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Social Roles as Predicting Factors on the Effect of Gains and Losses on Treatment Outcome

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SOCIAL ROLES AS PREDICTING FACTORS ON THE EFFECT OF GAINS AND LOSSES ON TREATMENT OUTCOME

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Doctor of Psychology

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Title: Social Roles as Predicting Factors on the Effect of Gains and Losses on Treatment Outcome

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This study aims to extend the current research on secondary gain among chronic pain patients. Previous research identified the concept of secondary gain having evolved from Freudian neurosis and an unfair association with malingering. Current research recognizes a more complete construct that includes secondary gains and losses as well as the gains and losses from tertiary levels. These levels of gains and loss create an overall economy that is theorized to have an effect on the treatment outcomes of chronic pain patients. From a biopsychosocial perspective, the current study hypothesized that the maintenance of social roles would serve as a predicting factor for the effect of gains and losses on treatment outcome for chronic pain patients. Although there are currently minimal studies utilizing clinical population data to quantify secondary gain effects, this study recruited 52 chronic pain patients identified by physicians at a regional, rural Trauma 1 hospital. These participants completed self-report questionnaires on demographics, chronic pain, social roles, and quality of life. Aggregate data responses were analyzed through multiple single, linear regressions. Social roles were not found to have a significant predictive effect on the outcome quality of life for this study. Possible explanations include a limited sample size and statistical power, a weak measurement for social role construct, and the possibility that gains and losses are less influential than previously theorized.

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CHAPTER I

REVIEW OF RELATED LITERATURE

Statement of the Problem

Chronic pain has a long history as a syndrome that has confounded health care, been a burden on society, and reduced the quality of life for those whom it has afflicted. Illustrating the long history of chronic pain, there are writings over 2500 years ago by Hippocrates that detail chronic pain patients (Nutton, 2013). Today, chronic pain continues to afflict individuals throughout the world. Approximately 100 million individuals are impacted by chronic pain throughout the United States (Byrne & Hochwarter, 2006). Throughout Europe, 19% of adults live in moderate to severe chronic pain (Breivik, Collett, Ventafridda, Cohen, & Gallacher, 2005). Globally, it is estimated that one in five adults suffers from chronic pain (Goldberg & McGee, 2011). Clearly, chronic pain can be seen as a global health problem affecting a significant amount of the human population.

A defining element of chronic pain is the lack of a cure. Despite significant advances in medicine, chronic pain perplexes health care professionals today, just as it did over 2500 years ago when Hippocrates was unable to alleviate the ongoing pain of his patients. While acute pain from a burn or a cut can be treated with the expectation to heal over a brief time, chronic pain is lacks this expectation and is often defined by lasting six months or longer. Most chronic pain is endured over a lifetime and is treated with the expectation to *manage* the pain—*healing,* or eliminating the pain is not the medical expectation of treatment (Byrne & Hochwarter, 2006). Chronic pain patients often experience multiple examinations with multiple specialists, multiple tests and scans only to hear a similar prognosis: that their pain will not go away. This is not only difficult for health care professionals, but also is distressing to patients.

Chronic pain patients are known to report a lower quality of life and have high comorbidity with depression, anxiety, and addictive disorders, (Lame, Peters, Vlaeyen, Kleef, & Patijn, 2005). Some chronic pain patients suffer due to a terminal illness such as cancer while others suffer with life-long debilitating pain such as severe migraine headaches. Other chronic pain patients experience pain without an observed physical genesis and have endured being repeatedly told “it’s all in [their] head.” These complications, combined with physical limitations, place additional stresses on relationships, interfere with the ability to work, and impact daily routines such as sleeping (Goldberg & McGee, 2011).

In 2006, Byrne and Hochwarter estimated the total direct and indirect costs of chronic pain in the United States to have been between $150 and $250 billion annually. By 2012, that figure had risen to $635 billion (Gaskin & Richard, 2012). Obviously medical costs are significant, but chronic pain also increases the overall societal financial burden by limiting patients’ ability to work and be financially independent.

Successful treatment—successful management of chronic pain that allows for increased functioning and improved quality of life is therefore an important goal among health care professionals and chronic pain patients alike. This makes the learning from factors that contribute to treatment outcome important. For decades, the comorbidity of secondary gain has been theorized to hinder treatment for many chronic pain patients (Dersch, Polatin, Leeman, &Gatchel, 2004; Ferrari, Kwan, &Friel, 2001; Ferrari & Kwan, 2001; Fishbain, Rosomoff, Cutler, &Rosomoff, 1995). However, secondary gain does not impede treatment for all chronic pain patients. Therefore, understanding what secondary gain truly is and why it predicts weaker treatment results for some chronic pain patients but not all could be a significant step toward improving chronic pain treatment.

The concept of secondary gain is complex and has a long history that has sometimes unfairly misconstrued the concept. Let us begin with two popular examples to illustrate this misconception.In 1994 when Stella Liebeck was awarded $2.86 million in damages due to burns suffered from spilled McDonald's coffee, many questioned whether the outcome of Stella's illness—the third-degree burns that required skin grafts—was exaggerated in order to maximize her potential secondary gain—the initial $2.86 million awarded as a result of her lawsuit against McDonald's Restaurants (Vidmar, Gross, & Rose, 1998).The 2004-2012 television show,*House,* featured the character Dr. Gregory House with a Vicodin dependency that he justified as necessary due to the pain caused by tissue death in his quadriceps muscle. The show frequently asked the question: to what extent was the pain Dr. House experienced real and/or exaggerated in order to obtain the pain pills of his addiction. Both of these examples illustrate the commonly held concept of secondary gain: Ms.Liebeck's financial gain and Dr. House's opioid use. Both cases raise questions of malingering: was the injury of the burns faked or exaggerated to obtain a larger settlement and was the leg pain exaggerated to obtain pain medication? The situation for Dr. House clearly illustrates how secondary gains might affect recovery. If Dr. House stops experiencing pain and recovers use of his leg, he will no longer receive prescriptions for the pain medication to which he has become addicted—this addiction creates a powerful motivation for Dr. House to avoid getting well again. These cases illustrate how secondary gain is portrayed to have an effect on both the medical treatment and recovery outcome of individuals who are ill and in medical care. But, these cases are also incomplete: they show a pop-culture understanding of secondary gains that inaccurately marries the concept with questions of malingering. The reality of how secondary gain affects the medical treatment and outcome of sick patients is complex and includes a long history of study. That study has evolved into an understanding of secondary gains as a complex economy with a net outcome derived from both gains and losses, an understanding that this economy is not associated with malingering, and an understanding that it does negatively affect medical treatment outcome (Dersch, Polatin, Leeman, & Gatchel, 2004; Ferrari, Kwan, & Friel, 2001; Ferrari & Kwan, 2001; Fishbain, Rosomoff, Cutler, & Rosomoff, 1995). What is not yet well understood are operationalizeable methods for limiting the negative treatment outcomes that can be associated for many patients when secondary gain is present.This current research attempts to identify a predicting factor of secondary gain and show how it motivates patient behavior, thereby identifying an understanding and potential methods for limiting the negative effect of secondary gain on treatment outcome.

The introductory examples of Dr. House and Ms. Liebek are illustrative, but only offer a superficial understanding of secondary gain. Part of defining the concept of secondary gain includes the understanding that it is present whenever an individual is sick and that it has evolved as part of our social contract (Parsons, 1964). It is an understood element of our social contract that an individual who becomes ill may be granted special rights and privileges. It is not uncommon for persons who are ill to be relieved from work and/or social obligations and other civic duties. These examples of “gains” experienced by an individual while sick are often outweighed by the “losses” that an individual might simultaneously experience. The same sick individual relieved from work may experience a loss of income. The relief of social obligations could leave an individual socially isolated. For most people, the balance between these gains and losses results in the losses outweighing the gains and the individuals in these situations are fully motivated to become well or reduce their pain and suffering (Kwan & Friel, 2002).

To the extent that the gains experienced by an individual while sick are advantageous to that individual, they become labeled as secondary gains. As a result of our social contract, these secondary gains are readily available to individuals who fulfill the criteria for the “sick role.” The sick role is a social construct wherein an individual with an officially documented, organic illness is afforded the aforementioned special rights and privileges while cooperating with others for the purpose of "getting well" as soon as possible (Parsons, 1964).

For a small number of patients, the gains they experience while being sick may outweigh the losses that occur during that same time. For these individuals, being granted and maintaining the sick role provides a series of secondary gains that outweigh the current conditions of their lives. As a result, maintaining the sick role is of greater advantage to these individuals than pursing wellness as soon as possible. This situation not only interferes with an individual's recovery process but it also violates the social contract. Society finds this unacceptable, and will label the lack of motivation to get well—or the motivation to remain ill—as malingering (Kwan & Friel, 2002). In addition to being seen as socially unacceptable, the presence of secondary gain is also reported to have a negative impact on treatment outcome (Dersch, Polatin, Leeman, & Gatchel, 2004; Ferrari, Kwan, & Friel, 2001; Ferrari & Kwan, 2001; Fishbain, Rosomoff, Cutler, & Rosomoff, 1995).

This negative impact on treatment outcome creates a substantial problem for individuals affected by secondary gains, for the people surrounding these individuals, and also for society at large. Particularly within the past several decades, the complication of secondary gains has become a larger issue among the medical community. As the industrial revolution ushered factory settings and corporate health care, secondary gains took on a greater financial representation (Modlin, 1986). In addition, new medications and treatments for illness have become available. Changes in health-care laws require even those in poverty to receive medical treatment when sick. Thus, some potential secondary gains may have increased through expanded medical care.

For most people, maintaining the sick role is accompanied by a loss of health, a loss of substantial income when unable to work, a loss of social connections when confined to the sick bed, and a range of other losses that motivates wellness and leaving the sick role behind. But there are a unique group of patients for whom the sick role will always accompany their everyday identity. Chronic pain patients are defined as patients for whom there is no cure. These are patients who will continue to live their lives with the sick role ever-present in some form. Chronic pain patients include those individuals diagnosed with fibromyalgia, lumbago, lupus, chronic fatigue syndrome, rheumatoid arthritis, and other diagnoses where the treatment outcome includes the management of the disease or syndrome symptoms but does not include a cure. The aforementioned sick role and its status as a temporary state that is adopted by an individual during an illness is a different concept for individuals who are not expecting a return to a previously fully functional state. This makes chronic pain patients among the greatest affected populations by secondary gains and adds a complication to the already difficult treatment of this population.

Situations involving secondary gain raise many questions, and there exists a history of study that only offers minimal answers. Are patients malingering to receive secondary gains? Are secondary gains present for every patient, and how do individual experiences with secondary gains vary? If treatment of an illness is intended to eliminate the sick role, how does the presence of secondary gain affect the prescribed treatment? Patients could have pending legal action regarding an injury; others could be applying for or appealing a disability claim, and yet other patients could be struggling with the loss of income related to a current inability to work. Research suggests that all chronic illnesses, whether they are physical or psychiatric, involve gains and losses to the patient (Dersch, Polatin, Leeman, & Gatchel, 2004). This research suggests that all sick individuals are exposed to a series of gains and losses while they are ill. As everyone experiences illness, this is an issue that potentially impacts the general population, and certainly impacts professionals within the healthcare system. In order to maximize treatment outcome in cases where secondary gain is present, it is essential to understand the concept of secondary gain, its presence associated with the sick role, its effects on treatment outcome, and potential methods for mitigating those effects.Understanding the impact of the gain and loss issues should contribute to determining the most effective therapeutic strategies to use in these patients' cases.

The History of Secondary Gain

The history of secondary gain can be seen in three phases: 1) the initial Freudian phase when it was first studied, 2) a middle phase when secondary gain became enmeshed with a socio/cultural evolution containing insurance policies and legal suits for punitive damages, and 3) the current phase when secondary gain is seen as one piece of a larger economy of gains and losses. These phases overlap and influence one another. For example, Dr. Freud's emphasis on the sub-consciousness is still affecting current research. But, the early phases of secondary gain theory also represent an incomplete and simplified conceptualization of what is now understood to be a complex issue.

Secondary gain was first identified by Dr. Sigmund Freud as an "interpersonal or social advantage attained by the patient as a consequence of illness" (Freud, 1909/trans. 1959). This was distinguished from primary gain, which Freud identified as an intrapsychic phenomenon that works to reduce anxiety via an unconscious defense mechanism that results in physical symptoms. Examples of physical symptoms that may result in conversion reactions would include blindness, limb paralysis, somatoform conversion disorders, and hysteria. Along with the development of physical symptoms is a sense of indifference about their appearance (Freud, 1909/trans. 1959). Kwan, Ferrari, and Friel (2001) illustrate this in the following example:

> Consider a man who strikes his wife and nearly causes serious head injury, and who subsequently feels tremendous guilt for what he has done, anger at having lost his temper,

> anxiety about what he may become, etc. He is in great turmoil, perturbed by great shame and guilt. The next morning he wakes up with his right arm (the arm he hit his wife with) paralyzed. He is being punished and his guilt is relieved. The symptom has just gained him a sense of peace and atonement. This is the primary gain (p. 460).

Consistent with Freud's concept, primary gain is only achieved when the production of symptoms accomplishes significant relief of anxiety and distress (Freud, 1909/trans. 1959). This indicator is a main reason why primary gain is viewed as a separate factor in the overall economy of secondary and tertiary gains and losses. Chronic pain patients, patients with disability syndromes, and similar clients are often significantly distressed and anxious, thus indicating that primary gain is not a factor. However, secondary gain may be a significant factor that may be able to predict a patient's healing trajectory.

Freud is credited with the first qualitative case studies of secondary gain and part of his definition of secondary gain as advantages that are external and come to the patient has remained. However, his conceptualization is closely tied to other Freudian concepts, notably the id/ego conflict. Freud's conceptualization unfairly links the effects surrounding secondary gain to thoughts of somataformdisorders where sickness is genuinely believed by the patient, and symptoms are unintentionally (unconsciously) created to justify that belief. This initial conceptualization has linked secondary gain with neurosis and that link will be seen to continue to unfairly haunt the concept throughout modern understanding. Freudian definitions of secondary gain do not account for the behavioral factors present in secondary gain and do not address the complexity of the social factors that are also impacting the issue. These social factors were highlighted in the 1920's and 1930's, and remained as defining features of secondary gain through the 1980's.

The concept of secondary gain did not receive much attention immediately following Freud's identification in the early 1900's. But, as the industrial revolution brought changes in working conditions, and the rise in labor unions led to worker's compensation, the number of medical and legal cases involving compensation—a form of secondary gain—increased. Simultaneously, advancements in military capabilities also led to an increase in war related injuries. The turn of the century through the First World War saw a wave of new injuries and symptoms among patients that could not be accounted for by traditional diagnoses of the time. "Traumatic neurosis" and "compensation neurosis" emerged as diagnoses for otherwise unexplained symptoms (Modlin, 1983). Thus, a combination of social changes in labor conditions, worker's rights, and medical advancements with psychological understanding all contributed in the late 1920's and early 1930's to the evolution of "compensation neurosis" cases. Compensation neurosis seemed to be the predominant diagnosis of cases involving unexplained symptoms and the presence of secondary gain through the 1930s, 1940s, and into the 1950s. Within the medical/legal community, the terms "compensation neurosis" and "litigation neurosis" became associated with a conscious or unconscious tendency to amplify symptoms in the face of secondary gain (Modlin, 1983). In his book *Disorders of Simulation,* Hutchinson (2001) identified studies that showed patients with work-related injuries had a poorer response to treatment when compared with patients who had similar injuries that were not work related. This observation increased momentum for the concept of compensation/litigation neurosis. In addition, it was shown that the frequency and duration of claims for worker's compensation increased as the ratio of wage-replacement increased (Hutchinson, 2001). Although 1946 saw the emergence of a new journal, *Compensation Medicine,* it was discontinued within a few years and "compensation neurosis" began to fade as the rapid ascendance of psychiatry in the 1950s and 1960s led to greater understanding and explanation for patient behavior and symptoms (Modlin, 1983). Greater study by psychologists (e.g., Behan & Hirchfeld, 1963; Kelly & Smith, 1981; Kennedy, 1946; Leopold & Dillon, 1963; Rickarby, 1979; and White, et al., 1973), began to examine compensation neurosis and discredit the myth that money was a cure as well as discrediting the popular idea of compensation neurosis as a means to financial gain (Modlin, 1983).

Compensation neurosis was a step backward for chronic pain patients who experienced unexplainable symptoms. Studies were published that showed the rise and fall of reported symptoms correlating with the presence and absence of financial gain. Similarly, individuals were exerting labor rights for the first time. This combination of factors seemed to create an environment that supported an attitude where chronic pain patients were universally seen as "faking it to get money" whenever secondary financial gain was present. This perception has created a lingering specter that follows chronic pain patients even today. The introductory example of Stella Liebeck in 1994 was a pop-culture magnet. Comedians joked endlessly about this "frivolous lawsuit." Thirteen years later, ABC News identified the case as "the poster child for excessive lawsuits." Not only does this illustrate the lingering negative effect the compensation neurosis literature has had on the field of chronic pain and secondary gain, it also illustrates how incomplete and one-sided this point of view can be. Ms. Liebeck suffered third-degree burns that required extensive skin grafts to heal. Her initial lawsuit was for $20,000 only to cover legal expenses, and the case went to court after McDonalds Corporation offered a meager $800 settlement (Vidmar, Gross, & Rose, 1998). These are hardly the circumstances of "the poster child for excessive lawsuits." Yet the sigma lingers and today chronic pain patients are often viewed with suspicion, especially in the presence of financial secondary gain.

In their review of secondary gain research, Dersh, Polatin, Leeman, and Gachtel (2004) wrote that David Fishbain was perhaps the most prolific and thoughtful author on the concept of secondary gain throughout the 1990s. According to Dersch and his co-authors, Fishbainhad a concern that the term “secondary gain” was being abused and utilized incorrectly, and he therefore strove to reach a clear definition of the concept. Fishbaindefined secondary gains as “any behavior that results in acceptable or legitimate interpersonal advantage that can be shown to have an unconscious motivation” (Dersch, Polatin, Leeman, & Gachtel, 2004). At last, here was a definition that attempted to remove the sigma of malingering. Also included in Fishbain’s definition was the phrase “secondary gain behaviors or perceptions,” which he believed would be obvious to an examiner who would be able to identify patient and non-patient behaviors clearly or perceptions that appear as though the individual is seeking secondary gain. Fishbain believed that this distinction resulted in a definition that could be operationalized, as well as a definition that clarified the role of reinforcement in secondary gain. He felt that reinforcers would be the rewards for secondary gain behaviors or perceptions (Dersch, Polatin, Leeman, & Gachtel, 2004). With Fishbain’s work, secondary gain was beginning to be examined as a more complete phenomenon rather than “faking it for money.” Fishbain’s definition included both social and behavioral components that had previously been absent in the literature.

Although Fishbain recognized a need to make secondary gain more operationalizable and deserves credit for attempting to do so, he was unable to accomplish this goal. Recent research has criticized Fishbain’s concept for being difficult to operationalize or define and for utilizing a dichotomous concept of unconscious motivation. Fishbain’s concepts of secondary gain were still strictly grounded in Freudian theorythat did not translate well into the biopsychosocial model of health (Dersch, Polatin, Leeman, & Gachtel, 2004). As the field evolved, secondary gain grew to be considered in less Freudian terms and in more social/cognitive/behavioral terms.

Current Understandings of Secondary Gain

Currently, the biopsychosocial model for health has contributed to a view that recognizes the presence of potential compensation as one construct that may affect a complex organism's perception of health. The old view of symptoms seeming as neuroses is evolving into a view that recognizes the legitimacy of these symptoms. From this view, many symptoms formerly ascribed to compensation neurosis are now being included in a number of other diagnoses including: blindness, whiplash injury, brucellosis (illness contracted by contact with the excretion of animals infected with Brucella bacteria), myocardial infarction, and poliomyelitis (Modlin, 1983). Some research has even identified neurotic-like symptoms, (e.g.: tingling or burning sensations) that can have a neuropathologic explanation, (e.g.: diabetic neuropathy), (Modlin, 1983). It is generally agreed that the term "compensation neurosis" is currently ill-defined and has little diagnostic value given what we have come to understand of associated symptoms and the biopsychosocial model of health (Modlin, 1983). Particularly, as more and more research has shown the lack of correlation between physical disability and the resolution of compensation or litigious issues, the concept of compensation neurosis seems to be less relevant (Modlin, 1983; Hutchinson, 2001). Research such as that by Schoen has found that, among patients whose diagnoses typically do not include cure or recovery, such as cancer and autoimmune patients, secondary gains still have an effect on treatment, supporting the finding that resolution of compensation issues does not have a clear cause-and-effect outcome on the patient (Schoen, 1993).

Thus, the literature base was moving beyond simple neuroses and was moving to understand secondary gain in terms that examine behavior and social construction. In 1992, Bellamy described a theory of "social iatrogenesis" that incorporates the phenomena of compensation neurosis and litigation neurosis in a social context that includes the interacting factors of the multiple persons and situations involved. This concept had been discussed throughout the 1980s and into the 1990s as the biopsychosocial model of health, and medical personnel grew in their understanding and acceptance of the model. Although Bellamy was incorporating the biopsychosocial model, it was still in the context of blame that surrounded compensation neurosis. For example, Bellamy incorporated the behavioral motivation of the patient for social systems that financially reward illness and he incorporated the interpersonal role of the healthcare professional to act as a gatekeeper into these systems. The concept of secondary gain is seen through Bellamy to be moving from the individual patient centered concept of neurosis to a more interactive concept among the patient, health care providers, and social systems.

Similar to Bellamy's (1992) idea of social iatrogenesis is the economy of gains and losses on secondary and tertiary levels present in Ferrari and Kwan's (2001) workwhere patients seek an acceptable access to the "sick-role" as a means of access to secondary gain. This idea encompasses multiple concentric circles of systems. Because of the cultural stigma attached to emotional and mental health issues, (that was partially created and fueled by previous promotion of compensation neurosis), patients with these issues seek validation of their illness as an organic disease (Ferrari & Kwan, 2001). Within our culture, physicians are typically the gatekeepers providing access or denying entry to the legitimate sick role. Ferrari and Kwan point out that their concept is not inclusive of malingering. Rather, fulfilling the sick role accesses secondary gains that provide a solution to life circumstances. The sick role is most readily granted and accepted within the context of organic disease rather than psychological or emotional diagnoses. As a result of "favoritism" given to physiological versus psychological symptoms, somatization and disability syndromes exist (Ferrari & Kwan, 2001). In this concept, behaviorism and social learning play key parts and there is no mention of neurosis.

The Economy of Gains and Losses Associated With the Sick Role

The “economy” discussed by Ferrari, Kwan, and others extends beyond just the gains available at a secondary level.Recent research has also identified the existence of secondary losses as well as tertiary gains and losses, all of which is hypothesized to affect treatment progress (Ferrari & Kwan, 2001). Table 1 summarizes the theoretical multiple levels of gains and losses in contrast to malingering, somatoform and fictitious disorders. Primary losses are seen as losses of health and functioning and secondary losses are seen as decreased income and an inability to engage in previously enjoyable activities (Gatchel, Adams, Polatin, & Kishino, 2002). Research suggests secondary losses outweigh secondary gains associated with the sick role(Gatchel, Adams, Polatin, & Kishino, 2002). Despite this “economy,” secondary gains can be more motivating toward illness behavior. Suggested examples for such motivating gains include a sense of recovering losses illustrated in the statement “I’ve lost so much, I deserve to get something back.” This attitude is usually seen when the patient is preoccupied with thoughts of fairness about illness and results in a sense of entitlement and belief that illness behavior should eventually pay off. This results in further entrenchment in the sick role and a preoccupation with secondary gain issues(Dersch, Polatin, Leeman, & Gachtel, 2004).

The secondary level of gains and losses is associated directly with the *individual* fulfilling the sick role. Recent research has identified another level of gains and losses that are shown to have an effect on treatment and recovery for the sick individual. Tertiary gains and losses are those sought or attained by someone other than the patient (Dansak, 1973).The sympathy afforded to a wife regarding her sick husband is the most obvious example, but can include other caregivers, as well. As this concept was first defined, tertiary gains differed from secondary not only by the seeker of gain, but also through the intention of the seeker. Dansak (1973) characterized the party seeking tertiary gain as having some form of self-serving intent, some desire for the gain. Kwan, Ferrari, and Friel (2001) point out that secondary gains are different because they are available and received by virtually all who are ill and are therefore a neutral phenomenon. The authors theorize that therefore secondary gain is not a negative construct, but rather the *desire* for such a motivating factor for behavior can be malignant. In this way, they update the tertiary gain concept to be a neutral one as well, claiming that the tertiary gain itself is readily available and often received. But when desire for tertiary gain serves to motivate behavior, that desire can create a maladaptive situation (Kwan, Ferrari, & Friel, 2001).

Table1

Conceptual Differences Among the Economy of Gains and Losses, Malingering, Somataform Disorders and Fictitious Disorders

Primary Gain	**Definition:** 1) *Historical Freudian:* the resolution of intrapsychic distress; 2) *Modern:* health & well-being	**Examples:** 1) Alleviation of guilt accompanied by understanding bruised hands as penance for having wrongfully hit someone; 2) The physical and psychic recovery of the body/mind to normal, functional, adaptive operations
Primary Loss	**Definition:** Compromised health and functioning	**Examples:** Injury, disease, plague
Secondary Gain	**Definition:** Advantage attained by the patient as a result of illness. Advantages are often automatic as part of social contract.	**Examples:** financial - legal settlement, worker's compensation, social security disability; social – visitors, alleviation of duties such as sick days off, etc.
Secondary Loss	**Definition:** Disadvantage cased by illness of the patient	**Examples:** financial – inability to work; social – restricted movement leading to isolation
Tertiary Gain	**Definition:** The advantage gained by those persons connected interpersonally to the sick patient. Advantages are often automatic as part of social contract.	**Examples:** spousal benefit of financial gain via legal payment to sick patient; increased business to healthcare provider by sick patient
Tertiary Loss	**Definition:** The disadvantage affecting those persons connected interpersonally to the sick patient	**Examples:** loss of family income due to sick patient's inability to work; social isolation due to increased caretaking responsibilities with sick patient
Malingering	**Definition:** The deliberate falsification of sick symptoms to gain entrance into the sick role in order to reap financial benefits or avoid legal consequences	**Examples:**Ganser syndrome, altering a thermometer reading via holding it toward a light, adding sand to a urine sample—symptoms typically exaggerated in the presence of financial gain or legal reprieve.
Facticious(Formerly known as Munchausen Syndrome)	**Definition:** The deliberate falsification of mental illness symptoms, not for financial gain but to fulfill the intrapsychic need to be ill.	**Examples:** reporting subjective symptoms, (hallucinations, chest pain, stomach discomfort), deliberate self-injury to produce symptoms (deliberately hitting head to induce mental fog, lack of concentration, etc.)
Somataform	**Definition:** The genuine belief of sickness and unintentional creation of symptoms without deliberate attempt to deceive	**Examples:** Patient believes s/he is experiencing severe stomach ailment (e.g. cancer) supported by symptoms of abdominal pain when symptoms are reactions to self-induced anxiety and worry over believed diagnosis.

Tertiary loss is defined by Kwan, Ferrari, & Friel, (2001), as "the limitation or loss experienced by an individual other than the patient, which is yet linked to the patient's illness."

In addition to the example mentioned above, tertiary loss could be seen in examples where the ill persons' disability results in a loss of income, mental and/or emotional distress regarding the illness of another, and through the increased responsibility "well" individuals experience to compensate for the "sick" individual (Kwan, Ferrari, & Friel, 2001). The concept of tertiary gains and losses can be expanded upon beyond this narrative; however, for the purposes of this study, it is sufficient to understand that the tertiary level exists and that it can have a significant effect on the overall economy of gains and losses.

Connecting the various gains and losses, patient behavior can be conceptualized as an economy of these gains and losses (Kwan, Ferrari,& Friel, 2001). Secondary gains are typically balanced with secondary losses wherein, for many people, the losses outweigh the gains resulting in a situation where adopting behaviors of the sick role is undesirable, thereby making recovery as soon as possible the desired outcome. For a small number of patients, their economy of secondary gains may outweigh secondary losses. For some of these patients,this may lead to patient behaviors motivated to maintain secondary gain and not motivated to give-up the sick role. This maintenance of the sick role and behaviors to maintain gain is not to be misunderstood as malingering because there is no falsification of symptoms or deliberate attempt at deception (Kwan, Ferrari, & Friel, 2001).

The interaction of secondary and tertiary gains and losses inevitably occurs. Individuals experience illness ranging from common cold viruses to chronic pain and/or cancerous diseases. As we are social creatures and most do not live in isolation, in times of illness we encounter other individuals: perhaps professional caregivers, or family members, friends, coworkers, or even a random stranger offering a tissue when we sneeze. The interaction of these economies and the net balance they produce ultimately has an impact on the behavior of both the individual and those around them (Kwan, Ferrari, & Friel, 2001).

What has been clarified is the understanding that the economy of secondary and tertiary gains and losses has a reported effect on treatment outcome (e.g., Dersch, Polatin, Leeman, & Gatchel, 2004; Ferrari, Kwan, & Friel, 2001; Ferrari & Kwan, 2001; Fishbain, Rosomoff, Cutler, & Rosomoff, 1995). This report is supported by evidence mostly collected and generated through the "compensation neurosis" period. There exists a substantial body of work including experimental studies and literature syntheses regarding factors that affect an individual's return to work status (Blackwell, Leirerer, Haupt, & Kampotsis, 2003; Gumerman, 1998; Loeser, Henderlite, & Conrad, 1995); however, this population is unique from the population of chronic pain patients. Yet, much of the research about secondary gain among chronic pain patients seems to have been extrapolated from such studies. Much of the secondary gain literature about treatment outcome references studiesconducted among this population. More recently, limited research on secondary gain has expanded to include populations of patients in the sick-role without accident-related injury. For example, in 1993 Schoen examined the presence of secondary gain on a population of patients with autoimmune deficiencies. He found this population to exhibit effects of secondary gain that were similar to those seen in populations of patients suffering from accidents (Schoen, 1993). A sample of 110 patients at the Cedars-Sinai Medical Center was examined to determine if secondary gains were associated with treatment outcome. Of the 110 patients, approximately 40% identified an unconscious resistance to health as seen using ideodynamic signaling or verbal dialog while in a trance state with this group of patients (Schoen, 1993).

In another example of a "non-accident-caused sick population," Gardner (2000) cites the Vancouver Fibromyalgia Consensus Group agreement that states, "In that setting where compensation is widely available,illnesses similar to FM (fibromyalgia) have been shown to increase in apparent prevalence, as measured by physician visits, then fall when compensation availability declines." To further make the point, Gardner also references an epidemic of forearm pain that occurred in Australia in the 1980s and suddenly disappeared when objective evidence of injury was required and compensation rules tightened. Each of these studies illustrates the point that the presence of secondary gains has an impact on diagnosis and treatment in various populations and is not specific to a population of chronic pain related to accidental injury.

The effect of gain and loss on treatment outcome does not appear to be limited by geographic area or culture. As earlier mentioned through Noy's (1975) study, secondary gains and losses were shown to have an effect on treatment outcome with patients in Japan. More recently, van Egmond and Kummeling (2000) conducted a study within a clinic in the Netherlands. They found that the expectation of secondary gain leads to poorer psychotherapy outcome and were able to quantify their results using a Chi squared expectation of fit text that revealed the following: χ^2 (2, N=137)= 6.33,p=0.04. vanEgmond and Kummeling (2000) described their results as

> a significant relationship between expectation for secondary gain and change in symptoms diagnosed on Axis I χ^2 (1, N=123)= 4.13, p=0.04. Patients with expectations for secondary gain had a significantly higher probability that the symptoms of the initial Axis I diagnosis were worse or unchanged after discharge in comparison to patients without secondary gain. (p.52)

In this study, the most common examples of secondary gain requested by the patients were assistance with their job, insurance, or help caring for a disabled relative/friend (van Egmond & Kummeling, 2000). Literature on chronic pain theorizes that therapeutic results are improved when symptoms are presented absent from secondary gain. Secondary gain in psychotherapy is theorized to be such a barrier that "successful therapy is impossible" (van Egmond & Kummeling, 2000, p. 47).

Recommendations for Managing the Presence of Gains and Losses

“Impossible” is a bleak prognosis for successful therapy with a patient where gains and losses are present. It is logical to seek some sort of guidelines or recommendations for how treatment might be maximized in the face of potential gains and losses. Unfortunately, the literature breaks down somewhat at this point and fails to provide concrete, specific advice or techniques for managing the economy of gains and losses. Among the limited recommendations available is a general agreement that clinicians need to be aware of the potential effects of gains and losses (Dersch, Polatin, Leeman, & Gatchel, 2004). However, not all patients discuss these effects with their therapist or physician. One study found that, at most, only 14% of those patients expecting secondary gains shared this expectation with their therapist, thus indicating secondary gains as a large “blind spot” for therapy (van Egmond & Kummeling, 2000).

Recognizing this is not an issue that is readily disclosed, attempts have been made to identify and/or create an instrument to measure the presence of gains and losses. However, at this time there does not appear to be a comprehensive measure for identifying and qualifying secondary or tertiary gains/losses. In one study, the Conscious Exaggeration (CE) Scale of the Illness Behavior Questionnaire was believed to be useful in identifying chronic pain patients with secondary gain. However, patients with chronic pain characterized by the alleged secondary gain variables of workers compensation, litigation, or having a lawyer did not differentially respond to the CE scale compared to the control group (Fishbain, Cutler, Rosomoff, & Steele-Rosomoff, 2002). Until an empirically supported measure is developed to identify secondary gains and losses, they may be difficult to identify and require inferences that could be misleading. However, there are a series of recommendations for managing secondary gain.

These recommendations include establishing trust and rapport with the client, involving relevant professionals, containing financial secondary gain, and utilizing an interdisciplinary treatment model(Dersch, Polatin, Leeman, & Gatchel, 2004). Some of these recommendations are easily incorporated into everyday practice and even mirror common practices. Trust and rapport is already identified through APA guidelines; however, this suggestion in reference to gains and losses includes becoming an expert in medicolegal terminology. This would require additional training and is also outside the psychological field of expertise. Therefore, the use of a case manager is recommended so as to avoid practicing in areas where psychologists are not qualified(Dersch, Polatin, Leeman, &Gatchel, 2004). Although these guidelines don't espouse a specific technique for patients with gains and losses, at least one study has made such a suggestion. Schoen (1993) has recommended hypnosis as a means of helping patients uncover unconscious resistances to health such as the potential effects of secondary gain and/or loss. However, this recommendation is based only on the practice of the author and is not empirically supported to have shown any significant effect on treatment outcome.

As the biopsychosocial model of health and medicine began to solidify and take hold, and the concept of an overall economy of gains and losses on secondary and tertiary levels were understood to affect treatment outcomes, it leads to questions of how these factors may interact.Why is one form of secondary gain motivating for one patient but not for another? What combination of factors affects that motivation?Among the factors associated with outcome are those related to the psychological impact of the injury, including regression, personality disorganization, and alterations in self-concept and body image; cultural factors related to illness behavior and folk beliefs concerning disease; and interpersonal dynamics, including those within the family and social milieu (Mendelson, 1983). These factors indicate a wide variety of potential confounds that could affect the saliency of secondary gains for someone in the sick role. Among these factors, some studies have shown interpersonal dynamics including family and social milieu to be significant.

Female gender was found to be a significant predictor of poor outcome among a study of eligible patients who had received lumbar discectomies where the potential for secondary gain was present (Young, Shaffrey, Laws, & Lovell, 1997). In this study, a sample of 348 active military duty members was observed as they underwent lumbar discectomies. Positive outcome was defined as the ability to return to active duty following surgery. The military background served to mitigate confounding factors of secondary gain due to the standardization of potential gain based on military formula that included rank, base pay, years of service, etc. Chi-square univariate analysis showed that higher compensation incentive was proportional to the amount of anticipated payout and relative to a military service member's usual income. Using multivariate analysis, both lower base pay and female gender were predictive of poor outcome (Young, Shaffrey, Laws, & Lovell, 1997).

Observing the Australian epidemic of forearm pain previously mentioned by Gardner, it was found that women were more commonly affected than men and that the incidence was higher just before school holidays (Reilly, 1993). This correlation might suggest a relationship to traditional gender roles wherein being a mother at home over a school holiday constituted a form of secondary gain where the benefit of being released from work (due to reported pain) was seen in being home and not needing to find additional childcare when children were off during a holiday.

In another study at a Dutch clinic where secondary gain was primarily seen as financial, more men than women were expecting secondary gains (48% man vs. 32.7% women; van Egmond&Kummeling, 2000).Further demographic breakdown indicated the largest percentage of patients expecting secondary gain were those among the 25-44 year age group and those with a more basic versus higher education (van Egmond&Kummeling, 2000). Chi squared tests showed a significant relationship between the expectation of secondary gain and the factors of gender and income (van Egmond&Kummeling, 2000). “Income” was described as those patients who were dependent upon some form of disability compensation for their income (van Egmond&Kummeling, 2000). This would seem to suggest that the greatest number of clients expecting secondary gain were working age men, which is consistent with the demographic or social role of “provider.”

In identifying family dynamics as a factor, Modlin(1986) cites a study by Noy who states that “the primary problem is always within the family and the ‘secondary gain’ is something relevant to the family.”Noy’s(1975) study focused on compensation neurosis in Japan, with an emphasis on Japanese culture and the effects of westernization on the people and culture. Noy identifies that his emphasis on family dynamics as an influential factor stems from the Japanese cultural emphasis on family; however, it still serves as an early identification of family dynamic having an effect on how compensation leads to treatment outcome. Although Noy does not directly use the term “family role,” he does characterize this in describing how family dynamics are affected. He states that if the wage earner is disabled, family dynamics are necessarily disturbed; hierarchy, roles, and functions must be realigned and reassigned. In another example, Noy discussed the inversion of customary male and female gender roles, as seen when a husband is injured and cannot work. In Noy’s example, the housewife then becomes the “breadwinner” and may enjoy her new role and status and tacitly encourage her husband’s continued sick role. Noy presents a variety of scenarios illustrating changes in family dynamics. An injured husband could result in a loss of previously male-centric power among the family; an injured wife might need to neglect her previously maintained duties within the house and be resented by other family members. These examples represent the social roles fulfilled by individuals, in these cases the roles of “breadwinner/provider,” “homemaker,” and “head of the household.”

Noy indicates that the inability of the injured party to maintain these functional roles leads to a disturbance in family dynamics. This could be a key insight regarding how the economy of gains and losses affects the treatment outcome of patients.

In Noy’s (1975) study, the significance of these roles is attributed to the sociocultural background of the Japanese people. However, the effect of social roles is not limited to a single culture, and social roles have a profound effect, creating and maintaining relationships with others (Baumeister& Leary, 1995).

The Effects of Social Role on the Economy of Gains and Losses

As human beings, individuals are motivated to form relationships with other people and to maintain those relationships. Friendships, familial relationships, and other group allegiances seem to form naturally, and persons spend a great deal of time and energy fostering and maintaining them. A comprehensive literature review by Baumeister and Leary (1995) traces both the history of psychological study and the evolutionary history of humans to identify this human quality of relationship maintenance as a key behavior of our species. They highlight the evolutionary advantage of having relationships with others and of engaging in group membership. Further, they cite repeated evidence from sources in a variety of situations that support the human resistance toward ending relationships with others. Relationships with others are shown to affect cognition and our thought processes, the emotions we feel, and the behaviors we exhibit (Baumeister&Leary, 1995). Through the empirical evidence available, the creation and maintenance of relationships with others and group belongingness can be understood as a central human behavior.

Recognizing the central part that belongingness plays in the human experience, it is important to understand how this central drive to maintain relationships with others is related to the economy of gains and losses that affects therapeutic outcome. That connection comes through the social norms and social roles that people strive to maintain. The terms“norms” and “roles” are sometimes used interchangeably when they are, in fact, distinct terms; however, both have a powerful effect on behavior (Cialdini, Kallgren, & Reno, 1991).

Social norms help to guide behavior in a manner that is acceptable and beneficial in some way to a social group. Although these norms vary from group to group, it is expected that the members of the group adhere to the norms of the group. Thus, the norms for a group of children in a classroom at school are different than the norms for a group of teachers in the faculty lounge; however, in both examples it is expected that the members in each respective group adhere to their respective norms (Marques, Abrams, &Serodio, 2001). Examples for social norms include concepts such as: being quiet in a library, shaking hands upon being introduced to someone, and/or men not wearing hats indoors. These examples also illustrate how social norms can vary from group to group. Shaking hands is common in western cultures and an acceptable norm. In many Asian cultures, such a norm is unacceptable. Likewise, social norms evolve over time. Although it was once completely unacceptable for men to wear hats indoors, this norm is changing and it is now a common sight to see men wearing hats inside buildings.

Understanding social norms as behavioral guides that shape behavior in acceptable ways for a social group, social roles utilize these behavioral guides and represent the group’s shared expectations for how specific individuals will behave. Norms specify expectations for how all group members should act. It is expected that everyone be quiet in a library. It is expected that everyone drive the speed limit. Social roles specify how people who occupy certain positions in the group should behave (Bettencourt & Sheldon, 2001). Entering a business meeting, social norms help to conform our behaviors in socially acceptable ways: avoiding interrupting a speaker, speaking without yelling, and other meeting-appropriate behaviors. Within the business meeting, there are social roles: the leader or meeting chairperson has expected behaviors of calling the meeting to order, setting the agenda, and other relevant tasks. Social roles help facilitate group interaction because group members know what to expect of other members when they follow a set of clearly defined roles (Bettencourt & Sheldon, 2001).

Social norms help guide behavior and help facilitate group inclusion. Within the field of psychotherapy, we study diversity not only because our ethical guidelines support it, but because we know it affects therapeutic outcome. The better understanding of a client's salient identity helps to understand how that client views the world, what they value, how others treat them and other knowledge about the client that can help build a stronger therapeutic relationship (Hays, 2008). If a therapist displays behaviors consistent with the client's social norms, their relationship will be stronger and the therapy more effective. Thus, we study social norms for groups beyond our own, and we practice them when working with clients from respective groups. For example, most therapists engage in positive therapeutic behaviors such as making eye-contact with clients, but there is the recognition that such behavior would be against the social norm for many traditional Asian clients. Thus, many therapists will engage in culturally responsive interventions and, in the case exemplified, would avoid direct eye-contact in respect for Asian social norms. This change in behavior helps to facilitate therapeutic relationships among therapists and clients from different social groups and often leads to a therapeutic benefit (Hays, 2008).

The importance of group interaction has been identified as central to meeting the human need for belongingness. Therefore, if social roles help increase group interaction, social roles are in turn helping contribute toward a stronger fulfillment of belonging. The beneficial nature of role conformity can be seen through measures showing greater satisfaction and task performance among group members where clearly defined roles are followed (Bettencourt & Sheldon, 2001). These social roles require group members to interact with one another, leading to increased social interaction and an increased sense of connectedness with the group. These provide powerful reinforcements for fulfilling the behaviors associated with group roles.

Failure to fulfill behaviors associated with group roles and/or failure to adhere to group norms is often met with unpleasant consequences. Individuals who experience rejection from a particular group will often attempt to connect with a larger whole, thereby meeting the need for belongingness (Gardner, Pickett, & Brewer, 2000). So great is the need to belong, it is referred to as a “drive state” in similar terms as hunger. Recent research has shown how the need to belong can even affect the ways in which individuals process information and thereby create the world around them. Consistent with the comparison to a “hunger state,” individuals who are not adequately connected with others and are “socially hungry” are more sensitive to social cues just as physical hunger increases sensitivity to food cues (Gardner, Pickett, & Brewer, 2000). Thus, it can be understood why individuals will go to such lengths to maintain social roles.

Sheldon Cohen (2004) illustrates the significance of this concept in relation to health and well-being. In discussing the Main Effect Model, his article discusses the mechanisms through which social relationships can have main effects on psychological and physical health. Cohen cites research showing that integration in a social network contributes to a sense of self-worth through meeting normative role expectations (Cassel, 1976; Hammer, 1982; Thoits, 1983; Wills, 1985). Meeting these role expectations is seen as a positive psychological state that can result in suppressed neuroendocrine response and enhanced immune function (Bovard, 1959; Cassel, 1976; S. Cohen, 1988; Uchino, Cacioppo, &Kiecolt-Glaser, 1996). Thus, the maintenance of social roles is of key importance to individuals and changes in these roles are not readily accepted.

Although roles change over time, these changes are often gradual. Behaviors develop meaning through the responses of others, and, over time, this reinforcement leads to a behavioral pattern. In this way, other members of the group help to influence and define an individual’s particular role. The behavior also reinforces the role just as, simultaneously, the role reinforces the behavior (Burke, 1981).

To illustrate with the example of the “homemaker” role, it can be seen how it evolves over time and is reinforced. New parents leaving the hospital with a newborn are given a changing bag filled with supplies and advertisements. These advertisements include information about public assistance food and nutrition programs (e.g., WIC), information about breastfeeding classes and nursing support groups, and other similar information. Each of these carries a message associated with being a good parent, such as “creating a healthy environment for your baby requires proper food and nutrition.” The new parent wants to create such an environment and thus exhibits a new behavior of participating in the food and nutrition program. Participating in the program creates a sense of being a good parent through providing a home with healthy available food. This behavior may be reinforced by the pediatrician who praises participation in the food and nutrition program. Beginning to identify with the “homemaker” role, the new parent may make additional behavior choices to augment such a role and thus the role evolves over time.

This same example can show the profound affect chronic pain can have on the ability to maintain such a role. Limitations in mobility for a chronic pain patient might affect the ability to visit a WIC center, a breastfeeding class, or a support group. The inability to complete these behaviors could lead to questioning about the ability to fulfill the role of a good parent. The presence of secondary gain, perhaps seen for example as providing medical transportation to such programs, might offer a way to maintain the behaviors associated with being a good parent.

It is important to understand that the loss of social bonds goes beyond frustration and emotional distress. Research has shown connections between disruptions in social bonds and decreased immune functions, decreased natural killer cell activity, and increased cortisol levels (Kiecolt-Glaser et al., 1984). Similar results have been found regarding the connections between a lack of social bonds and/or broken social bonds and mental illnesses, as well. These connections are seen in more common mental illnesses such as depression and in mental illnesses typically more rare such as eating disorders. The loss of social bonds has even been connected with psychopathic behaviors such as crime, gang violence, lying, cheating, and stealing (Baumeister& Leary, 1995). These are not clear cause and effect relationships; however, they do suggest a connection between the dissolution of social bonds and a variety of significant health concerns and maladaptive behaviors. These connections are important in understanding the human drive to maintain social bonds.Baumeister and Leary in their 1995 literature review conclude that the weight of evidence suggests "that a lack of belongingness is a primary cause of multiple and diverse problems" (p. 511). Therefore, it seems more appropriate to consider the maintenance of social relationships as a need rather than simply as a want.

For many patients, entrance into the sick role takes place rather quickly (Ferrari & Kwan, 2001). Those who remain in the sick role, therefore, experience a rather sudden change in the roles they had previously fulfilled. The sick role thereby brings about a significant secondary loss for many patients in that they are no longer able to fulfill the roles that had been previously central to maintaining their relationships with others. In light of this loss, many patients will grasp at ways to maintain their former roles. When presented with a potential secondary gain that seems to allow for the maintenance of their former roles, the patient is highly motivated to receive such a gain. Thus, it can be argued that the correlation between the social role fulfilled by the patient and the patient's net outcome of gains and losses maypredict the effect of gains and losses on the patient's recovery.

For many individuals, social roles are intertwined with stereotypical gender roles. Many men identify with a role associated with financially providing for their family and many women identify with roles associated with domestically providing for their family. For chronic pain patients, interruptions of these roles are frequent, as limitations in functioning interrupt the ability to work and earn a stable financial income. Similar limitations interrupt the ability to perform various duties associated with domestic maintenance. However, tying these roles to a specific gender places an unfair limitation on chronic pain patients just as it does for the general population. Many chronic pain patients are women who provide financially or men who maintain domestic responsibilities. As can be seen in the general population, among chronic pain patients there are men and women who are working to fulfill both roles simultaneously.

It has already been determined that part of the sick role experience includes a net outcome of gains and losses at the secondary and tertiary levels. Further, it has been concluded that this net outcome can have a negative effect on patient recovery. However, the negative effect is not shown to be consistent for all patients; some experience a greater and lesser effect. Understanding what mediates this effect to be stronger or weaker for some patients could be beneficial to treatment progress.

Rationale for the Current Study

The overall purpose of this study is to attempt to determine the relative importance of a variety of constructs on chronic pain patients' quality of life. The first hypothesis attempts to confirm previous research on chronic pain patients and quality of life. Chronic pain patients often experience low quality of life; however, this is understood to be better related to the individual's pain perceptions and experiences of catastrophising rather than pain intensity (Lame, Peters, Vlaeyen, Kleef, &Patijn, 2005). Therefore, H_1 states the that quality of life as seen by the World Health Organization Quality of Life—Brief (WHYQOL-BREF) will not be predicted by pain intensity as measured by the West Haven-Yale Multidimensional Pain Inventory (WHYMPI) Pain Intensity Scale. Both the WHYQOL-BREF and the WHYMPI have been extensively studied and represent a gold standard of measurement relative to quality of life measures and multidimensional pain measures.

The second hypothesis adds the effects of secondary gain as financial and social gains and losses on the quality of life for chronic pain patients. Due to the limitations of the study and the measurement instruments available, the economy of gains and losses will be limited to secondary gain in these two forms of financial and social gains and losses. Previous literature has already shown that the economy of gains and losses is present for individuals in the sick role. Therefore, it is understood that the participants in this study will be engaged in an economy of gains and losses. Previous literature has shown that the presence of secondary gain has a negative impact on the quality of life for a chronic pain patient. The second hypothesis attempts to confirm part of this. H_2 states that secondary gain as identified to be financial through self-report on the demographics measure and/or identified as social through the WHYMPI will negatively impact quality of life as measured on the WHOQOL-BREF.

The third hypothesis attempts to build on previous by identifying why secondary gain effects are stronger or weaker for individuals in the sick role. While it has been shown that secondary gain is present for all individuals in the sick role, it is also understood that not all individuals in this role actively pursue these gains. For some individuals in the sick role, the effect of secondary gain is weak and the individual does not pursue this potential gain; however, conclusive studies that focus on what mediates the strength or weakness of gains and losses have not yet been a part of the literature. It is hypothesized that an individual's connection to a particular social role is a mediating factor affecting the strength of potential gains and losses. It has been shown that identification with and maintenance of social roles is significantly important for individuals. H_3 states that the combination of a low score on stereotypically gender based social roles as measured through the Social Index Questionnaire (SIQ) and a low engagement with financial and/or social secondary gain will predict a higher quality of life as measured by the WHOQOL-BREF.

CHAPTER II

METHOD

Participants

In a study that aims to track changes over time, beginning with a population of individuals currently seeking treatment as apatient in the sick role and following them longitudinally would beideal. Previous research that has examined secondary gain effect on treatment has largely been based on patients from large hospitals in metropolitan areas where participant/patient accessibilityis easy and convenient. The current study utilized a small community hospital located in a more rural area. Therefore, patients who were currently engaged in treatment for diagnoses associated with chronic pain, (e.g.: lumbago, fibromyalgia, migraine, neuropathy, etc.), were identified as the target population. Participating subjects were assessed at a single point in time. Institutional Review Board approval by the host regional hospitaland Indiana University of Pennsylvania (IUP) was granted to work with approximately fifty (50) patients in the Family Medical Center (FMC) that were physician-identified as meeting aforementioned diagnoses associated with chronic pain. Inclusion criteria suggested that all FMCpatients being treated for chronic painwere eligible to participate. It was not anticipated that any population of vulnerable participants (i.e., children, pregnant women, prisoners, mentally disabled persons) would have been included in this study; however, participants did have a chronic physical health diagnosis and did potentially have a comorbid psychiatric diagnosis such as depression, post-traumatic stress disorder, or other diagnoses related to their status as a chronic pain patient.

Instruments

The instruments chosen are all self-report measures. This does raise a question about validity; however, each measure has been individually validated and many of the measures are commonly utilized with this patient population. As participants were responding about issues of confidential nature, the use of a self-report measure was justified to increase participant comfort and additionally secure confidentiality.

Demographics

A nine question demographics form (see Appendix A) was developed to measure participant information including age, gender, ethnicity, marital status, employment status as well as tobacco and alcohol consumption. Also measured were the types of treatment modality and the presence of potential financial secondary gain through self-report.

West Haven-Yale Multidimensional Pain Inventory. The West Haven-Yale Multidimensional Pain Inventory (WHYMPI; see Appendix B) is a self-report measure that reports 12 subscales categorized into three sections of overall pain experience, responses from a relevant significant other, and daily activities. The first section includes five subscales (Pain Severity, Interference, Life Control, Affective Distress, and Support). These scales in the "pain experience" section are designed to examine the perceived severity and impact of pain on the respondent's life by exploring the psychosocial component of pain. Section II, "relevant significant other responses," evaluates the self-reporter's perception of how a significant other responds to his or her pain behaviors. Section II includes the subscales: Distracting Responses, Negative Responses, and Solicitous Responses. Section II is the "daily activities" section and contains four subscales (Household Chores, Outdoor Work, Activities Away from Home, and Social Activities) that assess behavioral components of the pain experience. Persons completing the 52-item WHYMPI indicate responses on a 7-point Likert-type scale that ranges from 0-6.

Cronbach’s alpha coefficients range from 0.70 to 0.90 and indicate internal consistency and stability. Test-retest correlations range from 0.62 to 0.91 (Kerns, Turk, & Rudy, 1985). This study used the Support, Distracting Responses, and Solicitous Responses subscales as an indication of secondary gain in addition to the pain severity subscale.

Social Identities Questionnaire. The Social Identities Questionnaire (see Appendix C) was developed by Dr. Susan Jackson for use as a method of measuring commitment to role identities.The measure currently assesses commitment to one of four broad identity categories: kinship, peer, religious/spiritual, and romantic. Subjects respond to a series of behavioral based questions surrounding each category with total scores indicating levels of commitment (Jackson, 1981).

Convergent validity for the SIQ has been shown by comparing values for each of the four identity scales, (family, peer, religious participant, and romantic partner), with two independent methods of self-reports. For each scale, the validity correlations (.57 for family, .40 for peer, .86 for religious participant, and 0.40 for romantic partner) are all significant ($p < .001$), thus showing evidence for convergent validity (Jackson, 1981). In addition, discriminant validity is shown through methods of discriminant validity suggested by Campbell and Fiske. Jackson utilizes their suggested assessment of measuring values on the heterotrait-heteromethod triangle and off-diagonal values on that same triangle. Analysis shows that the correlations between the two measures of commitment to the same identity are greater than the correlations for commitment scores that do not share those two measures, thereby showing discriminant validity (Jackson, 1981). Test-retest reliability coefficients between .66 and .95 for each index show strong test-retest reliability. In addition, Kuder-Richardson 20 coefficients for the commitment index were calculated for each index. The values obtained were .83 for family, .77 for peer, .94 for religious, and .78 for romantic (Jackson, 1981).

In addition to the four indices that are part of the SIQ, three additional indices were added. A fifth index was added to measure a subject's commitment to pain. A sixth index was added to measure a subject's commitment to a domestic social role. A seventh index was added to measure a subject's commitment to a social role of provider. The SIQ scales are identical questions for each scale with the different index constructs contained within each question. This was modified to utilize the same questions but included the different construct of pain.

World Health Organization Quality of Life Scale Brief. The criterion variable was measured using the World Health Organization Quality of Life Scale, Brief Version (WHOQOL-BREF; see Appendix D). For many subjects in the chronic pain role, "recovery" and "wellness" are not viable options. Subjects with terminal disease or autoimmune disorders or other chronic pain do not always engage in treatment and experience recovery. Therefore, measuring recovery or symptom presence leads to a false sense of treatment outcome. Quality of Life represents a more valid measure of outcome as it is not necessarily confounded with symptoms of illness. The WHOQOL-BREF is a 26 question, self-report measure based on a structure of 4 domains: physical and psychological health, environment, and social relationships. It produces a quality of life profile with individual domain scores for the 4 domains covered (Skevington, Lofty, & O'Connell, 2004).

Information regarding the construction, standardization, and psychometric properties for the WHOQOL-BREF are reported by the World Health Organization (1998). The WHOQOL-BREF continues to be field-tested throughout the world. Currently, it has been normed using over 11,000 subjects at various World Health Organizations across the globe, including a sample of 300 in Seattle, Washington. The measure was designed based on the WHOQOL-100, therefore an appreciation of the psychometric properties of the WHOQOL-100 are appropriate. This measure contains 100 questions divided among 6 domains found to correlate highly with an overall factor representing quality of life. The 6 domains are subdivided into 24 specific facets and 1 general facet, with each facet containing 4 questions. The WHOQOL-100 was normed using 8294 subjects from 19 World Health Organizations around the globe, including 192 subjects at the center in Seattle, Washington. Confirmatory factor analysis showed that the 6 domains accounted for 0.975 of overall variance for an overall hypothetical quality of life construct. Discriminate validity on all facets was found to be strong between sick and well subjects. Internal consistency was found to be good with Cronbach alpha values ranging from .71 to .86 across all 6 domains. Test-retest reliability was measured over a time period of 2-8 weeks with correlations between items at time points one and two ranging from .68 to .95. Thus, the WHOQOL-100 has shown to have strong validity and reliability as a measure of quality of life construct.

According to the World Health Organization (1998), the WHOQOL-BREF was created by selecting at least one question from each of the 24 facets in the WHOQOL-100. This question was the item that correlated most highly with the total score calculated as the mean of all facets. Confirmatory factor analysis revealed a comparative fit index of .906 suggesting that the items on the WHOQOL-BREF are a positive fit for the overall quality of life construct. The World Health Organization (1998) reports that the WHOQOL-BREF demonstrated good internal consistency with Chronbach alpha values for each of the domain scores ranging from .66 to .84.Discriminate validity for the measure was found to be good with no significant difference at the $p=.001$ level across any domains between the WHOQOL-BREF and the WHOQOL-100. The WHOQOL-BREF, therefore, can be seen as a brief, valid, and reliable measure for the quality of life construct.

Utilizingself-report data at a single point in time created limitations for the study, specifically, that data was affected by bias inherent to self-report and the study was unable to measure treatment effect over time. However, this limitation in methodology is not exclusive to this study. A 1995 literature review of secondary gain by Fishbain and colleagues revealed that there are a limited number of studies examining the secondary gain concept and the methodological flaws that exist among them are related to how the presence of secondary gain was defined. For purposes of clarity and consistency with data used, secondary gain in this study was defined as the presence of worker's compensation, Social Security Disability, and/or financial payment due to lawsuit regarding injury/pain as reported by the individual subject. In addition, secondary gain in this study was further defined through a significant effect on the interpersonal subscales of the WHYMPI (i.e., support, solicitous responses, or distracting responses).

Procedures

The first procedural step was to secure the approval of the appropriate Institutional Review Boards (IRB) and thereby ensure the safety of subjects. This included the Indiana University of Pennsylvania IRB and the IRB for the regional hospital that hosted the study.

Once safety and ethical considerations were in place, participation materials were copied to include assessment measures (Demographics, WHYMPI, SIQ, and WHOQOL-BREF) as well as the informed consent form. Potential participants were screened by FMC physicians on the basis of their diagnosis associated with chronic pain. Applicable patients were offered by their physician the opportunity to participate, and those patients who agreed were presented with the participation packet by FMC staff with the instructions to return the completed packet prior to departure. Completed packets were returned to the Principle Investigator for coding and appropriate storage as identified through IRB protocol.

CHAPTER III

ANALYSES

All demographic data were analyzed to determine if variables such as age, sex, etc., had a significant effect on Quality of Life. Those variables that predicted significant differences in the WHOQOL-BREF measure were retained to be used as covariates in the inferential statistics that were conducted.

The primary inferential statistical procedure chosen was a series of simple, linear regressions, which allowed the manipulation of both continuous variables and categorical variables coded as “dummy variables.”

Predictor variables included scores on the SQI, WHYMPI Intensity Scale as well as WHYMPI subscales including the Support, Solicitous Responses, and Distracting Responses, and a dichotomous variable indicating the presence of potential financial secondary gain. Also, subject variables that created significant differences in the criterion variable were entered first as covariates.

The criterion variable was Quality of Life as measured by the WHOQOL-BREF. Post hoc analyses for the interaction effects were conducted as needed.

Hypothesis one, that quality of life as seen by the WHYQOL-BREF will not be predicted by pain intensity as measured by the WHYMPI Pain Intensity Scale,was tested by multiple simple, linear regressions. The predictor variable secondary gain was defined by the presence of worker’s compensation case indicated through self-report on the Demographics Form on the criterion variable Quality of Life as measured by the WHOQOL-BREF. Hypothesis two, that secondary gain as identified to be financial through self-report on the demographics measure and/or identified as social through the WHYMPI will negatively impact quality of life as measured on the WHOQOL-BREF, was tested by multiple single, linear regressions of the combined predictor variables “domestic social role,” “provider social role” and “chronic pain social role,” as identified by the SIQ on the criterion variable Quality of Life as measured by the WHOQOL-BREF. Hypothesis three, that the combination of a low score on stereotypically gender based social roles as measured through the Social Index Questionnaire (SIQ) and a low engagement with financial and/or social secondary gain will predict a higher quality of life as measured by the WHOQOL-BREF, was tested by multiple single, linear regressions of the predictor variable Pain Intensity as measured on the WHYMPI on the criterion variable Quality of Life as measured by the WHOQOL-BREF.

CHAPTER IV

RESULTS

Description of Sample Population

The total number of participants for this study was 52, collected between the months of February, 2014 and April 2014 in the Family Medical Center, at a Trauma I Hospital located in a rural, western Pennsylvania town with a population slightly higher than 20,000. Incomplete data were submitted from 10 additional subjects; however, these data were not utilized in the study. As part of the mission for a teaching hospital in a greater regional area, FMC provides care to a large, underserved population in the region. Therefore, a large population of FMC patients is receiving medical assistance toward healthcare. This section will discuss the demographic composition of the population sample and the statistical results based on the data they provided. In cases where participant data were incomplete, these subjects were removed from the sample population. (The WHYMPI recommends not utilizing data from responses where 25% or more of the data is missing.) The sample population included 34 women (65.4%) and 18 men (34.6%). Participant age can be seen in Figure 1. Forty-five participants (86.5%) self-identified as European Origin / White; five participants (9.6%) self-identified as African-American, and one participant (1.9%) identified as Latino / Hispanic. Thirty-four participants (65.4%) indicated pursuit of secondary financial gain through either workers compensation, Social Security Disability, and/or financial payment due to lawsuit regarding injury / pain. The remaining 18 participants (34.6%) did not endorse the pursuit of financial secondary gain through any of the three aforementioned categories.

Demographic variables of age, gender, and ethnicity were correlated with quality of life variables on physical health, psychological health, social health, and environmental health.

There were no significant correlations among the demographic variables and the study outcome variables.

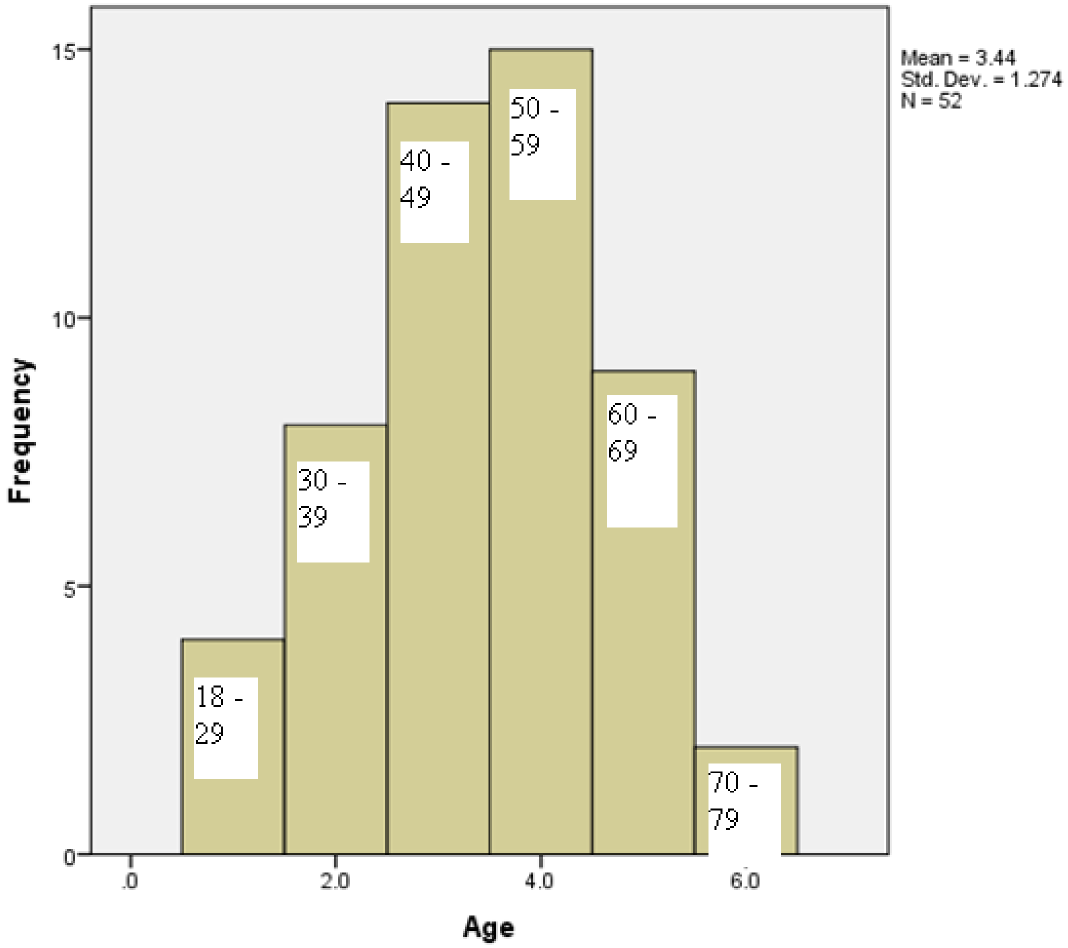

*Figure 1.*Frequency of age among sample population.

The dependent variable quality of life is reported across four domains: physical health, psychological health, social health and environmental health. The WHOQOL-BREF does not give a composite or aggregate quality of life score, but rather a composite score for each of the aforementioned four domains. The sample population means from this study for the WHOQOL-BREF are shown in Table 2. The four domains for the WHOQOL-BREF were found to significantly correlate with one another as shown in Table 3

Table 2

Sample Population Means for WHOQOL-BREF

	WHOQOL BREF Physical Health	WHOQOL BREF Psychological Health	WHOQOL BREF Social Health	WHOQOL BREF Environmental Health
Sample Population Mean	39.19	51.15	55.14	59.50

Table 3

WHOQOL-BREF Domain Correlations Among Sample Population

		WHOQOL-BREF Physical Health	WHOQOL-BREF Psychological Health	WHOQOL-BREF Social Health	WHOQOL-BREF Environmental Health
WHOQOL-BREF Physical Health	Pearson Corr	1	.505	.300	.623
	Sig. (2-tailed)		.000	.031	.000
	N	52	52	52	52
WHOQOL-BREF Psychological Health	Pearson Corr	.505	1	.543	.631
	Sig. (2-tailed)	.000		.000	.000
	N	52	52	52	52
WHOQOL-BREF Social Health	Pearson Corr	.300	.543	1	.425
	Sig. (2-tailed)	.031	.000		.002
	N	52	52	52	52
WHOQOL-BREF Environmental Health	Pearson Corr	.623	.631	.425	1
	Sig. (2-tailed)	.000	.000	.002	
	N	52	52	52	52

The WHYMPI has a positive history as a valid and reliable assessment for chronic pain. Norms were published in 1985 for a chronic pain population by Kerns, Turk, and Rudy. The sample population in this study reported generally worse outcomes than the published norms represent. The sample population reported greater interference with everyday life due to pain, less support from others, and a higher pain intensity. The sample population also reported less self-control and greater affective distress than the norms for individuals with chronic pain. Although the sample population reported greater negative responses from a significant other, they also reported greater solicitous and distracting responses, as well. The sample population did report a greater activity level as seen in household chores, outdoor work, activities away from home, and social activities. The sample population norms for the WHYMPI can be seen in Table 4 in contrast to the WHYMPI published norms for a chronic pain population.

Table 4

Contrast of WHYMPI Published Norms With Current Study Sample Norms

WHYMPI Scale	Published Mean (SD)	Sample Mean (SD)
Interference	3.74 (1.26)	4.09 (1.20)
Support	4.31 (1.47)	4.21 (1.74)
Pain Severity	3.55 (1.11)	4.51 (1.23)
Self-Control	3.63 (1.57)	3.38 (1.62)
Affective Distress	3.23 (1.32)	3.77 (1.11)
Negative Response	0.97 (0.94)	1.69 (1.57)
Solicitious Response	2.57 (1.15)	3.52 (1.54)
Distracting Response	1.72 (1.31)	2.59 (1.29)
Household Chores	2.71 (1.30)	3.84 (1.36)
Outdoor Work	1.19 (1.04)	1.49 (1.31)
Activites Away from Home	1.79 (0.83)	2.38 (1.18)
Social Activites	1.94 (0.95)	2.21 (1.09)

There were multiple measures of social secondary gain through the WHYMPI. WHYMPI results include a Support Scale, described as indicating “support or concern from spouse or significant other” (Kerns, Turk, & Rudy, 1985). In addition, Part II of the WHYMPI is designed to assess patients’ perceptions of the degree to which spouses or significant others display solicitous, distracting or negative responses to their pain behaviors and complaints.

Thus, Part II is comprised of a Solicitous Response scale, a Distracting Response Scale, and a Negative Response Scale. In addition, there is a Social Activities Scale that is designed to measure an individual's engagement in everyday social activities such as visiting friends, taking a meal outside the home, and similar activities. Correlations among these measures of social secondary gain are seen in Table 5.

Table 5

Correlations of WHYMPI Social Support Scales

		Support	Negative	Solicitous	Distracting	Social Activity
WHYMPI Support Scale	Pearson Correlation	1	-.319*	.707**	.585**	.219
	Sig. (2-tailed)		.021	.000	.000	.118
	N	52	52	52	52	52
WHYMPI Negative Response Scale	Pearson Correlation	-.319*	1	-.317*	-.221	-.226
	Sig. (2-tailed)	.021		.022	.115	.107
	N	52	52	52	52	52
WHYMPI Solicitous Response Scale	Pearson Correlation	.707**	-.317*	1	.665**	.208
	Sig. (2-tailed)	.000	.022		.000	.139
	N	52	52	52	52	52
WHYMPI Distracting Response Scale	Pearson Correlation	.585**	-.221	.665**	1	.382
	Sig. (2-tailed)	.000	.115	.000		.005
	N	52	52	52	52	52
WHYMPI Social Activity Scale	Pearson Correlation	.219	-.226	.208	.382	1
	Sig. (2-tailed)	.118	.107	.139	.005	
	N	52	52	52	52	52

The outcome for the Social Index Scale is seen as a score on a 0-23 point scale. The mean and standard deviation for each of the seven scales are seen in Table 6.

Table 6

Sample Population Means and Standard Deviations for the Social Index Questionnaire

	N	Sample Minimum	Sample Maximum	Sample Mean (SD)	Published Mean (SD)
SIQ.Religion	52	.0	22.0	12.365 (6.651)	7.89 (6.67)
SIQ.Romance	52	3.0	23.0	12.962 (6.016)	14.48 (3.87)
SIQ.Peer	52	3.0	22.0	14.981 (5.097)	18.35 (3.38)
SIQ.Kinship	52	3.0	23.0	18.731 (4.073)	15.7 (4.38)
SIQ.Chron.Pain	52	6.0	19.0	13.096 (3.738)	
SIQ.Domestic	52	2.0	23.0	14.942 (5.308)	
SIQ.Provider	52	1.0	23.0	14.596 (5.703)	

H_1:Pain intensity should not predict quality of life - Results

There were no significant correlations between the WHYMPI Pain Intensity Scale and any of the WHOQOL-BREF outcome dimensions, as seen in Table 7. When utilized as a predictor variable the WHYMPI Pain Intensity Scale was not shown to be a predictor of WHOQOL-BREF dimensions for this sample population. These outcomes are seen in Table 8.

H_2: The presence of secondary gain will predict lower Quality of Life - Results

Financial and social secondary gains were shown to correlate significantly with various dimensions of quality of life. Specifically, financial secondary gain showed a significant negative correlation with the physical health dimension of quality of life. Financial secondary gain did not reveal any significant correlation with the remaining three domains, (psychological health, social health, and environmental health), for quality of life. The correlations between financial secondary gain and quality of life are seen in Table 9.

Table 7

Sample Population Correlations Between WHYMPI Pain Intensity Scale and WHOQOL-BREF

		WHOQOL Physical Health	WHOQOL Psych. Health	WHOQOL Social Health	WHOQOL Env. Health	WHYMPI Pain Intensity Scale
WHOQOL Physical Health	Pearson Correlation	1	.505**	.300*	.623**	-.186
	Sig. (2-tailed)		.000	.031	.000	.187
	N	52	52	52	52	52
WHOQOL Psych. Health	Pearson Correlation	.505**	1	.543**	.631**	-.080
	Sig. (2-tailed)	.000		.000	.000	.572
	N	52	52	52	52	52
WHOQOL Social Health	Pearson Correlation	.300*	.543**	1	.425**	-.155
	Sig. (2-tailed)	.031	.000		.002	.271
	N	52	52	52	52	52
WHOQOL Env. Health	Pearson Correlation	.623**	.631**	.425**	1	-.239
	Sig. (2-tailed)	.000	.000	.002		.087
	N	52	52	52	52	52
WHYMPI Pain Intensity Scale	Pearson Correlation	-.186	-.080	-.155	-.239	1
	Sig. (2-tailed)	.187	.572	.271	.087	
	N	52	52	52	52	52

Table 8

Outcomes of the WHOQOL-BREF Regressed on the WHYMPI Pain Intensity Scale

Predictor Variable	Criterion Variable	F-value	Sig.
WHYMPI Pain Intensity Scale	WHOQOL-BREF Physical Health	1.791	.187
WHYMPI Pain Intensity Scale	WHOQOL-BREF Psychological Health	.324	.572
WHYMPI Pain Intensity Scale	WHOQOL-BREF Social Health	1.238	.271
WHYMPI Pain Intensity Scale	WHOQOL-BREF Environmental Health	3.042	.087

Table 9

Correlation Between Financial Secondary Gain and WHOQOL-BREF

		WHOQOL Physical Health	WHOQOL Psych. Health	WHOQOL Social Health	WHOQOL Env. Health	Sec. Financial Gain
Sec. Financial Gain	Pearson Corr.	-.298*	-.227	-.055	-.147	1
	Sig. (2-tailed)	.032	.106	.697	.299	
	N	52	52	52	52	52

Social secondary gain as measured in the WHYMPI Support Scale significantly correlated negatively with the WHOQOL-BREF domain of physical health and positively with the domain of social health; the Support Scale did not significantly correlate with either psychological health or environmental health. The WHYMPI Negative Response Scale, representing a measure of secondary social loss, resulted in a significant negative correlation with the WHOQOL-BREF domains for psychological, social, and environmental health. The correlation between the WHYMPI Negative Response Scale and the WHOQOL-BREF dimension for physical health approached significance at the p=.05 level. Social secondary gain as measured through the WHYMPI Solicitous Response Scale correlated significantly with the

WHOQOL-BREF dimension for social health; the Solicitous Response Scale did not significantly correlate with the physical, psychological, or environmental health dimensions. Social secondary gain as measured through the WHYMPI Distracting Response Scale correlated significantly with the WHOQOL-BREF dimension for social health; the Distracting Response Scale did not significantly correlate with the physical, psychological, or environmental health dimensions. The correlations among social secondary gain and quality of life are seen in Table 10. Table 10 also highlights the co linearity of the WHYMPI Distracting Response Scale and the WHYMPI Solicitous Response Scale. This significant correlation could introduce a confound into the statistical analyses; however, both scales are removed as insignificant from final regression models.

It is also seen that the WHOQOL Social Health domain correlates with each of the WHYMPI scales identified to measure social secondary gain. The measure of social secondary loss, WHYMPI Negative Response Scale, is shown to significantly correlate negatively with the WHOQOL Social Health domain. These correlations are consistent with consideration for both constructs as measures of social behaviors and social health outcomes.

When financial secondary gain was utilized as a predictor variable in linear regression with quality of life as the criterion variable, a significant variance was shown with physical health as the criterion variable. WHOQOL-BREF physical health criterion variable regressed on the predictor variable financial secondary gain as identified through the subject demographics form reveals an F=4.864, *p*=.032, *n*=51. There were no significant results for the criterion variables of psychological health, social health, or environmental health as seen from the WHOQOL-BREF when regressed on the predictor variable financial secondary gain as identified through the subject demographics form.

Table 10

Correlation Between Social Secondary Gain and WHOQOL-BREF

		WHYMPI Support Scale	WHYMPI Negative Resp.	WHYMPI Solicit. Resp.	WHYMPI Distract. Resp.	WHYMPI Social Activity	WHOQOL Physical Health	WHOQOL Psych. Health	WHOQOL Social Health	WHOQOL Env. Health
WHYMPI Support Scale	Pearson Corr.	1	-.319*	.707**	.585**	.219	-.289*	.072	.344*	.007
	Sig. (2-tailed)		.021	.000	.000	.118	.038	.614	.012	.962
	N	52	52	52	52	52	52	52	52	52
WHYMPI Negative Resp.	Pearson Corr.	-.319*	1	-.317*	-.221	-.226	-.264	-.276*	-.528**	-.311*
	Sig. (2-tailed)	.021		.022	.115	.107	.059	.048	.000	.025
	N	52	52	52	52	52	52	52	52	52
WHYMPI Solicit. Resp.	Pearson Corr.	.707**	-.317*	1	.665**	.208	-.200	.028	.393**	-.067
	Sig. (2-tailed)	.000	.022		.000	.139	.156	.842	.004	.638
	N	52	52	52	52	52	52	52	52	52
WHYMPI Distract. Resp.	Pearson Corr.	.585**	-.221	.665**	1	.382**	-.226	-.040	.334*	-.105
	Sig. (2-tailed)	.000	.115	.000		.005	.108	.779	.016	.459
	N	52	52	52	52	52	52	52	52	52
WHYMPI Social Activity	Pearson Corr.	.219	-.226	.208	.382**	1	.191	.227	.450**	.255
	Sig. (2-tailed)	.118	.107	.139	.005		.176	.106	.001	.068
	N	52	52	52	52	52	52	52	52	52
WHOQOL Physical Health	Pearson Corr.	-.289*	-.264	-.200	-.226	.191	1	.505**	.300*	.623**
	Sig. (2-tailed)	.038	.059	.156	.108	.176		.000	.031	.000
	N	52	52	52	52	52	52	52	52	52
WHOQOL Psych Health	Pearson Corr.	.072	-.276*	.028	-.040	.227	.505**	1	.543**	.631**
	Sig. (2-tailed)	.614	.048	.842	.779	.106	.000		.000	.000
	N	52	52	52	52	52	52	52	52	52
WHOQOL Social Health	Pearson Corr.	.344*	-.528**	.393**	.334*	.450**	.300*	.543**	1	.425**
	Sig. (2-tailed)	.012	.000	.004	.016	.001	.031	.000		.002
	N	52	52	52	52	52	52	52	52	52
WHOQOL Env. Health	Pearson Corr.	.007	-.311*	-.067	-.105	.255	.623**	.631**	.425**	1
	Sig. (2-tailed)	.962	.025	.638	.459	.068	.000	.000	.002	
	N	52	52	52	52	52	52	52	52	52

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

When various forms of social secondary gain were combined into a composite and were utilized as a predictor variable in linear regression with quality of life as the criterion variable, significant variance was shown for specific criterion variables of physical and social health. When WHOQOL-BREF physical health was regressed on the combination of WHYMPI Support, Solicitous Response, Distracting Response, Negative Response, and Social Activities Scales as predictor variables, significant variance was seen as (F=3.76, *p*=.006, *n*=51). This amount of variance increases (F=5.764, *p*=.002, *n*=51) when the non-significant variables of Solicitous Response Scale and Distracting Response Scale are removed from the model.

However, this second model shows the Social Activities Scale to be non-significant. Removal of the Social Activities Scale leads to increased variance (F=7.108, *p*=.002, *n*=51).

When WHOQOL-BREF social health was regressed on the combination of WHYMPI Support, Solicitous Response, Distracting Response, Negative Response, and Social Activities Scales as predictor variables, significant variance was also seen as (F=6.96, *p*=.000, *n*=51). In this model, the Negative Response Scale and Social Activities Scale were the only predictor variables shown to be significant. Regression of WHOQOL Social Health on the predictor variables of WHYMPI Negative Response Scale and Social Activities Scale results in (F=15.953, *p*=.000, *n*=51). Both predictor variables are significant within this model.

WHOQOL-BREF environmental health approached significance when regressed on the combination of WHYMPI Support, Solicitous Response, Distracting Response, Negative Response, and Social Activities Scales as predictor variables, significant variance was seen as (F=2.38, *p*=.051, *n*=51). In this model, only the predictor variable WHYMPI Negative Response Scale was shown to be significant. When WHOQOL Environmental Health is regressed on the predictor variable WHYMPI Negative Response Scale, the outcome is significant (F=5.367, *p*=.025, and *n*=51).

WHOQOL-BREF psychological health was not significant when regressed on the combination of WHYMPI Support, Solicitous Response, Distracting Response, Negative Response, and Social Activities Scales as predictor variables. None of the predictor variables were shown to have significant effect within this model.

H_3: A low commitment to social role and low presence of secondary gain would predict higher quality of life - Results

The social role constructs created for this study, the Provider Role and Domestic Role utilized in the Social Index Questionnaire were found to correlate with one another (Pearson correlation = .59) significantly at the p=.001 level.

When the criterion variables WHOQOL-BREF physical health, psychological health, social health, and environmental health were regressed on the predictor variable SIQ provider role for subjects who endorsed only one or zero out of three potential forms of financial secondary gain, there were no significant outcomes for any of the regressions.

When the criterion variables WHOQOL-BREF physical health, psychological health, social health, and environmental health were regressed on the predictor variable SIQ domestic role for subjects who endorsed only one or zero out of three potential forms of financial secondary gain, there were no outcomes significant at the $p<.05$ level.

Several models were utilized to examine any predictive value of social role on quality of life where minimal social secondary gain was present. For the purposes of this study, "minimal social secondary gain" was calculated for each of the social secondary gain constructs utilized (WHYMPI support scale, negative response scale, solicitous response scale, distracting response scale, and social activities scale). The mean for each scale was identified. "Minimal social secondary gain" was understood to be any value less than the mean. The mean for each of the social secondary gain constructs is seen in Table 11.

Table 11

Mean Scores for Social Secondary Gain Scales

Measure of Social Secondary Gain	Mean
WHYMPI Support Scale	4.2
WHYMPI Negative Response Scale	1.7
WHYMPI Solicitous Response Scale	3.5
WHYMPI Distracting Response Scale	2.6
WHYMPI Social Activities Scale	2.2

Among those subjects who scored below the mean for WHYMPI support scale, when WHOQOL physical health was regressed on the predictor variable SIQ domestic role, the outcome was not significant (F=.064, *p*=.803, *n*=20). The same model utilizing WHOQOL psychological health as the criterion variable results in (F=.736, *p*=.402, *n*=20). WHOQOL social health as the criterion variable in the same model also yields results that are not significant at the *p*<.05 level, (F=.002, *p*=.968, *n*=20). Results not significant at the *p*<.05 level were also found for this model utilizing WHOQOL-BREF environmental health as the criterion variable (F=.064, *p*=.803, *n*=20).

Examining a model of quality of life as criterion variable regressed on the SIQ domestic social role for those subjects reporting minimal social secondary gain (as seen by a WHYMPI solicitous responses scale score of less than 3.52), only approached significance when WHOQOL physical health was used as the criterion variable. The results of this model can be seen in Table 12.

Table 12

Outcomes of WHOQOL-BREF Regressed on Minimal Social Secondary Gain as Seen in WHYMPI Solicitous Response Scale

Criterion Variable	F value	*p* value	*n* value
WHOQOL physical health	3.539	.074	22
WHOQOL psychological health	.084	.775	22
WHOQOL social health	.504	.485	22
WHOQOL environmental health	.660	.426	22

Social secondary gain was also measured by the WHYMPI distracting response scale. Models of regression were produced to examine quality of life criterion variables when regressed on SIQ domestic role predictor variable for subjects who endorsed minimal social secondary gain via WHYMPI distracting response scale values below the norm for this study. Outcomes to these four models are see in Table 13.

Table 13

Outcomes of WHOQOL-BREF Regressed on Minimal Social Secondary Gain as Seen in WHYMPI Distracting Response Scale

Criterion Variable	F value	*p* value	*n* value
WHOQOL physical health	.469	.500	24
WHOQOL psychological health	.083	.776	24
WHOQOL social health	.565	.460	22
WHOQOL environmental health	.173	.681	22

Another measure for social secondary gain was the WHYMPI social activity scale. Regressing quality of life criterion variables on SIQ domestic role predictor variable for subjects who endorsed minimal social secondary gain via WHYMPI distracting response scale values below the norm for this study resulted in outcomes seen in Table 14.

Table 14

Outcomes of WHOQOL-BREF Regressed on Minimal Social Secondary Gain as Seen in WHYMPI Engaging Response Scale

Criterion Variable	F value	*p* value	*n* value
WHOQOL physical health	.235	.633	24
WHOQOL psychological health	1.816	.191	24
WHOQOL social health	.134	.718	22
WHOQOL environmental health	.881	.358	22

Social secondary gain was also measured via the WHYMPI negative response scale; however, it is an inverse relationship wherein lesser negative response is the social gain. Regressing quality of life criterion variables on SIQ domestic role predictor variable for subjects who endorsed minimal social secondary gain via WHYMPI negative response scale values above the mean for this study resulted in outcomes seen in Table 15.

Table 15

Outcomes of WHOQOL-BREF Regressed on Minimal Social Secondary Gain as Seen in WHYMPI Negative Response Scale

Criterion Variable	F value	*p* value	*n* value
WHOQOL physical health	.230	.635	30
WHOQOL psychological health	1.13	.297	30
WHOQOL social health	1.989	.169	30
WHOQOL environmental health	.311	.582	30

CHAPTER V

DISCUSSION

The results overall from this study supports previous reports that quality of life is not correlated to pain intensity for persons living with chronic pain. Further, the economy of gains and losses is shown to correlate with quality of life, but not consistently nor across all dimensions used to measure quality of life. Finally, in this study, the measure of social roles did not produce any significant results relative to quality of life. This final outcome was inconsistent with the study hypothesis and did not match expectations based on an understanding of how significant a role the maintenance of social roles plays in shaping behavior.

Before discussing the individual hypotheses, there are some notes of interest regarding the sample population used in this study. Anecdotal research has shown many chronic pain studies to have taken place in large, urban setting surrounding major universities and/or research-based hospital centers. This study was hosted by a regional Trauma I hospital located in a west-central Pennsylvania town with a population of 21,500. The hospital is the largest healthcare provider in the region, including the Level 1 Regional Resource Trauma Center and a Level 3 Neonatal Intensive Care Unit. Other defining characteristics are four physical campus locations, a physicians group that encompasses the region, and a Ryan White Clinic. Such specialized healthcare is unique to a rural area geographically distant from a large, urban setting. According to US Census data, this west-central Pennsylvania region reports less high school graduates, less college graduates, lower per-capita and household income and a median home value of less than half the state-wide value. Further, 94% of the regional population reports being white; the population has continued to decline for the past two decades, and the unemployment rate is higher than the statewide average.

From this setting a population was culled that represents chronic pain uniquely in contrast to other studies. As previously identified, the sample population represents a rural, working-class region. In addition, many of the sample population fall into a lower socio-economic status; the FMC setting largely serves this population. Statistically, chronic pain reports are higher among females than males (34% vs. 27%) and more than half those who report chronic pain also endorse experiencing severe chronic pain (Johannes, Le, Zhou, Johnston, &Dworkin, 2010). Although the mean score for pain intensity as reported through the WHYMPI was higher for females in this study, t-scores revealed no significant difference in pain intensity based on gender. Further, t-scores revealed no significant difference in quality of life outcome as reported on the WHOQOL-BREF based on gender. Johannes, Le, Zhou, Johnston, &Dworkin also reported that age was a significant factor affecting pain outcome; however, age was not found to be a significant factor among the sample population in this study. Age and gender have long been reported to be significant factors associated with chronic pain, and it was surprising to discover that they were not significant factors for this study.

In discussing the sample population, it should also be discussed that the sample size represents a limitation for this study, overall. An old rule of thumb suggests that sample size should exceed the number of predictors by at least 50 (Harris, 1985). Statistical power analyses would suggest a more accurate number, but either method would suggest that “more is better” with regard to subject size. The n=52 for this study represents s small sample size and creates a limitation with regard to statistical power. This limitation is increased in analysis of data for H3 when the sample population is divided even further. Had this study been conducted with a sample size of several hundred, perhaps many of the results that approached significance would have reached significance. That said, this was designed to be an exploratory study. The results that were garnered deserve consideration with respect to the sample size and warrant additional study with a larger population.

H_1:Pain intensity should not predict quality of life

The sample population of chronic pain patients in this study reported no correlation between their level of pain intensity and quality of life. Further, multiple single, linear regressions illustrated an inability for the measured pain intensity of the subjects in this sample to predict quality of life on any of the four dimensions (physical health, psychological health, social health, and environmental health) that were measured. Although this may seem to contradict face validity, it is consistent with previous studies about chronic pain patients who have been shown to report significantly positive quality of life despite varying levels of pain (Lame, Peters, Vlaeyen, Kleef, &Patijn, 2005). The acceptance of this hypothesis is not surprising relative to other studies; however, it is of unique interest relative to the population of this study. Most quantitative studies of chronic pain patients are conducted at settings located in larger, urban/metropolitan hospital settings. The patients in this study were proximal to a smaller locale with a significantly more rural setting located outside the orbits of the Washington, D.C., Baltimore, MD, and Pittsburgh, PA regions. In addition, many of these same subjects are also members of a working class and lower socio-economic population. Thus, a unique outcome to the current study is the confirmation that this hypothesis extends into a chronic pain population not typically represented in previous literature.

Also of note was the eager willingness to participate by the subjects in this study. Following the approved methodology, patients were screened by physicians during their office visit into FMC. At that time, appropriate patients were offered the opportunity to participate and those who accepted were instructed to ask for an information packet from the staff at the front desk. Thus, there was the opportunity for an identified patient to either voluntarily participate or remove herself from the study without the risk of her physician's knowledge. Physicians reported to the principle investigator each instance of a patient referral; however, they reported only the instance of referral without a patient's name for confidentiality reasons. Although these numbers were not formally tracked as part of the study procedures, anecdotal tracking suggests less than 10 patients who refused the opportunity to participate. This suggests a significantly high percentage of participation. Further, anecdotal reports by staff collecting completed participant information indicate many participants verbally expressed an eagerness to help improve the quality of treatment and outcome for chronic pain patients through their participation.

H_2: The presence of secondary gain will predict lower Quality of Life

As has been shown through previous study, the economy of gains and losses is present for everyone in the sick role. It has also been shown through previous research that those who actively pursue secondary gain often experience a reduction in positive treatment outcomes. Previous studies such as these led to the hypothesis that quality of life for the sample population in this study could be predicted to be lower for those participants who received secondary gain. Support for this hypothesis is seen in the negative correlation between the presence of financial secondary gain and physical health as a dimension for quality of life.

Further support for this hypothesis is seen in the correlations among social secondary gain and quality of life. Physical health is shown to correlate negatively with the presence of social secondary gain as measured through the WHYMPI support scale. However, many of the significant correlations reject the hypothesis and suggest a positive relationship between quality of life and social secondary gain. Social health among this study is seen to correlate positively with the presence of social secondary gain as measured through multiple variables: the WHYMPI support scale, solicitous response scale, distracting response scale, and social activity scale. The social secondary loss measure WHYMPI negative response scale negatively correlates significantly with three dimensions for quality of life, (psychological health, social health, and environmental health), and approaches significance for physical health.

Repeated, simple linear regression added support to this hypothesis indicating that for the subjects in this study, the presence of secondary gain offers some predictability for quality of life. Physical health was found to be significantly predicted by financial secondary gain with the line of best fit showing that as financial secondary gain decreased, physical health increased.

The presence of secondary gain affecting quality of life was also seen for social secondary gain. When the criterion variable of physical health as seen in the WHOQOL was regressed on the predictor variables for social secondary gain, (WHYMPI support scale, solicitous response scale, distracting response scale, negative response scale and social activity scale), social secondary gain was shown to significantly predict quality of life. The best fit line for this regression showed that as social secondary gain decreases, quality of life increases.

Repeated, simple linear regression indicated the ability of social secondary gain to predict quality of life when social health was the criterion variable; however, the best fit line for this model revealed the prediction to show that as social secondary gain increased, social health also increased. Thus, the presence of social secondary gain was seen to predict an increase in social health among the sample population in this study.

Overall, testing for H_2 supported previous study in showing that the presence of secondary gain leads to a lower quality of life. However, the results shown in this study did not offer unanimous support: among the dimensions represented through the WHOQOL-BREF, only physical health consistently showed negative impact by secondary gain. In contrast, social health was positively affected by the presence of social secondary gain, and the dimensions of psychological and environmental health were not significantly seen to be impacted by secondary gain. In response to the question of whether or not the presence of secondary gain is related to lower quality of life, the response suggested by this study is complex and depends on many variables, as seen in Figure 2.

A potential consideration focuses on the WHYMPI as a measure of areas in which pain impacts the life of an individual; the WHYMPI was not originally designed to assess the presence or significance of secondary gain. It was utilized as a measure of secondary gain in this study as a best available option given the lack of formal, validated assessments for secondary gain. Therefore, while financial secondary gain was directly reported by the participant via the demographics form, social secondary gain has been inferred through the constructs of the WHYMPI that measure social engagement. Previous study regarding quality of life has shown that positive social engagement correlates with higher quality of life. It is conceivable that this social engagement is confounding the results for this study.

It is also a consideration that the quality of life criterion variable for this study is conceptualized to include domains of health for social, psychological, and environmental—domains in addition to physical health. Previous research regarding the effect of secondary gain on treatment outcome focuses that outcome on the measurement of physical symptoms associated with physical health. Perhaps had previous research included social, economic, and psychological health among the outcomes studied, similar results would have been found. This raises a valuable consideration for additional research. However, at this time, the current study suggests that the presence of secondary gain does not universally lead to poorer outcomes.

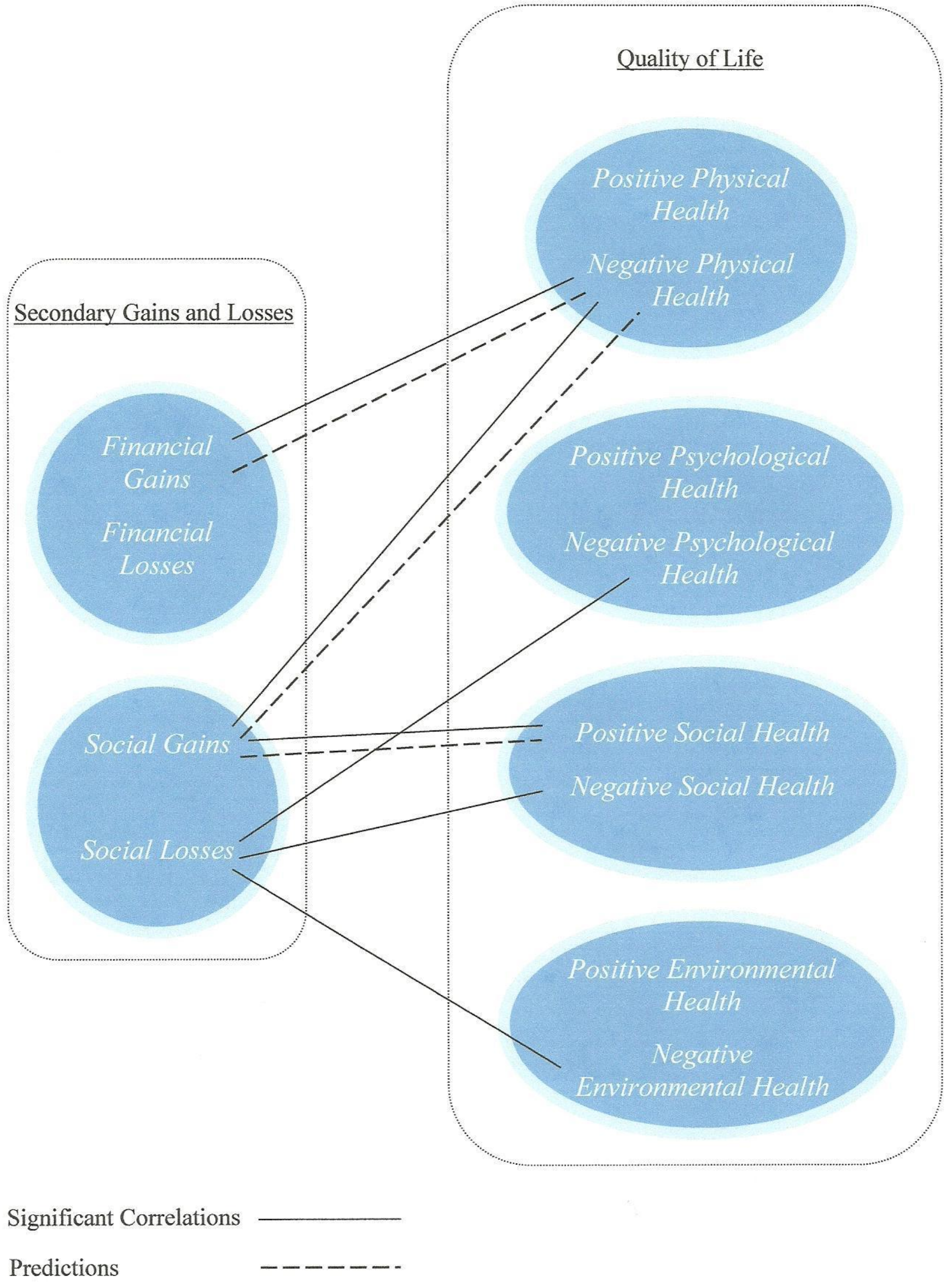

*Figure 2.*Correlations and predictions of WHOQOL-BREF by social secondary gains and losses.

Rather, the current study suggests that the best answer regarding outcomes in the presence of secondary gain and loss might be "it depends." It depends on a range of other factors and the outcome might not be universally negative as previously assumed. This would represent a significant change in the conceptualization of secondary gains and losses in the presents of chronic pain treatment.

H_3: A low commitment to social role and low presence of secondary gain would predict higher quality of life

Among this population sample, there were not results to support the hypothesis that an individual with minimal endorsement of a stereotypical social role and a minimal engagement with secondary gain would experience an increase in quality of life. There are several points to consider with these results. The aforementioned limitation of utilizing the WHYMPI as an assessment for secondary gain could have resulted in the introduction of a confounding variable. In addition, the limitations of the SIQ must be considered. In the absence of a measure to assess the salience of social role for an individual, the SIQ was utilized as the best option available. However, some limitations of the measure were apparent among this sample population.

The SIQ is scored on a 0-23 point scale. As seen in Table 6, mean scores for each role measured on the SIQ hovered around the 12-15 point range. The standard deviation for each scale fell among the 4-6 point range. This would indicate a wide range of variance among the scores of the measure and raises questions regarding validity.

Therefore, it is possible that the outcomes seen in this study are a representation of the potential confound variable introduced through the WHYMPI and the weak construct through the SIQ. There is a body of literature supporting the theory that quality of life is influenced through secondary gain, and additional evidence supporting the importance of social roles. Additional study with assessment measures designed to accurately identify potential secondary gain and measures that accurately identify social role commitment may increase support for the hypotheses suggested in this study. However, it is also possible that secondary gain does not influence quality of life as has been theorized. This study did not show significant support for secondary gain as a factor predicting quality of life. Other studies have found social roles to be a factor in quality of life. Previously referenced studies have shown social role maintenance to result in increased health outcomes and the loss of social bonds to result in decreased health outcomes. Maintenance of social role or loss of social bonds parallels the WHOQOL description for social health, so it would stand to reason that these behaviors would predict social health outcomes. Therefore, if social role can predict physical and social health outcomes, it would predict half of the domains measured for quality of life by the WHOQOL. Social role could have a greater significance in predicting chronic pain outcome than secondary gain. It is possible that the lack of significant results associated with social role in this study indicate that social role is an irrelevant factor for the outcome of chronic pain patients. However, it seems more likely that the maintenance of social role is a factor in the economy that affects chronic pain patient behavior. Future research should be devoted to the development of an instrument for accurate social role assessment in order that this construct may be examined as a potential significant factor affecting outcomes for chronic pain patients.

The study design also introduces an unknown variable. As data was collected at a singular point in time for subjects already diagnosed with chronic pain, it is unknown what the social role scores might have been prior to any pain diagnoses. It is possible that these subjects would have scored similarly on a social role measure prior to the introduction of chronic pain as a variable, and that the scores seen in this study are static and independent of interaction with chronic pain. Although it seems doubtful that chronic pain would have no influence on social role, the level of interaction cannot be assumed.

The social roles utilized in this study, the provider role and domestic role, were purposefully selected. Financial benefit is the most often discussed form of secondary gain, and social benefit is frequently mentioned, as well. The provider and domestic social roles were selected, respectively, to capture these constructs. The provider role was intended to correlate with behaviors related to financial responsibility. The domestic role was intended to correlate with behaviors related to maintaining a household. Neither role was intended to focus on parenting or caregiving; although both of those behaviors could be seen to overlap with the domestic and/or provider roles. These roles were not intended to be gender-specific; however, the male gender is stereotypically associated with a provider role while the female gender is stereotypically associated with a domestic role. For this reason, the impact of gender was examined among the data collected; however, there was no significant correlation between gender and the SIQ provider or domestic roles among this study. The provider and domestic roles were found to significantly correlate with one another, and the discrepancy in correlations could be indicative of the provider and domestic constructs. That the domestic and provider role correlate with one another but that the roles do not correlate with gender suggests that these roles are not gender specific, but are accessible regardless of gender. This indicates the limited role gender plays in this study.

It was previously written that van Egmond and Kummeling had found during their study of patients at a clinic in the Netherlands a higher number of men versus women were expecting financial secondary gain (2001).Two other studies had also linked gender with outcome, citing female gender as correlated with poorer outcomes (Reilly, 1993; Young, Shaffrey, Laws, & Lowell, 1997). The role of gender was not found to have significant impact on this study.

Thirty-four of the 52 participants in this study endorsed secondary gain. Of those 34 persons, 20 (59%) were female and 14 (41%) were male. The ratio of female to male among those endorsing secondary gain was consistent with the female to male ratio of the sample, 65% / 35%, respectively. This suggests that the rate of females endorsing secondary gain relative to males was consistent with the population sample. Further, Chi squared tests showed no significant relationship between the endorsement of secondary gain and gender for this study. Chronbach's alpha revealed no significant correlation between gender or the endorsement of secondary gain for this study. When regressed on the outcome variables, gender was found to have no significant predictive value on the quality of life for any of the dimensions utilized in this study.

With regard to the Social Index Questionnaire, the self-identified groups of males and females in this study were not found to differ significantly with regard to their self-identified primary social role. Table 16 shows the breakdown by gender of the self-identified primary social role by the participants in this study.

Table 16

Summary of Primary Social Role Endorsement by Gender

Social Role	Endorsed by female participants	Endorsed by male participants	Total participant endorsement
Kinship	14	8	22
Peer	1	1	2
Religious/Spiritual	3	4	7
Romantic	6	2	8
Chronic Pain	2	0	2
Domestic	4	1	5
Provider	3	2	5
Totals	34	18	52

This study did not find gender to play a significant role in the identification of social roles, the presence of secondary gains, or the outcome quality of life. Anecdotal evidence regarding the population sample suggests a number of participants who were single parents and might thereby see themselves as fulfilling a variety of social roles independent of their gender. Although it is possible that the limited sample size and statistical power contributed to a lack of significant outcomes, it is also possible that chronic pain does not discriminate by gender. Similarly, quality of life does not seem to be a construct dependent upon gender; the WHOQOL questionnaire does not ask any gender-specific questions. The salience of secondary gain and the larger economy of gains and losses is shown in this study to be a complex construct whose outcome is contingent upon the interaction of multiple variables and is therefore not limited to affect by gender alone.

This study found results similar to those previously found regarding chronic pain patients and quality of life, specifically that there is not a correlation between level of pain intensity and quality of life. Chronic pain patients live with and manage varying levels of pain daily and the quality of life experienced by these individuals is not shown through research to be correlated with the quality of life most individuals experience. Quality of life was shown to correlate with the presence of secondary gain in this study. Specifically, this study revealed a negative correlation between quality of life and secondary gain through both financial and social means. As greater levels of financial and social secondary gain decreased, greater quality of life was found to be predicted. However, this was only valid among quality of life as measured through physical health. Social health was reported to increase in the presence of social secondary gain. This domain of social health is focused on social relationships and includes facets of personal relationships, social support, and sexual activity. Considering the importance of maintaining social connections and the significance social roles have to that maintenance, it was surprising to not find any correlation among the level of social role endorsement and quality of life for the chronic pain patients in this study.

Positive quality of life is a goal for all individuals, and chronic paint patients are no different. As we understand the chronic pain population is capable of attaining greater quality of life independent of pain intensity, and we understand their pain symptoms are not expected to terminate, it is logical to seek treatment that increases quality of life. Secondary gain has been reported to negatively affect treatment and it has been shown to lower quality of life as seen in physical health. However, considering that many of these reports are based on studies rooted in compensation neurosis and return to work outcomes—a concept (compensation neurosis) now understood to be not relevant related to the economy of gains and losses, and an outcome (return to work) that is rooted in the resolution of physical symptoms shown to correlate negatively with quality of life—it needs to be considered if this specter of secondary gain as a roadblock to successful treatment is outdated and invalid. New experimental studies are needed that conceptualize the economy of gains and losses in behavioral and social terms consistent with the biopsychosocial model and that quantifiably measure the economy's effect on treatment progress and outcome.

What is known about the economy of gains and losses at this point is limited in clinical application despite decades of study. There is a reported effect that needs to be demonstrated in a clear way. The recommendations that are offered to manage the economy are broad and vague and therefore difficult for a clinician to identify, measure, and treat. Perhaps the economy of gains and losses is not a hindrance to treatment, but a countertransference from healthcare personnel who remain haunted by the specter of neurosis. The attitude of healthcare personnel is part of the social construction of the economy of gains and losses and should also be measured empirically to determine the role it has.

Conceptually, there have been positive steps forward to modernize the phenomenon of gains and losses beyond individual neurosis and to understand it as a behavioral and social construct. What is needed are the results of experimental studies to identify the various elements and their roles within this construct. Once identified, this would allow for empirical recommendations for treatment that would be most effective to be measured behaviorally. Chronic pain patients and all patients who encounter the economy of gains and losses deserve a greater understanding of this phenomenon. As treatment providers, the ethical guidelines for our respective fields direct us to utilize the most current and empirical methods. Our current, empirical study then directs us to discard this outdated stereotype of “secondary gains” that marries compensation neurosis with inaccurate media reports to create a construct where patients are viewed with suspicion of faking for financial reward. We need to understand—and then educate others—on the economy of gains and losses that affect patient behavior, and that chronic pain patients will be offered the gains available to every person in the sick role. Providers need to disassociate these gains and any acceptance of them with patient malingering. As specialists in a field defined as the scientific study of human behavior, understanding patient behavior as the outcome of an economy of factors allows for a behavior that can be operationalized and improved to help maximize treatment and outcome.

References

Allaz, A.F., Vannotti, M., Desmeules, J., Piguet, V., Celik, Y., &Pyroth, O.(1989).Use of the label ‘litigation neurosis’on inpatients with somatoform pain disorder.*General Hospital Psychiatry, 20*(2), 91–97.

Baumeister, R. F., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachment as a fundamental human motivation. *Psychological Bulletin, 117,* 497-529.

Bellamy, R. (1997). Compensation neurosis: Financial reward for illness as nocebo. *Clinical Orthopedics and Related Research, 336,* 94-106.

Bettencourt, B. A., & Sheldon, K. (2001).Social roles as mechanism for psychological need satisfaction within social groups.*Journal of Personality and Social Psychology, 81,* 1131-1143.

Blackwell, T. L., Leierer, S., Haupt, S., &Kampotsis, A. (2003). Predictors of vocational rehabilitation return to work outcomes in workers compensation. *Rehabilitation Counseling Bulletin, 46,* 108-114.

Bovard, E. (1959). The effects of social stimuli on the response to stress.*Psychological Reviews, 66,* 267-277.

Brievik, H., Collett, B.,Ventafridda, V., Cohen, R., &Gallacher, D. (2005). Survey of chronic pain in Europe: Prevalence, impact on daily life, and treatment. *European Journal of Pain, 10,* 287-333.

Burke, P. J. (1981). The link between identity and role performance.*Social Psychology Quarterly, 44*(2), 83-92.

Byrne, Z. S., &Hochwarter, W. A. (2006).I get by with a little help from my friends: The interaction of chronic pain and organizational support and performance. *The Journal of Occupational Health Psychology, 11*(3), 215-227.

Cassel, J. (1976). The contribution of the social environment to host resistance.*American Journal of Epidemiology, 104,* 107-123.

Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. *Advances in Experimental Social Psychology, 24,* 201-234.

Cohen, S.(1988). Psychosocial models of social support in the etiology of physical disease. *Health Psychology, 7,* 269-297.

Cohen, S. (2004). Social relationships and health. *American Psychologist, 59*(8), 676.

Dersh, J., Polatin, P. B., Leeman, G., &Gatchel, R. J. (2004). The management of secondary gain and loss in medicolegal settings: Strengths and weaknesses. *Journal of Occupational Rehabilitation, 14*(4), 267-279.

Edwards, B. & O'Connell, B. (2003). Internal consistency and validity of the Stroke Impact Scale 2.0 (SIS 2.0) and SIS-16 in an Australian sample. *Quality of Life Research, 12*(8), 1127-1135.

Ferrari, R., & Kwan, O. (2001). The no-fault flavor of disability syndromes. *Medical Hypotheses, 56*(1), 77-84.

Ferrari, R.,Kwan, O., &Friel, J. (2001).Cognitive theory and illness behavior in disability syndromes.*Medical Hypothesis, 57,* 112-114.

Finneson, B. E. (1976). Modulating effect of secondary gain on the low back pain syndrome.*Advances in Pain Research and Therapy, 1,* 949-952.

Fishbain, D.A., Cutler, R. B., Rosomoff, H. L., & Steele-Rosomoff, R.(2002). Does the Conscious Exaggeration Scale detect deception within patients with chronic pain alleged to have secondary gain? *Pain Medicine, 3*(1), 39-46.

Fishbain, D. A., Rosomoff, H. L., Cutler, R. B., &Rosomoff, R. S. (1995). Secondary gain concept: A review of the scientific evidence. *Clinical Journal of Pain, 11*(1), 6-21.

Fordyce, W. E., Roberts, A. H., &Sternbach, R. A.(1985). The behavioral management of chronic pain: A response to critics. *Pain, 22*(2), 113-125.

Freud, S. (1959). Some general remarks on hysterical attacks. In J. Strachey (Ed. & Trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 9, pp.229-234). Retrieved from files.ed.eric.gov

Gardner, G. C. (2000). Fibromyalgia following trauma: Psychology or biology. *Current Pain and Headache Reports, 4*(4), 295-300.

Gardner, W. L., Pickett, C. L., & Brewer, M. B.(2000). Social exclusion and selective memory: How the need to belong influences memory for social events. *Personality and Social Psychology Bulletin, 26,* 486-496.

Gaskin, D. J., & Richard, P. (2012).The economic costs of pain in the United States.*The Journal of Pain, 13*(8), 715.

Gatchel, R. J., Adams, L., Polatin, P. B., &Kishino, N.D. (2002).Secondary loss and pain-associated disability: Theoretical overview and treatment implications.*Journal of Occupational Rehabilitation, 12*(2), 99-110.

Goldberg, D. S., & McGee, S. J. (2011).Pain as a global public health priority.*BioMedCentral Public Health, 11*, 770.

Gumerman, S. H. (1998). *Examination of four potential predictors of return to work in mid-career low back injured Workers' Compensation recipients* (Unpublished doctoral dissertation) Mississippi State University, Mississippi.

Hammer, M. (1981). “Core” and “extended” social networks in relation to health and illness.*Social Science and Medicine, 17,* 405-411.

Harris, R. J. (1985). *A primer of multivariate statistics.* (2nded.) New York, NY: Academic Press.

Hawthorne, G., Herrman, H., Murphy, B. (2006). Interpreting the WHOQOL BREF: preliminarily population norms & effect sizes.*Social Indicators Research, 77,* 37-59.

Hays, P. A. (2008).*Addressingcultural complexities in practice.* (2nded.). Washington, D.C.: American Psychological Association.

Hutchinson, G. L. (2001). *Disorders of simulation.*Madison, CT: Psychosocial Press.

Jackson, S.E. (1981). Measurement of commitment to role identities.*Journal of Personal and Social Psychiatry, 40,* 138-146.

Johannes, C. B., Le, T. K., Zhou, X., Johnston, J. A., Dworkin, R. H. (2010). *The Journal of Pain, 11*(11), 1230-1239.

Kahl, C.,& Cleland, J. A. (2005). Visual Analogue Scale, Numeric Pain Rating Scale, and The McGill Pain Questionnaire: An overview of psychometric properties. *Physical Therapy Reviews, 10,* 123-128.

Kerns, R. D., Turk, D. C., & Rudy, T. E. (1985). The West Haven-Yale Multidimensional Pain Inventory (WHYMPI). *Pain, 23*(4), 345-356.

Kiecolt-Glaser, J.K., Fisher, L. D., Ogrocki, P., Soudt, J. C., Speicher, C. E., & Glaser, R. (1987). Psychosocial modifiers of immunocompetence in medical students.*Psychosomatic Medicine, 46,* 7-14.

Kwan, O., Ferrari, R., &Friel, J. (2001). Tertiary gain and disability syndromes. *Medical Hypotheses*, *57*(4), 459-464.

Kwan, O., &Friel, J. (2002).Clinical relevance of the sick role and secondary again in the treatment of disability syndromes.*Medical Hypotheses*, *59*(2), 129-134.

Lame, I. E., Peters, M. L., Vlaeyen, J. W. S., Kleer, M. V., &Patijn, J. (2005). Quality of life in chronic pain is more associated with beliefs about pain than with pain intensity. *Pain, 9*(1), 15-24.

Loeser, J., Henderlite, S., & Conrad, D. (1995). Incentive effects of workers' compensation benefits: A literature synthesis. *Medical Care Research And Review: MCRR*, *52*(1), 34-59.

Marques, J., Abrams, D., &Serodio, R.(2001).Being better by being right: Subjective group dynamics and derogation of in-group deviants when generic norms are undermined. .*Journal of Personality and Social Psychology, 81,* 436-447.

Mendelson, G. (1983). The effects of compensation and litigation on disability following compensable injuries. *American Journal of Forensic Psychiatry, 4*(3), 97-112.

Modlin, H.C. (1983). Compensation neurosis.*The Bulletin of the American Academy of Psychiatry and Law, 14*(3), 263-271.

Noy, P.(1975). New views on the psychotherapy of compensation neurosis: A clinical study. In A. Silvano& G. Chrzanowski, (Eds.), *New dimensions in psychiatry: A world view*(pp. 162-168.)London, England: John Wiley & Sons.

Nutton, V. (2013).*Ancient medicine.* New York, NY: Routledge.

Parsons, T. (1964).*Socialstructure and personality.*London, England: Collier-MacMillan.

Reilly, P. A. (1993). Fibromyalgia in the workplace: A ‘management’ problem. *Annals of the Rheumatic Diseases, 52,* 249-251.

Schoen, M. (1993). Resistance to health: When the mind interferes with the desire to become well. *American Journal of Clinical Hypnosis, 36*(1), 47-54.

Skevington, S.M., Lofty, M., & O'Connell, K.A. (2004). The World Health Organization's WHOQOL-BREF quality of life assessment: Psychometric prosperities and results of the international field trial. *Quality of Life Research, 13,* 299-310.

Taylor, M. L. (2011). The impact of the 'business' of pain medicine on patient care.*Pain Medicine, 12,* 763-772.

Thoits, P.A. (1983). Multiple identities and psychological well-being: A reformation and test of the social isolation hypothesis. *American Sociological Review, 48,* 174-187.

Uchino, B. N., Cacioppo, J. T., &Kiecolt-Glaser, J. K.(1996). The relationship between social support and physiological processes. *Psychological Bulletin, 119,* 488-531.

U.S. Census Bureau.(2014, June 11). *State & county QuickFacts: Cambria County, P.A.* Retrieved July 2, 2014 from http://quickfacts.census.gov

vanEgmond, J., &Kummeling, I. (2001). A blind spot for secondary gain affecting therapy outcomes.*European Psychiatry, 17,* 46-54.

Vidmar, N., Gross, F., & Rose, M. (1998). Jury awards for medical malpractice and post-verdict adjustments of those awards. *Depaul Law Review, 48,* 265-300.

Willis, T. A. (1985). Supportive functions of interpersonal relationships. In S. Cohen & S. L. Syme (Eds.), *Social support and health* (pp. 61-82). New York, NY: Academic.

World Health Organization.(1998). *WHOQOLuser manual.* Geneva, Switzerland: World Health Organization.

Young, J. N., Shaffrey, C. I., Laws, Jr., E. R., & Lovell, L. R.(1997). Lumbar disc surgery in a fixed compensation population: A model for influence of secondary gain on surgical outcome. *Surgical Neurology, 48*(6), 552-559.

APPENDIX C

APPENDIX A

APPENDIX A

DEMOGRAPHICS

Please respond to each of the following to the best of your ability. Circle the response that most closely applies to you. Do not include your name.

1. Please select, from the choices below, the category that represents your age:

   a. 18-29 b. 30-39 c. 40-49 d. 50-59 e. 60-69
   f. 70-79 g. 80+

2. Please indicate your gender: a. Female b. Male

3. Please indicate the ethnicity with which you most closely identify:

   a. African-American b. Latino / Hispanic c. Asian-American / Pacific Islander
   d. American Indian / Alaska Native e. European Origin / White

4. Please indicate your marital status:

   a. Single b. Married/Living together c. Divorced e. Widow

5. Do you currently smoke cigarettes, cigars, pipe, or consume other tobacco products?

   a. Yes b. No

6. How often do you consume more than 3 alcoholic beverages?

   a. Daily b. Weekly c. Monthly d. Yearly e. Never

7. Please indicate your current employment status:

   a. Full-time b. Part-time c. Unemployed

8. Please indicate any/all of the following that you are receiving or have applied to receive:

   a. Workers compensation b. Social Security Disability
   c. Financial payment due to lawsuit regarding injury/pain

9. Please indicate current treatments you useto help with your pain. (Circle all that apply.)

a. medication b. individual psychotherapy c. group psychotherapy
d.physical therapy e. alternative (massage, acupuncture) f. peer support group

APPENDIX B

WEST HAVEN-YALE MULTIDIMENSIONAL PAIN INVENTORY

BEFORE YOU BEGIN, PLEASE ANSWER 2 PRE-EVALUATION QUESTIONS BELOW:

1. Some of the questions in this questionnaire refer to your “significant other”. A significant other is *a person with whom you feel closest.* This includes anyone that you relate to on a regular or infrequent basis. It is very important that you identify someone as your “significant other”. Please indicate below who your significant other is (check one):

☐ Spouse ☐ Partner/Companion ☐ Housemate/Roomate

☐ Friend ☐ Neighbor ☐ Parent/Child/Other relative

☐ Other (please describe):

---

2. Do you currently live with this person? ☐ YES ☐ NO

When you answer questions in the following pages about “your significant other”, always respond in reference to the specific person you just indicated above.

A.

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 intereference 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 (significant other) 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 <u>past week</u>.

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 <u>last week</u>?

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 (significant other) 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 that 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 or 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 (significant other) 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 irritable Extremely 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 tense or anxious
Extremely tense or anxious

B.

In this section, we are interested in knowing how your significant other (this refers to the person you indicated above) 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 significant other generally responds to you in that particular way when you are in pain.

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 medications.

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

C.

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. Wash dishes.

0 1 2 3 4 5 6

Never Very often

2. Mow the lawn.

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.
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

APPENDIX C

THE SOCIAL IDENTITIES QUESTIONNAIRE

Attached is a copy of the Social Identities Questionnaire. To obtain a total score indicating the respondent's commitment to a particular identity, code the item as "1" (one) if the response given matches the response shown below; otherwise, code the item as "0" (zero). Add across items for a total score.

1. T
2. T
3.T
4.F
5.F
6.T
7.F
8.F
9.T
10.F
11.F
12.T
13.F
14.T
15.F
16.T
17.T
18.F
19.F
20.T
21.T
22.T
23. T

For information about the development of the Social Identities Questionnaires, see:

Jackson, S. E. (1981). Measurement of commitment to role identities.*Journal of Personal and Social Psychology, 40,* 138-146.

SOCIAL IDENTITIES

In this survey, you are being asked to tell about your "social identities." Identities are labels that people can use to describe themselves. For example, some people identify themselves as skiers; others identify themselves as hunters or chess players. Skier, hunter, or chess player are all identities that could be grouped into a category of "recreational" identity.

Below are listed seven identity categories and a brief definition of each one. Also, for each category several examples of relevant identities are given. Please read these category definitions carefully and look at the examples that illustrate the kinds of identities contained in each category.

Identity Categories

Category	Definition	Examples
Kinship:	Labels that describe your relationship to family members	Parent, sister cousin, uncle, daughter, nephew, grandparent
Peer:	Labels which describe acquaintanceships you have with people your own age	Pal, buddy, friend, neighbor, roommate, co-worker
Religious/Spiritual:	Labels that describe your religious or spiritual orientation	Catholic, atheist, Baptist, Hindu, Jewish, agnostic, spiritualist
Romantic:	Labels that describe close, affectionate relationships in which you are romantically involved	Lover, spouse, steady, dating partner, companion, girlfriend
Chronic Pain:	Labels that describe how pain affects your life	Disabled, achy, dependant, survivor, patient
Domestic:	Labels that describe your role as caretaker for family domestic responsibilities	Homemaker, Home manager
Provider:	Labels that describe your role as financially responsible for your family	Breadwinner, financial supporter

INSTRUCTIONS

1. Think about these 7 identities. Ask yourself: "How important is each identity in my life from week to week?" After you have thought about their importance for a minute, go on to the next page.

2. For any particular person, some of these identity categories are more important than others. Now that you have thought about the place of each identity in your life, rank the identities in order of their importance to you.

   For your convenience, the 7 categories have been listed below. Write the identity category that is more important <u>to you</u> in the first blank (“1”); then, write the second most important category in the next blank, and so on, putting the least important role in the last blank (“7”). Be sure to use all 7 of the categories.

Kinship	Most Important	1. ______________________________
Peer		2. ______________________________
Religious/Spiritual		3. ______________________________
Romantic		4. ______________________________
Chronic Pain		5. ______________________________
Domestic		6. ______________________________
Provider	Least Important	7. ______________________________

3. Now, go back and look at the way you rank ordered the identity categories. Ask yourself the question: “If, for some reason, I <u>had</u> to give up my identity in one of these categories, would I do so in the order listed here? That is, would I give up the one at the bottom <u>first</u>, then the next one, and so on up the line giving up <u>last</u> the one at the top of the list?” <u>If not, change</u> the order of the identity categories so that it is correct.

4. Finally, next to each identity category, rate its importance to you using the scale below. The numbers on the scale should be treated like the numbers on a ruler, with equal distances separating them. You may assign the same number to two or more consecutive identities and you may use any number form 0-100.

Of no importance to me	Slightly important	Moderately important	Quite important	As important to me as I can imagine
0	25	50	75	100

RELIGION/SPIRITUAL LIFE

Instructions: The following statements concern your personal feelings and thoughts about your religious or spiritual life. For each of the items, read the statement through carefully since no two are exactly alike. If a statement is TRUE or MOSTLY TRUE as applied to you, circle the T in front of the statement. If a statement is FALSE or MOSTLY FALSE as applied to you, circle the F in front of the statement.

Please answer as carefully as you can; your answers will be kept strictly confidential.

MOSTLY TRUE	MOSTLY FALSE		
T	F	1.	When people are discussing the topic of being a religion or spiritual life, I probably will listen and/or join the conversation.
T	F	2.	If I come across an article related to my religious or spiritual life, I will probably read it with interest.
T	F	3.	If problems develop in my life, I try to think them through as they affect my spiritual life.
T	F	4.	With respect to my spiritual life, I don’t care if I make mistakes.
T	F	5.	During the past week, I have had no conversations about my religious or spiritual life.
T	F	6.	During the past week, I have made 10 or more decisions in which my religion or spiritual life has influenced the decision making process.
T	F	7.	I rarely or never think about how I can have a better spiritual life.
T	F	8.	Compared to other concerns, I worry little about how good my religious or spiritual life is.
T	F	9.	If I had to give up being something, my religion or spiritual life is the last thing I would give up.
T	F	10.	When I am involved in activities related to my religion or spiritual life, I usually feel indifferent.
T	F	11.	If I had a better religious or spiritual life than everyone else, it would make little difference to me.
T	F	12.	When I can, I seek out situations in which I can express myself spiritually or religiously.
T	F	13.	Being religious or spiritual is really not important to me.
T	F	14.	I feel bad when I think I am not being a good religious / spiritual person.
T	F	15.	I rarely devote much time to my religious or spiritual life.
T	F	16.	When I meet new people, it is important to me that they know I am religious.
T	F	17.	I typically organize my day so that I can work toward goals which are related to my religion / spiritual life.
T	F	18.	Being religious is of little value to me.
T	F	19.	Beingreligious has virtually no effect on my life.
T	F	20.	I enjoy it when people encourage me to be a religious person.
T	F	21.	I would feel a great sense of loss if suddenly I were unable to have a spiritual life.
T	F	22.	I am strongly committed to being a good religious person.
T	F	23.	If people could know only one thing about me, I would want them to know I am a religious person.

ROMANTIC RELATIONSHIP

Instructions: The following statements concern your personal feelings and thoughts about your life as a romantic partner. For each of the items, read the statement through carefully since no two are exactly alike. If a statement is TRUE or MOSTLY TRUE as applied to you, circle the T in front of the statement. If a statement is FALSE or MOSTLY FALSE as applied to you, circle the F in front of the statement.

Please answer as carefully as you can; your answers will be kept strictly confidential.

MOSTLY TRUE	MOSTLY FALSE		
T	F	1.	When people are discussing the topic of romantic relationships, I probably will listen and/or join the conversation.
T	F	2.	If I come across an article related to romantic relationships, I will probably read it with interest.
T	F	3.	If problems develop in my life, I try to think them through as they affect my romantic relationships.
T	F	4.	When I am being a romantic partner, I don't care if I make mistakes.
T	F	5.	During the past week, I have had no conversations about my romantic relationships.
T	F	6.	During the past week, I have made 10 or more decisions in which my romantic relationship(s) has influenced the decision making process.
T	F	7.	I rarely or never think about how I can be a better romantic partner.
T	F	8.	Compared to other concerns, I worry little about how good I am as a romantic partner.
T	F	9.	If I had to give up being something, being a romantic partner is the last thing I would give up.
T	F	10.	When I am involved in activities related to my romantic relationship(s), I usually feel indifferent.
T	F	11.	If I were a better romantic partner than everyone else, it would make little difference to me.
T	F	12.	When I can, I seek out situations in which I can express myself as a romantic partner.
T	F	13.	Being a romantic partner is really not important to me.
T	F	14.	I feel bad when I think I am not being a good romantic partner.
T	F	15.	I rarely devote much time to my romantic relationship(s).
T	F	16.	When I meet new people, it is important to me that they know I am (or would like to be) romantically involved.
T	F	17.	I typically organize my day so that I can work toward goals which are related to my romantic relationships.
T	F	18.	Being a romantic partner is of little value to me.
T	F	19.	Being a romantic partner has virtually no effect on my life.
T	F	20.	I enjoy it when people (or a particular person) encourage me to be a romantic partner.
T	F	21.	I would feel a great sense of loss if suddenly I was unable to have my romantic relationship(s).
T	F	22.	I am strongly committed to being a good romantic partner.
T	F	23.	If people could know only one thing about me, I would want them to know I am someone's romantic partner.

ACQUANTANCES & FRIENDSHIPS

Instructions: The following statements concern your personal feelings and thoughts about your acquaintanceships with people of your own age. For each of the items, read the statement through carefully since no two are exactly alike. If a statement is TRUE or MOSTLY TRUE as applied to you, circle the T in front of the statement. If a statement is FALSE or MOSTLY FALSE as applied to you, circle the F in front of the statement.

Please answer as carefully as you can; your answers will be kept strictly confidential.

MOSTLY TRUE	MOSTLY FALSE		
T	F	1.	When people are discussing the topic of friendship, I probably will listen and/or join the conversation.
T	F	2.	If I come across an article related to friendship, I will probably read it with interest.
T	F	3.	If problems develop in my life, I try to think them through as they affect my relations with friends.
T	F	4.	When I am being a friend to someone, I don't care if I make mistakes.
T	F	5.	During the past week, I have had no conversations about being a friend.
T	F	6.	During the past week, I have made 10 or more decisions in which being someone's friend has influenced the decision making process.
T	F	7.	I rarely or never think about how I can be a better friend.
T	F	8.	Compared to other concerns, I worry little about how good I am at being a friend.
T	F	9.	If I had to give up being something, my relationships with my friends are the last thing I would give up.
T	F	10.	When I am involved in activities related to my friendships, I usually feel indifferent.
T	F	11.	If I were a better friend than everyone else, it would make little difference to me.
T	F	12.	When I can, I seek out situations in which I can express myself as a friend.
T	F	13.	Being a friend to people is really not important to me.
T	F	14.	I feel bad when I think I am not being a good friend.
T	F	15.	I rarely devote much time to my relations with friends.
T	F	16.	When I meet new people, it is important to me that they know I want to be their friend.
T	F	17.	I typically organize my day so that I can work toward goals which are related to my friendships.
T	F	18.	Being a friend is of little value to me.
T	F	19.	Being a friend has virtually no effect on my life.
T	F	20.	I enjoy it when people encourage me to be their friend.
T	F	21.	I would feel a great sense of loss if suddenly I was unable to have friendships.
T	F	22.	I am strongly committed to being a good friend.
T	F	23.	If people could know only one thing about me, I would want them to know I am their friend.

KINSHIP

Instructions: The following statements concern your personal feelings and thoughts about your family life. For each of the items, read the statement through carefully since no two are exactly alike. If a statement is TRUE or MOSTLY TRUE as applied to you, circle the T in front of the statement. If a statement is FALSE or MOSTLY FALSE as applied to you, circle the F in front of the statement.

Please answer as carefully as you can; your answers will be kept strictly confidential.

MOSTLY TRUE	MOSTLY FALSE		
T	F	1.	When people are discussing the topic of family relationships, I probably will listen and/or join the conversation.
T	F	2.	If I come across an article related to family life, I will probably read it with interest.
T	F	3.	If problems develop in my life, I try to think them through as they affect my family.
T	F	4.	As a member of a family, I don’t care if I make mistakes.
T	F	5.	During the past week, I have had no conversations about the people in my family.
T	F	6.	During the past week, I have made 10 or more decisions in which members of my family have influenced the decision making process.
T	F	7.	I rarely or never think about how I can be a better family member.
T	F	8.	Compared to other concerns, I worry little about how good I am at being a part of a family.
T	F	9.	If I had to give up being something, being part of a family is the last thing I would give up.
T	F	10.	When I am involved in activities related to my family, I usually feel indifferent.
T	F	11.	If I were a better family person than everyone else, it would make little difference to me.
T	F	12.	When I can, I seek out situations in which I can express myself as a family member.
T	F	13.	Being a family person is really not important to me.
T	F	14.	I feel bad when I think I am not being a good member of my family.
T	F	15.	I rarely devote much time to family relationships.
T	F	16.	When I meet new people, it is important to me that they know I am part of a family.
T	F	17.	I typically organize my day so that I can work toward goals which are related to family life.
T	F	18.	Being part of a family is of little value to me.
T	F	19.	Being part of a family has virtually no effect on my life.
T	F	20.	I enjoy it when people encourage me to be a family person.
T	F	21.	I would feel a great sense of loss if suddenly I was unable to have my family life.
T	F	22.	I am strongly committed to being a good member of my family.
T	F	23.	If people could know only one thing about me, I would want them to know I am a family person.

CHRONIC PAIN

Instructions: The following statements concern your personal feelings and thoughts about your life dealing with chronic pain. For each of the items, read the statement through carefully since no two are exactly alike. If a statement is TRUE or MOSTLY TRUE as applied to you, circle the T in front of the statement. If a statement is FALSE or MOSTLY FALSE as applied to you, circle the F in front of the statement.

Please answer as carefully as you can; your answers will be kept strictly confidential.

MOSTLY TRUE	MOSTLY FALSE		
T	F	1.	When people are discussing the topic of physical pain, I probably will listen and/or join the conversation.
T	F	2.	If I come across an article related to chronic pain, I will probably read it with interest.
T	F	3.	If problems develop in my life, I try to think them through as to how they might affect my pain levels.
T	F	4.	When I am in a lot of pain, I don’t care if I make mistakes.
T	F	5.	During the past week, I have had no conversations about chronic pain.
T	F	6.	During the past week, I have made 10 or more decisions in which my physical pain levels have influenced the decision making process.
T	F	7.	I rarely or never think about how I can be a better pain patient.
T	F	8.	Compared to other concerns, I worry little about how good I am as a pain patient.
T	F	9.	If I had to give up being something, being a survivor of chronic pain is the last thing I would give up.
T	F	10.	When I am involved in activities related to my pain, I usually feel indifferent.
T	F	11.	If I were a better pain patient than everyone else, it would make little difference to me.
T	F	12.	When I can, I seek out situations in which I can express myself as a chronic pain patient.
T	F	13.	Being a pain patient is really not important to me.
T	F	14.	I feel bad when I think I am not being a good chronic pain patient.
T	F	15.	I rarely devote much time to managing my pain.
T	F	16.	When I meet new people, it is important to me that they know I have chronic pain.
T	F	17.	I typically organize my day so that I can work toward goals which are related to my pain.
T	F	18.	Being a chronic pain patient is of little value to me.
T	F	19.	Being a chronic pain patient has virtually no effect on my life.
T	F	20.	I enjoy it when people (or a particular person) encourage me to manage my pain.
T	F	21.	I would feel a great sense of loss if suddenly I was unable to maintain my status as a chronic pain patient.
T	F	22.	I am strongly committed to being a good chronic pain patient.
T	F	23.	If people could know only one thing about me, I would want them to know I am a patient of chronic pain.

DOMESTIC

Instructions: The following statements concern your personal feelings and thoughts about your home. For each of the items, read the statement through carefully since no two are exactly alike. If a statement is TRUE or MOSTLY TRUE as applied to you, circle the T in front of the statement. If a statement is FALSE or MOSTLY FALSE as applied to you, circle the F in front of the statement.

Please answer as carefully as you can; your answers will be kept strictly confidential.

MOSTLY TRUE	MOSTLY FALSE		
T	F	1.	When people are discussing the topics about the home, I probably will listen and/or join the conversation.
T	F	2.	If I come across an article related to topics about the home, I will probably read it with interest.
T	F	3.	If problems develop in my life, I try to think them through as they affect my ability to care for things at home.
T	F	4.	As a homemaker, I don’t care if I make mistakes.
T	F	5.	During the past week, I have had no conversations about working around the house.
T	F	6.	During the past week, I have made 10 or more decisions in which caring for things at home has influenced the decision making process.
T	F	7.	I rarely or never think about how I can better manage my home.
T	F	8.	Compared to other concerns, I worry little about how good I am at managing my home.
T	F	9.	If I had to give up being something, managing my home is the last thing I would give up.
T	F	10.	When I am involved in domestic activities, I usually feel indifferent.
T	F	11.	If I were better at managing my home than everyone else, it would make little difference to me.
T	F	12.	When I can, I seek out situations in which I can express myself as a home manager.
T	F	13.	Managing the home is really not important to me.
T	F	14.	I feel bad when I think I am not being a good home manager.
T	F	15.	I rarely devote much time to managing things at home.
T	F	16.	When I meet new people, it is important to me that they know I manage my household.
T	F	17.	I typically organize my day so that I can work toward goals which are related to managing the home.
T	F	18.	Managing my home is of little value to me.
T	F	19.	Being a homemaker has virtually no effect on my life.
T	F	20.	I enjoy it when people encourage me to manage my household.
T	F	21.	I would feel a great sense of loss if suddenly I was unable to manage my home.
T	F	22.	I am strongly committed to being a good home manager.
T	F	23.	If people could know only one thing about me, I would want them to know I manage my household.

PROVIDER

Instructions: The following statements concern your personal feelings and thoughts about your life as a financial supporter. For each of the items, read the statement through carefully since no two are exactly alike. If a statement is TRUE or MOSTLY TRUE as applied to you, circle the T in front of the statement. If a statement is FALSE or MOSTLY FALSE as applied to you, circle the F in front of the statement.

Please answer as carefully as you can; your answers will be kept strictly confidential.

MOSTLY TRUE	MOSTLY FALSE		
T	F	1.	When people are discussing the topics about providing for the family, I probably will listen and/or join the conversation.
T	F	2.	If I come across an article related to family finances, I will probably read it with interest.
T	F	3.	If problems develop in my life, I try to think them through as they affect my ability to provide for my family.
T	F	4.	As a breadwinner, I don't care if I make mistakes.
T	F	5.	During the past week, I have had no conversations about providing for my family.
T	F	6.	During the past week, I have made 10 or more decisions in which providing financially for my family has influenced the decision making process.
T	F	7.	I rarely or never think about how I can better financially provide for my family.
T	F	8.	Compared to other concerns, I worry little about how good I am at providing financially for my family.
T	F	9.	If I had to give up being something, providing financially for my family is the last thing I would give up.
T	F	10.	When I am involved in activities that provide financially for my family, I usually feel indifferent.
T	F	11.	If I were better at providing financially for my family than everyone else, it would make little difference to me.
T	F	12.	When I can, I seek out situations in which I can express myself as a provider for my family.
T	F	13.	Providing financially for my family is really not important to me.
T	F	14.	I feel bad when I think I am not being a good financial provider.
T	F	15.	I rarely devote much time to providing financially for my family.
T	F	16.	When I meet new people, it is important to me that they know I provide financially for my family.
T	F	17.	I typically organize my day so that I can work toward goals which are related to providing for my family.
T	F	18.	Providing financially for my family is of little value to me.
T	F	19.	Being a financial provider for my family has virtually no effect on my life.
T	F	20.	I enjoy it when people encourage me to provide financially for my family.
T	F	21.	I would feel a great sense of loss if suddenly I was unable to provide financially for my family.
T	F	22.	I am strongly committed to being a good financial provider for my family.
T	F	23.	If people could know only one thing about me, I would want them to know that I provide for my family financially.

APPENDIX D

WORLD HEALTH ORGANIZATION QUALITY OF LIFE – BRIEF

WHO/MSA/MNH/PSF/97.4
English only
Distr.: Limited

WHOQOL-BREF

PROGRAMME ON MENTAL HEALTH
WORLD HEALTH ORGANIZATION
GENEVA

For office use only

	Equations for computing domain scores	Raw score	Transformed scores*	
			4-20	0-100
Domain 1	(6-Q3) + (6-Q4) + Q10 + Q15 + Q16 + Q17 + Q18 ☐ + ☐ + ☐ + ☐ + ☐ + ☐ + ☐	=		
Domain 2	Q5 + Q6 + Q7 + Q11 + Q19 + (6-Q26) ☐ + ☐ + ☐ + ☐ + ☐ + ☐	=		
Domain 3	Q20 + Q21 + Q22 ☐ + ☐ + ☐	=		
Domain 4	Q8 + Q9 + Q12 + Q13 + Q14 + Q23 + Q24 + Q25 ☐ + ☐ + ☐ + ☐ + ☐ + ☐ + ☐ + ☐	=		

* Please see Table 4 on page 10 of the manual, for converting raw scores to transformed scores.

I.D. number ☐☐☐☐

ABOUT YOU

Before you begin we would like to ask you to answer a few general questions about yourself: by circling the correct answer or by filling in the space provided.

What is your **gender**?	Male	Female	
What is you **date of birth**?	________ Day	/ ________ / Month	/ ________ / Year
What is the highest **education** you received?	None at all Primary school Secondary school Tertiary		
What is your **marital status**?	Single Married Living as married		Separated Divorced Widowed

Are you currently **ill**? Yes No

If something is wrong with your health what do you think it is?________________________illness/ problem

Instructions

This assessment asks how you feel about your quality of life, health, or other areas of your life. **Please answer all the questions.** If you are unsure about which response to give to a question, **please choose the one** that appears most appropriate. This can often be your first response.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life **in the last two weeks.** For example, thinking about the last two weeks, a question might ask:

		Not at all	Not much	Moderately	A great deal	Completely
	Do you get the kind of support from others that you need?	1	2	3	4	5

You should circle the number that best fits how much support you got from others over the last two weeks. So you would circle the number 4 if you got a great deal of support from others as follows.

		Not at all	Not much	Moderately	A great deal	Completely
	Do you get the kind of support from others that you need?	1	2	3	4	5

You would circle number 1 if you did not get any of the support that you needed from others in the last two weeks.

Please read each question, assess your feelings, and circle the number on the scale for each question that gives the best answer for you.

		Very poor	Poor	Neither poor nor good	Good	Very good
1(G1)	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2 (G4)	How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last two weeks.

		Not at all	A little	A moderate amount	Very much	An extreme amount
3 (F1.4)	To what extent do you feel that physical pain prevents you from doing what you need to do?	1	2	3	4	5
4(F11.3)	How much do you need any medical treatment to function in your daily life?	1	2	3	4	5
5(F4.1)	How much do you enjoy life?	1	2	3	4	5
6(F24.2)	To what extent do you feel your life to be meaningful?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	Extremely
7(F5.3)	How well are you able to concentrate?	1	2	3	4	5
8 (F16.1)	How safe do you feel in your daily life?	1	2	3	4	5
9 (F22.1)	How healthy is your physical environment?	1	2	3	4	5

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

		Not at all	A little	Moderately	Mostly	Completely
10 (F2.1)	Do you have enough energy for everyday life?	1	2	3	4	5
11 (F7.1)	Are you able to accept your bodily appearance?	1	2	3	4	5
12 (F18.1)	Have you enough money to meet your needs?	1	2	3	4	5
13 (F20.1)	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14 (F21.1)	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

		Very poor	Poor	Neither	Good	Very good

				poor nor good		
15 (F9.1)	How well are you able to get around?	1	2	3	4	5

The following questions ask you to say how **good or satisfied** you have felt about various aspects of your life over the last two weeks.

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16 (F3.3)	How satisfied are you with your sleep?	1	2	3	4	5
17 (F10.3)	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18(F12.4)	How satisfied are you with your capacity for work?	1	2	3	4	5
19 (F6.3)	How satisfied are you with yourself?	1	2	3	4	5
20(F13.3)	How satisfied are you with your personal relationships?	1	2	3	4	5
21(F15.3)	How satisfied are you with your sex life?	1	2	3	4	5
22(F14.4)	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23(F17.3)	How satisfied are you with the conditions of your living place?	1	2	3	4	5
24(F19.3)	How satisfied are you with your access to health services?	1	2	3	4	5
25(F23.3)	How satisfied are you with your transport?	1	2	3	4	5

The following question refers to **how often** you have felt or experienced certain things in the last two weeks.

		Never	Seldom	Quite often	Very often	Always
26 (F8.1)	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	1	2	3	4	5

Did someone help you to fill out this form?...

How long did it take to fill this form out?..

Do you have any comments about the assessment?

....

....

THANK YOU FOR YOUR HELP