	SE B	β	R^2
Pain Severity	Pain Interference	.43	.06	.50****	
	PS-Harm	.15	.10	.09	
	S-Harm	.22	.10	.13*	
	Negative Mood	.12	.07	.12	.44
Pain Interference	PS-Disability	.62	.10	.31****	
	Pain Severity	.37	.05	.32****	
	Negative Mood	.29	.05	.25****	
	S-Disability	.40	.08	.23****	.68
Self Control[a]	Negative Mood	-.48	.07	-.46****	
	Marital Satisfaction	.47	.16	.17**	
	Beck Depression	-.63	.19	-.22***	
	Coping Self Statements	.18	.06	.16**	.48
Negative Mood	Self Control	-.35	.06	-.37****	
	Pain Interference	.24	.05	.28****	
	PS-Solicitude	.21	.06	.18***	
	Beck Depression	.45	.16	.16**	.54
Beck Depression Inventory	Negative Mood	.09	.027	.24**	
	Self Control	-.08	.025	-.23**	
	PS-Harm	.11	.034	.20**	
	PS-Emotional	.08	.027	.17**	
	S-Spousal Support	.05	.021	.15*	.39

Note. PS-Harm=pain subject's harm belief, S-Harm=spouse's harm belief, PS-Disability=pain subject's disability belief, S-Disability=spouse's disability belief, PS-Solicitude=pain subject's solicitude belief, PS-Emotional=pain subject's emotional belief, and S-Spousal Support=spousal support perceived by spouse.

[a] n = 192.

*p < .05. **p < .01. ***p < .001. ****p < .0001

Other post hoc analysis were conducted to examine whether pain duration, gender, known cause of pain, pain subject's level of depression, taking medication, presently being treated for pain, marital satisfaction and pain sites played significant roles in the hypothesized relationships. Appendix F shows the influence of pain duration on the hypothesized variables. Appendix G shows the influence of gender on the hypothesized variables. Appendix H shows the influence of whether the cause of the pain is known or not on the hypothesized variables. Appendix J shows the influence of whether the pain subject is taking medication or not on the hypothesized variables. Appendix K shows the influence of whether the pain subject is presently being treated or not on the hypothesized variables. Appendix L shows the influence of whether the pain subject is experiencing back pain or joint pain on the hypothesized variables. Appendix M shows the influence of whether the pain subject is experiencing head pain or joint pain on the hypothesized variables. Appendix N shows the influence of whether the pain subject is experiencing back pain or head pain on the hypothesized variables. Appendix O shows the influence of whether the couples reported high or low marital satisfaction on the hypothesized variables.

DISCUSSION

This exploratory study investigated the relationships between the spouse's pain specific beliefs and responses toward the pain subject and the pain subject's pain-specific beliefs, coping strategies, and level of adjustment. As expected, the selection procedures in this study produced a persistent pain sample different from the chronic pain samples that have been reported in the clinical literature. For instance, Flor et al. (1987b) found that chronic pain patients reported higher pain severity ($\underline{M}$ = 4.14), pain interference ($\underline{M}$ = 4.26), and negative mood ($\underline{M}$ = 3.54), and also lower control over life circumstances ($\underline{M}$ = 3.71) than what was found in this study. These differences suggest that conditions were not optimal to accurately evaluate an operant conditioning model of pain. That is, it appears that because the pain subjects were experiencing low to moderate levels of pain severity, they may not have exhibited high rates of pain behaviors. In addition, they may not have displayed a wide variety of pain behaviors. Thus, the reinforcement or punishment of infrequent pain behaviors may only minimally contribute to the maintenance of pain. In this case, the operant conditioning model of pain can not be adequately assessed as an appropriate model for persistent pain subjects who report low to moderate levels of pain severity.

For the operant conditioning model of pain to be supported by this study, pain severity and interference should have been positively associated with the spouse's supportive behavior and negatively associated with the spouse's critical responses. However, this study found that the pain subject's reported level of pain severity and interference were both positively associated with spousal support and critical

responses. It could be that the pain subjects with higher pain severity and interference elicited more spousal attention, which consisted of both supportive and critical responses. Possibly, the spouse's critical responses overshadowed their supportive behavior towards the pain subject. This speculation would be supported by Manne and Zautra's (1989) study. They reported that patients of a highly critical spouse reported poorer adjustment than patients who did not have critical spouses.

For the present study, the couples reported level of marital satisfaction was found to be a strong explanatory factor to our understanding of findings. The couples reported level of marital satisfaction was significantly associated with each of the pain subject's adjustment measures. Couples who reported low marital satisfaction included a pain subject who reported higher pain severity, high pain interference, lower control over life, higher negative mood, and more depressive symptoms. It seems that marital satisfaction may function as a moderating variable, thus, having an important role in the persistent pain subject's psychological adjustment. That is, if a couple report low levels of marital satisfaction, this may be a risk factor leading to the pain subject reporting greater psychological distress. This is consistent with previous research by Ahern et al. (1985) who found that marital maladjustment was significantly associated with a chronic pain patient's level of psychological distress.

Another important finding was that the spouses' solicitous responses were helpful behaviors and their critical responses were destructive behaviors that contributed to the couples perceived satisfaction of their marriage. That is, pain subjects who reported that their spouse responded solicitously also reported higher marital satisfaction. The

pain subjects who reported that their spouse responded critically also reported lower marital satisfaction. It is interesting to note that this association held when the spouse's perceived own critical responses towards the pain subject were evaluated. Furthermore, the spouses perceived their own responses were similar to the pain subjects. Not only was this found for critical responses, but also for supportive and solicitous responses. This finding may be explained by the high number of couples that reported adaptive marital relationships. Possibly the partners reported similar findings because they were not greatly stressed due to the low ratings of pain severity and interference, which may have resulted in their positive marital perspective.

A cognitive-behavioral perspective of pain was also evaluated in this study. This was done by evaluating the pain-specific beliefs of the couple that may have contributed to their evaluation and interpretation of the pain and its impact. Also, these beliefs were examined with respect to the pain subject's level of adjustment. First, the pain-specific beliefs of the spouse and the pain subject were evaluated and compared. It is interesting to note that the spouse's beliefs were all significantly associated with the corresponding beliefs of the pain subject. There are a number of explanations that could account for this finding. It could be that these couples communicated openly about the impact that pain has had on their lives. This is probable in light of the fact that 74% of the couples in this study reported adaptive marital relationships in spite of the presence of persistent pain for one member of the couple. Furthermore, it is possible that the pain subject's beliefs were interactive with the spouse's beliefs. For example, if a pain subject believed that his or her pain was

disabling, he or she may have acted disabled, thus, influencing his or her spouse's belief that the pain subject was disabled. Alternatively, the spouse's beliefs may have affected the pain subject's beliefs about the pain experience. That is, if the spouse thought his or her partner was disabled, the spouse may have been more likely to act in a way that may have encouraged the pain subject to feel like he or she was disabled.

Implications of this finding suggest that spouse's pain-specific beliefs have an important role when considering variables that are associated with the pain subject's beliefs. Ahern et al. (1985) reported that spouse's emotional distress was related to the pain patient's emotional distress. It could be that shared beliefs about the pain contributed to the couple's emotional distress. If couples have the same maladaptive beliefs about pain, then optimally, therapy for pain should focus on the couple and not just the pain sufferer. Marital therapy for pain couples would benefit from examining the pain-specific beliefs of both spouses to understand more fully these variables and their influence on each other.

One important variable that is consistently investigated in the pain literature is the level of pain interference. The pain subject's reported level of pain interference was found to be associated with the spouse's beliefs that the pain subject is permanently disabled and that a medical cure will be found for the pain. A possible explanation for this finding could be that the higher the level of pain interference, the more likely the injury or cause for the disability will be perceived as long term. In addition, these spouses may have believed strongly that a medical cure must be found in hopes that

their spouse would then be able to live a more active life. It seems intuitively reasonable to suggest that pain subjects that reported high pain interference contributed to their spouse's perception that they were physically disabled and in desperate need of a medical cure. For example, a pain subject who reported high pain interference may have constantly lamented about his or her pain and how limiting it is. Over a long period of time, this would create a situation where the spouse's beliefs would be highly influenced.

It seems that spouse's belief that his or her partner is disabled is important when investigating factors that contribute to the pain subject's disability belief. In addition, this spousal belief was also found to be significantly associated with each of the pain subject's measures of adjustment. That is, spouses that reported a strong that their partner was disabled had partners who reported higher pain severity, pain interference, lower control of life, higher negative mood and more depressive symptoms. Thus, it appears that this belief would be especially important to identify and attenuate when a couple participated in marital therapy.

The pain subject's beliefs were found to be highly associated with reported measures of pain severity, pain interference, negative mood, and depression. For instance, pain subjects who reported greater pain severity also held stronger beliefs that pain is equivalent to damaging themselves so they should avoid all exercise and that they are permanently unable to function because of their pain and, in addition, reported only a weak belief that they are able to control their pain. Pain subjects who reported higher pain interference, negative mood, and lower self control also held

stronger beliefs that they are permanently unable to function because of their pain and that family members, especially the spouse, should be supportive in response to their experience of pain. Pain subjects that reported a higher level of depression also held stronger beliefs that pain is equivalent to damaging themselves so they should avoid all exercise and that their emotions influence their experience of pain. The interrelationship among these findings are logically consistent with how a person would organize their specific beliefs about pain. These results clearly indicate that beliefs about pain at some point become a well organized and logically consistent belief system integrated into their personality as well as their behaviors. Such an integration of belief indicates that therapy targeted at changing behaviors will have to be accompanied by considerable changes in attitude.

Thus, from these findings, the pain subject's belief that he or she is able to control the pain was the only pain-specific belief that was associated with good psychological adjustment to pain. All of the other pain-specific beliefs seemed to have contributed to the pain subject's poor attitudes about their pain experience. An explanation for this finding is that all the pain specific beliefs (with the exception of the control belief) focuses on the negative aspects of the pain (such as, disabling, harmful, emotionally draining) or focuses on other people and things that may fail (such as, spouse, doctor, and medication). These negative cognitions are consistent with what Jensen, Turner, and Romano's (1994) study found. They reported that these above pain-specific beliefs were related to greater depression and greater physical dysfunction. These findings suggest that it would be very important for the pain

sufferer's treatment to include the identification and elimination of these negative beliefs before more adaptive beliefs and behaviors are suggested to the pain sufferer.

Overall, the findings in this study seem to have been better explained by a cognitive-behavioral perspective of pain. That is, it seems that the pain-specific beliefs of both the spouse and the pain subject were relatively more important to our understanding of the pain subject's reported level of adjustment. These beliefs contributed to both the spouse's and pain subject's evaluation and interpretation of the impact of the pain on themselves, each other, and their marital relationship.

Due to the low ratings of pain severity in this sample in comparison to a clinical sample, it seems that usage of coping strategies was not as important a factor in understanding the pain subject's level of adjustment. Generally, low correlations were found between the coping strategies and the other variables studied. This finding is consistent with other research that reported that coping strategies are of greater explanatory power when pain ratings are at a high level (Estlander & Harkapaa, 1989).

A number of limitations of this study need to be mentioned. First, the sample was acquired through the recruitment of students to solicit their parents. No validity checks were made as to the truthfulness of the parent's claims of having persistent pain. However, it is interesting to not that 98% of the usable questionnaires had either returned the request for participation form or had given permission to be called or both. This gives credibility to the assumption that the participants did fill out the questionnaire and responded consciously. This assumption of valid responding by the subjects was also supported by the high number of expected correlations. Another

limitation was that this sample may not be representative of all persistent pain sufferers for the following reasons: (a) the sample was acquired non-randomly, (b) some subjects were discarded from the study because they did not meet the study's criteria, and (c) not all questionnaires that were given to the students were returned. Thus, it is unknown what sample biases may have resulted due to the method of sample recruitment. Thus, generalization of these results must be made with caution. A third limitation was that this study was correlational in nature. Thus, no causal relationships can be verified.

Further research must continue to take into consideration these important spousal variables that significantly contribute to the pain subject's psychological and physical well-being. Also, future research should identify any gender differences that maybe present when the "well" spouse is male or female. Possibly, "well" female spouses are more supportive that "well" male spouses. Only with further research will this speculation be resolved. The marital relationship seemed to play an especially important role in the couple's evaluation and interpretation of the pain and its impact. Further research should be pursued to understand more fully these relationships. Possibly, a "health" marriage is an important component of the persistent pain sufferers good adjustment.

In addition, further investigation is needed on specific pain sites (i.e., headache pain, back pain, joint pain, etc.) to determine differences on the spousal variables of interest. Possibly, differences are present between a spouse of a headache sufferer and a spouse of a back or joint pain sufferer. Also, further investigation into adaptive and

maladaptive coping strategies is necessary. Until we gain a greater understanding as to which pain coping strategies are appropriate for pain sufferers, treatment for pain sufferers will be of limited value. Consistent usage of adaptive coping strategies could make the difference between a pain sufferer who is debilitate by the pain and a pain sufferer who is accommodating to the pain

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APPENDIX A

Code No. ___

PERSISTENT PAIN RESEARCH QUESTIONNAIRE

TO BE FILLED OUT BY THE PARENT WHO HAS PERSISTENT PAIN

Persistent pain can be a depressing and limiting condition. Research is beginning to show that how people think about and cope with their pain plays a role in how people adjust with their pain. Also, the family is considered a key factor in the persistent pain person's life. Researchers in the Psychology Department at the University of Manitoba are trying to better understand which factors are related to adjustment. IF YOU HAVE PERSISTENT PAIN (PAIN ONE OR MORE TIMES A WEEK AT SAME LOCATION FOR THREE MONTHS OR LONGER) THEN YOU ARE ELIGIBLE TO PARTICIPATE IN THIS RESEARCH PROJECT.

I _____ hereby agree to take part in this project on the understanding that the information I provide will be kept strictly confidential and that I can withdraw from this project at any time.

PAIN RESEARCH QUESTIONNAIRE

Code No._____

1. DATE OF BIRTH: ____ DAY ____ MONTH ____ YEAR

2. Gender: a) Male b) Female

3. Marital Status: a) Single b) Married

c) Separated d) Divorced e) Widowed

4. If married, for how many years _____

5. Living: a) with spouse b) commonlaw c) separated

d) with parent(s) e) with friend(s) f) other

6. How many of your children are living with you presently?

0 1 2 3 4 5 6 7 8 9 10 11+

7. Please circle the number of children you have:

0 1 2 3 4 5 6 7 8 9 10 11+

8. Circle years of education completed:

1 2 3 4 5 6 7 8 9 10 11 12

College/University 1 2 3 4

Graduate School 1 2 3 4 5

9. Employment: a) full time b) part time c) homemaker

d) student e) retired f) unemployed g) on disability

10. Are you receiving compensation?

a) yes, receiving financial compensation

b) decision regarding compensation pending

c) no, not receiving financial compensation

10a. Are you presently being treated for your pain? Yes No

11. If married give your annual family income; if unmarried please estimate your annual income (approximately to the nearest thousand)

Please circle the appropriate number

(a) less then $10,000 1

(b) between $11,000 and $20,000 2

(c) between $21,000 and $30,000 3

(d) between $31,000 and $40,000 4

(e) between $41,000 and $50,000 5

(f) between $51,000 and $60,000 6

(g) between $61,000 and $70,000 7

(h) between $71,000 and $80,000 8

(i) between $81,000 and $90,000 9

(j) between $91,000 and $100,000 10

(k) greater than $100,000 11

(l) unknown 12

13. Please circle the location(s) of your persistent pain:

1) head pain 6) back pain

2) chest pain 7) joint pain

3) stomach pain 8) tooth/ear pain

4) neck pain 9) other _____

5) muscle pain 10) other _____

14. I have had persistent pain for _____ months and _____ years.

15. If you know the cause of your persistent pain, please explain _____

_____

16. Have you ever been treated at a pain clinic? Yes No

17. Are you currently being treated at a pain clinic? Yes No

18. Please circle the number of previous surgeries you have had because of your persistent pain?

    0 1 2 3 4 5 6 7 8 9 10 11+

19. Do you currently take mediation for your pain? Yes No

20. Have you had pain one or more times a week at the same location for the past three months or longer? Yes No

[*[*[PLEASE GO ON TO NEXT PAGE]*]*]

Please indicate how much you agree with each of the following statements about your pain by using the following scale:

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

1.There are many times when I can influence the amount of pain I feel.

0 1 2 3 4

2.The pain I usually experience is a signal that damage is being done.

0 1 2 3 4

3.I do not consider my pain to be a disability.

0 1 2 3 4

4.Nothing but my pain really bothers me.

0 1 2 3 4

5.Pain is a signal that I have not been exercising enough.

0 1 2 3 4

6.My family does not understand how much pain I am in.

0 1 2 3 4

7.I count more on my doctors to decrease my pain than I do on myself.

0 1 2 3 4

8.I will probably always have to take pain medications.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

9.When I hurt, I want my family to treat me better.

0 1 2 3 4

10.If my pain continues at its present level, I will be unable to work.

0 1 2 3 4

11.The amount of pain I feel is completely out of my control.

0 1 2 3 4

12.I do not expect a medical cure for my pain.

0 1 2 3 4

13.Pain does not necessarily mean that my body is being harmed.

0 1 2 3 4

14.I have had the most relief from pain with the use of medications.

0 1 2 3 4

15.Anxiety increases the pain I feel.

0 1 2 3 4

16.There is little that I or anyone can do to ease the pain I feel.

0 1 2 3 4

17.When I am hurting, people should treat me with care and concern.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

18.I pay doctors so they will cure me of my pain.

0 1 2 3 4

19.My pain problem does not need to interfere with my activity level.

0 1 2 3 4

20.My pain is not emotional, it is purely physical.

0 1 2 3 4

21.I have given up my search for the complete elimination of my pain through the work of the medical profession.

0 1 2 3 4

22.It is the responsibility of my loved ones to help me when I feel pain.

0 1 2 3 4

23.Stress in my life increases my pain.

0 1 2 3 4

24.Exercise and movement are good for my pain problem.

0 1 2 3 4

25.Just by concentrating or relaxing, I can "take the edge" off my pain.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

26.I will get a job to earn money regardless of how much pain I feel.

0 1 2 3 4

27.Medicine is one of the best treatments for chronic pain.

0 1 2 3 4

28.I am unable to control a significant amount of my pain.

0 1 2 3 4

29.A doctor's job is to find effective pain treatments.

0 1 2 3 4

30.My family needs to learn how to take better care of me when I am in pain.

0 1 2 3 4

31.Depression increases the pain I feel.

0 1 2 3 4

32.If I exercise, I could make my pain problem much worse.

0 1 2 3 4

33.I believe that I can control how much pain I feel by changing my thoughts.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

34.Often I need more tender loving care than I am now getting when I am in pain.

0 1 2 3 4

35.I consider myself to be disabled.

0 1 2 3 4

36.I wish my doctor would stop prescribing pain medications for me.

0 1 2 3 4

37.My pain is mostly emotional, and not so much a physical problem.

0 1 2 3 4

38.Something is wrong with my body which prevents much movement or exercise.

0 1 2 3 4

39.I have learned to control my pain.

0 1 2 3 4

40.I trust that the medical profession can cure my pain.

0 1 2 3 4

41.I know for sure I can learn to manage my pain.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

42.My pain does not stop me from leading a physically active life.

0 1 2 3 4

43.My physical pain will never be cured.

0 1 2 3 4

44.There is a strong connection between my emotions and my pain level.

0 1 2 3 4

45.I can do nearly everything as well as I could before I had a pain problem.

0 1 2 3 4

46.If I do not exercise regularly, my pain problem will continue to get worse.

0 1 2 3 4

47.I am not in control of my pain.

0 1 2 3 4

48.No matter how I feel emotionally, my pain stays the same.

0 1 2 3 4

49.Pain will never stop me from doing what I really want to do.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

50.When I find the right doctor, he or she will know how to reduce my pain.

0 1 2 3 4

51.If my doctor prescribed pain medications for me, I would throw them away.

0 1 2 3 4

52.Whether or not a person is disabled by pain depends more on your attitude than the pain itself.

0 1 2 3 4

53.I have noticed that if I can change my emotions, I can influence my pain.

0 1 2 3 4

54.I will never take pain medications again.

0 1 2 3 4

55.Exercise can decrease the amount of pain I experience.

0 1 2 3 4

56.I'm convinced that there is no medical procedure that will help my pain.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

57.My pain would stop anyone from leading an active life.

0 1 2 3 4

[*[*[PLEASE GO ON TO NEXT PAGE]*]*]

In the following 20 questions, you will be asked to describe your pain and how it affects your life. Under each question is a scale to record your answer. Read each question carefully and then CIRCLE a number on the scale under that question to indicate how that specific question applies to you.

1. Rate the level of your pain at the present moment.

   0 1 2 3 4 5 6

   No pain Very intense pain

2. In general, how much does your pain problem interfere with your day to day activities?

   0 1 2 3 4 5 6

   No interference Extreme interference

3. Since the time you developed a pain problem, how much has your pain changed your ability to work?

   0 1 2 3 4 5 6

   No change Extreme change

   ___Check here,if you have retired for reasons other than your pain problem.

4. How much has your pain changed the amount of satisfaction or enjoyment you get from participating in social and recreational activities?

   0 1 2 3 4 5 6

   No change Extreme change

5. How supportive or helpful is your spouse to you in relation to your pain?

0	1	2	3	4	5	6
Not at all supportive						Extremely supportive

6. Rate your overall mood during the PAST WEEK.

0	1	2	3	4	5	6
Extremely low mood						Extremely high mood

7. On the average, how severe has your pain been during the LAST WEEK?

0	1	2	3	4	5	6
Not at all severe						Extremely severe

8. How much has your pain changed your ability to participate in recreational and other social activities?

0	1	2	3	4	5	6
No change						Extreme change

9. How much has your pain changed the amount of satisfaction you get from family-related activities?

0	1	2	3	4	5	6
No change						Extreme change

10. How worried is your spouse about you in relation to your pain problem?

0 1 2 3 4 5 6

Not at all worried — Extremely worried

11. During the PAST WEEK how much control do you feel you have had over your life?

0 1 2 3 4 5 6

Not at all in control — Extremely in control

12. How much SUFFERING do you experience because of your pain?

0 1 2 3 4 5 6

No suffering — Extreme suffering

13. How much has your pain changed your marriage and other family relationships?

0 1 2 3 4 5 6

No change — Extreme change

14. How much has your pain changed the amount of satisfaction and enjoyment you get from work?

0 1 2 3 4 5 6

No change — Extreme change

___ Check here, if you are not presently working

15. How attentive is your spouse to your pain problem?

0 1 2 3 4 5 6

Not at all attentive — Extremely attentive

16. During the PAST WEEK how much do you feel that you've been able to deal with your problems?

0 1 2 3 4 5 6

Not at all Extremely well

17. How much has your pain changed your ability to do household chores?

0 1 2 3 4 5 6

No change Extreme change

18. During the past week how irritable have you been?

0 1 2 3 4 5 6

Not at all Extremely
irritable irritable

19. How much has your pain changed your friendships with people other than your family?

0 1 2 3 4 5 6

No change Extreme change

20. During the past week how tense or anxious have you been?

0 1 2 3 4 5 6

Not at all Extremely
tense or anxious tense or anxious

In this section, we are interested in knowing how your spouse responds to you when he or she knows that you are in pain. On the scale listed below each question, CIRCLE a number to indicate HOW OFTEN your spouse generally responds to you in that particular way WHEN YOU ARE IN PAIN. Please answer ALL of the 14 questions.

1. Ignores me.

0 1 2 3 4 5 6

Never Very often

2. Asks me what he/she can do to help.

0 1 2 3 4 5 6

Never Very often

3. Reads to me.

0 1 2 3 4 5 6

Never Very often

4. Expresses irritation at me.

0 1 2 3 4 5 6

Never Very often

5. Takes over my jobs or duties.

0 1 2 3 4 5 6

Never Very often

6. Talks to me about something else to take my mind off the pain.

0 1 2 3 4 5 6

Never Very often

7. Expresses frustration at me.

0 1 2 3 4 5 6

Never Very often

8. Tries to get me to rest.

0 1 2 3 4 5 6

Never Very often

9. Tries to involve me in some activity.

0 1 2 3 4 5 6

Never Very often

10. Expresses anger at me.

0 1 2 3 4 5 6

Never Very often

11. Gets me some pain medication.

0 1 2 3 4 5 6

Never Very often

12. Encourages me to work on a hobby.

0 1 2 3 4 5 6

Never Very often

13. Gets me something to eat or drink.

0 1 2 3 4 5 6

Never Very often

14. Turns on the T.V to take my mind off my pain.

0 1 2 3 4 5 6

Never Very often

Listed below are 18 common daily activities. Please indicate HOW OFTEN you do each of these activities by CIRCLING a number on the scale listed below each activity. Please complete ALL 18 questions.

1. Washes dishes.

0 1 2 3 4 5 6

Never Very often

2. Mow the lawn (in summer).

0 1 2 3 4 5 6

Never Very often

3. Go out to eat.

0 1 2 3 4 5 6

Never Very often

4. Play cards or other games.

0 1 2 3 4 5 6

Never Very often

5. Go grocery shopping.

0 1 2 3 4 5 6

Never Very often

6. Work in the garden (in summer).

0 1 2 3 4 5 6

Never Very often

7. Go to a movie.

0 1 2 3 4 5 6

Never Very often

8. Visit friends.

0 1 2 3 4 5 6

Never Very often

9. Help with the house cleaning.

0 1 2 3 4 5 6

Never Very often

10. Work on the car.

0 1 2 3 4 5 6

Never Very often

11. Take a ride in a car.

0 1 2 3 4 5 6

Never Very often

12. Visit relatives.

0 1 2 3 4 5 6

Never Very often

13. Prepare a meal.

0 1 2 3 4 5 6

Never Very often

14. Wash the car.

0 1 2 3 4 5 6

Never Very often

15. Take a trip.

0 1 2 3 4 5 6

Never Very often

16. Go to a park or beach.

0	1	2	3	4	5	6
Never						Very often

17. Do a load of laundry.

0	1	2	3	4	5	6
Never						Very often

18. Work on a needed house repair.

0	1	2	3	4	5	6
Never						Very often

Individuals who experience pain have developed a number of ways to cope, or deal, with their pain. These include saying things to themselves when they experience pain, or engaging in different activities. Below are a list of things that individuals have reported doing when they feel pain. For each activity, I want you to indicate, using the chart below, how much you engage in that activity when you feel pain, where a 0 indicates you never do that when you are experiencing pain, a 3 indicates you sometimes do that when you are experiencing pain, and a 6 indicates that you always do it when are experiencing pain. Remember, you can use any number along the scale.

0	1	2	3	4	5	6
Never do that			Sometimes do that			Always do that

When I feel pain ...

___ 1. I try to feel distant from the pain, almost as if the pain was in somebody else's body.

___ 2. I leave the house and do something, such as going to the movies or shopping.

___ 3. I try to think of something pleasant.

___ 4. I don't think of it as pain but rather as a dull or warm feeling.

---

0 1 2 3 4 5 6

Never Sometimes Always

do that do that do that

When I feel pain ...

___ 5. It's terrible and I feel it's never going to get any better.

___ 6. I tell myself to be brave and carry on despite the pain.

___ 7. I read.

___ 8. I tell myself that I can overcome the pain.

___ 9. I take my medication.

___ 10. I count numbers in my head or run a song through my mind.

___ 11. I just think of it as some other sensation, such as numbness.

___ 12. It's awful and I feel that it overwhelms me.

___ 13. I play mental games with myself to keep my mind off the pain.

___ 14. I feel my life isn't worth living.

___ 15. I know someday someone will be here to help me and it will go away for awhile.

___ 16. I walk a lot.

___ 17. I pray to God it won't last long.

___ 18. I try not to think of it as my body, but rather as something separate from me.

___ 19. I relax.

___ 20. I don't think about the pain.

---

0 1 2 3 4 5 6

Never Sometimes Always

do that do that do that

When I feel pain ...

___ 21. I try to think years ahead, what everything will be like after I've gotten rid of the pain.

___ 22. I tell myself it doesn't hurt.

___ 23. I tell myself I can't let the pain stand in the way of what I have to do.

___ 24. I don't pay any attention to the pain.

___ 25. I have faith in doctors that someday there will be a cure for my pain.

___ 26. No matter haw bad it gets, I know I can handle it.

___ 27. I pretend it's not there.

___ 28. I worry all the time about whether it will end.

___ 29. I lie down.

___ 30. I replay in my mind pleasant experiences in the past.

___ 31. I think of people I enjoy doing things with.

___ 32. I pray for the pain to stop.

___ 33. I take a shower or a bath.

___ 34. I imagine that the pain is outside of my body.

___ 35. I just go on as if nothing happened.

___ 36. I see it as a challenge and don't let it bother me.

___ 37. Although it hurts, I just keep on going.

___ 38. I feel I can't stand it anymore.

0	1	2	3	4	5	6
Never do that			Sometimes do that			Always do that

When I feel pain ...

___ 39. I try to be around other people.

___ 40. I ignore it.

___ 41. I rely on my faith in God.

___ 42. I feel like I can't go on.

___ 43. I think of things I enjoy doing.

___ 44. I do anything to get my mind off the pain.

___ 45. I do something I enjoy, such as watching TV or listening to music.

___ 46. I pretend it's not a part of me.

___ 47. I do something active, like household chores or projects.

___ 48. I use a heating pad.

Based on all the things you do to cope, or deal, with your pain, on an average day, how much control do you feel you have over it? Please circle the appropriate number. Remember, you can circle any number along the scale.

0	1	2	3	4	5	6
No control			Some control			Complete control

Based on all the things you do to cope, or deal, with your pain, on an average day, haw much are you able to decrease it? Please circle the appropriate number. Remember, you can circle any number along the scale.

0	1	2	3	4	5	6
Can't decrease it at all			Can decrease it somewhat			Can decrease it completely

The next set of questions are groups of statements. Please read each group of statements carefully. Then pick out one statement in each group which best describes the way you have been feeling the past week, including today. Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, CIRCLE EACH ONE. Be sure to read all the statements in each group before making your choice.

1.
0 I do not feel sad
1 I feel sad
2 I am sad all the time and I can't snap out of it
3 I am so sad or unhappy that I can't stand it

2.	0	I am not particularly discouraged about the future
	1	I feel discouraged about the future
	2	I feel I have nothing to look forward to
	3	I feel that the future is hopeless and that things cannot improve
3.	0	I do not feel like a failure
	1	I feel that I have failed more than the average person
	2	As I look back on my life, all I can see is a lot of failures
	3	I feel I am a complete failure as a person
4.	0	I get as much satisfaction out of things as I used to
	1	I don't enjoy things the way I used to
	2	I don't get real satisfaction out of anything anymore
	3	I am dissatisfied or bored with everything
5.	0	I don't feel particularly guilty
	1	I feel guilty a good part of the time
	2	I feel guilty most of the time
	3	I feel guilty all of the time
6.	0	I don't feel I am being punished
	1	I feel I may be punished
	2	I expect to be punished
	3	I feel I am being punished
7.	0	I don't feel disappointed in myself
	1	I am disappointed in myself
	2	I am disgusted with myself
	3	I hate myself

8.	0	I don't think I am any worse than anybody else
	1	I am critical of myself for my weaknesses or mistakes
	2	I blame myself all the time for my faults
	3	I blame myself for everything bad that happens
9.	0	I don't have any thoughts of killing myself
	1	I have thoughts of killing myself, but I would never carry them out
	2	I would like to kill myself
	3	I would kill myself if I had the chance
10.	0	I don't cry anymore than usual
	1	I cry more than I used to
	2	I cry all the time now
	3	I used to be able to cry, but now I can't cry even though I want to
11.	0	I am no more irritated than I ever am
	1	I get annoyed or irritated more easily than I used to
	2	I feel irritated all the time now
	3	I don't get irritated at all by the things that used to irritate me
12.	0	I have not lost interest in other people
	1	I am less interested in other people than I used to be
	2	I have lost most of my interest in other people
	3	I have lost all my interest in other people

13. 0 I make decisions about as well as I ever could
    1 I put off making decisions more than I used to
    2 I have greater difficulty in making decisions than before
    3 I can't make decisions at all anymore
14. 0 I don't feel I look any worse than I used to
    1 I am worried that I am looking old and unattractive
    2 I feel that there are permanent changes in my appearance that make me look unattractive
    3 I believe that I look ugly
15. 0 I can work about as well as before
    1 It takes an extra effort to get started at doing something
    2 I have to push myself very hard to do anything
    3 I can't do any work at all
16. 0 I can sleep as well as usual
    1 I don't sleep as well as I used to
    2 I wake up 1-2 hours earlier than I used to and find it hard to get back to sleep
    3 I wake up several hours earlier than I used to and cannot get back to sleep
17. 0 I don't get more tired than usual
    1 I get tired more easily than I used to
    2 I get tired from doing almost anything
    3 I am too tired to do anything

18. 0 My appetite is no worse than usual

1 My appetite is not as good as it used to be

2 My appetite is much worse now

3 I have no appetite at all anymore

19. 0 I haven't lost much weight, if any lately

1 I have lost more than 5 pounds I am purposely

2 I have lost more than 10 pounds trying to lose

3 I have lost more than 15 pounds weight. YES____NO____

20. 0 I am no more worried about my health than usual

1 I am worried about my problems such as aches and pains: or upset stomach; or constipation

2 I am very worried about physical problems and it's hard to think of much else

3 I am so worried about my physical problems, that I cannot think about anything else

21. 0 I have not noticed any recent change in my interest in sex

1 I am less interested in sex than I used to be

2 I am much less interested in sex now

3 I have lost interest in sex completely

1.Check the blank on the scale line below which best describes the degree of happiness, everything considered, of your present marriage. The middle point, "happy", represents the degree of happiness which most people get from marriage, and the scale gradually ranges on one side to those few who are very unhappy in marriage, and on the other, to those few who experience extreme joy or felicity in marriage.

___ ___ ___ ___ ___ ___ ___

Very Unhappy — Happy — Perfectly Happy

State the approximate extent of agreement or disagreement between you and your mate on the following items. Please check one in each column.

	Always Agree	Almost Always Agree	Occasional	Frequently Disagree	Almost Always Disagree	Always Disagree
2.Handling family finances	___	___	___	___	___	___
3.Matters of recreation	___	___	___	___	___	___
4.Demonstrations of affection	___	___	___	___	___	___
5.Friends	___	___	___	___	___	___

	Always Agree	Almost Always Agree	Occasional Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
6.Sex relations	___	___	___	___	___	___
7.Conventionality (right, good, or proper conduct)	___	___	___	___	___	___
8.Philosophy of life	___	___	___	___	___	___
9.Ways of dealing with in-laws	___	___	___	___	___	___

Please check one black only in each of the following questions.

10.When disagreements arise, they result in: ____ husband gives in, ____ wife giving in, ____ agreement by mutual give and take.

11.Do you and your mate engage on outside interests together?

____All of them, ____some of them, ____very few of them, ___none of them

12.In leisure time do you generally prefer: ____ to be "on the go", ____ to stay at home.

Does your mate generally prefer: ___ to be "on the go", ____ to stay at home.

13.Do you ever wish you had not married? ____ Frequently, ____ Occasionally, ____ Rarely, ____ Never.

14.If you had your life to live over, do you think you would:

____ marry the same person, ____ marry a different person,

____ not marry at all.

15.Do you confide in your mate: ____ almost never, ____ rarely,

____ in most things, ____ in everything.

IMPORTANT:
DO NOT READ UNTIL YOU HAVE COMPLETED THE QUESTIONNAIRE

DEBRIEFING SHEET

People who have persistent pain appear to report wide variability in their physical and psychological adjustment. Some people who have persistent pain seem to function and lead normal lives. These people seem to have adequate social supports, behavioral regimes, cognitive appraisals, and/or emotional stability to deal effectively with their pain. Others seem completely overwhelmed by their pain resulting in their pain becoming the primary focus of their lives. These people usually believe their pain will be permanently disabling and they may use maladaptive coping strategies to deal with their pain. Researchers are attempting to identify important variables that relate to these different outcomes that pain subjects report.

Pain has been conceptualized as more than a physical problem but rather as a complex multidimensional phenomenon with bio-physiological, psychological, and social components. Hence, it is becoming standard for pain patients who seek treatment to undergo a comprehensive assessment that evaluates not only the patient's medical findings, but also, the patient's coping strategies, and physical and psychological adjustment to the pain (William & Keefe, 1991). In addition, the social context in which the pain patient dwells is viewed as an important variable of interest. For instance, Burman and Margolin (1992) conducted an extensive review evaluating the relationship between marital relationships and health problems. From this review, they concluded that sufficient evidence is available to strongly support the hypothesis that the patient's social context is a significant contributor to the patient's health or illness. Also, pain-specific beliefs have been recognized as adding an important contribution to the pain experience. These beliefs have been shown to be associated with the pain patient's choice of coping strategies and level of adjustment (Jensen & Koroly, 1991).

The purpose of this study is to investigate the relationships between the "pain-free" (i.e., without persistent pain for a minimum of one year) spouse's pain-specific beliefs and behaviour and the pain subject's pain-specific beliefs, coping strategies, and adjustment. Marital satisfaction will be hypothesized as contributing a significant amount to some of these relationships.

APPENDIX B

Code No. ___

PERSISTENT PAIN AND FAMILIES RESEARCH QUESTIONNAIRE

TO BE FILLED OUT BY THE PARENT WHO DOES NOT HAVE PERSISTENT PAIN

Persistent pain can be a depressing and limiting condition. Research is beginning to show that families may plays a role in how people adjust with their pain. Researchers in the Psychology Department at the University of Manitoba are trying to better understand which family variables are related to pain adjustment.

I _____ hereby agree to take part in this project on the understanding that the information I provide will be kept strictly confidential and that I can withdraw from this project at any time.

PAIN RESEARCH QUESTIONNAIRE

Code No._____

1. DATE OF BIRTH: ____ DAY ____ MONTH ____ YEAR

2. Gender: a) Male b) Female

3. Marital Status: a) Single b) Married
   c) Separated d) Divorced e) Widowed

4. If married, for how many years _____

5. Living: a) with spouse b) commonlaw c) separated
   d) with parent(s) e) with friend(s) f) other

6. Circle years of education completed:

	1	2	3	4	5	6	7	8	9	10	11	12
College/University	1	2	3	4								
Graduate School	1	2	3	4	5							

7. Employment: a) full time b) part time c) homemaker
   d) student e) retired f) unemployed g) on disability

8. Have you had pain one or more times a week at same location for the past 3 months or longer? Yes No

9. If married give your annual family income; if unmarried please estimate your annual income (approximately to the nearest thousand)

Please circle the appropriate number

(a) less then $10,000 1

(b) between $11,000 and $20,000 2

(c) between $21,000 and $30,000 3

(d) between $31,000 and $40,000 4

(e) between $41,000 and $50,000 5

(f) between $51,000 and $60,000 6

(g) between $61,000 and $70,000 7

(h) between $71,000 and $80,000 8

(i) between $81,000 and $90,000 9

(j) between $91,000 and $100,000 10

(k) greater than $100,000 11

(l) unknown 12

10. Please circle the location(s) of any past persistent pain you may have had:

1) head pain	6) back pain
2) chest pain	7) joint pain
3) stomach pain	8) tooth/ear pain
4) neck pain	9) other _____
5) muscle pain	10) other _____

11. Have you had persistent pain in the last twelve months? Yes No

Please indicate how much you AGREE with each of the following statements about your spouse's pain by using the following scale:

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to my spouse).

3 = This is somewhat true for me.

4 = This is very true for me.

1.There are many times when my spouse can influence the amount of pain he or she feels.

0 1 2 3 4

2.The pain my spouse usually experiences is a signal that damage is being done.

0 1 2 3 4

3.I do not consider my spouse's pain to be a disability.

0 1 2 3 4

4.Nothing but my spouse's pain really bothers him or her.

0 1 2 3 4

5.Pain is a signal that my spouse has not been exercising enough.

0 1 2 3 4

6.The family does not understand how much pain my spouse is in.

0 1 2 3 4

7.My spouse counts more on his or her doctors to decrease the pain than he or she does on himself or herself.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to my spouse).

3 = This is somewhat true for me.

4 = This is very true for me.

8.My spouse will probably always have to take pain medications.

0 1 2 3 4

9.When my spouse hurts, I want the family to treat him or her better.

0 1 2 3 4

10.If my spouse's pain continues at its present level, he or she will be unable to work.

0 1 2 3 4

11.The amount of pain my spouse feels is completely out of his or her control.

0 1 2 3 4

12.I do not expect a medical cure for my spouse's pain.

0 1 2 3 4

13.Pain does not necessarily mean that my spouse's body is being harmed.

0 1 2 3 4

14.My spouse has had the most relief from pain with the use of medications.

0 1 2 3 4

15.Anxiety increases the pain my spouse feels.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to my spouse).

3 = This is somewhat true for me.

4 = This is very true for me.

16.There is little that my spouse or anyone can do to ease the pain he or she feels.

0 1 2 3 4

17.When my spouse is hurting, people should treat him or her with care and concern.

0 1 2 3 4

18.We pay doctors so they will cure my spouse of the pain.

0 1 2 3 4

19.My spouse's pain problem does not need to interfere with his or her activity level.

0 1 2 3 4

20.My spouse's pain is not emotional, it is purely physical.

0 1 2 3 4

21.I have given up the search for the complete elimination of my spouse's pain through the work of the medical profession.

0 1 2 3 4

22.It is the responsibility of my spouse's loved ones to help him or her when he or she feels pain.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to my spouse).

3 = This is somewhat true for me.

4 = This is very true for me.

23.Stress in my spouse's life increases his or her pain.

0 1 2 3 4

24.Exercise and movement are good for my spouse's pain problem.

0 1 2 3 4

25.Just by concentrating or relaxing, my spouse can "take the edge" off his or her pain.

0 1 2 3 4

26.My spouse will get a job to earn money regardless of how much pain he or she feels.

0 1 2 3 4

27.Medicine is one of the best treatments for chronic pain.

0 1 2 3 4

28.My spouse is unable to control a significant amount of his or her pain.

0 1 2 3 4

29.A doctor's job is to find effective pain treatments.

0 1 2 3 4

30.The family needs to learn how to take better care of my spouse when he of she is in pain.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to my spouse).

3 = This is somewhat true for me.

4 = This is very true for me.

31.Depression increases the pain my spouse feels.

0 1 2 3 4

32.If my spouse exercises, he or she could make the pain problem much worse.

0 1 2 3 4

33.I believe that my spouse can control how much pain he or she feels by changing his or her thoughts.

0 1 2 3 4

34.Often my spouse needs more tender loving care than he or she is now getting when he or she is in pain.

0 1 2 3 4

35.I consider my spouse to be disabled.

0 1 2 3 4

36.I wish my spouse's doctor would stop prescribing pain medications to him or her.

0 1 2 3 4

37.My spouse's pain is mostly emotional, and not so much a physical problem.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

38.Something is wrong with my spouse's body which prevents much movement or exercise.

0 1 2 3 4

39.My spouse has learned to control his or her pain.

0 1 2 3 4

40.I trust that the medical profession can cure my spouse's pain.

0 1 2 3 4

41.I know for sure my spouse can learn to manage his or her pain.

0 1 2 3 4

42.My spouse's pain does not stop him or her from leading a physically active life.

0 1 2 3 4

43.My spouse's physical pain will never be cured.

0 1 2 3 4

44.There is a strong connection between my spouse's emotions and his or her pain level.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

45.My spouse can do nearly everything as well as he or she could before he or she had a pain problem.

0 1 2 3 4

46.If my spouse do not exercise regularly, his or her pain problem will continue to get worse.

0 1 2 3 4

47.My spouse is not in control of his or her pain.

0 1 2 3 4

48.No matter how my spouse feels emotionally, his or her pain stays the same.

0 1 2 3 4

49.Pain will never stop my spouse from doing what he or she really want to do.

0 1 2 3 4

50.When my spouse finds the right doctor, he or she will know how to reduce the pain.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

51.If my spouse's doctor prescribed pain medications for him or her, he or she should throw them away.

0 1 2 3 4

52.Whether or not a person is disabled by pain depends more on your attitude than the pain itself.

0 1 2 3 4

53.I have noticed that if my spouse can changes his or her emotions, he or she can influence the pain.

0 1 2 3 4

54.My spouse should never take pain medications again.

0 1 2 3 4

55.Exercise can decrease the amount of pain my spouse experiences.

0 1 2 3 4

56.I'm convinced that there is no medical procedure that will help my spouse's pain.

0 1 2 3 4

57.My spouse's pain would stop anyone from leading an active life.

0 1 2 3 4

In the following 20 questions, you will be asked to describe your spouse's pain and how it affects your life. Under each question is a scale to record your answer. Read each question carefully and then CIRCLE a number on the scale under that question to indicate how that specific question applies to you.

1. Rate what YOU THINK the level of your spouse's pain at the present moment is (DO NOT ASK!).

   0 1 2 3 4 5 6

   No pain Very intense pain

2. In general, how much does your spouse's pain problem interfere with your day to day activities?

   0 1 2 3 4 5 6

   No interference Extreme interference

3. Since the time your spouse's developed a pain problem, how much has your spouse's pain changed your amount to work?

   0 1 2 3 4 5 6

   No change Extreme change

4. How much has your spouse's pain changed the amount of satisfaction or enjoyment you get from participating in social and recreational activities?

   0 1 2 3 4 5 6

   No change Extreme change

5. How supportive or helpful are you in relation to your spouse's pain?

0	1	2	3	4	5	6
Not at all supportive						Extremely supportive

6. Rate your overall mood during the PAST WEEK.

0	1	2	3	4	5	6
Extremely low mood						Extremely high mood

7. On the average, how severe do you think your spouse's pain has been during the last WEEK (DO NOT ASK)?

0	1	2	3	4	5	6
Not at all severe						Extremely severe

8. How much has your spouse's pain changed your participation level in recreational and other social activities?

0	1	2	3	4	5	6
No change						Extreme change

9. How much has your spouse's pain changed the amount of satisfaction you get from family-related activities?

0	1	2	3	4	5	6
No change						Extreme change

10. How worried are you in relation to your spouse's pain problem?

0	1	2	3	4	5	6
Not at all worried						Extremely worried

11. During the PAST WEEK how much control do you feel you have had over your life?

0	1	2	3	4	5	6
Not at all in control						Extremely in control

12. How much SUFFERING do you think your spouse experiences because of pain (DO NOT ASK)?

0	1	2	3	4	5	6
No suffering						Extreme suffering

13. How much has your spouse's pain changed your marriage and other family relationships?

0	1	2	3	4	5	6
No change						Extreme change

14. How much has your spouse's pain changed the amount of satisfaction and enjoyment you get from work?

0	1	2	3	4	5	6
No change						Extreme change

___ Check here, if you are not presently working

15. How attentive are you to your spouse's pain problem?

0	1	2	3	4	5	6
Not at all attentive						Extremely attentive

16. During the PAST WEEK how much do you feel that you've been able to deal with your problems?

0	1	2	3	4	5	6
Not at all						Extremely well

17. How much has your spouse's pain changed the amount of household chores you do?

0	1	2	3	4	5	6
No change						Extreme change

18. During the past week how irritable have you been?

0	1	2	3	4	5	6
Not at all irritable						Extremely irritable

19. How much has your spouse's pain changed your friendships with people other than your family?

0	1	2	3	4	5	6
No change						Extreme change

20. During the past week how tense or anxious have you been?

0	1	2	3	4	5	6
Not at all tense or anxious						Extremely tense or anxious

In this section, we are interested in knowing how you respond to your spouse when you know that he or she is in pain. On the scale listed below each question, CIRCLE a number to indicate HOW OFTEN you generally respond to your spouse in that particular way WHEN YOUR SPOUSE IS IN PAIN. Please answer ALL of the 14 questions.

1. Ignore your spouse.

0 1 2 3 4 5 6

Never Very often

2. Ask your spouse what you can do to help.

0 1 2 3 4 5 6

Never Very often

3. Reads to your spouse.

0 1 2 3 4 5 6

Never Very often

4. Expresses irritation at your spouse.

0 1 2 3 4 5 6

Never Very often

5. Take over your spouse's jobs or duties.

0 1 2 3 4 5 6

Never Very often

6. Talk to your spouse about something else to take his or her mind off the pain.

0 1 2 3 4 5 6

Never Very often

7. Express frustration at your spouse.

0 1 2 3 4 5 6

Never Very often

8. Try to get your spouse to rest.

0 1 2 3 4 5 6

Never Very often

9. Try to involve your spouse in some activity.

0 1 2 3 4 5 6

Never Very often

10. Express anger at your spouse.

0 1 2 3 4 5 6

Never Very often

11. Get your spouse some pain medication.

0 1 2 3 4 5 6

Never Very often

12. Encourage your spouse to work on a hobby.

0 1 2 3 4 5 6

Never Very often

13. Get your spouse something to eat or drink.

0 1 2 3 4 5 6

Never Very often

14. Turn on the T.V to take your spouse's mind off the pain.

0 1 2 3 4 5 6

Never Very often

Listed below are 18 common daily activities. Please indicate HOW OFTEN you do each of these activities by CIRCLING a number on the scale listed below each activity. Please complete ALL 18 questions.

1. Washes dishes.

0 1 2 3 4 5 6

Never Very often

2. Mow the lawn (in summer).

0 1 2 3 4 5 6

Never Very often

3. Go out to eat.

0 1 2 3 4 5 6

Never Very often

4. Play cards or other games.

0 1 2 3 4 5 6

Never Very often

5. Go grocery shopping.

0 1 2 3 4 5 6

Never Very often

6. Work in the garden (in summer).

0 1 2 3 4 5 6

Never Very often

7. Go to a movie.

0 1 2 3 4 5 6

Never Very often

8. Visit friends.

0 1 2 3 4 5 6

Never Very often

9. Help with the house cleaning.

0 1 2 3 4 5 6

Never Very often

10. Work on the car.

0 1 2 3 4 5 6

Never Very often

11. Take a ride in a car.

0 1 2 3 4 5 6

Never Very often

12. Visit relatives.

0 1 2 3 4 5 6

Never Very often

13. Prepare a meal.

0 1 2 3 4 5 6

Never Very often

14. Wash the car.

0 1 2 3 4 5 6

Never Very often

15. Take a trip.

0 1 2 3 4 5 6

Never Very often

16. Go to a park or beach.

0	1	2	3	4	5	6
Never						Very often

17. Do a load of laundry.

0	1	2	3	4	5	6
Never						Very often

18. Work on a needed house repair.

0	1	2	3	4	5	6
Never						Very often

The next set of questions are groups of statements. Please read each group of statements carefully. Then pick out one statement in each group which best describes the way you have been feeling the past week, including today. Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, CIRCLE EACH ONE. Be sure to read all the statements in each group before making your choice.

1. 0 I do not feel sad

1 I feel sad

2 I am sad all the time and I can't snap out of it

3 I am so sad or unhappy that I can't stand it

[*[*[PLEASE GO ON TO NEXT PAGE]*]*]

2.	0	I am not particularly discouraged about the future
	1	I feel discouraged about the future
	2	I feel I have nothing to look forward to
	3	I feel that the future is hopeless and that things cannot improve
3.	0	I do not feel like a failure
	1	I feel that I have failed more than the average person
	2	As I look back on my life, all I can see is a lot of failures
	3	I feel I am a complete failure as a person
4.	0	I get as much satisfaction out of things as I used to
	1	I don't enjoy things the way I used to
	2	I don't get real satisfaction out of anything anymore
	3	I am dissatisfied or bored with everything
5.	0	I don't feel particularly guilty
	1	I feel guilty a good part of the time
	2	I feel guilty most of the time
	3	I feel guilty all of the time
6.	0	I don't feel I am being punished
	1	I feel I may be punished
	2	I expect to be punished
	3	I feel I am being punished
7.	0	I don't feel disappointed in myself
	1	I am disappointed in myself
	2	I am disgusted with myself
	3	I hate myself

8.	0	I don't think I am any worse than anybody else
	1	I am critical of myself for my weaknesses or mistakes
	2	I blame myself all the time for my faults
	3	I blame myself for everything bad that happens
9.	0	I don't have any thoughts of killing myself
	1	I have thoughts of killing myself, but I would never carry them out
	2	I would like to kill myself
	3	I would kill myself if I had the chance
10.	0	I don't cry anymore than usual
	1	I cry more than I used to
	2	I cry all the time now
	3	I used to be able to cry, but now I can't cry even though I want to
11.	0	I am no more irritated than I ever am
	1	I get annoyed or irritated more easily than I used to
	2	I feel irritated all the time now
	3	I don't get irritated at all by the things that used to irritate me
12.	0	I have not lost interest in other people
	1	I am less interested in other people than I used to be
	2	I have lost most of my interest in other people
	3	I have lost all my interest in other people

13. 0 I make decisions about as well as I ever could
    1 I put off making decisions more than I used to
    2 I have greater difficulty in making decisions than before
    3 I can't make decisions at all anymore
14. 0 I don't feel I look any worse than I used to
    1 I am worried that I am looking old and unattractive
    2 I feel that there are permanent changes in my appearance that make me look unattractive
    3 I believe that I look ugly
15. 0 I can work about as well as before
    1 It takes an extra effort to get started at doing something
    2 I have to push myself very hard to do anything
    3 I can't do any work at all
16. 0 I can sleep as well as usual
    1 I don't sleep as well as I used to
    2 I wake up 1-2 hours earlier than I used to and find it hard to get back to sleep
    3 I wake up several hours earlier than I used to and cannot get back to sleep
17. 0 I don't get more tired than usual
    1 I get tired more easily than I used to
    2 I get tired from doing almost anything
    3 I am too tired to do anything

18. 0 My appetite is no worse than usual

1 My appetite is not as good as it used to be

2 My appetite is much worse now

3 I have no appetite at all anymore

19. 0 I haven't lost much weight, if any lately

1 I have lost more than 5 pounds I am purposely

2 I have lost more than 10 pounds trying to lose

3 I have lost more than 15 pounds weight. YES____NO____

20. 0 I am no more worried about my health than usual

1 I am worried about my problems such as aches and pains: or upset stomach; or constipation

2 I am very worried about physical problems and it's hard to think of much else

3 I am so worried about my physical problems, that I cannot think about anything else

21. 0 I have not noticed any recent change in my interest in sex

1 I am less interested in sex than I used to be

2 I am much less interested in sex now

3 I have lost interest in sex completely

1.Check the blank on the scale line below which best describes the degree of happiness, everything considered, of your present marriage. The middle point, "happy", represents the degree of happiness which most people get from marriage, and the scale gradually ranges on one side to those few who are very unhappy in marriage, and on the other, to those few who experience exteme joy or felicity in marriage.

___ ___ ___ ___ ___ ___ ___

Very Unhappy | Happy | Perfectly Happy

State the approximate extent of agreement or disagreement between you and your mate on the following items. Please check one in each column.

	Always Agree	Almost Always Agree	Occasional Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
2.Handling family finances	___	___	___	___	___	___
3.Matters of recreation	___	___	___	___	___	___
4.Demonstrations of affection	___	___	___	___	___	___
5.Friends	___	___	___	___	___	___

	Always Agree	Almost Always Agree	Occasional Disagree	Frequently Disagree	Almost Always Disagree	Always Disagree
6.Sex relations	___	___	___	___	___	___
7.Conventionality (right, good, or proper conduct)	___	___	___	___	___	___
8.Philosophy of life	___	___	___	___	___	___
9.Ways of dealing with in-laws	___	___	___	___	___	___

Please check one black only in each of the following questions.

10.When disagreements arise, they result in: ____ husband gives in, ____ wife giving in, ____ agreement by mutual give and take.

11.do you and your mate engage on outside interests together?

____All of them, ____some of them, ____very few of them, ___none of them

12.In leisure time do you generally prefer: ____ to be "on the go", ____ to stay at home.

Does your mate generally prefer: ___ to be "on the go", ____ to stay at home.

13.Do you ever wish you had not married? ____ Frequently, ____ Occasionally, ____ Rarely, ____ Never.

14.If you had your life to live over, do you think you would:

____ marry the same person, ____ marry a different person,

____ not marry at all.

15.Do you confide in your mate: ____ almost never, ____ rarely,

____ in most things, ____ in everything.

IMPORTANT:
DO NOT READ UNTIL YOU HAVE COMPLETED THE QUESTIONNAIRE

DEBRIEFING SHEET

People who have persistent pain appear to report wide variability in their physical and psychological adjustment. Some people who have persistent pain seem to function and lead normal lives. These people seem to have adequate social supports, behavioral regimes, cognitive appraisals, and/or emotional stability to deal effectively with their pain. Others seem completely overwhelmed by their pain resulting in their pain becoming the primary focus of their lives. These people usually believe their pain will be permanently disabling and they may use maladaptive coping strategies to deal with their pain. Researchers are attempting to identify important variables that relate to these different outcomes that pain subjects report.

Pain has been conceptualized as more than a physical problem but rather as a complex multidimensional phenomenon with bio-physiological, psychological, and social components. Hence, it is becoming standard for pain patients who seek treatment to undergo a comprehensive assessment that evaluates not only the patient's medical findings, but also, the patient's coping strategies, and physical and psychological adjustment to the pain (William & Keefe, 1991). In addition, the social context in which the pain patient dwells is viewed as an important variable of interest. For instance, Burman and Margolin (1992) conducted an extensive review evaluating the relationship between marital relationships and health problems. From this review, they concluded that sufficient evidence is available to strongly support the hypothesis that the patient's social context is a significant contributor to the patient's health or illness. Also, pain-specific beliefs have been recognized as adding an important contribution to the pain experience. These beliefs have been shown to be associated with the pain patient's choice of coping strategies and level of adjustment (Jensen & Koroly, 1991).

The purpose of this study is to investigate the relationships between the "pain-free" (i.e., without persistent pain for a minimum of one year) spouse's pain-specific beliefs and behaviour and the pain subject's pain-specific beliefs, coping strategies, and adjustment. Marital satisfaction will be hypothesized as contributing a significant amount to some of these relationships.

APPENDIX C

STUDENTS MUST TAKE ONE OF THESE FORMS HOME FOR THEIR

PARENTS TO SIGN AND

MUST BRING FORM SIGNED ON DAY OF SESSION

REQUEST FOR PARTICIPATION FORM

Persistent pain can be a depressing and limiting condition. Research is beginning to show that how people think about and cope with their pain plays a role in how people adjust with their pain. Also, the family is considered a key factor in the persistent pain person's life. Researchers in the Psychology Department at the University of Manitoba are trying to better understand which factors are related to adjustment. Your son/daughter has requested to participate in a study on families. Therefore, your help is also requested. Your son/daughter will bring home a questionnare for each parent to complete independently. This questionnaire will take approximately 45 to 60 minutes to complete. Upon returning your questionnaires, your son/daughter will receive credits towards his or her introductory psychology course.
IF ONE PARENT HAS PERSISTENT PAIN (PAIN ONE OR MORE TIMES A WEEK AT THE SAME LOCATION FOR THREE MONTHS
OR LONGER) THEN YOU BOTH ARE ELIGIBLE TO PARTICIPATE IN THIS RESEARCH PROJECT.

Parent who has persistent pain

(1) I _____ hereby agree to take part in this project on the understanding that the information I provide will be kept strictly confidential and that I can withdraw from this project at any time.

Spouse of the individual who has persistent pain

(2) I _____ hereby agree to take part in this project on the understanding that the information I provide will be kept strictly confidential and that I can withdraw from this project at any time.
NOTE: IF THIS PARENT WHO SIGNED AT THE SECOND BLANK HAS PAIN ONE OR MORE TIMES A WEEK AT THE SAME LOCATION FOR THREE MONTHS OR LONGER THEN YOU BOTH BECOME INELIGIBLE FOR THIS STUDY. YOUR SON/DAUGHTER WILL STILL BE ABLE TO EARN ONE INTRODUCTORY PSYCHOLOGY CREDIT.

APPENDIX D

Code No. ___

PERSISTENT PAIN AND FAMILIES RESEARCH QUESTIONNAIRE

TO BE FILLED OUT BY THE STUDENT

Persistent pain can be a depressing and limiting condition. Research is beginning to show that families may plays a role in how people adjust with their pain. Researchers in the Psychology Department at the University of Manitoba are trying to better understand which family variables are related to pain adjustment.

I _____ hereby agree to take part in this project on the understanding that the information I provide will be kept strictly confidential and that I can withdraw from this project at any time.

PAIN RESEARCH QUESTIONNAIRE

Code No._____

1. DATE OF BIRTH: ____ DAY ____ MONTH ____ YEAR

2. Gender: a) Male b) Female

3. Marital Status: a) Single b) Married
   c) Separated d) Divorced e) Widowed

4. If married, for how many years _____

5. Living: a) with spouse b) commonlaw c) separated
   d) with parent(s) e) with friend(s) f) other

6. Circle years of education completed:

	1	2	3	4	5	6	7	8	9	10	11	12
College/University	1	2	3	4								
Graduate School	1	2	3	4	5							

7. Employment: a) full time b) part time c) homemaker
   d) student e) retired f) unemployed g) on disability

8. Do you have persistent pain presently? Yes No

9. If so, please circle the location(s) of your persistent pain that you have:

   1) head pain 6) back pain
   2) chest pain 7) joint pain
   3) stomach pain 8) tooth/ear pain
   4) neck pain 9) other _____
   5) muscle pain 10) other _____

10. Give your family's annual income.

(approximately to the nearest thousand)

Please circle the appropriate number

(a) less then $10,000 1

(b) between $11,000 and $20,000 2

(c) between $21,000 and $30,000 3

(d) between $31,000 and $40,000 4

(e) between $41,000 and $50,000 5

(f) between $51,000 and $60,000 6

(g) between $61,000 and $70,000 7

(h) between $71,000 and $80,000 8

(i) between $81,000 and $90,000 9

(j) between $91,000 and $100,000 10

(k) greater than $100,000 11

(l) unknown 12

11. Please circle the location(s) of any past persistent pain you may have had:

1) head pain 6) back pain

2) chest pain 7) joint pain

3) stomach pain 8) tooth/ear pain

4) neck pain 9) other _____

5) muscle pain 10) other _____

12. If you presently have pain, rate the intensity from 0 to 10.

0 1 2 3 4 5 6 7 8 9 10

No pain Extreme Pain

Please indicate how much you AGREE with each of the following statements about your parent's pain by using the following scale:

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to my parent).

3 = This is somewhat true for me.

4 = This is very true for me.

1.There are many times when my parent can influence the amount of pain he or she feels.

0 1 2 3 4

2.The pain my parent usually experiences is a signal that damage is being done.

0 1 2 3 4

3.I do not consider my parent's pain to be a disability.

0 1 2 3 4

4.Nothing but my parent's pain really bothers him or her.

0 1 2 3 4

5.Pain is a signal that my parent has not been exercising enough.

0 1 2 3 4

6.The family does not understand how much pain my parent is in.

0 1 2 3 4

7.My parent counts more on his or her doctors to decrease the pain than he or she does on himself or herself.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to my parent).

3 = This is somewhat true for me.

4 = This is very true for me.

8.My parent will probably always have to take pain medications.

0 1 2 3 4

9.When my parent hurts, I want the family to treat him or her better.

0 1 2 3 4

10.If my parent's pain continues at its present level, he or she will be unable to work.

0 1 2 3 4

11.The amount of pain my parent feels is completely out of his or her control.

0 1 2 3 4

12.I do not expect a medical cure for my parent's pain.

0 1 2 3 4

13.Pain does not necessarily mean that my parent's body is being harmed.

0 1 2 3 4

14.My parent has had the most relief from pain with the use of medications.

0 1 2 3 4

15.Anxiety increases the pain my parent feels.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to my parent).

3 = This is somewhat true for me.

4 = This is very true for me.

16.There is little that my parent or anyone can do to ease the pain he or she feels.

0 1 2 3 4

17.When my parent is hurting, people should treat him or her with care and concern.

0 1 2 3 4

18.We pay doctors so they will cure my parent of the pain.

0 1 2 3 4

19.My parent's pain problem does not need to interfere with his or her activity level.

0 1 2 3 4

20.My parent's pain is not emotional, it is purely physical.

0 1 2 3 4

21.I have given up the search for the complete elimination of my parent's pain through the work of the medical profession.

0 1 2 3 4

22.It is the responsibility of my parent's loved ones to help him or her when he or she feels pain.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to my parent).

3 = This is somewhat true for me.

4 = This is very true for me.

23.Stress in my parent's life increases his or her pain.

0 1 2 3 4

24.Exercise and movement are good for my parent's pain problem.

0 1 2 3 4

25.Just by concentrating or relaxing, my parent can "take the edge" off his or her pain.

0 1 2 3 4

26.My parent will get a job to earn money regardless of how much pain he or she feels.

0 1 2 3 4

27.Medicine is one of the best treatments for chronic pain.

0 1 2 3 4

28.My parent is unable to control a significant amount of his or her pain.

0 1 2 3 4

29.A doctor's job is to find effective pain treatments.

0 1 2 3 4

30.The family needs to learn how to take better care of my parent when he of she is in pain.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to my parent).

3 = This is somewhat true for me.

4 = This is very true for me.

31.Depression increases the pain my parent feels.

0 1 2 3 4

32.If my parent exercises, he or she could make the pain problem much worse.

0 1 2 3 4

33.I believe that my parent can control how much pain he or she feels by changing his or her thoughts.

0 1 2 3 4

34.Often my parent needs more tender loving care than he or she is now getting when he or she is in pain.

0 1 2 3 4

35.I consider my parent to be disabled.

0 1 2 3 4

36.I wish my parent's doctor would stop prescribing pain medications to him or her.

0 1 2 3 4

37.My parent's pain is mostly emotional, and not so much a physical problem.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

38.Something is wrong with my parent's body which prevents much movement or exercise.

0 1 2 3 4

39.My parent has learned to control his or her pain.

0 1 2 3 4

40.I trust that the medical profession can cure my parent's pain.

0 1 2 3 4

41.I know for sure my parent can learn to manage his or her pain.

0 1 2 3 4

42.My parent's pain does not stop him or her from leading a physically active life.

0 1 2 3 4

43.My parent's physical pain will never be cured.

0 1 2 3 4

44.There is a strong connection between my parent's emotions and his or her pain level.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

45.My parent can do nearly everything as well as he or she could before he or she had a pain problem.

0 1 2 3 4

46.If my parent do not exercise regularly, his or her pain problem will continue to get worse.

0 1 2 3 4

47.My parent is not in control of his or her pain.

0 1 2 3 4

48.No matter how my parent feels emotionally, his or her pain stays the same.

0 1 2 3 4

49.Pain will never stop my parent from doing what he or she really want to do.

0 1 2 3 4

50.When my parent finds the right doctor, he or she will know how to reduce the pain.

0 1 2 3 4

0 = This is very untrue for me.

1 = This is somewhat untrue for me.

2 = This is neither true nor untrue for me (or it does not apply to me).

3 = This is somewhat true for me.

4 = This is very true for me.

51.If my parent's doctor prescribed pain medications for him or her, he or she should throw them away.

0 1 2 3 4

52.Whether or not a person is disabled by pain depends more on your attitude than the pain itself.

0 1 2 3 4

53.I have noticed that if my parent can change his or her emotions, he or she can influence the pain.

0 1 2 3 4

54.My parent should never take pain medications again.

0 1 2 3 4

55.Exercise can decrease the amount of pain my parent experiences.

0 1 2 3 4

56.I'm convinced that there is no medical procedure that will help my parent's pain.

0 1 2 3 4

57.My parent's pain would stop anyone from leading an active life.

0 1 2 3 4

In the following 20 questions, you will be asked to describe your parent's pain and how it affects your life. Under each question is a scale to record your answer. Read each question carefully and then CIRCLE a number on the scale under that question to indicate how that specific question applies to you.

1. Rate what YOU THINK the level of your parent's pain at the present moment is.

   0 1 2 3 4 5 6

   No pain Very intense pain

2. In general, how much does your parent's pain problem interfere with your day to day activities?

   0 1 2 3 4 5 6

   No interference Extreme interference

3. Since the time your parent's developed a pain problem, how much has your parent's pain changed your amount to work?

   0 1 2 3 4 5 6

   No change Extreme change

4. How much has your parent's pain changed the amount of satisfaction or enjoyment you get from participating in social and recreational activities?

   0 1 2 3 4 5 6

   No change Extreme change

5. How supportive or helpful are you in relation to your parent's pain?

0	1	2	3	4	5	6
Not at all supportive						Extremely supportive

6. Rate your overall mood during the PAST WEEK.

0	1	2	3	4	5	6
Extremely low mood						Extremely high mood

7. On the average, how severe do you think your parent's pain has been during the last WEEK ?

0	1	2	3	4	5	6
Not at all severe						Extremely severe

8. How much has your parent's pain changed your participation level in recreational and other social activities?

0	1	2	3	4	5	6
No change						Extreme change

9. How much has your parent's pain changed the amount of satisfaction you get from family-related activities?

0	1	2	3	4	5	6
No change						Extreme change

10. How worried are you in relation to your parent's pain problem?

0	1	2	3	4	5	6
Not at all worried						Extremely worried

11. During the PAST WEEK how much control do you feel you have had over your life?

0	1	2	3	4	5	6
Not at all in control						Extremely in control

12. How much SUFFERING do you think your parent experiences because of pain ?

0	1	2	3	4	5	6
No suffering						Extreme suffering

13. How much has your parent's pain changed your marriage and other family relationships?

0	1	2	3	4	5	6
No change						Extreme change

14. How much has your parent's pain changed the amount of satisfaction and enjoyment you get from work?

0	1	2	3	4	5	6
No change						Extreme change

___ Check here, if you are not presently working

15. How attentive are you to your parent's pain problem?

0	1	2	3	4	5	6
Not at all attentive						Extremely attentive

16. During the PAST WEEK how much do you feel that you've been able to deal with your problems?

0	1	2	3	4	5	6
Not at all						Extremely well

17. How much has your parent's pain changed the amount of household chores you do?

0	1	2	3	4	5	6
No change						Extreme change

18. During the past week how irritable have you been?

0	1	2	3	4	5	6
Not at all irritable						Extremely irritable

19. How much has your parent's pain changed your friendships with people other than your family?

0	1	2	3	4	5	6
No change						Extreme change

20. During the past week how tense or anxious have you been?

0	1	2	3	4	5	6
Not at all tense or anxious						Extremely tense or anxious

In this section, we are interested in knowing how you respond to your parent when you know that he or she is in pain. On the scale listed below each question, CIRCLE a number to indicate HOW OFTEN you generally respond to your parent in that particular way WHEN YOUR parent IS IN PAIN. Please answer ALL of the 14 questions.

1. Ignore your parent.

0 1 2 3 4 5 6

Never Very often

2. Ask your parent what you can do to help.

0 1 2 3 4 5 6

Never Very often

3. Reads to your parent.

0 1 2 3 4 5 6

Never Very often

4. Expresses irritation at your parent.

0 1 2 3 4 5 6

Never Very often

5. Take over your parent's jobs or duties.

0 1 2 3 4 5 6

Never Very often

6. Talk to your parent about something else to take his or her mind off the pain.

0 1 2 3 4 5 6

Never Very often

7. Express frustration at your parent.

0 1 2 3 4 5 6

Never Very often

8. Try to get your parent to rest.

0 1 2 3 4 5 6

Never Very often

9. Try to involve your parent in some activity.

0 1 2 3 4 5 6

Never Very often

10. Express anger at your parent.

0 1 2 3 4 5 6

Never Very often

11. Get your parent some pain medication.

0 1 2 3 4 5 6

Never Very often

12. Encourage your parent to work on a hobby.

0 1 2 3 4 5 6

Never Very often

13. Get your parent something to eat or drink.

0 1 2 3 4 5 6

Never Very often

14. Turn on the T.V to take your parent's mind off the pain.

0 1 2 3 4 5 6

Never Very often

Listed below are 18 common daily activities. Please indicate HOW OFTEN you do each of these activities by CIRCLING a number on the scale listed below each activity. Please complete ALL 18 questions.

1. Washes dishes.

0 1 2 3 4 5 6

Never Very often

2. Mow the lawn (in summer).

0 1 2 3 4 5 6

Never Very often

3. Go out to eat.

0 1 2 3 4 5 6

Never Very often

4. Play cards or other games.

0 1 2 3 4 5 6

Never Very often

5. Go grocery shopping.

0 1 2 3 4 5 6

Never Very often

6. Work in the garden (in summer).

0 1 2 3 4 5 6

Never Very often

7. Go to a movie.

0 1 2 3 4 5 6

Never Very often

8. Visit friends.

0 1 2 3 4 5 6

Never Very often

9. Help with the house cleaning.

0 1 2 3 4 5 6

Never Very often

10. Work on the car.

0 1 2 3 4 5 6

Never Very often

11. Take a ride in a car.

0 1 2 3 4 5 6

Never Very often

12. Visit relatives.

0 1 2 3 4 5 6

Never Very often

13. Prepare a meal.

0 1 2 3 4 5 6

Never Very often

14. Wash the car.

0 1 2 3 4 5 6

Never Very often

15. Take a trip.

0 1 2 3 4 5 6

Never Very often

16. Go to a park or beach.

0	1	2	3	4	5	6
Never						Very often

17. Do a load of laundry.

0	1	2	3	4	5	6
Never						Very often

18. Work on a needed house repair.

0	1	2	3	4	5	6
Never						Very often

The next set of questions are groups of statements. Please read each group of statements carefully. Then pick out one statement in each group which best describes the way you have been feeling the past week, including today. Circle the number beside the statement you picked. If several statements in the group seem to apply equally well, CIRCLE EACH ONE. Be sure to read all the statements in each group before making your choice.

1. 0 I do not feel sad

1 I feel sad

2 I am sad all the time and I can't snap out of it

3 I am so sad or unhappy that I can't stand it

[*[*[PLEASE GO ON TO NEXT PAGE]*]*]

2.	0	I am not particularly discouraged about the future
	1	I feel discouraged about the future
	2	I feel I have nothing to look forward to
	3	I feel that the future is hopeless and that things cannot improve
3.	0	I do not feel like a failure
	1	I feel that I have failed more than the average person
	2	As I look back on my life, all I can see is a lot of failures
	3	I feel I am a complete failure as a person
4.	0	I get as much satisfaction out of things as I used to
	1	I don't enjoy things the way I used to
	2	I don't get real satisfaction out of anything anymore
	3	I am dissatisfied or bored with everything
5.	0	I don't feel particularly guilty
	1	I feel guilty a good part of the time
	2	I feel guilty most of the time
	3	I feel guilty all of the time
6.	0	I don't feel I am being punished
	1	I feel I may be punished
	2	I expect to be punished
	3	I feel I am being punished
7.	0	I don't feel disappointed in myself
	1	I am disappointed in myself
	2	I am disgusted with myself
	3	I hate myself

8.	0	I don't think I am any worse than anybody else
	1	I am critical of myself for my weaknesses or mistakes
	2	I blame myself all the time for my faults
	3	I blame myself for everything bad that happens
9.	0	I don't have any thoughts of killing myself
	1	I have thoughts of killing myself, but I would never carry them out
	2	I would like to kill myself
	3	I would kill myself if I had the chance
10.	0	I don't cry anymore than usual
	1	I cry more than I used to
	2	I cry all the time now
	3	I used to be able to cry, but now I can't cry even though I want to
11.	0	I am no more irritated than I ever am
	1	I get annoyed or irritated more easily than I used to
	2	I feel irritated all the time now
	3	I don't get irritated at all by the things that used to irritate me
12.	0	I have not lost interest in other people
	1	I am less interested in other people than I used to be
	2	I have lost most of my interest in other people
	3	I have lost all my interest in other people

13. 0 I make decisions about as well as I ever could
    1 I put off making decisions more than I used to
    2 I have greater difficulty in making decisions than before
    3 I can't make decisions at all anymore
14. 0 I don't feel I look any worse than I used to
    1 I am worried that I am looking old and unattractive
    2 I feel that there are permanent changes in my appearance that make me look unattractive
    3 I believe that I look ugly
15. 0 I can work about as well as before
    1 It takes an extra effort to get started at doing something
    2 I have to push myself very hard to do anything
    3 I can't do any work at all
16. 0 I can sleep as well as usual
    1 I don't sleep as well as I used to
    2 I wake up 1-2 hours earlier than I used to and find it hard to get back to sleep
    3 I wake up several hours earlier than I used to and cannot get back to sleep
17. 0 I don't get more tired than usual
    1 I get tired more easily than I used to
    2 I get tired from doing almost anything
    3 I am too tired to do anything

18. 0 My appetite is no worse than usual

1 My appetite is not as good as it used to be

2 My appetite is much worse now

3 I have no appetite at all anymore

19. 0 I haven't lost much weight, if any lately

1 I have lost more than 5 pounds I am purposely

2 I have lost more than 10 pounds trying to lose

3 I have lost more than 15 pounds weight. YES____NO____

20. 0 I am no more worried about my health than usual

1 I am worried about my problems such as aches and pains: or upset stomach; or constipation

2 I am very worried about physical problems and it's hard to think of much else

3 I am so worried about my physical problems, that I cannot think about anything else

21. 0 I have not noticed any recent change in my interest in sex

1 I am less interested in sex than I used to be

2 I am much less interested in sex now

3 I have lost interest in sex completely

The statements listed below describe situations which could happen in a family. For each statement below, please circle "T" if the statement describes your family most of the time, or "F" if the statement does not describe your family most of the time.

T F 1. Family members really help and support one another.
T F 2. Family members often keep their feelings to themselves.
T F 3. We fight a lot in our family.
T F 4. We don't do things on our own very often in our family.
T F 5. We feel it is important to be good at whatever you do.
T F 6. We often talk about political and social problems.
T F 7. We spend most weekends and evenings at home.
T F 8. Family members attend church, synagogue, or Sunday school fairly often.
T F 9. Activities in our family are pretty carefully planned.
T F 10. Family members are rarely ordered around.
T F 11. We often seem to be killing time at home.
T F 12. We say anything we want to around home.
T F 13. Family members rarely become openly angry.
T F 14. In our family, we are strongly encouraged to be independent.
T F 15. Getting ahead in life is very important in our family.
T F 16. We rarely go to lectures, plays, or concerts.
T F 17. Fiends often come over for dinner or to visit.
T F 18. We don't say prayers in our family.
T F 19. We are generally very neat and orderly.
T F 20. There are very few rules to follow in our family.
T F 21. We put a lot of energy into what we do at home.
T F 22. It's hard to "blow off steam" at home without upsetting somebody.
T F 23. Family members sometimes get so angry they throw things.
T F 24. We think things out for ourselves in our family.
T F 25. How much money a person makes is not very important to us.
T F 26. Learning about new and different things is very important in our family.
T F 27. Nobody in our family is active in sports, Little League, bowling, etc.
T F 28. We often talk about the religious meanings of Christmas, Passover, or other holidays.
T F 29. It's often hard to find things when you need them in our household.
T F 30. There is one family member who makes most of the decisions.
T F 31. There is a feeling of togetherness in our family.
T F 32. We tell each other about our personal problems.
T F 33. Family members hardly ever lose their tempers.
T F 34. We come and go as we want to in our family.
T F 35. We believe in competition and "may the best man win".
T F 36. We are not interested in cultural activities.
T F 37. We often go to movies, sports events, camping, etc.
T F 38. We don't believe in heaven or hell.
T F 39. Being on time is very important in our family.

T F 40. There are set ways of doing things at home.
T F 41. We rarely volunteer when something has to be done at home.
T F 42. If we feel like doing something on the spur of the moment we often just pick up and go.
T F 43. Family members often critize each other.
T F 44. There is very little privacy in our family.
T F 45. We always strive to do things just a little better the next time.
T F 46. We rarely have intellectual discussions.
T F 47. Everyone in our family has a hobby or two.
T F 48. Family members have strict ideas about what is right and wrong.
T F 49. People change their minds often in our family.
T F 50. There is a strong emphasis on following rules in our family.
T F 51. Family members really back each other up.
T F 52. Someone usually gets upset if you complain in our family.
T F 53. Family members sometimes hit each other.
T F 54. Family members almost always rely on themselves when a problem comes up.
T F 55. Family members rarely worry about job promotions.
T F 56. Someone in our family plays a musical instrument.
T F 57. Family members are not very involved in recreational activities outside work or school.
T F 58. We believe there are some things you have to take on faith.
T F 59. Family members make sure their rooms are neat.
T F 60. Everyone has an equal say in family decisions.
T F 61. There is very little group spirit in our family.
T F 62. Money and paying bills is openly talked about in our family.
T F 63. If there's a disagreement in our family, we try hard to smooth things over and keep the peace.
T F 64. Family members strongly encourage each other to stand up for their rights.
T F 65. In our family, we don't try hard to succeed.
T F 66. Family members often go to the library.
T F 67. Family members sometimes attend courses or take lessons for some hobby of interest (outside of school).
T F 68. In our family, each person has different ideas about what is right and wrong.
T F 69. Each person's duties are clearly defined in our family.
T F 70. We can do whatever we want to in our family.
T F 71. We really get along well with each other.
T F 72. We are usually careful about what we say to each other.
T F 73. Family members often try to one-up or outdo each other.
T F 74. It's hard to be by yourself without hurting someone's feelings in our household.
T F 75. "Work before play" is the rule in our family.
T F 76. Watching TV is more important than reading in our family.
T F 77. Family members go out a lot.
T F 78. The Bible is a very important book in our home.
T F 79. Money is not handled very carefully in our family.
T F 80. Rules are pretty inflexible in our household.

T F 81. There is plenty of time and attention for everyone in our family.
T F 82. There are a lot of spontaneous discussions in our family.
T F 83. In our family, we believe you don't ever get anywhere by raising your voice.
T F 84. We are not really encouraged to speak up for ourselves in our family.
T F 85. Family members are often compared with others as to how well they are doing at work or school.
T F 86. Family members really like music, art, and literature.
T F 87. Our main form of entertainment is watching TV or listening to the radio.
T F 88. Family members believe that if you sin you will be punished.
T F 89. Dishes are usually done immediately after eating.
T F 90. You can't get away with much in our family.

IMPORTANT:
DO NOT READ UNTIL YOU HAVE COMPLETED THE QUESTIONNAIRE

DEBRIEFING SHEET

People who have persistent pain appear to report wide variability in their physical and psychological adjustment. Some people who have persistent pain seem to function and lead normal lives. These people seem to have adequate social supports, behavioral regimes, cognitive appraisals, and/or emotional stability to deal effectively with their pain. Others seem completely overwhelmed by their pain resulting in their pain becoming the primary focus of their lives. These people usually believe their pain will be permanently disabling and they may use maladaptive coping strategies to deal with their pain. Researchers are attempting to identify important variables that relate to these different outcomes that pain subjects report.

Pain has been conceptualized as more than a physical problem but rather as a complex multidimensional phenomenon with bio-physiological, psychological, and social components. Hence, it is becoming standard for pain patients who seek treatment to undergo a comprehensive assessment that evaluates not only the patient's medical findings, but also, the patient's coping strategies, and physical and psychological adjustment to the pain (William & Keefe, 1991). In addition, the social context in which the pain patient dwells is viewed as an important variable of interest. For instance, Burman and Margolin (1992) conducted an extensive review evaluating the relationship between marital relationships and health problems. From this review, they concluded that sufficient evidence is available to strongly support the hypothesis that the patient's social context is a significant contributor to the patient's health or illness. Also, pain-specific beliefs have been recognized as adding an important contribution to the pain experience. These beliefs have been shown to be associated with the pain patient's choice of coping strategies and level of adjustment (Jensen & Koroly, 1991).

The purpose of this study is to investigate the relationships between the "pain-free" (i.e., without persistent pain for a minimum of one year) spouse's pain-specific beliefs and behaviour and the pain subject's pain-specific beliefs, coping strategies, and adjustment. Marital satisfaction will be hypothesized as contributing a significant amount to some of these relationships.

APPENDIX E

INFORMATION SHEET

Dear Parents,

Thank you for taking the time to read this information sheet. Research in the area of pain is just beginning to show that family members can play a significant role in the life of the individual who is experiencing persistent pain. By taking part in this study, you will help to contribute to further our understanding of which family variables are most important. Because we are interested in the family unit, we strongly request that both parents complete the questionnaires. It is also very important that you complete the entire questionnaire, not omitting any parts. Please do NOT do the questionnaires together or discuss the questionnaires before completing them. If you have any questions with regard to this research study, please feel free to contact the primary investigator at daily between 8 and 9pm.

Thank you in advance for your participation in this research project.

Ian Mogilevsky, B.A.(Honors)

Primary Investigator

Michael R. Thomas, Ph.D., C.Psych.

Supervising Clinical Psychologist

P.S. In the very rare case that items on your questionnaire are unclear and there is need for clarification, we would like permission to phone you to obtain this information.

Please give permission by initialing here _____

PHONE #:_____

APPENDIX F

Table F1. Unequal paired t-tests between pain subject's pain duration of five years or less and greater than five years (n_1 = 116 (≤5 years) & n_2 = 84 (>5 years)).

Pain subject's reported	t	df	p-values
previous surgery	-.63	163.9	.5294
medication	2.11	180.8	.0355
number of pain sites	1.54	197.0	.1250
control belief	-.22	184.5	.8229
disability belief	-.82	189.0	.4098
harm belief	-.47	182.9	.6392
emotional belief	.21	178.8	.8321
medication belief	-3.20	168.8	.0017
solicitude belief	1.47	169.9	.1584
medical cure belief	1.31	169.7	.1935
pain severity	-.65	192.8	.5177
self control	-1.89	196.4	.0604
negative mood	1.47	185.7	.1434
spousal support	-.59	187.3	.5555
critical responses	.28	172.1	.7769
solicitous responses	-.29	179.3	.7699
distracting responses	2.11	195.1	.0366
household activities	-.31	177.6	.7595
outdoor activities	-.61	194.2	.5379
activities out of home	-.30	189.2	.9765
social activities	-2.38	188.3	.0185
diverting attention	-.05	174.6	.9641
reinterpreting pain	.57	182.7	.5662
coping self statements	1.47	157.9	.1431
ignoring pain sensations	1.05	184.7	.2963
praying and hoping	.97	174.8	.3314
average coping	1.22	186.1	.2250
Beck depression	2.24	195.8	.0260
marital satisfaction	-.80	174.5	.4221
Spouse's reported			
control belief	2.08	179.5	.0391
disability belief	-1.49	184.9	.1390
harm belief	-1.52	156.2	.1302
emotional belief	1.27	189.0	.2057
medication belief	-3.16	164.4	.0019
solicitude belief	-2.33	182.6	.0211
medical cure belief	.96	170.7	.3337
spousal support	.76	182.9	.4482
critical responses	.53	185.3	.5904
solicitous responses	-1.05	183.0	.2951
distracting responses	.49	170.7	.6229
Beck depression	.94	195.5	.3501

Note. All non-significant using the Bonferroni approach to determine significant level.

APPENDIX G

Table G1. Unequal paired t-tests for pain subject's gender (n_1 = 95 (Male) & n_2 = 105 (Female)).

Pain subject's reported	t	df	p-values
previous surgery	1.31	157.2	.1931
medication	2.40	195.5	.0173
number of pain sites	-1.51	197.1	.1330
control belief	1.06	187.3	.2924
disability belief	-.60	193.7	.5465
harm belief	-.89	192.0	.3734
emotional belief	-2.58	195.5	.0106
medication belief	-1.23	197.6	.2188
solicitude belief	-4.01	198.0	.0001**
medical cure belief	.70	197.7	.4872
pain severity	.35	196.9	.7296
self control	.58	197.1	.5621
negative mood	-.33	184.9	.7451
spousal support	1.72	197.3	.0877
critical responses	.55	196.6	.5830
solicitous responses	-1.71	196.1	.0881
distracting responses	-.93	197.6	.3537
household activities	-15.22	158.9	.0001**
outdoor activities	8.91	187.6	.0001**
activities out of home	-.85	192.0	.3978
social activities	-2.07	196.9	.0394
diverting attention	-2.22	196.8	.0278
reinterpreting pain	.04	188.9	.9675
coping self statements	.91	193.0	.3663
ignoring pain sensations	1.47	191.1	.1436
praying and hoping	-2.02	195.2	.0451
average coping	-.63	193.9	.5290
Beck depression	-.29	196.9	.7759
marital satisfaction	.40	187.0	.6890
Spouse's reported			
control belief	.48	197.7	.6338
disability belief	-.30	187.9	.7649
harm belief	.29	190.6	.7742
emotional belief	-1.66	191.3	.0995
medication belief	.06	192.9	.9525
solicitude belief	-3.59	182.5	.0004*
medical cure belief	-2.74	197.7	.0068
spousal support	-.81	193.4	.4196
critical responses	.48	189.7	.6287
solicitous responses	-1.04	195.2	.2987
distracting responses	-.68	195.5	.4946
Beck depression	-.31	197.8	.7548

Note. The Bonferroni approach was used to determine significance level.
*$p < .05$. **$p < .01$.

APPENDIX H

Table H1. Unequal paired t-tests for pain subject's reported cause of pain or not (n_1 = 87 (Known) & n_2 = 113 (Unknown)).

Pain subject's reported	t	df	p-values
previous surgery	1.40	133.8	.1647
medication	-1.36	185.9	.1755
number of pain sites	-.11	183.6	.9148
control belief	-.26	180.9	.7973
disability belief	.40	175.0	.6866
harm belief	.3353	173.5	.7378
emotional belief	-.70	182.9	.4873
medication belief	.17	185.3	.8656
solicitude belief	.79	192.0	.4327
medical cure belief	-1.94	176.5	.0537
pain severity	1.17	170.2	.2435
self control	.21	184.5	.8380
negative mood	.23	177.0	.8221
spousal support	-.08	189.0	.9402
critical responses	.20	184.7	.8426
solicitous responses	-1.35	184.7	.1796
distracting responses	-.45	193.3	.6524
household activities	.63	195.9	.5321
outdoor activities	1.39	176.9	.1667
activities out of home	.18	188.5	.8605
social activities	-.19	178.5	.8461
diverting attention	1.67	182.3	.0970
reinterpreting pain	.35	187.2	.7262
coping self statements	.36	175.2	.7179
ignoring pain sensations	1.43	173.2	.1542
praying and hoping	-.07	181.4	.9441
average coping	1.09	184.8	.2777
Beck depression	-.68	190.3	.4947
marital satisfaction	.46	179.4	.6390
Spouse's reported			
control belief	.62	196.5	.5373
disability belief	.94	189.0	.3499
harm belief	-.94	179.5	.3478
emotional belief	-1.41	187.1	.1593
medication belief	.59	180.6	.5637
solicitude belief	-.50	184.4	.6186
medical cure belief	-.62	186.9	.5390
spousal support	.29	187.2	.7736
critical responses	.28	176.3	.7782
solicitous responses	.08	196.3	.9351
distracting responses	.30	196.7	.7652
Beck depression	.02	184.6	.9833

Note. All non-significant using the Bonferroni approach to determine significant level.

APPENDIX I

Table I1. Unequal paired t-tests for pain subject's reported level of depression (n_1 = 154 (Low) & n_2 = 46 (High)).

Pain subject's reported	t	df	p-values
previous surgery	-1.27	62.2	.2071
medication	3.27	80.2	.0016*
number of pain sites	-3.24	55.4	.0020*
control belief	1.39	71.3	.1674
disability belief	-3.72	64.3	.0004*
harm belief	-4.51	67.5	.0001**
emotional belief	-4.76	69.8	.0001**
medication belief	-1.65	198.0	.1016
solicitude belief	-2.91	65.4	.0049
medical cure belief	-1.97	83.1	.0524
pain severity	-4.28	65.7	.0001**
self control	7.21	66.9	.0001**
negative mood	-8.01	69.6	.0001**
spousal support	-.59	62.8	.5582
critical responses	-2.65	60.7	.0101
solicitous responses	-0.52	64.6	.6028
distracting responses	-.83	68.8	.4080
household activities	.34	75.8	.7372
outdoor activities	1.18	68.0	.2437
activities out of home	1.51	67.8	.1363
social activities	4.29	83.9	.0001**
diverting attention	-2.88	75.9	.0052
reinterpreting pain	-1.32	74.8	.1894
coping self statements	-.10	75.4	.9227
ignoring pain sensations	.44	70.9	.6578
praying and hoping	-2.47	73.4	.0159
average coping	-1.83	67.6	.0721
marital satisfaction	2.49	59.5	.0154
Spouse's reported			
control belief	.58	69.3	.5624
disability belief	-3.33	63.4	.0015*
harm belief	-1.80	84.8	.0758
emotional belief	-3.55	70.2	.0007*
medication belief	-1.58	69.5	.1198
solicitude belief	-2.11	65.5	.0389
medical cure belief	-1.29	70.0	.2009
spousal support	-3.00	64.8	.0039
critical responses	-1.94	65.1	.0562
solicitous responses	-1.95	65.4	.0558
distracting responses	-.83	68.4	.4067
Beck depression	-.73	64.2	.4664

Note. The Bonferroni approach was used to determine significance level.
*$p < .05$. **$p < .01$.

APPENDIX J

Table J1. Unequal paired t-tests for pain subject's medication use or not (n_1 = 104 & n_2 = 96).

Pain subject's reported	t	df	p-values
previous surgery	1.42	180.1	.1584
number of pain sites	2.22	192.3	.0274
control belief	-1.29	197.6	.1991
disability belief	2.78	198.0	.0059
harm belief	1.65	198.0	.0997
emotional belief	3.07	197.3	.0024
medication belief	10.15	197.9	.0001**
solicitude belief	2.02	197.7	.0444
medical cure belief	2.30	197.9	.0225
pain severity	5.27	195.7	.0001**
self control	-2.72	197.7	.0072
negative mood	3.33	186.0	.0010*
spousal support	1.68	197.6	.0952
critical responses	2.32	181.6	.0213
solicitous responses	3.01	197.8	.0030
distracting responses	2.06	196.1	.0407
household activities	2.21	192.7	.0282
outdoor activities	-2.48	196.4	.0139
activities out of home	-.58	197.9	.5631
social activities	-.15	195.8	.8846
diverting attention	1.96	190.0	.0513
reinterpreting pain	.11	178.4	.9126
coping self statements	-1.90	197.0	.0589
ignoring pain sensations	-2.63	196.1	.0092
praying and hoping	2.08	196.6	.0387
average coping	.05	189.6	.9586
Beck depression	3.15	188.8	.0019
marital satisfaction	-1.15	188.0	.2500
Spouse's reported			
control belief	-1.17	197.7	.2421
disability belief	4.34	196.2	.0001**
harm belief	.72	197.9	.4705
emotional belief	2.06	193.4	.0410
medication belief	6.72	198.0	.0001**
solicitude belief	2.20	197.8	.0289
medical cure belief	2.22	197.7	.0277
spousal support	2.67	196.7	.0082
critical responses	.81	196.8	.4198
solicitous responses	4.13	197.0	.0001**
distracting responses	1.54	197.0	.1246
Beck depression	1.42	187.5	.1585

Note. The Bonferroni approach was used to determine significance level.
*$p < .05$. **$p < .01$.

APPENDIX K

Table K1. Unequal paired t-tests for pain subject's having treatment for pain presently or not (n_1 = 88 & n_2 = 107).

Pain subject's reported	t	df	p-values
previous surgery	.82	176.2	.4125
number of pain sites	.81	175.7	.4183
control belief	-1.75	181.2	.0826
disability belief	3.79	147.2	.0002**
harm belief	2.34	173.0	.0206
emotional belief	1.23	188.2	.2190
medication belief	3.97	184.5	.0001**
solicitude belief	2.02	169.8	.0445
medical cure belief	3.34	184.8	.0010*
pain severity	4.41	165.6	.0001**
self control	-2.11	170.0	.0364
negative mood	3.04	187.0	.0027
spousal support	1.67	180.1	.0958
critical responses	2.03	163.3	.0440
solicitous responses	.76	177.8	.4480
distracting responses	1.66	176.3	.0989
household activities	1.08	189.5	.2807
outdoor activities	-1.60	188.7	.1123
activities out of home	-.60	172.4	.5480
social activities	-1.73	173.5	.0847
diverting attention	1.34	185.7	.1827
reinterpreting pain	.13	188.1	.8984
coping self statements	-.71	172.3	.4803
ignoring pain sensations	-2.13	177.5	.0347
praying and hoping	3.34	178.6	.0010*
average coping	.75	185.6	.4542
Beck depression	2.26	166.5	.0252
marital satisfaction	-.74	172.6	.4628
Spouse's reported			
control belief	-3.56	166.1	.0005*
disability belief	4.14	155.1	.0001**
harm belief	2.05	183.7	.0418
emotional belief	-1.01	184.9	.3113
medication belief	3.32	172.2	.0011*
solicitude belief	1.17	190.3	.2435
medical cure belief	2.55	182.9	.0116
spousal support	4.12	189.0	.0001**
critical responses	-1.13	190.3	.2579
solicitous responses	2.72	177.1	.0072
distracting responses	1.43	177.7	.1556
Beck depression	-.65	192.4	.5189

Note. The Bonferroni approach was used to determine significance level.
*$p < .05$. **$p < .01$.

APPENDIX L

Table L1. Unequal paired t-tests for pain subject's having different pain sites (n_1 = 94 (Back) & n_2 = 70 (Joint)).

Pain subject's reported	t	df	p-values
previous surgery	-1.14	109.0	.2570
number of pain sites	2.02	161.7	.0446
control belief	.08	149.7	.9338
disability belief	1.64	150.5	.1034
harm belief	-.85	155.2	.3952
emotional belief	2.32	155.9	.0216
medication belief	1.06	142.6	.2914
solicitude belief	-.04	146.6	.9650
medical cure belief	-.68	147.4	.4964
pain severity	1.71	157.3	.0884
self control	-1.91	153.3	.0578
negative mood	1.22	152.0	.2237
spousal support	1.01	146.9	.3153
critical responses	1.41	159.5	.1601
solicitous responses	1.68	155.7	.0959
distracting responses	.67	132.7	.5038
household activities	-1.49	147.0	.1394
outdoor activities	-1.96	140.9	.0520
activities out of home	-1.37	152.3	.1722
social activities	-.23	152.6	.7697
diverting attention	.66	138.9	.5082
reinterpreting pain	-1.00	141.0	.3183
coping self statements	-1.37	140.5	.1720
ignoring pain sensations	-2.30	147.4	.0230
praying and hoping	1.75	144.8	.0822
average coping	-.54	141.1	.5889
Beck depression	2.70	161.7	.0077
marital satisfaction	-.98	149.9	.3265
Spouse's reported			
control belief	-.60	151.2	.5514
disability belief	1.24	145.2	.2171
harm belief	-1.59	149.8	.1148
emotional belief	.51	147.6	.6121
medication belief	-.59	155.5	.5544
solicitude belief	.43	147.7	.6673
medical cure belief	.17	152.1	.8652
spousal support	1.34	154.9	.1823
critical responses	.42	141.1	.6738
solicitous responses	1.88	158.1	.0616
distracting responses	.52	151.5	.6063
Beck depression	.22	152.5	.8257

Note. All non-significant using the Bonferroni approach to determine significant level.

APPENDIX M

Table M1. Unequal paired t-tests for pain subject's having different pain sites (n_1 = 58 (Head) & n_2 = 70 (Joint)).

Pain subject's reported	t	df	p-values
previous surgery	-2.58	82.8	.0118
medication	-3.34	125.1	.0011*
number of pain sites	1.46	95.0	.1471
control belief	-.45	112.9	.6518
disability belief	.52	125.2	.6027
harm belief	-.05	122.7	.9566
emotional belief	6.58	115.9	.0001**
medication belief	3.68	125.2	.0004*
solicitude belief	2.29	121.6	.0240
medical cure belief	1.32	124.0	.1896
pain severity	.13	117.6	.8952
self control	-2.01	113.4	.0465
negative mood	1.15	123.7	.2519
spousal support	-.28	119.2	.7803
critical responses	1.83	100.9	.0705
solicitous responses	2.16	119.7	.0329
distracting responses	1.21	122.4	.2273
household activities	2.90	125.5	.0043
outdoor activities	-3.17	122.8	.0019
activities out of home	.37	124.3	.7149
social activities	-.29	123.5	.7696
diverting attention	.92	123.9	.3585
reinterpreting pain	-.42	124.9	.6749
coping self statements	-3.11	123.1	.0023
ignoring pain sensations	-2.83	120.9	.0055
praying and hoping	1.99	117.0	.0486
average coping	-.76	122.5	.4511
Beck depression	2.71	97.9	.0079
marital satisfaction	-.80	112.2	.4262
Spouse's reported			
control belief	-1.33	118.0	.1867
disability belief	-.04	124.9	.9654
harm belief	-.61	119.2	.5425
emotional belief	3.36	122.9	.0010*
medication belief	2.62	122.4	.0100
solicitude belief	1.91	125.9	.0583
medical cure belief	1.53	121.0	.1289
spousal support	1.34	119.5	.1843
critical responses	-.06	121.5	.9523
solicitous responses	2.44	110.9	.0164
distracting responses	1.33	105.5	.1858
Beck depression	.01	121.4	.9922

Note. The Bonferroni approach was used to determine significance level.
*$p < .05$. **$p < .01$.

APPENDIX N

Table N1. Unequal paired t-tests for pain subject's having different pain sites (n_1 = 94 (Back) & n_2 = 58 (Head)).

Pain subject's reported	t	df	p-values
previous surgery	2.22	140.7	.0277
medication	2.58	130.7	.0110
number of pain sites	.16	113.5	.8715
control belief	.55	107.8	.5865
disability belief	1.10	133.0	.2730
harm belief	-.77	131.3	.4454
emotional belief	-4.63	120.1	.0001**
medication belief	-3.00	124.4	.0032
solicitude belief	-2.50	118.2	.0139
medical cure belief	-2.09	125.2	.0387
pain severity	1.42	125.2	.1567
self control	.43	112.8	.6717
negative mood	-.01	129.6	.9895
spousal support	1.22	114.2	.2245
critical responses	-.70	108.3	.4857
solicitous responses	-.65	126.2	.5171
distracting responses	-.74	106.2	.4614
household activities	-4.80	140.6	.0001**
outdoor activities	1.61	115.0	.1097
activities out of home	-1.74	131.6	.0843
social activities	.02	129.7	.9831
diverting attention	-.37	118.2	.7148
reinterpreting pain	-.58	126.7	.5641
coping self statements	2.10	117.0	.0378
ignoring pain sensations	.84	119.0	.4032
praying and hoping	-.56	109.0	.5768
average coping	.31	116.1	.7598
Beck depression	-.44	117.4	.6614
marital satisfaction	-.07	115.1	.9409
Spouse's reported			
control belief	.85	117.1	.3974
disability belief	1.29	125.6	.2003
harm belief	-.81	117.4	.4192
emotional belief	-3.11	122.4	.0023
medication belief	-3.25	130.9	.0015
solicitude belief	-1.62	138.8	.1082
medical cure belief	-1.44	123.5	.1529
spousal support	-.11	125.9	.9154
critical responses	.47	113.9	.6384
solicitous responses	-.80	118.3	.4260
distracting responses	-.96	101.4	.3399
Beck depression	.20	124.9	.8431

Note. The Bonferroni approach was used to determine significance level.
*$p < .05$. **$p < .01$.

APPENDIX O

Table O1. Unequal paired t-tests for couple's marital satisfaction (n_1 = 49 (Low) & n_2 = 141 (High)).

Pain subject's reported	t	df	p-values
previous surgery	.37	71.2	.7128
medication	-1.16	84.5	.2513
number of pain sites	3.36	68.7	.0013
control belief	-2.28	83.0	.0254
disability belief	2.07	81.6	.0420
harm belief	3.25	89.5	.0016
emotional belief	1.38	72.5	.1707
medication belief	.56	96.6	.5756
solicitude belief	1.19	83.8	.2393
medical cure belief	1.04	80.8	.3037
pain severity	2.91	94.3	.0045
self control	-4.66	77.4	.0001**
negative mood	3.51	91.9	.0007*
spousal support	-3.51	70.9	.0008*
critical responses	4.83	62.4	.0001**
solicitous responses	-3.94	99.5	.0002**
distracting responses	-2.68	114.7	.0084
household activities	1.61	89.3	.1102
outdoor activities	1.30	81.4	.1978
activities out of home	-1.23	75.4	.2224
social activities	-1.14	83.1	.2574
diverting attention	-.03	96.0	.9788
reinterpreting pain	-.20	84.1	.8402
coping self statements	-1.47	80.3	.1451
ignoring pain sensations	-.38	76.0	.7076
praying and hoping	.32	84.4	.7505
average coping	-.46	82.2	.6484
Beck depression	2.48	69.8	.0157
Spouse's reported			
control belief	-.64	77.9	.5243
disability belief	.79	83.3	.4314
harm belief	1.25	89.3	.2161
emotional belief	3.19	86.5	.0020
medication belief	.52	91.4	.6064
solicitude belief	2.24	85.4	.0280
medical cure belief	3.29	75.9	.0015
spousal support	-.74	75.2	.4628
critical responses	4.56	68.4	.0001**
solicitous responses	-.75	115.0	.4577
distracting responses	-.08	76.5	.9404
Beck depression	2.01	59.8	.0485

Note. The Bonferroni approach was used to determine significance level.
*$p < .05$. **$p < .01$.