

ABSTRACT

The Relationship
of Personality Traits, Explanatory Style,
Religious Coping Methods,
and Spiritual Well-Being
to Adaptive Coping and Satisfaction with Life
among Persons with Chronic Pain

by

Kimberly A. Wombles

Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of
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While research on persons with chronic pain has been extensive, significant gaps remain. Research has shown that adaptive copers have higher emotional stability and greater openness but nothing is known regarding explanatory style, religious coping and spiritual well-being in adaptive copers. Satisfaction with life correlates positively with extraversion, agreeableness, conscientiousness and optimism, but results have been mixed concerning the relationship between religious variables and satisfaction with life. In spite of extensive research into chronic pain, there remains an important gap in the current literature regarding the roles of personality traits, explanatory style, religious coping methods and spiritual well-being in both adaptive coping and satisfaction with life in chronic pain populations. Therefore, the purpose of the proposed study is to explore these variables in 175 participants with chronic pain recruited from general practitioner offices, pain clinics, and support groups. This study is cross-sectional and quantitative. Multivariate analyses will be used to test the hypotheses that scores on the NEO-PI-R, the Attributional Style Questionnaire, the Spiritual Well-Being Scale, and the Brief RCOPE will differ among individuals who score at different levels of adaptive coping from the Multiphasic Pain Inventory and of life satisfaction from the Satisfaction with Life Scale. Findings would enhance social change through better identification and understanding of patients with chronic pain, especially those who adapt well and remain satisfied with life, and direct researchers and practitioners to possible treatment options for those who do not.

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DEDICATION

I dedicate this to my mother, Linda Gates, who lives a full and satisfying life despite significant pain, and who refuses to give in or give up.

To my grandmothers, who each in their own, nearly polar opposite, way, demonstrated the potentialities of dealing with adversity. I look to their examples often and realize now how well the one personified optimism and the other pessimism. They are my guiding lights, showing me two pathways. If I'm lucky, I'll at least traverse the middle way.

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CHAPTER 1

LITERATURE REVIEW

Introduction

“The uncomfortable and unwelcome truth is that doctors know far less about pain than most patients assume.” (Morris, 1991, p. 21)

Chronic pain is a major factor in the suffering of millions of people. In a study conducted for the American Pain Foundation, the statistics were staggering: in the United States alone, 76% of Americans in the prior year either personally experienced chronic or recurrent pain or were related to or close to someone who had chronic pain and 75% of those surveyed who were currently experiencing chronic pain had made adjustments in their lives to accommodate that pain (Peter D. Hart Research Associates, 2003). In addition, the survey revealed that pain is as likely to affect those who are under 35 as it is to affect those over 35, and that 62% of those in pain had been in pain for over a year. This clearly demonstrates how pervasive and detrimental chronic pain is in the lives of Americans. In order to understand the experience of chronic pain and its role in an individual's life, it is first important to understand the role of the person in the experience of chronic pain. By looking at chronic pain from a biopsychosocial model and examining the intersections that personality traits, explanatory style, and religious and spiritual belief systems create, it may be possible to gain a more accurate picture of individuals who overcome the obstacles presented by their chronic pain and help those who are stumbling find surer footing and a release from suffering.

Organization of the Chapter

Chronic pain will first be explored. What does it mean to have chronic pain, and what is the prevalence of chronic pain in the American population? Then, the theoretical basis for this thesis, the biopsychosocial model, is examined. Following discussion of the biopsychosocial model, adaptive coping will be examined, as it provides one of the focuses of interest in this thesis: what particular traits lead to a person being an adaptive copier when the majority of individuals display maladaptive or ineffectual adaptation to chronic pain conditions? Satisfaction with life, the second predictor variable, will then be examined before moving to the specific traits of interest which are personality traits, explanatory style, religious coping methods, and spiritual well-being. The problem statement will be presented in support of the research design proposal, which will be discussed in detail in chapter 2.

Literature Search Strategy

The search strategy used for this literature review primarily involved the use of Walden University's EBSCO Search, drawing journal articles from Academic Search Premier, Health Source: Nursing/Academic Edition, MEDLINE, PsycINFO, PsycBOOKS, and PsycARTICLES. In addition, Sage Online Journals, JAMA Online, and Elsevier were used to locate articles pertaining to the areas of interest involved in the thesis. Search terms included but were not limited to the following: *pain, chronic pain, personality traits, big five, neuroticism, optimism, pessimism, spirituality, religion, religious beliefs, spiritual beliefs, adaptive copier, Multidimensional Pain Inventory, NEO-PI-R, satisfaction with life*, and combinations of all or some of the above. Online

databases such as Science Direct were also consulted. Online websites, run by both governmental agencies and nonprofit organizations, were used in the search for statistics relating to chronic pain and religious and spiritual identification. In addition, several key texts concerning chronic pain, optimism and pessimism, and the psychology of religion and spirituality were invaluable in providing direction towards other available resources.

Definition of Key Terms

Adaptive Coper: Identified by the Multidimensional Pain Inventory (Turk & Rudy, 1988); an individual, who despite being in chronic pain, appears to have less pain, less interference in daily activities and less emotional distress while continuing to participate actively in daily life and maintaining a sense of control.

Agreeableness: One of five factors or domains of personality as measured by the NEO-PI-R (Costa & McCrae, 1992) consisting of trust, straightforwardness, altruism, compliance, modesty and tender-mindedness (Costa & McCrae, 1995).

Biopsychosocial Model: The biological or physiological role in an illness, disease, or disability, as well as the psychological and the social roles (Engel, 1977).

Chronic Pain: Pain that extends beyond the acute phase, potentially without injury or illness, that is either continuous or intermittent and may, if not dealt with effectively cause psychological distress, decreased activity levels, increased medication use (Turk, 1996).

Conscientiousness: One of five factors or domains of personality as measured by the NEO-PI-R (Costa & McCrae, 1992) consisting of competence, order, dutifulness, achievement striving, self-discipline, and deliberation (Costa & McCrae, 1995).

Disease: The biological or physiological occurrence that causes the disruption of a particular body structure or organ through pathological, anatomical or physiological change (Turk, 1996).

Explanatory Style: As defined by Seligman (1991), the way in which a person regularly explains to him/herself why things happen the way they do.

Extraversion: One of five factors or domains of personality as measured by the NEO-PI-R (Costa & McCrae, 1992) consisting of warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions (Costa & McCrae, 1995).

Illness: The personal experience of a disease; usually with psychological, sociological, physical, and behavioral disruptions (Turk, 1996).

Neuroticism: One of five factors or domains of personality as measured by the NEO-PI-R (Costa & McCrae, 1992) consisting of anxiety, angry hostility, depression, self-consciousness, impulsiveness, and vulnerability (Costa & McCrae, 1995).

Openness: One of five factors or domains of personality as measured by the NEO-PI-R (Costa & McCrae, 1992) consisting of fantasy, aesthetics, feelings, actions, ideas, and values (Costa & McCrae, 1995).

Optimism (optimistic explanatory style): The belief that difficulties in life have external, temporary, and particular causes (Peterson, 2000).

Pain: Physical and emotional experience that is unpleasant; may be associated with actual tissue damage (International Association for the Study of Pain, 2008).

Pessimism (pessimistic explanatory style): The belief that all difficult events are caused personally, will last a long time, and that the failure or difficulty is not restricted to one area (Seligman, 1991).

Satisfaction with Life: An internally imposed cognitive judgmental process providing a cumulative score of one's subjective satisfaction with one's life (Diener, Emmons, Larson, & Griffin, 1985).

Religious and/or Spiritual Belief Systems: For the purposes of this proposed study, any metaphysical or life-guiding principles which an individual practices or believes which forms meaning and allows for coping with the difficulties one faces in life. From this vantage, an atheist, an agnostic, an adherent to a traditional religion, or an individual who defines himself as spiritual may all be said to have a religious and/or spiritual belief system.

Chronic Pain

Prevalence of Pain

Pain, for all our medical advances and despite all the medications created to treat it, remains agonizingly present in the lives of millions of Americans. The National Center for Health Statistics (2007) reports that in 2005, 28% of adults 18 and older reported low back pain in the three months prior and 15% admitted to having severe headache or migraine in the three months previous. In the 2006 report by the same body, 26% of Americans reported pain that lasted at least an entire day in the prior month, with 10% of Americans presenting that their pain had lasted a year or more; of those reporting chronic pain, nearly 60% of those 65 and older and 37% of those between 20 and 44 who

reported pain said their pain had lasted a year or more. In 2003, the survey *Pain in America* for the American Pain Foundation presented findings that demonstrate the tremendous impact that pain has on the lives of all Americans: 76% of those surveyed reported that they had either personally experienced chronic or recurrent pain or were close to someone, family or friend, who had (Peter D. Hart Research Associates).

The American Pain Foundation (2005) summarizes the last ten years of major pain studies, presenting statistics that further confirm the widespread impact that pain has not only on individual lives, but the economy as well. In 1996, the study *Pain and Absenteeism in the Workplace* found that 68% of employees, more than eighty million employees, have pain-related conditions (as cited in American Pain Foundation). Gatchel, Peng, Fuchs, and Turk (2007) provide dollar amounts to point out how damaging pain can be at the national level, noting costs of more than \$70 billion annually. Beyond the fiscal cost, though, lies the devastating impact that inadequately treated chronic pain can have. Respondents to the survey *Chronic Pain in America: Roadblocks to Relief*, conducted in 1998-1999, reported that their untreated or out-of-control pain significantly negatively impacted their quality of life and affected concentration, job performance, exercise, socialization, and sleep (Roper Starch Worldwide, Inc., 1999). In addition, the respondents whose pain was not under control reported feeling depressed, irritable, and useless.

Not only is pain universal among all human beings, it is the oldest medical problem (Meldrum, 2003). Some researchers contend that pain, specifically chronic benign low back pain, has reached epidemic proportions (Osborn & Smith, 2006). This

does not seem to be an overstatement, as low back pain alone affects 59 million Americans (Helmick, Felson, Lawrence, & Gabriel, 2008). Holzman and Turk (1986) contend that no symptom is more omnipresent than pain. Understanding the multidimensional nature of pain will allow for more effective treatments and less suffering.

Classifications and Physiology of Pain

The International Association for the Study of Pain (2008) defines pain as “unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” (para. 33). An alternative and perhaps more scientifically precise definition of pain is offered by Pujol, Katz, and Zacharoff (2007): pain occurs in the brain and is the perception of nociception, while nociception is defined by Turk and Melzack as the processing of sensory stimuli which can be experienced as pain. These modern definitions of pain incorporate the biopsychosocial model of pain, so that from a current perspective it is impossible to perceive of pain as solely a physiological response. There are many possible ways of categorizing pain, with perhaps the most recognizable dual categories of acute and chronic pain. Acute pain is self-limiting and in response to some trauma (Turk, Meichenbaum, & Genest, 1983). The specific focus of this thesis concentrates on chronic pain, which goes far beyond acute pain. Chronic pain, in contrast to acute pain which resolves after healing has occurred, is pain that is persists over three months and impairs functioning and may not have an apparent cause, although it can also be the consequence of some chronic disease (Pujol et al.). There are several potential classifications of chronic pain, such as chronic

periodic pain like migraines; chronic intractable benign pain like low back pain; and chronic progressive pain, which usually is the result of cancer (Turk et al.). In addition, pain is also classified by its location: neurological, vascular, or musculoskeletal (Gorman, 2006). Chronic pain is often the result of chronic diseases such as diabetes, arthritis, migraine, and cancer (Cahill, 2003). In some cases of chronic pain, however, there may be no current illness, but the brain and the nervous system continue to send incorrect pain signals (Anand, 2007).

Before shifting focus to the biopsychosocial model of chronic pain, it is helpful to have an overview of the physiology of pain. According to Cahill (2003), the structures of the body involved in the pain process, begins at the neuronal level, with afferent neurons or nerve endings, then moves to the spinal cord, and on to the brain, specifically the thalamus, midbrain, pons, and medulla. Pujol et al. (2007) contend that despite accumulating knowledge, the science of pain, although complex, is still continuing to evolve.

The commonly accepted model of the pain pathway involves four steps: transduction, transmission, modulation, and perception (Cahill, 2003; Covington, 2000; Pujol et al., 2007). Transduction occurs in the afferent nerve endings and is the process by which harmful stimuli are changed into nociceptive impulses (Pujol et al.). These impulses are sent on to the dorsal horn of the spinal cord and on to the sensory tracts of the brain (Pujol et al). Some division among neuroanatomists appears to be in play concerning just what percentage of the pain fibers enter through the dorsal horn; 40% enter in the ventral root (Worldwide Intensivist as cited in Cahill). From the entry point

into the brain (whether dorsal horn or ventral root), the transmission of nociceptive impulses is sent into the thalamus, frontal cortex, and other areas (Pujol et al.).

Modulation is the third step of the pain pathway and occurs in the midbrain, medulla, and spinal cord (Cahill). According to Pujol et al., modulation involves decreasing or increasing these pain-related signals. It is at this third step that Melzack and Wall's gate control theory becomes important to the discussion of the experience of pain (Pujol et al.). These first three steps: transduction, transmission, and modulation are the steps involved in the physiology of pain (Cahill). The fourth step, perception, moves beyond mere physiology and the biomedical approach to pain.

The Move Away from a Biomedical Model: The Gate Control Theory

Asmundson and Wright (2004) date the biomedical model of pain back to Descartes in the early 1600s. During the last half of the 19th century, physiologists conceived of pain as resulting from sensory input that varied depending on the intensity of the sensory stimulus (Turk et al., 1983). This simplistic physiological rendering of pain leads to the biomedical model of pain and results in the supposition that by altering physiology, pain can be eliminated or lessened (Turk et al). The biomedical model of pain looks for the cause of pain due to injury or disease (Asmundson & Wright). This specificity theory, according to Melzack and Katz (2004), led to the view of psychological manifestations of pain as secondary and relatively unimportant. While the treatment of acute pain tends to be reasonably effective with medication, nerve blocks, or surgery, chronic pain does not respond as well to the same interventions (Turk et al.). The need to find the cause of chronic pain without any apparent physical basis led to the

development of models that expand beyond the biomedical model with its emphasis on physiological etiology. Freud proposed the psychodynamic model to account for nonphysiologically-based pain, which resulted in many individuals with pain being labeled pathological (Hadjistavropoulos & Craig, 2004).

While the three steps of transduction, transmission, and modulation account well for the physiology of pain, the fourth step of the pain pathway is perception. Melzack and Wall (1965) proposed a pain model that explains and expands on the third step of the pain pathway, modulation. The gate control theory moves beyond the biomedical model by positing that psychological factors have an input in the experience of pain and can alter the perception of pain. Perception, this fourth and final step in the pain pathway, involves the “subjective experience of pain that results from the interaction of the transduction, transmission, modulation, and the psychological aspects of the individual” (Pujol et al., p. 14). Melzack and Katz (2004) note that in the 1950s, when a physiological cause of pain could not be found, the individuals were identified as mentally disturbed and referred to the psychological community. Although theories were proposed to counter the biomedical theory, they were inadequate (Melzack & Katz). In hindsight, however, Melzack and Katz contend that these inadequate theories, termed pattern theories at the time, laid the groundwork for Melzack and Wall’s gate control theory. The inadequacy of the pattern theories lies in their views of the brain as a passive receiver of sensory information (Melzack & Katz). Melzack and Wall’s (1965) gate control theory of pain specifically argued that a gating mechanism located in the spinal dorsal horn modulates the transmission of nerve impulses and that the gating mechanism is influenced by nerve

impulses from cortical regions in the brain. The gate control theory moved away from the biomedical model and placed equal emphasis on the role of psychological factors (Asmundson & Wright, 2004; Gatchel, Peng, Peters, Fuchs, & Turk, 2007; Melzack & Katz). Ultimately, the gate control theory and other theories arising at the time and focusing on cognitive aspects of pain, as well as the continuing inadequacy of the biomedical model, led to George Engel's (1977) call for a new, more inclusive model for medicine: the biopsychosocial model.

The Biopsychosocial Model of Chronic Pain

Background: A New Model Proposed

In proposing moving from a biomedical model of disease to a biopsychosocial model, Engel (1977) castigated the traditional biomedical model as being woefully inadequate for explaining the disease process. The biomedical model completely denies any role outside of biology. It ignores the role of culture in determining disease or illness, and Engel charges that the biomedical model is itself a cultural adoption rather than an objective measure of disease or illness. Biology alone is an inadequate explanation of people's experiences of disease and illness (Engel). In order to understand the manifestation of the illness, some measure of examining the cultural, social, and psychological framework is required (Engel). Engel's call to action crosses disciplinary boundaries, involving physicians, psychiatrists, and psychologists and is a call to alter the focus of research, as well as to alter the teaching of physicians so that patient care incorporates the biopsychosocial approach in the patient exam and interview (Engel, 1977; Engel, 2005). While Engel was the proponent of this model, McLaren (2006) notes

that all Engel did was to propose the model. It fell to others to write the model and to conduct research into the role that social and psychological factors play in the manifestation of illness.

Moving Beyond Mere Proposal

One of the steps involved in moving towards a biopsychosocial approach is the delineation between disease and illness. The biopsychosocial approach defines disease as the biological or physiological occurrence that causes the disruption of structures of the body or organs and illness as the personal experience of a disease (Turk, 1996). The main distinction between the biomedical approach and the biopsychosocial approach, according to Turk, is that the biomedical focuses on the disease while the biopsychosocial focuses on the illness. It is important to stress that while the biomedical model discounts the psychological, the biopsychosocial incorporates the biological into its theory; it acknowledges the importance of the biological to begin, maintain, and adjust physical disruptions (Turk). In addition to maintaining an awareness of the changing status of the biological, social, and psychological factors, the approach must also incorporate a longitudinal perspective (Turk).

Asmundson and Wright (2004) acknowledged the importance of the gate control theory proposed by Melzack and Wall in changing the focus of pain as physiologically based to pain as multidimensional. Tremendous advances in understanding psychological and sociocultural factors of pain have been made since the gate control theory was proposed (Asmundson & Wright). The biopsychosocial approach to pain, according to Asmundson and Wright, is complex and multidimensional. Specifically, the

biopsychosocial approach makes use of the following factors: “physiologic, biologic, cognitive, emotional, behavioral, and social factors, as well as their interplay, when examining a patient’s report of pain” (Gatchel, 2005, p. 23).

According to Gatchel (2005), research incorporating this well-rounded, multidisciplinary approach to pain assessment and management is growing as new technologies allow for an increased understanding of the neurological basis for the subjective experience of pain. In addition to specific interventions in the treatment of patients with pain, theoretical conceptions of pain that are biopsychosocial in nature have been offered since the gate control theory was first proposed in the 1960s, ranging from operant conditioning models, biobehavioral models, fear-avoidance models, to the latest model, the integrated diathesis-stress models (Asmundson & Wright).

The Integrated Diathesis-Stress Model

Asmundson and Wright (2004), having examined the literature on the various biopsychosocial models of pain, offered an integrated empirically-based diathesis-stress model of pain that incorporates elements of the various previously proposed biopsychosocial models. This integrated diathesis-stress model acknowledges the importance of physiological, psychological, and sociocultural factors in the cause, increase, and maintenance of chronic pain (Asmundson & Wright). This model proposes an initial physical pathology as necessary to start the cycle and a predisposition to react maladaptively (diathesis) which results in the perception of and reaction to pain (Asmundson & Wright). In certain individuals, this predisposition lowers the threshold for the experience of pain, results in increased stress and anxiety, and leads to cognitive

and behavioral patterns that heighten alert and alter the physiology of the nervous system (Asmundson & Wright). According to Asmundson and Wright, this leads to a vicious, downward spiral for the individual and serves to maintain and exacerbate the pain. In contrast, those who do not have this predisposition are able to view their pain in a more adaptive manner and are able to cope and eventually recover (Asmundson & Wright). Although Asmundson and Wright don't label these individuals who respond adaptively, they should meet the criteria for Turk and Rudy's (1988) adaptive copers.

First Outcome Variable: Adaptive Coping

Much of the biopsychosocial approach to pain appears to revolve around psychopathology and chronic pain. While it is unclear whether pain precedes psychopathology in patients with chronic pain, the prevalence of personality disorders among chronic pain sufferers is higher than in the general population (Gatchel, 2004). Turk and Rudy (1988) focused on classifying patients with pain according to psychological factors so that interventions can be appropriately devised and implemented. To do so, Turk and Rudy used the Multidimensional Pain Inventory (MPI; Kerns, Rudy & Turk, 1985) to develop patient profiles using cluster analyses of the nine MPI scale scores, leading to the formation of three distinctive clusters that explain the structure of the patients' scores on the subscales.

These three profiles were labeled dysfunctional, interpersonally distressed, and minimizers/adaptive copers. Individuals who scored in the dysfunctional range fared worse in all aspects: they had the most pain and distress, the lowest ability to cope, the lowest activity level, and the greatest pain interference (Turk & Rudy). The

interpersonally distressed, as the name suggests, reported distress associated with perceptions of low levels of support from loved ones. Finally, the minimizers/adapters fared the best, with lower reported pain, interference, and distress, and higher activity and control than the other two profiles. Turk and Rudy added the minimizer to the label because the analysis is based upon self-report and could potentially reflect a tendency to minimize or deny the severity of one's pain and its impact rather than being an objective measure of better pain.

More focus has been on the first two profiles, the dysfunctional and the interpersonally distressed, which are characterized by maladaptation and potential psychopathology, than on the third profile, the adaptive copier (Gatchel, 2004a). DeGood (2000) defined the adaptive copier, based on the MPI profile, as a person with a chronic pain condition who reports less emotional and behavioral disruption than would be predicted. While much of the research on psychological factors involved in chronic pain has been on maladaptation and psychopathology, comparatively little has been done on the psychological correlates of the adaptive copier. One study which looked specifically at personality factors and the chronic pain profiles generated by the MPI is Nitch and Boone's (2004) study, although its primary focus was not directed towards what makes an individual an adaptive copier. Nitch and Boone found that adaptive copiers have lower neuroticism scores, balanced extraversion/introversion, and higher openness scores than those in the dysfunctional and interpersonally distressed profiles. What other traits beyond those traits measured by the NEO-PI-R, might the adaptive copier have? What explanatory style does the adaptive copier have? How do religious and spiritual belief

systems, as measured by the Brief RCOPE (Pargament, Smith, Koenig, & Perez, 1998) and the Spiritual Well-being Scale (Diener, Emmons, Larson, and Griffin, 1985) impact coping style?

The adaptive coper, perhaps because he or she makes less demand on the health care system, generates less interest than those who unarguably need greater assistance with their chronic pain condition (Gatchel, 2004a). In order to help those who are identified as dysfunctional or interpersonally distressed, it is vital to understand the adaptive coper in his or her entirety. What traits appear to be ubiquitous in the adaptive coper and differ from those who are not adaptively coping? How can these characteristics that are found in the adaptive coper be taught to those who lack the skills? Personality traits, explanatory style, religious coping mechanism, and spiritual well-being are likely to be the most obvious differences between those who adapt to their pain and those who are not so fortunate.

Second Outcome Variable: Satisfaction with Life

Satisfaction with life is one of four subdivisions of subjective well-being, the others being happiness, affect, and quality of life (Steel, Schmidt, & Schultz, 2008). It should be noted, though, that not all assessments of subjective well-being include the fourth component, quality of life (Diener et al). Diener et al. define satisfaction with life as a cognitive, discriminating review of one's satisfaction with one's own life, with comparison models of one's own choosing. Pavot and Diener (1993) note that this process is a conscious one in which different individuals put differing interpretations on similar circumstances. Diener et al. contend that because individuals assign differing

levels of importance to different variable such as health or energy, an assessment measure that asks the individual for an overall evaluation of one's life is necessary. In contrast to life satisfaction, quality of life is a global measure based on well-being across several areas of life, objectively measured on outside criteria rather than personally derived criteria (Steel et al). Quality of life measures would not seem to allow for the same kind of individual weighting and might objectively assign a different level of satisfaction than the one the individual subjectively feels. Although quality of life measures are frequently used in health related studies, for the purpose of this thesis, it is believed that a subjective, judgmentally based assessment of life satisfaction provided by the person with chronic pain would yield more informative and subjectively accurate information than would any quality of life measure.

Predictor Variable 1: The Big Five: Personality Traits

Normal Personality Structure

Much work has been done from a biopsychosocial approach concerning chronic pain and personality, but most of that focus has been on psychopathology and not on nonpathological personality characteristics, with the MMPI being a favored assessment measure (Gatchel & Weisberg, 2000; Wade & Price, 2000). In order to examine the role of normal personality in the development and maintenance of chronic pain, different measures of personality must be used, such as measures of the five factor model of personality.

Five Factor Model of Personality

The five-factor model of personality is the leading model in personality psychology (Costa & McCrae, 1995). It is the most extensively used inventory of personality traits (DeYoung, Quilty, & Peterson, 2007). The five-factor model is a descriptive categorization of personality traits into broad domains (McCrae & Costa, 1989b). Domains, as defined by Costa and McCrae (1995), are complex collections of specific cognitive, affective, and behavioral tendencies. The facets are lower level traits related to these groupings (Costa & McCrae, 1995). Personality traits in the five-factor model are defined as reliable patterns of thoughts, feelings, and actions (McCrae, 2002). In addition, McCrae and Costa have argued that the five factors are not meant to replace other personality systems, but as a way of interpreting them (1989b). While Costa and McCrae were not the originators of the five-factor model of personality, they are undoubtedly the creators of some of the more widely-known personality inventories for the five-factor model, the NEO-PI, the NEO-PI-2, the NEO-FFI, and the NEO-4. Digman (1990) points to William McDougall's 1932 journal article as the first argument that personality could be broken down into five separate factors. According to Costa and McCrae (1992), there came to be a growing consensus among personality psychologists and theorists such as Digman, John, Norman, and Wiggins and Trapnell that personality could best be understood when reduced to five domains: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness.

Neuroticism measures the person's propensity to experience psychological distress (Costa & McCrae, 1992). The six facets that make up the neuroticism scale are

anxiety, angry hostility, depression, self-consciousness, impulsiveness, and vulnerability (McCrae and Costa, 2007). In addition, Costa and McCrae (1995) contend that the facets for neuroticism are commonly dealt with in psychology and will therefore be familiar and useful to clinicians and therapists (p. 25).

The extraversion scale consists of six facets, according to McCrae and Costa (1991): warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions. According to Costa and McCrae, people who score high on the extraversion scale are sociable, talkative, and demonstrative while those who score low are less talkative and more aloof.

Openness consists of the facets fantasy, aesthetics, feelings, actions, ideas, and values (McCrae and Costa, 2007). Costa and McCrae (1992) contend that openness to experience is one of the goals of humanistic psychology but argue that their use of the term is to a broader collection of traits. According to Costa and McCrae, differences in openness are related to appearances of psychopathology. Other creators of five factor measurement scales call this domain intellect or intelligence (Digman, 1990).

The fourth factor is called agreeableness and involves the following facets: trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness (McCrae and Costa, 2007). The flipside of agreeableness, according to Digman (1990), is hostility, indifference to others, and egocentricity.

Every bit as ambiguous a factor as agreeableness, conscientiousness is the last factor. Conscientiousness, according to McCrae and Costa (2007), consists of the facets: competence, order, dutifulness, achievement striving, self-discipline, and deliberation.

According to Costa and McCrae (1992), someone high in the domain is scrupulous, well-organized, and diligent.

No Pain Personality

Gatchel and Weisberg (2000) argue strongly that despite significant research into discovering a specific pain personality (i.e. particular personality susceptible to develop chronic pain), no such personality or personality disorders have been uncovered.

Although the existence of such personalities has been argued by several researchers, Gatchel and Weisberg conclude that there is little empirical support. This search for personality types most susceptible to develop pain has been hampered by the reality that the presentation of problems patients have is complex and may be related to the duration and intensity of the pain condition (Gatchel & Weisberg). Of what there is no doubt is that the longer the pain continues, the higher the report of psychological disturbance (Gatchel & Weisberg). Gatchel has created a three stage model of the development of psychological distress in conjunction with the development of a chronic pain condition that proposes that how these problems develop depends mainly on the pre-existing personality-psychological characteristics of the person (Gatchel & Weisberg). However, Gatchel and Weisberg emphasize that this model is not proposing that there is a pre-existing pain personality.

Although there may be no particular pain personality that allows for clinicians to determine who will develop a chronic pain condition, Gatchel and Weisberg (2000) note the importance in considering personality traits and disorders to better predict the development of chronic pain and to create more effective treatment models. Gatchel's

(2004; 2005; Gatchel, Peng, Peters, Fuchs, & Turk, 2006; Gatchel & Weisberg) focus relies heavily on the biopsychosocial approach and on those chronic pain conditions that have in the past been and in certain areas still today are seen as primarily psychological in origin. For the purposes of this proposed study, all potential causes of chronic pain are considered, such as pain related to diabetes and arthritis, as well as conditions such as Fibromyalgia, temporal mandibular joint syndrome, Myofascial pain syndrome, and chronic fatigue syndrome.

Personality and Chronic Pain in General

Wade and Price (2000) reviewed the literature on normal personality correlates and chronic pain, specifically looking at the five-factor model of personality and its impact in a four-stage model of pain processing that involves the stage of pain sensation intensity, immediate unpleasantness, suffering, and illness behavior. Many of the studies examining normal personality traits have focused specifically on extraversion and neuroticism, in part because neuroticism is commonly held to be a chronic condition of susceptibility to distress (Wade & Price). Some studies specifically examined the level of neuroticism and the subsequent development of a medical illness, with findings causally linking neuroticism to the development of migraine (Breslau et al., 1996, as cited in Wade & Price). Lauver and Johnson (1997, as cited in Wade & Price) found that individuals scoring high in neuroticism had an increase in maladaptive illness behavior. BenDebba, Torgerson, and Long (1997, as cited in Wade & Price) discovered that those scoring higher on neuroticism suffered greater psychological distress than lower scorers on neuroticism, and that higher extraversion led to less psychological distress. Ramirez-

Maestre, Lopez Martinez, and Zarazaga (2004) found that neuroticism scores increased the use of passive coping strategies as well as perceived pain intensity, while decreasing the use of active coping strategies. High neuroticism levels, according to these researchers, leads to the use of more passive coping strategies (resting, restriction of activities) and fewer active coping strategies (distraction, meditation, biofeedback), which is inefficient and leads to greater pain intensity. The research is not restricted just to extraversion and neuroticism, though. Conscientiousness is implicated in long-term survival and in treatment outcome, while openness and agreeableness are implicated in treatment outcome (Wade & Price, 2000).

Personality Traits and Adaptive Copers

Nitch and Boone (2004), in examining personality trait differences between the different profiles produced by MPI, found that patients who scored as adaptive copers were significantly higher in emotional stability than the dysfunctional and interpersonally distressed profiles, in general were more extraverted, and scored higher on. In contrast, those in the interpersonally distressed profile had higher scores on neuroticism, lower scores on extraversion, and lower scores on agreeableness. Even where statistical significance was not reached, differences were obvious in the facet scores between the three profiles. Nitch and Boone found that the dysfunctional group was significantly less open to experience than the other two profiles.

Personality Traits and Satisfaction with Life

Steel, Schmidt, and Schultz (2008), who argue that there are theoretical connections between personality and subjective well-being, conducted a meta-analysis of

research into correlated between personality traits and subjective well-being. Subjective well-being consists of four subgroups: satisfactions with life, happiness, affect, and quality of life. This thesis is concerned with satisfaction with life so will focus on the correlations found between this subgroup and personality. Steel et al. found that neuroticism is negatively correlated with high satisfaction with life, while extraversion, agreeableness and conscientiousness are all positively related to high satisfaction with life. The conclusion that Steel et al. reach is that personality, specifically as measured by the five-factor model, is critical for understanding all four facets of subjective well-being.

Summary

According to Steel, Schmidt, and Schultz (2008), while there are many perspectives of personality within the field of psychology, the most frequently used and accepted is the five-factor descriptive model. The most commonly used measure of the five-factor model is the NEO-PI-R (Costa and McCrae, 1995). While research in the past into personality and chronic pain tended to focus on looking for the cause of chronic pain in specific personality traits, this is no longer the focus of most research into chronic pain and personality correlates (Asghari & Nicholas, 1999; Gatchel & Weisberg, 2000). Asghari and Nicholas argue that interest is now focused on how different personality traits impact an individual's reaction to and coping with chronic pain.

Predictor Variable 2: Explanatory Style

Views on Optimism and Pessimism

The opposing concepts of optimism and pessimism have a long history. Domino and Conway (2002) note that philosophers who viewed the cosmos as generally

hospitable to life were optimistic, while those who viewed the cosmos as indifferent or hostile were pessimistic. Descartes was essentially an optimist who viewed human beings as creative participants in the improving of conditions of human life (Domino & Conway). Other philosophers, though, like Schopenhauer and Nietzsche, contributed to pessimistic explanations of the world and human beings' place in it, although occasionally offering glimpses of optimism. According to Peterson (2000), Nietzsche believed optimism only served to extend human suffering. Early psychologists like Freud and James continued the philosophic discourse on optimism and pessimism (Domino & Conway). As psychological research in the 1960s and 1970s began to show that people tend to be somewhat unrealistic and inaccurate in their thinking, the psychological examination of optimism and pessimism began, if not entirely earnestly, at least within pockets of psychology (Peterson). According to Peterson, Tiger in his 1979 book *Optimism: The Biology of Hope* believed optimism to be a result of our biology and our most defining and adaptive characteristic. At the same time scientists like Tiger were looking at optimism as a species characteristic, researchers like Seligman (and Peterson) were looking at optimism as it varied in individuals. Optimism, like many variables of interest to psychologists, tends to be defined differently by different psychologists. Peterson argues that optimism is not just a cognitive, but also an emotional and motivational, component. Optimism and pessimism are not necessarily polar opposites, nor are they mutually exclusive (Peterson). There is also the possibility that optimism can go overboard into the ridiculously unrealistic (Peterson; Seligman, 1991). Finally and perhaps most importantly, optimism as an explanatory style can be taught and as such,

can alter the course of an individual's life. Seligman has spent a significant portion of his career on fostering learned optimism in those who have pessimistic explanatory styles, as well as to offering parents guidance on how to instill a learned, practical level of optimism in their children. Optimism, that human characteristic of expecting good outcomes and better days ahead, is an important mediator of depression and contributor to well-being (Seligman, 1991; Peterson & Bossio, 2002).

Explanatory Style Explained: Optimism and Seligman

Seligman (1991), who began his career with learned helplessness and expanded to explanatory style and attribution before moving on to positive psychology, defines explanatory style as one's customary way of explaining bad events. Seligman contends that there are three key dimensions to explanatory style: permanence, pervasiveness, and personalization. An individual who believes that bad events are temporary, specific to the situation, and not one's own fault has an optimistic explanatory style. Peterson and Bossio (2002) argue that individuals who have an optimistic explanatory style believe that what they do can change the outcome. A pessimistic explanatory style is one that attributes bad events to permanent, pervasive, and personal causes. In contrast to being an agent of change as an optimist can be, the pessimistic explanatory style is far more likely to render one inconsequential.

Explanatory style emerged from reformulated learned helplessness theory, which posited the three dimensions of stability, globalness, and externality (Gillham, Shatte, Reivich, & Seligman, 2002). The reformulated learned helplessness theory (RLHT) predicts pessimistic explanations lead to negative expectations about the future while

optimistic explanations lead to positive expectations (Gillham et al.). RLHT is a diathesis-stress model and so incorporates the latest biopsychosocial model of diathesis-stress (Gillham et al.). Measuring explanatory style may inform us about perceptions of pain in chronic pain patients and suggest potential interventions.

Current Perspectives on Chronic Pain and Explanatory Style

The emphasis of explanatory style on chronic pain, specifically optimism, has drawn a fair amount of interest but as of yet, Garofalo (2000) contends, has not been systematically examined. Definitions of optimism have expanded beyond Seligman's concept of an optimistic explanatory style and additional measures beyond Seligman's (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982), have been developed to measure differing constructs of optimism. This proposed study design will focus on the explanatory style as conceived by Seligman and his co-researchers and will be assessed using the Attributional Style Questionnaire.

Garofalo (2000) offers that his chapter in Gatchel and Weisberg's (2000) *Personality Characteristics of Patients with Pain* is one of the first to explore the relationship between optimism and pain, with his purpose one of testing if the effects of optimism are related to pain conditions. Splitting operational definitions of optimism into two sections, Garofalo places optimistic explanatory style into the category of functional optimism, one that concerns adaptive effects attributed to optimism with the second category being termed dispositional optimism, or the positive expectations for the future.

There is a significant body of research that points to optimists being healthier than pessimists (Garofalo). Peterson and Bossio (2002) also note that optimism predicts good

health in several of ways. Bennett and Elliot (2005) argue that their study of pessimistic explanatory style in patients undergoing cardiac rehabilitation adds to the accumulating evidence of the negative effects of pessimistic explanatory style and physical health, concluding that their study supported the direct and negative effects of pessimistic attributions on subjective cardiac health appraisals. Optimism may have an impact on pain, as well, although that has not yet been widely researched (Garofalo). Love (1988) confirmed that the negative-global and stable attributions predicted which patients with chronic lower back pain developed depression. Despite the lack of widespread research in this area, in those studies that have been conducted, optimism has been shown to have positive effects for individuals with pain (Garofalo). Perhaps the most interesting argument put forth by Garofalo is his contention that so far the biopsychosocial model of pain has neglected optimism as an important psychological feature of the pain experience. This proposed study design would attempt to begin rectifying this deficit in the biopsychosocial model.

Explanatory Style and Adaptive Copers

An underlying assumption of this thesis is that an optimistic explanatory style, especially as it relates to the attribution of negative events, seems likely to predict an adaptive copers profile on the MPI. Although no studies concerning explanatory style and adaptive copers were found during the year the literature search was carried out, thus revealing a sizable gap in the literature, one study which concerned a similar concept, that of hope and adaptive copers, was found. Hellström, Jansson, and Carlsson (2000) compared the MPI profiles from 569 patients with the results on the Future Scale

(Hellström, Jansson, & Carlsson, 1999) and found that adaptive copers have a more positive perception of the future than do those who are interpersonally distressed. In the 1999 study by Hellström, Jansson, and Carlsson, the Future Scale was developed and tested to measure the individual's subjective perception of the future. In addition to the future scale, the study also used the MPI Symptom Distress Checklist. The resulting analysis, which used structural equation modeling identified the relationship between four latent constructs (pain, interference, distress, and subjective future), indicated that subjective future impacts the level of distress, and explains the relationship between pain and distress. It would appear that this subjective future and the Future Scale might be comparable to Seligman's explanatory style.

Explanatory Style and Satisfaction with Life

Common sense alone would seem to make obvious the reciprocal relationship that an optimistic point of view and life satisfaction share, but what role these two play in chronic pain conditions has not been widely studied, although as interest shifts towards positive psychology, research, too, is shifting from an overemphasis on psychopathology in persons with chronic pain to an interest in those individuals with chronic pain who demonstrate resilience and positive affect despite what may often be debilitating pain. Ferreira and Sherman (2007), in a study of 95 older adults with osteoarthritis, found that the relationship between pain, optimism, and social support as it effects life satisfaction is complex. While pain was significantly related to decreased life satisfaction, optimism partly mediated that relationship. In addition, optimism correlated with increased life satisfaction in the participants.

Another recent study of optimism/pessimism and life satisfaction in persons with arthritis (rheumatoid) by Treharne, Lyons, Booth, and Kitas (2007) found that optimism and pessimism, measured as separate constructs, impacted psychological well-being at the one-year mark, with optimism being positively related to better outcome.

Terminology in this study was closely related to the terms used in this proposed study design and leads to a potentially erroneous conclusion that the constructs measured by this study and those proposed in this thesis are conceptually equivalent, however it should be noted that although Treharne et al. referred to life satisfaction as one of the constructs being measured, the measurement tool was one for quality of life, not satisfaction with life as elaborated by Diener et al. Optimism and pessimism were also assessed differently than is proposed for this study.

While the relationship between an optimistic explanatory style and life satisfaction seems obvious, no studies either restricted to these two concepts as defined and operationalized by the measures that will be used for this proposed study design, or in connection to chronic pain, were found in the literature search. Using the Attributional Style Questionnaire and the Satisfaction with Life Scale will provide previously unknown information regarding these relationships.

Predictor Variable 3: Religion and Spiritual Belief Systems

Overview

Religion, regardless of one's personal religious or spiritual beliefs, matters. The chances of being part of a diverse religious affiliation increase as our global community expands. McFaul (2006) points out that while two out of every three people in the world

belong to one of the three major religions of Christianity, Islam, and Hinduism, there are hundreds of religions in the world today. McFaul contends that religion will be a major driving force in the future. Haque (2001) argues that due to the overwhelming number of people who believe or are interested in religious matters, as well as the growing acceptance of the mediating role religion can and does play in mental health, the link between psychology and religion will grow stronger and more important in the future. Hayes and Cowie (2005), despite admitting that many in the psychological field affiliate with a non-religious belief system, contend that religion has important implications in therapeutic interventions provided by psychologists and must be considered. The argument that Hayes and Cowie make quite convincingly is that psychology and religion, with spirituality as a mediator, raise important issues concerning mental health in a social and cultural context. As psychology moves towards a culturally inclusive approach and a growing awareness of the role that culture plays in constructing an individual's psychological constitution, it seems inevitable that mainstream psychology will be forced to grapple with questions of religion and spirituality and the role they play in the formulation of meaning in an individual's life. Helminiak (2005) writes of the interchangeability of the concepts of religion and spirituality, insisting that "our concern is often the same: extraordinary experiences, mystical moments, and unusual happenings that are associated with religious belief, God, cosmic forces, and the like" (p. 70).

Considerations of Defining Religion and Spirituality

Hill, Pargament, Hood, McCullough, Swyers, et al. (2000) offer several reasons why the study of religion and spirituality should be a concern to mainstream psychology:

religion and spirituality develop across time, are intrinsically social-psychological, are cognitive in nature, are affective and emotional, and are important to the study of personality. Hill et al. also argue that religion and spirituality have practical psychological applications: religion and spirituality are important to mental health, correlate with decreased drug and alcohol abuse, and have positive social functions. The current construct of religion and spirituality considered by many in the psychology of religion and spirituality is that these are each multidimensional constructs that are not necessarily mutually inclusive or exclusive, but have overlapping areas of concern (Hill et al.).

Hill et al. provide criteria for the two constructs of religion and spirituality in the hope of providing the means to reach a consensus. Spirituality is defined as the feelings, thoughts, experiences, and behaviors in relation to the quest for the sacred where sacred is defined at the individual level and may involve deities, but may also be seen as a connection with nature and the cosmos (Hill et al.). Religion contains this same initial criterion and/or the search for identity and belonging with a larger group of individuals who share the same goals (Hill et al.). It is these criteria that this thesis and proposed study design will use in defining religion and spirituality. In addition, spirituality is so defined as to include atheists (non-believers in any deity) and agnostics (abstainers from belief in or against a deity or deities) in its construct.

Review of Research and Theories

Several avenues of psychological research converge in this topic: religion, chronic pain, subjective spiritual well-being, and life satisfaction. The psychology of religion and

spirituality remains a fairly contentious and fractured field with little overarching theory to guide it (Paloutzian & Park, 2005), difficulty in operationalizing definitions of both religion and spirituality (Miller & Thoreson, 2003), and little uniformity in the measurement of religious and spiritual constructs (Rippentrop, 2005). Despite the obstacles, a growing body of research points to the importance that religious and spiritual beliefs play in multiple domains (Paloutzian & Park, Miller & Thoreson). In addition, Hill (2005) points to over 100 measures of various religious and spiritual constructs as evidence of the importance of the field of psychology of religion, as well as the importance of religion and spirituality to understanding how people make meaning in their lives. Hill also notes, though, the difficulty in the field of conducting and using theory-driven research to create measurement tools, although acknowledging that this deficit is beginning to be corrected as researchers in the field draw from mainstream psychological theories. Another difficulty, according to Hill, deals with the lack of representation of diverse religious orientations in the samples used; most are restricted to Protestant denominations of the Christian religion, and most samples are also not culturally diverse. A main problem of religious measures not mentioned is the impact of the religious measures on agnostics and atheists. If the research is restrictive to only those who believe in a specific religious structure, the sample may be unnecessarily limited. Although agnostics and atheists may not draw on a relationship with a particular deity, they may avail themselves of spiritually meaningful coping methods or behaviors such as meditation or a non-deified type of prayer that attempts to connect one with the larger universe.

Research on the relationship between religion/spirituality and health employs different methodologies, yielding different perspectives on the relationship. Qualitative studies concerning religion/spirituality and health provide information concerning the meaning individuals place on their health issues and how they feel their religious and spiritual beliefs impact and alter their experiences. Holt, Lewellyn, and Rathwag (2005) qualitatively explored the role of religion in mediating health, finding that spiritual health locus of control – the individual's perception of what it means to be healthy and the main factors affecting it, in this case, a spiritually directed locus – and religious coping were perceived by the respondents as the most significant mediators. Qualitative studies like Holt et al. may lead to the construction of new measurement scales to further the exploration of the topic and move the research from the qualitatively explorative to the quantitative. Drawing on the 2005 qualitative study, Holt, with Clark and Klem (2007) expanded and validated a quantitative measure of the Spiritual Health Locus of Control Scale. The scale provides an assessment of beliefs concerning the role of God in one's physical well-being. Further research in how a spiritual health locus of control impacts the individual's conception of a chronic pain condition might prove to be a fruitful area to pursue.

Narayanasamy (2004) conducted a qualitative study to answer the questions of whether the chronically ill reach out to their deity/god for help in coping. Conducted in a hospital setting with 15 inpatients with chronic illness, the results indicate that when the individuals were concerned that their spiritual needs would be met adversely, they were less likely to reveal them. Additional findings are: as individuals' illnesses progressed,

they tended to reach out for a closer relationship to their respective deity, and barring religious beliefs, they turned to their families and friends.

Quantitative research into the relationship between religion and health has provided evidence of the important role religious coping can play in mediating health. Pargament, Koenig, Tarakeshwar, and Hahn (2004) examined the role of religious coping in predicting psychological, physical, and spiritual outcomes, noting previous research which demonstrated religious coping methods predict indices of physical health and mental health. Research has indicated that there are two potential types of religious coping: positive religious coping, which used a positive religious reframing of the potentially negative events in one's life, along with mutual religious coping and congregations support, while negative religious coping methods consist of negative religious reframing (a punitive deity), self-directing religious coping, and congregational discontent (Pargament et al.). Pargament et al., in this longitudinal study of elderly, medically ill, patients found that positive religious coping as measured by the Brief RCOPE predicted increases in positive spiritual outcomes and cognitive functioning while negative religious coping predicted declines in quality of life. Overall, though, Pargament et al. concede that not all types of religious coping lead to a clear outcome. Despite the mixed implications, Pargament et al. argue that the study shows the importance of attending to spiritual components in addition to the physical and psychological.

Research on Role of Religious and Spiritual Beliefs in Chronic Pain

Rippentrop (2005) acknowledges the wide array of research examining the relationship between religion and spirituality and health but calls attention to the relative scarcity of research that examines the role that religion and spirituality might play in chronic pain. Rippentrop places the research that has been done on religion/spirituality and chronic pain into four different methodologies: survey studies comparing the frequency of religious variables with chronic pain variables; cross-sectional studies that compared groups on different religious or spiritual measures, or that focused on religion and spirituality as coping methods for chronic pain, or that assessed the relationship of religion and spirituality to health outcomes; longitudinal studies monitoring participants over an extended period of time; and experimental designs that assessed the efficacy of religions or spiritual interventions. As a result of the literature review over chronic pain and religious and spiritual domains, Rippentrop proposes several conclusions and recommendations regarding future research. More research is needed into the relationship between chronic pain and religious and spiritual variables (Rippentrop). The levels of religious or spiritual beliefs and practices are not stable in persons with chronic pain over time (Rippentrop). Religious and spiritual beliefs and practices are related to health outcomes, but findings are mixed so that drawing clear conclusions is difficult (Rippentrop). In addition, Rippentrop argues that clear definitions of religious and spiritual constructs are necessary in each study as well as consistency in measurement. Rippentrop's final conclusions relate to the lack of research of possible mediators between religious and spiritual beliefs and health specifically in regards to persons with

chronic pain; therefore more experimental studies need to be carried out to examine the difference between religious and spiritual intervention with non-religious, non-spiritual interventions. Beyond these considerations, Rippentrop addresses the difficulty in practitioners, medical and psychological, incorporating religious and spiritual concerns into their assessment and treatment.

Bush, Rye, Brant, Emery, Pargament, and Riessinger (1999), in examining the role of religious coping in persons with chronic pain, conclude that their study supports a multidimensional conceptualization of religious coping. Specifically, Bush et al. found that there are both positive and negative religious coping strategies, with positive religious coping strategies correlated with positive affect and religious outcome, although negative religious coping strategies did not relate significantly to outcome (Bush et al.). Additional research into religious coping methods in persons with chronic pain will provide practitioners with a potential avenue of discussion that could lead to the effective use of religious and spiritual beliefs and support systems related to those beliefs and practices.

Rippentrop, Altmaier, Chen, Found, and Keffala (2005) in a study which examined the relationship between religion/spirituality and health outcomes of persons with chronic pain revealed several interesting results: less forgiveness and interest in helping others in persons with chronic pain than a random representative sample; interest and importance of religion or spirituality increasing with advancing age; prayer and meditation were related to poorer physical health; negative coping or religious beliefs were implicated in worse outcomes. Rippentrop et al., based on the study results, rejected

their hypothesis that greater levels of religion/spirituality would correlate with the less pain and less life interference due to pain. The rejection of the hypothesis led Rippentrop et al. to conclude that persons with chronic pain may have different religious and spiritual beliefs than members in a healthy population. In addition, confirming Bush, Rye, Brant, Emery, Pargament, and Riessinger's (1999) findings, Rippentrop et al. concede that religion can have positive and negative results, depending on the nature of the religious coping methods used.

Research on Role of Religious and Spiritual Beliefs in Adaptive Copers

The literature search did not produce any studies specifically dealing with adaptive copers and the role of religious coping methods or spiritual-well-being. One study was found that used the Multidimensional Pain Inventory and a measure concerning religion, although the study did not use the cluster analysis available for the MPI in order to categorize participants into the three pain profiles. Cooper-Effa, Blount, Kaslow, Rothenberg, and Eckman (2001) specifically examined the role of spiritual well-being and pain severity, life control, and life interference in individuals with sickle cell disease. Unfortunately, Cooper-Effa et al., instead of using the MPI to separate individuals into the three pain profiles generated by the MPI of adaptive copers, interpersonally distressed, and dysfunctional, instead chose to compare the three areas the MPI assesses: pain severity, life control, and life interference. Adaptive copers report less pain severity, higher life control and less life interference than the two remaining profiles (Turk & Rudy, 1988). Cooper-Effa et al. found that existential well-being and religious well-being, subcomponents of spiritual well-being, independently predicted life control

but had no relationship to disease severity or life interference. Existential well-being played a much stronger role than religious well-being in the perception of life control. Cooper-Effa et al. conclude that spiritual well-being, through the increased perception of greater life control because of a perception of social support, is helpful in allowing patients with sickle cell disease cope with their pain more effectively. Because participants were not placed into the pain profiles, it is not possible to say with certainty that an adaptive copier has increased spiritual well-being compared to the interpersonally distressed and the dysfunctional profiles.

Research on Role of Religious and Spiritual Beliefs in Life Satisfaction

Research into the role of spirituality and religion to life satisfaction is beginning to be pursued vigorously, with multiple assessment tools and with mixed results. One of the more popular measures, the Spiritual Well-Being Scale was developed over a quarter-century ago and measures the religious beliefs of individuals that are related to general well-being (Gray, 2006). Ellison (1983), in his conceptualization of spiritual well-being, contends that it involves both religious and social-psychological components with two dimensions: a vertical one that measures the perceived relationship between God and the individual and a horizontal one measures existential well-being and leaves religion out of the equation. Despite the antagonism with which some atheists and agnostics might react, it is a defensible argument that spiritual well-being is an important dimension of overall well-being and psychological health. Ellison and Smith (1991) report that spiritual well-being as measured by the Spiritual Well-Being Scale has value as a broad indicator of health and well-being. Ellison writes: "If we are spiritually healthy we will feel generally

alive, purposeful, and fulfilled, be it only to the extent that we are psychologically healthy as well” (p. 332).

Other scales to measure spiritual and religious concerns exist and have been used to assess the relationship between spirituality and life satisfaction. Dorahy, Lewis, Schumaker, Akuamoah-Boateng, Duze, and Sibiya (1998) used The Theism Scale (Maranell, 1974, as cited in Dorahy et al.) to assess across four distinct cultures whether religiosity and life satisfaction had any association, finding that there was no association among females from any of the four samples, while men in three of the four samples did have a significant association. Interestingly enough, women scored higher in religiosity than males did, although this did not lead to greater life satisfaction, leading Dorahy et al. to offer the conclusion that gender may be the determinant in the relationship between religion and life satisfaction.

Roemer (2006) took a different route in measuring the religious/spiritual component when considering how life satisfaction and religious belief impacted people in Japan and did not use a measure specific to spiritual well-being or religiosity, instead data was extracted from the 2002 Japan General Social Survey (Roemer). Roemer did find a positive relationship between religion and life satisfaction among people in Japan.

Perrone, Webb, Wright, Jackson, and Ksiazak (2006) also examined how spirituality was linked to life satisfaction, but focused on how it related to work and family satisfaction in gifted adults who were being followed longitudinally. Perrone et al. found that existential well-being (a sub-component within the Spiritual Well-Being)

and life satisfaction were positively related as was marital satisfaction, but religious well-being was not.

Tarakeshwar, Vanderwerker, Paulk, Pearch, Kasl, and Prigerson (2006) examined the role of religious coping and quality of life (similar in construct to life satisfaction) in patients with advanced cancer, finding that positive religious coping, even though an increase in its use coincided with more physical symptoms, correlated with better quality of life overall. Negative religious coping was related to decreased overall quality of life (Tarakeshwar et al.).

Cotton, Puchalski, Sherman, Mrus, Peterman, Feinberg et al. (2006), in a study of patients with HIV/AIDS, found that religious and spiritual beliefs were stronger in those persons who had greater optimism, higher self esteem, and greater life satisfaction, were minorities, and had limited alcohol use.

Conclusions Regarding Religion and Spirituality in Chronic Pain Research

Psychology has not been at the forefront in research concerning chronic pain populations and religious and spiritual issues. Nursing, specifically, and medicine in general, has pursued issues relating to patient's religious and spiritual beliefs as mediators of suffering. Psychology has a long and checkered history of research into religious and spiritual matters, but difficulties in operationalizing definitions of religion and spirituality have led to often incomparable, inconclusive, or contradictory results. In addition, very little work has been done in assessing the religious coping methods or spiritual well-being in adaptive copers. Life satisfaction has also received little attention in relation to religion and spirituality in chronic pain populations with the typical

subjective well-being measure being a quality of life. This proposed study design would begin to rectify this considerable gap in the literature.

Purpose of the Present Study

The purpose of this quantitative study is to create a multidimensional portrait of persons with chronic pain, examining which particular personality traits, explanatory style, and religious coping methods, and spiritual well-being lead to the highest life satisfaction and the ability to be adaptive copers.

Statement of the Problem

Each of the areas represented in the literature review have received extensive, although often contentious and divisive, research since the inception of modern psychology in the late nineteenth century. Despite extensive research into chronic pain, from a biomedical perspective, from psychodynamic perspectives, to the modern day acceptance of biopsychosocial perspective, there are still considerable gaps. No studies identified in the literature review, nor examined but not used in the review, incorporated more than two of the areas proposed for this study design. Most studies focused on only one of the areas. Due largely to Engel's 1959 introduction of the concept of psychogenic pain, considerable research has been done on personality characteristics with the goal of finding the elusive pain personality (Asmundson & Wright, 2004). However, research into nonpathological personality traits that impact how chronic pain is perceived and reacted to is still in its relative infancy. Explanatory style has been examined, with the result that it appears that optimism mediates the experience of chronic pain, but not enough research has been done, nor were any studies found that incorporated both

personality traits and explanatory style into the examination of the relationships between those domains and the chronic pain experience. Research into religious and spiritual belief systems as measured by religious coping methods and spiritual well-being is also limited, and no studies incorporating religious variables, explanatory style, and personality traits into the examination of the chronic pain experience were found. In addition, although much of the chronic pain research has focused on psychopathology, too little has looked at what makes an individual with chronic pain an adaptive copier rather than interpersonally distressed or dysfunctional. Satisfaction with life has also received little attention, with most research looking into the quality of life for chronic pain patients. Satisfaction with life would provide more meaningful information than quality of life scores, since it is conceivable that while an individual with chronic pain might concede to poor quality of life, he or she might also argue that even so, life satisfaction can still be high.

Hypotheses

Hypothesis One

Null Hypothesis (H_0): In a sample of persons with chronic pain, personality traits as measured by the NEO-PI-R (Par, Inc.), explanatory style as measured by the Attributional Style Questionnaire (Peterson et al.), religious coping methods as measured by the Brief RCOPE (Pargament & Koenig), and spiritual well-being as measured by the Spiritual Well-Being Scale (Ellison & Paloutzian) will not predict adaptive coping style as measured by the Multidimensional Pain Inventory (Kerns et al.).

Alternative Hypothesis (H₁): In a sample of persons with chronic pain, personality traits as measured by the NEO-PI-R (Par, Inc.), explanatory style as measured by the Attributional Style Questionnaire (Peterson et al.), religious coping methods as measured by the Brief RCOPE (Pargament & Koenig), and spiritual well-being as measured by the Spiritual Well-Being Scale (Ellison & Paloutzian) will predict adaptive coping style as measured by the Multidimensional Pain Inventory (Kerns et al.).

Hypothesis Two:

Null Hypothesis (H₀): In a sample of persons with chronic pain, personality traits as measured by the NEO-PI-R (Par, Inc.), explanatory style as measured by the Attributional Style Questionnaire (Peterson et al.), religious coping methods as measured by the Brief RCOPE (Pargament & Koenig), and spiritual well-being as measured by the Spiritual Well-Being Scale (Ellison & Paloutzian) will not predict satisfaction with life as measured by the Satisfaction with Life Scale (Diener et al.).

Alternative Hypothesis (H₁): In a sample of persons with chronic pain, personality traits as measured by the NEO-PI-R (Par, Inc.), explanatory style as measured by the Attributional Style Questionnaire (Peterson et al.), religious coping methods as measured by the Brief RCOPE (Pargament & Koenig), and spiritual well-being as measured by the Spiritual Well-Being Scale (Ellison & Paloutzian) will predict satisfaction with life as measured by the Satisfaction with Life Scale (Diener et al.).

Significance of the Study

Although the biopsychosocial approach to chronic pain has yielded a considerable body of work, leading to a better understanding of the complex, multidimensional nature

of chronic pain, much work remains to be done. Most studies focus on one dimension at a time in relation to chronic pain, using disparate measures that create difficulties in extrapolating the findings in one study to a general understanding. In addition, without measuring multiple variables with one sample and conducting multivariate analysis, a more complete portrait of the person with chronic pain remains unfinished. This proposed study design somewhat ambitiously attempts to close the gaps in the literature, both with the intent to see the individual with chronic pain more holistically and with the hope of being able to create treatment programs that incorporate spiritual elements where applicable and desired and cognitive-behavioral therapies that work towards mitigating a pessimistic explanatory style and emotionally unstable personality traits.

Walden University (2007) promotes the ideal of the scholar-practitioner and structures its programs with the idea of creating professionals who promote positive social change. Too much of psychology's interest in the past concerning individuals with chronic pain has focused on assumptions of psychopathology, and all too often not with the idea of helping the individuals cope more effectively. Part of this can be laid squarely at Freud and Engel's doors with their ideas concerning psychosomatic and psychogenic pain, as well as the focus of researchers since the 1950s in trying to locate pain personalities, in an attempt to explain chronic pain away as a result of a particular cluster of psychopathologic personality traits identified by the Minnesota Multiphasic Personality Inventory (MMPI) (Robinson, 2000, Gatchel & Weisberg, 2000). Engel ultimately realized that psychogenic causes were inadequate as was the biomedical model and prepared the way for a more inclusive model for approaching the understanding and

treatment of chronic pain. Although Engel never conducted any research using the biopsychosocial model he advocated, other researchers such as Melzack, Turk, Kerns, Rudy, and Gatchel answered the clarion call. Much work still remains to be done, though, and shift in focus to those persons with chronic pain who manage to cope well and lead full, productive, and satisfying lives is called for. This proposed study design is a first step towards positive social change. The study would provide one of the first inclusive, broad examinations of many of the characteristics, traits, and behaviors that correlate with high levels of life satisfaction and an adaptive coping profile. This would add significantly to the biopsychosocial model of chronic pain and aid in the development of more effective treatment programs which incorporate cognitive-behavioral interventions to help those individuals in chronic pain who suffer needlessly adopt more beneficial and adaptive personality traits, explanatory styles, religious coping methods, and perceptions of spiritual well-being.

Summary

Chronic pain is complex and multidimensional. It is also a “private, individual experience” (Turk, Meichenbaum, & Genest, 1983, p. 250). It is an agonizingly prevalent and pervasive condition that leads to tremendous suffering. It should not have to be so, though. Although researchers in the medical field continue research into better, more effective medications to treat pain, it is unlikely that there will ever be a magic pill that eliminates pain in all individuals. Many of us will have to live with chronic pain conditions, but that should not necessitate suffering. Shelves of bookstores abound with self-help books promising relief from pain. Psychology has much to offer individuals

who live with chronic pain; further research is essential to clarify how these multidimensional characteristics, of which personality traits, explanatory style, religious coping methods, and spiritual well-being are only a few, work together to create the chronic pain experience. Psychology's goal should be to eliminate suffering, even if it cannot remove the pain itself.

CHAPTER 2

RESEARCH METHOD

Introduction

This chapter will outline the proposed study design in detail. The methodology will be discussed first, and then the design and participants will be detailed. Measures will be introduced and explained, followed by the hypotheses and proposed analysis. The chapter will then conclude with assumptions and limitations of the proposed study design.

Methodology

Design

The proposed study design is cross sectional and quantitative in nature. In order to create a holistic portrait of individuals with chronic pain with the focus on the adaptive copers specifically as well as life satisfaction, several potential predictors will be examined that include personality traits, explanatory style, religious coping methods, and spiritual well-being.

Participants

Population

Estimates of chronic pain vary depending on the survey and how chronic pain is defined; what does not seem to vary is the consensus that chronic pain is extremely prevalent in the United States, that the financial costs are significant, as are the personal, psychological costs experienced by the person in pain and the person's family, friends, and community. The American Pain Society (1999) estimates that 9% of the American

population lives with a non-cancerous chronic pain condition. The National Center for Health Statistics (2006) places the incidence of any kind of pain lasting more than 24 hours in the month prior to the survey in Americans over the age of 20 at 26%. In addition, they were more likely to be white, female and living well below the poverty line. Those in the 45 to 64 age group reported a greater incidence of pain (30%) than did the other two groups, 20 to 44 (25%) and 65 and over (21%) (National Center for Health Statistics).

Sample

The study sample will be a sample of convenience, although careful effort to draw from as diverse a population as possible will be made. Potential participants will be recruited from pain specialists in Abilene, Texas, from local general practitioners, and from local support groups for chronic pain and chronic illness, with a goal of having an even representation of genders, as well as a wide array of ages, education levels, and ethnicity. It should be noted, though, that the region that participants would be solicited from, Abilene, Texas, is predominantly white, with 8% African American and 19% Hispanic. As much as possible, a representative sample will be acquired.

Sample Size

This proposed study design will most closely follow Nitch and Boone's (2004) study which analyzed the correlation between the five-factor model of personality traits and the chronic pain subgroups as designated by the Multidimensional Pain Inventory. Nitch and Boone's sample contained 81 participants, of whom 74% were women, with the mean age of 51 years; these participants "represented a heterogeneous sample of

chronic pain patients” (p. 204). Although the Nitch and Boone study provides the backbone for the proposed study design and their sample is used as part of this study’s sample target size, in order to assure statistical significance, the G*Power 3 software for the PC (Faul, Erdfelder, Lang, & Buchner, 2007) was used to determine the target sample size. Calculating a medium effect size (effect size $d = 0.3$), an alpha of 0.01, and a power of 0.80, G*Power 3 results specify a sample of 158. This study would attempt to obtain a sample size of 175 participants. Nitch and Boone note that because of the number of statistical analyses that were done on their data, the significance level was set at $p < .01$ in order to reduce chances of a Type I error. Because this proposed study design will be more complex and go beyond Nitch and Boone’s study of personality correlates, this study will also utilize a significance level of $p < .01$.

Measures

Introduction

This study will utilize several measures as well as a demographic questionnaire that asks for name, age, gender, ethnicity, educational levels, income levels, current employment status, compensation status, religious affiliation, and medical diagnosis and duration. In addition to the demographic questionnaire, the following measures will be used: the Attributional Style Questionnaire to assess explanatory style (Peterson, Semmel, von Baeyer, Abramson, Metalsky, & Seligman, 1982); the Brief RCOPE (Pargament, Smith, Koenig, & Perez, 1998) to assess religious coping methods; the Multidimensional Pain Inventory (Kerns, Turk, & Rudy, 1985) to assess pain profile; the NEO-PI-R (Costa & McCrae, 1992) to assess personality domains and facets; the

Satisfaction with Life Scale (SLWS; Diener, Emmons, Larson, & Griffen, 1985) to assess overall satisfaction with the status of one's life; and the Spiritual Well-Being Scale (SWB; Paloutzian & Ellison, 1982) to assess measures of religious well-being and existential well-being.

Attributional Style Questionnaire

The Attributional Style Questionnaire devised by Peterson et al. (1982) renames Seligman's (1991) terms from permanence, personalization, and pervasiveness to stability, internality, and globality. While eight individual scores can be generated, it is also possible to get three composite scores: composite negative attributional style, composite positive attributional style, and composite positive minus composite negative. Tennen and Herzberger (1986) found that the Attributional Style Questionnaire has modest internal reliability, with Chronbach's alphas ranging from .44 to .69. In addition, test-retest reliability "in nonclinical samples" suggests that the scores are "temporally consistent" (Tennen & Herzberger, p. 23). The ASQ also shows criterion and construct validity (Tennen & Herzberger). This proposed study design will use two particular scores from the ASQ: the Composite Negative Attributional Style (CoNeg) score, which ranges from 3 to 21, with 3 as the most optimistic score concerning negative events; and the Composite Positive Attribution Style (CoPos) score, which ranges from 3 to 21, where 21 is the best possible score (optimist concerning positive events) and 3 being the most pessimistic score (Peterson et al.).

Brief RCOPE

Religious coping methods are those methods that employ a religious element that can either serve to help or hinder an individual (Pargament et al.). Although research into religious coping methods and physical and mental health is recent, research has indicated a link between religious coping and health outcomes. The Brief RCOPE is designed to measure positive religious coping as well as negative religious coping (Pargament et al.). Pargament et al. found the Brief RCOPE has good internal consistency, with Chronbach alpha coefficients varying from .87 to .90 for the positive scale and from .69 to .81 for the negative scale. Pargament et al. found good discriminant validity; confirmatory factor analysis was used, with a two factor solution that confirmed the two scales, positive and negative religious coping methods.

The Brief RCOPE consists of 7 items to measure the positive religious coping methods and 7 items to measure the negative, and uses a four-point Likert scale, which ranges from 1 to 4, with 1 being 'not at all' and 4 being a 'great deal' (Pargament et al.). Scores range from 7 to 28 for each subscale, with 7 being representative of low levels and 28 representative of high levels of the particular religious coping mechanism (Pargament et al.). Items on the positive scale indicate a benevolent view of God. It does not reflect particular beliefs about God, but indicates the participant's willingness to reach out to a higher power. An example of items on the positive scale is "Sought God's love and care." (Pargament et al.). The negative religious coping scale indicates a sense of rejection by God and punishment. High scores on this scale reflect a maladaptive coping style. An example from this scale is "Wondered whether God had abandoned me." (Pargament et

al.). In the studies conducted by Pargament et al., positive religious coping patterns were linked to better outcomes, with less distress, and greater psychological and spiritual growth, while negative religious coping was associated with more depression and poorer quality of life.

This proposed study design will use both the positive religious coping methods score and the negative religious coping methods scale as 2 of the 41 predictor variables. It is predicted that higher levels of positive and lower levels of negative will be associated specifically with the adaptive coper and greater life satisfaction.

Multidimensional Pain Inventory

Kerns et al. created the Multidimensional Pain Inventory (MPI) in order to better assess the impact of chronic pain on the individual's life. In addition, it also measures how significant others relate to the individual as well as how the pain affects the individual's daily activities. In 1988, Turk and Rudy used cluster analysis to place respondents into three distinct profiles: dysfunctional, interpersonally distressed, and minimizer/adaptive coper. Kerns et al. found that the MPI has internal reliability coefficients ranging from .70 to .90 and test-retest reliabilities range from .62 to .91 over two weeks. The MPI also has internal and external construct validity. Turk and Rudy, in assessing the reliability of the cluster analysis into three profiles achieved a kappa reliability coefficient of .975. In addition, Turk and Rudy found good external validity for the cluster analysis, as well.

This study will use Version 3 of the Multidimensional Pain Inventory, which is available through the University of Pittsburgh Pain Medicine Program. Version 3

contains three sections and uses a six-point Likert Scale with the 48 questions. Section 1 contains 21 questions that assess pain severity, interference levels, life control, and levels of affective distress. Section 2 contains 12 questions that measure support, punishing responses, solicitous responses and distracting responses. Section 3 consists of 15 questions which measure daily activity. Although nine primary scales are available, as well as two composite scales, the emphasis for this proposed study design is on the cluster profile analysis. The specific area of interest is the adaptive coper profile, but the other two groups, interpersonally distressed and dysfunctional, although not included in the hypotheses will also be used. These three groups will serve as the independent variables when testing the second hypothesis with the 41 predictor variables.

NEO-PI-R

The NEO-PI-R (Costa & McCrae, 1992) is a self-administered personality inventory that measures five factors of personality: neuroticism, extraversion, openness, agreeableness, and conscientiousness with six facets for each factor, for a total of 30 traits (McCrae and Costa, 2007). According to the test publisher, PAR, Inc., (2005), the NEO-PI-R has 240 test items with three validity items. In addition to self administered scales, the NEO-PI-R also may be filled out by an observer (PAR, Inc.). The NEO-PI-R has good internal consistency, with .86-.95 for domain scales and .56-.90 for facet scales (PAR, Inc.). Botwin (2004) notes that the NEO-PI-R has good long-term test-retest reliability for the three domains of neuroticism, extraversion, and openness, Murray, Rawlings, Allen, and Trinder (2003) conclude that the NEO scores have internal and temporal reliability.

According to Botwin (2004), the NEO-PI-R is the main instrument for measuring personality from the five factor model. It is normed on a representative sample of 500 males and 500 females (Botwin). The NEO-PI-R has strong consensual, construct, convergent, and divergent validity.

This study, in using the Nitch and Boone (2004) study as its model, will use both the 5 domains and 30 facets as predictors when testing the two hypotheses. While the overall correlation of the five domains to life satisfaction and adaptive coping are of interest, examining the individual facets may provide a more detailed and relevant portrait which would facilitate treatment recommendations. Therefore, this proposed study design will do both, with the 5 domains and 35 facets representing 35 of the 41 predictors for each hypothesis test.

The Satisfaction with Life Scale

The SLWS is a five-item seven-point Likert scale created by Diener et al., 1985). According to Pavot and Diener (1993), the SLWS assesses a “person’s global judgment of life satisfaction” (para. 7). The five statements are simple statements that allow the respondent to offer a judgment on the idealness of one’s life, satisfaction with one’s life, conditions of one’s life, as well as the degree to which one agrees that one has obtained the important things, and whether one would change things if one could do it over again (Diener et al.). A score of 20 is a neutral score, while a 26 to 30 would indicate “*satisfied*” while a score of 5 to 9 would indicate “*extremely dissatisfied*” (Pavot and Diener, para. 10). The SLWS has both “strong internal reliability and moderate temporal stability” (Pavot and Diener, para. 13). Perrone, Webb, Wright, Jackson, and Ksiazak

(2006) note that the SLWS demonstrated concurrent validity with “moderate correlations between SLWS and 11 other measures of subjective well-being” (pp. 256-257). This proposed study design will use three categories based on the numerical score in order to conduct the statistical analysis: satisfied (26-35), neutral (16-25), and dissatisfied (15 and below). These three groups will act as the independent variables when testing the first hypothesis in this study, but will not be used in the testing of the second hypothesis.

The Spiritual Well-Being Scale

The SWB (Paloutzian & Ellison, 1982) measures spiritual well-being; it consists of two separate scales: Religious Well-Being and Existential Well-Being. Each subscale consists of ten statements and are scored according to a six point Likert scale, with minimum scores for each subscale ranging from 6 to 60, and the composite SWB scale ranging from 12 to 120 (Paloutzian & Ellison, 1991). Paloutzian and Ellison (1991) note that since the scale was published in 1982, it has been used in over 300 projects, ranging from research to graduate projects, to clinical use. The Religious Well-being scale has test-retest reliability coefficients that range from .88 to .99, with 1 to 10 weeks between test-retest, while the Existential Well-being scale has coefficients from .73 to .98 over the same testing times (Paloutzian & Ellison, 1991). Internal consistency shows high reliability, as well, with coefficients ranging from .78 to .94 (Paloutzian & Ellison, 1991). According to Paloutzian and Ellison (1991), the scales also have good face validity. Gray (2006) reports that the scale has construct validity and convergent validity.

The Existential Well-Being scale measures life satisfaction and purpose and contains no references to God (Paloutzian & Ellison, 1991). Statements on this subscale

include “I feel that life is full of conflict and unhappiness” and “Life doesn’t have much meaning” and are scored with a strongly agree receiving 1 point and a strongly disagree earning 6 points (Paloutzian & Ellison, 1982; Paloutzian & Ellison, 1991). The Religious Well-Being scale uses statements concerning the person’s perception of his/her relationship to God (Paloutzian & Ellison, 1991). Statements on this subscale include “I don’t find much satisfaction in private prayer with God” and the participant may chose scores ranging from strongly agree to strongly disagree (Paloutzian & Ellison, 1982). When the statements are negatively worded as is this one, a strongly agree is given 1 point; positively worded statements which are answered strongly agree are given 6 points (Paloutzian & Ellison, 1991). When scores for each subscale are below 20, the individual is seen as having low religious or low existential well-being (Paloutzian & Ellison, 1991). Scores ranging from 21 to 49 reflect moderate religious or spiritual well-being, and scores above 50 reflect high religious or existential well-being (Paloutzian & Ellison, 1991). It should be noted that those who identify as agnostics or atheists may find the religious well-being scale offensive, and because the scale does not provide the option to answer not applicable, the religious well-being score for these individuals would reflect an unsatisfactory relationship with God where the atheist and agnostic might argue that the relationship is not unsatisfactory, just nonexistent. For this reason, the two subscales, although typically presented together, will be separated and administered individually, with the participants instructed that if they feel the particular scale to be non-applicable, they can abstain from answering. Additionally, this is why the study will use the scores

separately rather than taking a global SWB score. These two scores will represent 2 of the 41 predictors which will be used to test each hypothesis.

Procedures

The proposed study will be submitted to Walden University's Institutional Review Board for approval. Upon approval, participants will be solicited from general practitioners, pain specialists, and support groups in Abilene, Texas, and surrounding counties. Informed consent will be obtained from all participants.

Ethical considerations must be taken into account as this study will use human subjects. Because the participants will be individuals dealing with chronic pain conditions and may present with distress, depression, or comorbid psychological disorders, significant care will be taken. Paramount will be treating participants with respect and dignity (American Psychological Association, 2002). Ensuring that the research team respects the dignity and rights of the chronic pain participants and treats them with compassion would be top priority. In addition, it is likely that many of the individuals may have been met with skepticism and disbelief by the medical community, so maintaining a judgment-free attitude on the part of the researchers will limit the possibility of violating the ethical code 3.04, avoiding harm (American Psychological Association, 2002). Another concern is taking into account a chronic pain patient's fear of stigmatization (National Cancer Institute, n.d.). An additional ethical issue pertaining to the proposed study design falls under section 9.02, the use of assessments (American Psychological Association, 2002). Multiple assessments will be used in the proposed

study design. These assessments will be used only for the applications for which they were intended.

After participants for the proposed study design are selected, they will be provided with an informed consent form that details the purposes of the study, the measures to be done, the potential harm and benefit, as well as their right to leave the study at any time. All participants will sign the informed consent forms before beginning the study.

In order to accommodate participants' schedules, three separate times will be available to fill out the various assessment measures. A classroom at the local junior college will be used to conduct the study and four hours will be allotted for all measures to be completed, although the average time for completion should be two hours. Breaks will be offered and refreshments made available between each measure, which will be given out after the completion and turn in of the previous measure handed out.

Demographic questions will be answered first, followed by the ASQ, the MPI, the Brief RCOPE, the Satisfaction with Life Questionnaire, the Spiritual Well-Being scale, and the NEO-PI-R. When the participants finish the last measure, they will be thanked for their participation, offered debriefing, and provided with a card with the researcher's contact information.

Data Analysis

Hypothesis One

Null Hypothesis (H₀): In a sample of persons with chronic pain, personality traits as measured by the NEO-PI-R (Par, Inc.), explanatory style as measured by the

Attributional Style Questionnaire (Peterson et al.), religious coping methods as measured by the Brief RCOPE (Pargament & Koenig), and spiritual well-being as measured by the Spiritual Well-Being Scale (Ellison & Paloutzian) will not predict adaptive coping style as measured by the Multidimensional Pain Inventory (Kerns et al.).

Alternative Hypothesis (H_1): In a sample of persons with chronic pain, personality traits as measured by the NEO-PI-R (Par, Inc.), explanatory style as measured by the Attributional Style Questionnaire (Peterson et al.), religious coping methods as measured by the Brief RCOPE (Pargament & Koenig), and spiritual well-being as measured by the Spiritual Well-Being Scale (Ellison & Paloutzian) will predict adaptive coping style as measured by the Multidimensional Pain Inventory (Kerns et al.).

Hypothesis Two:

Null Hypothesis (H_0): In a sample of persons with chronic pain, personality traits as measured by the NEO-PI-R (Par, Inc.), explanatory style as measured by the Attributional Style Questionnaire (Peterson et al.), religious coping methods as measured by the Brief RCOPE (Pargament & Koenig), and spiritual well-being as measured by the Spiritual Well-Being Scale (Ellison & Paloutzian) will not predict satisfaction with life as measured by the Satisfaction with Life Scale (Diener et al.).

Alternative Hypothesis (H_1): In a sample of persons with chronic pain, personality traits as measured by the NEO-PI-R (Par, Inc.), explanatory style as measured by the Attributional Style Questionnaire (Peterson et al.), religious coping methods as measured by the Brief RCOPE (Pargament & Koenig), and spiritual well-being as measured by the

Spiritual Well-Being Scale (Ellison & Paloutzian) will predict satisfaction with life as measured by the Satisfaction with Life Scale (Diener et al.).

Analysis

For hypothesis 1, which in part attempts to replicate the Nitch and Boone (2004) study, a multivariate analysis of the variance (MANOVA) will be used, as well, with the MPI profiles as the independent variables and five NEO-PI-R domains as the predictor variables, with an additional MANOVA for the six facet scales conducted as well. This proposed study design is more complex and involves two predictor variables from the Attributional Style Questionnaire, two predictor variables from the Brief RCOPE, and two predictor variables from the Spiritual Well-Being scale in addition to the five domain scores and 30 separate facets, for a total of 41 potential predictor variables to be analyzed with the three profiles generated by the MPI. Two MANOVAs will be conducted: (1) the six variables from the ASQ, Brief RCOPE, and SWB along with the five NEO domain scores against the MPI profiles, and (2) the 30 facets with the six variables from the ASQ, Brief RCOPE, and SWB against the MPI profiles. Nitch and Boone used follow-up ANOVAs and Scheffe post hoc tests after the overall significance was obtained. In addition, the researchers also used one-way ANOVAs between the subgroups and the demographic variables, and that will be done in this proposed study as well. A significance of $p < .01$ will be used in this study in order to reduce chances of a Type I error.

For hypothesis 2, multivariate analyses will be conducted using the three groupings of scores (dissatisfied, neutral, satisfied) from the Satisfaction with Life Scale

as the independent/outcome variables, with the following predictor variables: two predictor variables from the Attributional Style Questionnaire, two predictor variables from the Brief RCOPE, and two predictor variables from the Spiritual Well-Being scale in addition to the NEO-PI-R's five domain scores and 30 separate facets, for a total of 41 potential predictor variables to be analyzed first with the three life satisfaction groups (dissatisfied, neutral, satisfied). Two MANOVAs will be conducted: (1) the six variables from the ASQ, Brief RCOPE, and SWB along with the five NEO domain scores against the life satisfaction groups, and (2) the 30 facets with the six variables from the ASQ, Brief RCOPE, and SWB against the life satisfaction groups.

Assumptions and Limitations

Assumptions

The underlying assumption behind this proposed study design is that the experience of chronic pain is complex and multifaceted. The biopsychosocial theory serves as the foundation for this study. Most chronic pain research focuses on one or two significant constructs in relation to chronic pain at a time; few attempt more. This study assumes that in order to form a multifaceted portrait of the person with chronic pain, multiple constructs need to be measured in the same sample.

Limitations

Although G*Power 3 software for the PC (Faul et al., 2007) was used to estimate sample size, it is acknowledged that this sample will be small, and with the complexity of the study and the analysis involved, further studies with larger and more culturally diverse samples will be needed. In addition, the intent to include persons of all faiths

(even if that includes no faith) may have unintended consequences, as some participants might take exception to the Brief RCOPE and the Religious Well-Being scale. If enough participants in the sample for this proposed study design decline to complete these measures, sample size of statistical significance would not be met. Because the sample would be recruited from a population that is composed of believers, with most being Protestants, this may not become an issue. However, the fact that the population from which the sample will be drawn is predominantly white and Protestant limits the ability to generalize to the American population at large, or to other cultures. It is also possible that the sample will not be representative of individuals of all potential chronic pain conditions. Another limitation is that this study is cross-sectional and provides no data as to how any of these constructs change over time or with the extended duration of the chronic pain condition. Additional studies that are longitudinal in nature and measure these same constructs will be necessary.

CHAPTER 3

RESULTS AND DISCUSSION

Introduction

This chapter will provide a short review of the literature from Chapter 1 before proceeding to discuss practice implications, future directions, and social implications. It will conclude with an integrative summary.

Review of Literature from Chapter 1

The biopsychosocial approach to chronic pain incorporates the biological into its theory; it acknowledges the importance of the biological system to begin, maintain, and adjust physical disruptions (Turk, 1996). It goes far beyond the diametrically opposed models of the biomedical and the psychogenic/psychosomatic. The biopsychosocial approach recognizes that chronic pain begins with acute pain that for whatever reason does not rectify itself with healing. Although the psychological and medical fields are still guilty at times of assuming a psychosomatic cause for the pain and in doing so tend to blame the victim, psychologists are leading the research into the biopsychosocial approach to chronic pain and gradually moving away from the need to blame the victim. Research has in the past focused on looking for psychopathological causes for chronic pain, but ultimately despite decades of trying to identify a particular pain personality, acceptance is growing that there is no one or two specific types of people prone to pain (Gatchel & Weisberg, 2000). Instead, psychologists are now beginning to focus on normal personality traits which predispose an individual to develop psychological distress when faced with chronic pain conditions. Turk and Rudy (1988) conducted a cluster

analysis on results from the Multidimensional Pain Inventory (Kerns et al., 1985) and separated the participants into three pain profiles: the interpersonally distressed, the dysfunctional, and the adaptive coper. Much work has been done on the two profiles that have difficulties, but little has been done to determine what traits coexist in the adaptive coper. Likewise, quality of life is a typical subjective well-being measure used in chronic pain research, but it may not yield accurate information concerning how the individual with the chronic pain condition views his or her life, and how well satisfied he or she is. One can have a poor quality of life from objective standards, and yet still feel incredibly satisfied with one's life. Switching from an objective, outsider measurement to a subjective, personally measured satisfaction with life may yield far more illuminating information regarding the individual with chronic pain.

Research regarding normal personality traits and chronic pain is still a relatively new area, and only one study was found which concerned personality traits and the Multidimensional Pain Inventory. Nitch and Boone's (2004) study provides the backbone for this proposed study design. Adaptive copers were found to have low neuroticism rates, balanced extraversion/introversion traits, and a higher degree of openness than the interpersonally distressed and dysfunctional pain profiles.

While the relationship between an optimistic explanatory style, adaptive copers, and life satisfaction seem obvious, no studies were found in the literature search that dealt with optimism and adaptive copers and only a few studies dealing with optimism and life satisfaction were found, although these studies used neither the ASQ nor the Satisfaction with Life Scale. It is expected that an optimistic explanatory style, specifically in regards

to negative events, will mediate the chronic pain experience and correlate with an adaptive coping profile on the MPI. It is also predicted that the optimistic explanatory style will correlate with higher life satisfaction. Using the Attributional Style Questionnaire and the Satisfaction with Life Scale will provide previously unknown information regarding these relationships.

Although the psychology of religion and spirituality is arguably as old as the field of psychology, it has been more often relegated to the edges of the discipline. Religious and spiritual variables are often ignored or denied in mainstream psychological research, although that is beginning to change. As the biopsychosocial model of health led to the establishment of the field of health psychology, religious and spiritual variables began to be directly studied in relation to their effect on health. Rippentrop (2005) acknowledges the wide array of research examining the relationship between religion and spirituality and health but notes that relatively little research has been carried out on the role that religion and spirituality might play in chronic pain. No studies were found that looked specifically at the pain profiles provided by cluster analysis of the MPI results and religious or spiritual variables. This represents a significant gap in the literature. Research into the role of spirituality and religion to life satisfaction has been pursued, with multiple assessment tools and with mixed results. One of the more popular measures, the Spiritual Well-Being Scale was developed over a quarter-century ago and measures the religious beliefs of individuals that are related to general well-being (Gray, 2006).

Chronic pain has been extensively researched from several disciplines. Psychology has led the way in conducting research into chronic pain from the biopsychosocial approach and been instrumental in the development of treatment programs (Gatchel & Weisberg). The nursing discipline has been instrumental in conducting research into chronic pain with the goal of helping patients cope with the pain better (Cahill; Richardson & Poole, 2001). Personality, explanatory style, and religious and spiritual belief systems and their potential mediating effects in persons with chronic pain have received varying levels of research over the last forty years, but almost no attempt has been made to create a holistic portrait of the person with chronic pain which incorporates these particular traits. Much of the attention over the last several decades by psychologists and physicians alike has focused on the holy grail of the pain-prone personality with its accompanying psychopathology, rather than on normal personality correlates (Gatchel, 2004a; Gatchel & Weisberg; Nitch & Boone). What have emerged from the research are admittedly partial portraits of the person with chronic pain, and much seems based on common-sense pairings of particular personality traits or coping methods, but little confirmatory research has been done, with the exception of multiple studies attempting to confirm MMPI profiles linking certain pathologic personality traits with chronic pain constructs (Gatchel & Weisberg), or confirmatory analysis of the MPI pain profiles in different chronic pain disorders and conditions (Gatchel. 2004).

While there exists a large body of research into optimism and pessimism constructs, relatively few research studies for chronic pain have used the Attributional Style Questionnaire, although it has been used extensively in other areas related to mental

and physical health (Peterson & Bossio; Seligman, 1991). Likewise, religion and spirituality constructs have been pursued, using various definitions and operationalizations of the constructs, with somewhat mixed results (Rippentrop). In addition, there is also a considerable gap in the literature regarding the role of religion and spirituality in conjunction with the MPI pain profiles and with satisfaction with life.

Practical Implications

The American Pain Society (2008) contends that there is no consensually agreed upon standards for the treatment of chronic pain in America. Although considerable work has been done by many prominent psychologists like Gatchel, Turk, and Melzack to not only identify both the predicting and outcome variables in patients with chronic pain but also to create and implement multidisciplinary treatment programs, for most people with chronic pain, the general practitioner and the dispensing of medications is as far as they will get. Although the United States once had over a thousand multidisciplinary pain centers and clinics, Gatchel (2007) places the number remaining at about 200 and blames the reduction on managed care which would rather invest more money in surgical and medical treatments that are often ineffective that provide larger up-front costs to treatment protocols that have been proven effective at reducing pain and restoring functionality.

The dominant interest in this proposed study design is focused in those persons with chronic pain who despite their pain live what they believe to be satisfying and productive lives and who would recoil at hearing themselves referred to as chronic pain sufferers, with the intent in helping those who do suffer with chronic pain. This study

will add to the previous literature by focusing on identifying specific variables connected with the person with chronic pain, with the particular goal of finding out what personality traits, explanatory style, and religious and spiritual belief systems correlate with an adaptive coping style and high life satisfaction. Knowledge of how these constructs coexist in the adaptive copers will help to modify preexisting treatment programs, as well as to suggest new avenues of treatment.

Future Directions

Most of the research in chronic pain that has focused on replicating previous studies involves both the MMPI and the MPI (Gatchel, 2004a; Gatchel & Weisberg). This study replicates Nitch and Boone's study of the personality correlates as measured by the NEO-PI-R (McCrae & Costa) and the MPI (Kerns et al.), and then goes beyond that by adding in explanatory style as measured by the ASQ (Peterson et al.), religious coping methods, and spiritual well-being, as well as testing these three sets of predictor variables again with satisfaction with life. Ideally, this proposed study design would be carried out again, with more culturally diverse samples, and with additional, different chronic pain conditions. An additional component that will need to be addressed is longitudinal studies that allow a clearer understanding of how the adaptive copers' situation changes with time. Are adaptive copers always successful, or do they struggle at times, and it is assumed that they do, what quality is it that allows them to get back up and carry on? Additional experimental studies should be carried out on treatment measures designed on this study's results in order to measure any effectiveness in reducing chronic pain and the negative complications that may arise.

Social Implications

While chronic pain may not be a universal experience, it is a commonality for millions of people in the United States, impacting not only their lives, but the lives of their family members and friends, as well as affecting their productivity in the work force. The American Pain Society (1999) estimates that 9% of the American population lives with a non-cancerous chronic pain condition. The National Center for Health Statistics (2006) found the incidence of any kind of pain lasting more than 24 hours in the month prior to the survey in Americans over the age of 20 was 26%. In addition, those who experienced pain were more likely to be white, female and living well below the poverty line. Those in the 45 to 64 age group reported a greater incidence of pain (30%) than did the other two groups, 20 to 44 (25%) and 65 and over (21%) (National Center for Health Statistics).

Minimizing the effects of chronic pain would have tremendous social consequences that expand far beyond the impacted individual, enabling better functioning of families and increased productivity. Establishing which personality characteristics in conjunction with explanatory style and spiritual belief systems allow chronic pain patients the most positive outcomes as relates to their pain will provide a framework for doctors, therapists, and clergy to work in concert with chronic pain patients to create better outcomes. Arming patients with the knowledge that what and how they think about their condition determines their reaction to it gives them the power to make different choices about how they deal with it and as a consequence, how they live their lives and

affect the people around them. All of these goals are in line with Walden University's (2007) ideal of the scholar-practitioner as an implementer of positive social change.

Integrative Summary

Gatchel, a prominent researcher of the biopsychosocial approach to chronic pain, calls chronic pain 'pervasive' and notes in multiple articles and books that it affects over 50 million people in the United States alone and costs over 70 billion dollars a year (2004a). In addition to its pervasiveness is the reality that once chronic, pain is difficult to cure and must be managed (Gatchel, 2004b). Psychologists are at the forefront in research concerning chronic pain and personality traits, coping methods, subjective well-being, optimism/pessimism, and religious and spiritual beliefs. This proposed study design focuses its attention on two main concerns in chronic pain: adaptive coping and life satisfaction, and asks what personality traits, what explanatory style, and what religious coping methods and levels of spiritual well-being lead to an adaptive coping style and high life satisfaction. Creating a detailed psychological profile of those individuals with chronic pain who refuse to be defeated, who push past and over that pain in order to live satisfaction-filled lives will hopefully provide much needed details to help others who struggle, and who suffer needlessly.

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1996-1997 Adjunct Professor, Fayetteville Technical Community
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1995-1996 High school History teacher, Northridge Temple Academy,
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