

## Paradigm of Life: A Grounded Theory of Occupational Renewal in Persons with Chronic Pain

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### Abstract

The purpose of this study was to explore the daily routines of persons with chronic pain, to analyze the role of occupations in the chronic pain experience, and to develop a grounded theory on the role of occupation in the lives of people with chronic pain. The participants were ten individuals with chronic pain who lived in four northeastern states. Data collection tools included demographic sheets, one open-ended question, the Assessment of Occupational Function (AOF), an occupational configuration, the Rand 36-Item Health Survey 1.0 Questionnaire Items assessment, and the Mankoski Pain Scale. The data was first reduced into ten separate case studies. The case studies were then analyzed via closed and open coding. Closed coding was conducted according to four occupational risk factors (Cronin-Davis, Lang, & Molineux, 2004). A grounded theory emerged from this coding process. The researchers named this emergent theory the *Paradigm of Life*. The Paradigm of Life clarifies the relationship between occupation and pain, and it may be useful guide the development of worksite injury-related secondary and tertiary prevention programs. It also shows how occupational engagement can enhance quality of life in persons who live with chronic pain.

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*Keywords: pain, occupation, grounded theory, professional roles*

Occupations define an individual's lifestyle. When individuals experience chronic pain, their occupations are disrupted, which causes an occupational imbalance in their daily life activities. As a result of this imbalance, quality of life is affected. According to the American Chronic Pain Association, chronic pain is defined as "pain that continues a month or more beyond the usual recovery period for an illness or injury, or pain that goes on over months or years as a result of a chronic condition. It may be continuous or come and go" (2001, p. 1). Chronic pain affects both the person enduring the pain and that individual's family. Some chronic conditions that can lead to chronic pain are "headache, low back pain, cancer pain, arthritis pain, neurogenic pain (pain resulting from damage to the peripheral nerves or to the central nervous system itself), and psychogenic pain (pain not due to past disease or injury or any visible sign of damage inside or outside the nervous system)" (National Institute of Neurological Disorders and Strokes, n.d., p. 1).

According to the University of Utah (2003), a majority of individuals throughout the United States suffer from back pain at some time in their lives (National Institute of Neurological Disorders and Strokes, n.d.).

The economic costs of chronic pain are considerable, with estimates of up to \$50 billion annually including direct and indirect costs (National Institute of Neurological Disorders and Strokes, n.d., p. 1). Many Americans experience arthritis pain, which is costly and affects an individual's economic status (National Institute of Neurological Disorders and Strokes, n.d.). Today many individuals encounter back pain and various other conditions which impede their daily life and productivity.

Individuals with chronic pain who use potentially addictive medication need to be monitored to make sure that addiction does not develop over time. For some people with chronic pain, there is a risk of life-long

medication dependency (Acello, 2000; Herr & Kwekkeboom, 2003). Medication dependency detracts from an individual's ability to engage in life-enhancing occupations.

According to Middleton (2004), "no single treatment modality has been proven to be universally effective" (p. 153). Treatments for chronic pain include transcutaneous electrical nerve stimulation, massage therapy, progressive muscle relaxation, hypnosis, meditation, relaxation, guided imagery, art therapies, and biofeedback (Garguilo, 2003; Harvard Mental Health Letter Staff, 2004; McCaffrey, Frock, & Walach, Guthlin, & Koning, 2003; Shealy, 2003). These serve to provide physical comfort and cognitive distraction, which can help to control pain (McCormack, 1988).

The use of purposeful occupations may be another way to achieve and enhance sense of control. Walloch investigated how a person's enhanced sense of control, through such means as meditation, can influence the perception of chronic pain (1998).

### **Quality of Life**

Quality of life (QOL) is defined by the degree of control a person perceives. Quality of life is "an interaction between the individual and the environment. It can be described in terms of personal control that can be exerted by the individual over the environment. It must be assessed by consulting the individual directly" (Brown, Bayer, & MacFarlane, as cited in Velde & Fidler, 2002, p. 11).

Research determined that chronic pain affects a person's quality of life in numerous ways (Gerstle, All, & Wallace, 2001). "Chronic pain can impair QOL and can result in a reduction in and withdrawal from activities that are intrinsically rewarding, such as work and physical and social activities" (Scharff & Turk, as cited in Gerstle, All, & Wallace, 2001, p. 100).

Hitchcock, Ferrell, & McCaffery (1994) devised a survey of 204 persons with chronic nonmalignant pain who were members of a national self-help organization. Through the use

of a survey the researchers investigated the beliefs of health care providers with respect to the relationship of chronic pain and quality of life. The results discovered that there is a negative correlation between chronic pain and quality of life. One study showed that Americans who experienced chronic pain had difficulty attending work on a daily basis (Gusich, 1984). Gusich's study discovered that people who were involved in pain management programs had less pain than those who did not participate in such programs. The person needs to be aware of time management and managing his or her roles in order to prevent stress (1984). Anderson and Ferrans noted that quality of life can influence the path of chronic fatigue syndrome (as cited in Taylor, 2004). Similarly, quality of life may also influence the chronic pain experience.

McCormack noted that the occupational therapist used a combination of functional activities and therapeutic use of self in working with clients who had pain (1988). Incorporating occupations into an individual's lifestyle provides meaning and structure which can keep them distracted from the pain they are experiencing.

Giles and Allen developed a treatment program to help individuals cope with chronic pain. The patients were given a questionnaire and received a clinical assessment from the researchers. An individual treatment program involving functional activities was used to help the person gain control of pain and improve quality of life (Giles & Allen, 1986).

According to Kielhofner, "quality of life for people in chronic pain can be improved considerably by helping them find some degree of relief from pain" (as cited in Heck, 1987, p. 577). Kielhofner believed therapists should remember the use of occupation, activities, and play as preferred treatments. In a 1987 study by Heck, it was shown that pain caused emotional damage, role loss, and a decrease in participation in daily activities. Heck's study discovered purposeful activity has a positive impact on the length of time a person can tolerate his or her pain. If individuals are given the opportunity to

choose meaningful occupations, they are more likely to achieve a cognitive distraction (Heck, 1987).

Another study examined the relationship between quality of life and control. It was found that an individual who has a stronger locus of control has a higher perception of his or her quality of life (Duncan-Myers & Huebner, 2000).

### **Purposeful Activity and Occupation**

One approach to alleviating chronic pain focused on using learning theory to guide intervention. Giles and Allen (1986) described how reinforcements were used to help manage chronic pain. Through this approach the individual became more focused on the activity and concentrated less on the pain. The goal of this approach was to achieve the highest level of psychosocial function for the individual. Therefore the primary concern was not curing chronic pain, but alleviating the symptoms so the individual could have a higher level of quality of life.

The cognitive behavioral approach was another method of intervention, and seeks to heighten a person's sense of control over pain. In this approach, individuals self-identified their problems and became knowledgeable about their current condition. In addition, they implemented different techniques to cope with the effects of the pain (Giles & Allen, 1986). According to Chesney & Brorsen (2000), "In order to support a client in using positive coping strategies, it is beneficial to provide options for managing chronic pain, because no single technique works for everyone or at all times" (p. 10). Numerous researchers state that in order to cope with pain individuals should be provided with the opportunity to choose an activity. This increased their sense of control (Chesney & Brorsen, 2000; Reynolds, 1997).

Giles & Allen (1986) discovered when individuals experienced significant pain they often evaluated the negative outcomes of dealing with the condition rather than the positive. In occupational therapy, clients achieved this by communicating their thoughts and feelings in a

journal or diary. After the journal was examined, it was determined that they could work with their therapist to develop positive coping strategies. The developments of these strategies were encouraged throughout treatment (Giles & Allen, 1986).

One experiment by Harris, Morley, and Barton (2003) examined the roles of individuals with chronic pain. Most of the individuals who were studied believed they suffered a prominent loss in their worker roles after the pain became manifested. They stated their family functions were preserved (2003).

Many persons with chronic pain decreased participation in meaningful daily occupations to avoid increasing their pain (Padilla & Bianchi, 1990). They were inclined to lessen their participation in active occupations to engage in more sedentary activities (Gusich, 1984). Unfortunately, the decrease in participation often resulted in the individual concentrating more on the chronic pain (Joe, 1998).

A recent autoethnography by Neville-Jan concentrated on the author's own experience with chronic pain over a period of three years. Neville-Jan sought numerous medical treatments for her chronic pain throughout her life (2003). She also found that she could temporarily escape from her pain by concentrating on her work. Neville-Jan noted the work of others, like Del Vecchio Good, who found: "women experienced work as a means to escape their pain, maintain control, and feel confident about their abilities" (as cited in Neville-Jan, 2003, p. 94). Therefore, when an individual worked for a living, he or she concentrated on the task rather than the pain, so the pain dissipated momentarily.

The authors of this study believed that further research was needed to explore the relationship between pain and purposeful occupation. They felt that this would necessitate an examination of a person's occupational routine and quality of life. They sought to gain this information from the perspective of the individual.

The purpose of this study was to explore the daily routines of persons with chronic pain, to

analyze the role of occupations and the chronic pain experience, and to develop a grounded theory on the role of occupation in the lives of people with chronic pain. Standardized assessments, and an open-ended interview question, were used to gather information from 10 persons with chronic pain. Both closed and opened coding were used to analyze the assessment findings (Carpenter & Speziale, 2003). Closed coding was based on four occupational risk factors: occupational deprivation, occupational alienation, occupational disruption and occupational imbalance. After all researchers reviewed the initial assessment data, it became apparent that an analysis of the data via these occupational risk factors would provide the basis for the development of a grounded theory of occupation and chronic pain (Carpenter & Speziale, 2003). Closed coding was utilized to analyze the data, and categorize it according to the four occupational risk factors. Open coding was conducted by examining the assessment findings to find additional common categories of information. Findings from the closed and open coding process were then used to construct a grounded theory about the relationship between chronic pain and occupation.

### **Method**

Institutional Review Board approval for the study was obtained at College Misericordia in Dallas, Pennsylvania. Each of the five student researchers assessed two participants. The criteria for inclusion in this study were that participants described themselves as having chronic pain: a) on a daily basis for at least the past two years; and b) which impaired their function in activities of daily living, work, and/or leisure. All of the subjects were a convenient sample of persons with chronic pain. Prior to commencing the assessments, participants signed informed consent forms. Demographic information on each participant was then collected by asking each participant to complete a form.

The Assessment of Occupational Function (Kielhofner, 1995), Rand 36-Item Health Survey 1.0 Questionnaire Items (Rand Health, n.d.). an occupational configuration, the Mankoski Pain

Scale (Mankoski, 2000), and one open-ended phenomenological interview question were used to gather both qualitative and quantitative information from each of the participants.

After obtaining informed consent and demographic information, the researcher administered the Assessment of Occupational Function (AOF) to the participant. The AOF contained various questions concerning quality of life, interests, and roles. When this was completed the researcher reviewed the questionnaire with the participant for verification. In addition, the participants wrote what he or she did on a typical day on the occupational configuration form. The researchers then administered the Rand 36-Item Health Survey 1.0 Questionnaire Items to the participants. This assessment was used to see how individuals viewed their lives. Following this assessment, the participants were asked to rate their typical overall level of pain on the Mankoski Pain Scale. The Mankoski Pain Scale is an assessment for rating pain from zero to ten. In the Mankoski Pain Scale, zero represents the lowest amount of pain and ten indicates the most extreme pain. At the conclusion of the session, the researcher asked the question, "Do you have any recommendations for people with chronic pain?" The responses were recorded on the demographic sheets. The assessment sessions lasted approximately two hours for each participant.

### **Occupational Analysis**

The ten study participants included three males and seven females. Their ages ranged from twenty one to eighty two and the average age is forty nine. The participants are referred to with pseudonyms in this report. They are described in Table 1. One participant was from Maryland, one from New Jersey, one from Connecticut, and the remaining seven were from Pennsylvania. The occupations of the participants included: college student, cleaner, social worker, chemist, counselor, dietary technician, electrician, unemployed due to disability, and retired. Sam and Suzie currently live alone, and the remaining participants reside with family and friends. Sally, Jane and Billy all had histories

which included surgery to alleviate their chronic pain.

The individuals' demographic information was consolidated into Table 1. This illustrated the

participants' name, injury or condition, and age. In addition, the table included the number of years that some individuals' experienced chronic pain.

Table 1  
Demographic Information

Name	Age	Injury/Condition	Length of Pain (Years)
Sarah	21	Chest Pain	4
Alan	23	Lower Back Pain	4
Sam	36	Lower Back Pain	2
Sally	38	Neck/Right Arm Pain	17
Billy	42	Lower Back Pain	25+
Jane	50	Arms, Hips, Legs, & Back Pain	5+
Debbie	52	Legs & Back Pain	3
Rita	63	Arthritis & Bursitis	2
Suzie	80	Neck & Back Pain	43
Mary Lou	82	Arthritis	30

The Mankoski pain rating scale illustrated the ten individual's responses. The scale is based on a range zero to ten with zero being no pain and ten being excruciating pain. The individuals interviewed described their pain on a typical day as noted in Table 2.

Findings on the Assessment of Occupational Function demonstrate the ten participants'

occupational interests and difficulties. Table 3 provides information on activities the participants could and could not perform based on the amount of pain they experienced. The AOF focused on the occupations that the participant found meaningful especially the occupations which they found interesting or had difficulty performing secondary to their pain.

Table 2  
Participant's Pain Level

Participant	Mankoski Pain Scale Rating (zero to ten)
Jane	4
Sally	1
Billy	8
Sam	8
Suzie	7
Rita	7
Debbie	10
Mary Lou	5
Alan	5
Sarah	3

Table 3  
Participant's Meaningful Occupations according to *Assessment of Occupational Function*

Participant	Occupational Interests	Occupational Difficulties
Jane	Home decorating, cooking, interacting with family & friends, vacations	Furniture refinishing, & physical activity
Sally	Trouble shooting, yard work, baking, gym & bowling	Bowling & riding coasters
Billy	Riding motorcycles, watching sports, Internet, hunting, fishing	Working, riding motorcycle & attending football games
Sam	Reading, elliptical machine, watching films and television, & socializing with family and friends	Physical activity & socializing
Suzie	Socializing with family and friends, jigsaw & crossword puzzles	Walking, driving & gardening
Rita	Baking, sewing, shopping & going to the movies	Cleaning
Debbie	Playing bingo, pool, bowling, cleaning, walking & running	Bowling, walking & playing with grandchildren
Mary Lou	Watching television, listening to the radio, playing bingo	Shopping
Alan	Riding dirt bikes, jet skiing, downhill skiing, fishing & working on cars	Karate & physical activity
Sarah	Swimming, debating politics, lacrosse, reading & spending time with friends	Running

Table 4 provides an overview of the average scores on the Rand 36-Item Health Survey 1.0 Questionnaire Items. The ten participants' scores are listed for each category. On the Rand 36-Item Health Survey 1.0 Questionnaire Items, the scores ranged from zero to one hundred. The

higher the number the better quality of life an individual experienced. In regard to quality of life Sarah ranked the highest, while Debbie had the lowest score. The other eight participants appeared to be in the middle of the quality of life scale.

Table 4  
Average Participant Score on *Rand Quality of Life Assessment* (100 is maximum score in each area)

	Jane	Sally	Billy	Sam	Suzie	Rita	Debbie	Marylou	Alan	Sarah
Physical	35	50	40	50	50	10	15	10	75	90
Role limitations due to physical problems	0	0	100	25	0	50	25	0	0	100
Role limitations due to emotional problems	100	33.3	100	50	100	33.3	0	0	100	100
Energy/Fatigue	30	35	25	35	60	30	0	35	35	70
Emotional Fatigue	80	64	60	56	92	72	60	40	84	92
Social Functioning	62.5	50	25	25	100	50	25	75	62.5	100
Pain	32.5	22.5	10	35	67.5	12.5	22.5	45	32.5	80
General Health	40	45	20	55	75	70	50	70	100	55

According to Bailey (1997), "data reduction refers to the process of selecting, focusing, simplifying, abstracting, and transforming the data contained in field notes or transcriptions"

(p. 168). This was accomplished in our study by first collapsing the data into ten descriptive case studies. The ten case studies were then analyzed further via both open and closed coding. As a

result of this coding a grounded theory about the relationship between chronic pain and occupation was developed. The emergent theory was generated through the use of concept formation, concept development, and concept modification and integration (Carpenter & Speziale, 2003).

### **Occupational Risk Factors**

The four risk factors associated with chronic pain according to Stockton Hall Hospital Occupational Therapy Service, are occupational alienation, occupational disruption, occupational deprivation, and occupational imbalance (as cited in Cronin-Davis, Lang, & Molineux, 2004). These were used to build our grounded theory of occupation and chronic pain (Carpenter & Speziale, 2003). The four risks factors were developed through the use of closed coding. According to Dr. Helen Speziale, author of *Qualitative Research in Nursing: Advancing the Humanistic Imperative*, closed coding entails placing data into predetermined categories (personal communication, February 28, 2005).

### **Occupational Alienation**

Wilcock stated that occupational alienation involves “subjective experiences of ‘isolation, powerlessness, frustration, loss of control, estrangement from society or self’ which results from engagement in occupations which fail to satisfy the inner needs of the individual” (as cited in Cronin-Davis et al., 2004, p. 173). Billy and Debbie exhibited much occupational alienation. On the day of the interview Billy, who was a forty-two year-old male with a history of low back pain displayed immense pain by taking frequent rest breaks throughout the interview process. His chronic pain has resulted in life changes such as role-reversal in life, loss of job, and an increase in alienation within society. Prior to his diagnosis, Billy was working full time but the pain escalated and forced him to quit his job and become homebound. Billy described himself as a “loner in his own world.” Billy did not want anyone to feel sorry for him. He said that he spends most of his time sleeping and reading magazines. Debbie was a fifty-two year-old woman who had pain in her back and legs, and was employed as a housekeeper. Debbie struggles to resist

alienation. Debbie said she does not want people to know about her chronic pain so she attempts to hide it.

### **Occupational Disruption**

Whiteford defines occupational disruption as a “transient or temporary inability to engage in occupations due to life events, environmental changes, or acute illness or injury” (as cited in Cronin-Davis et al., 2004, p. 172). Four participants overtly experienced occupational disruption in their daily lives. Sarah was a twenty-one year-old woman with a history of chest pain. Sarah’s life was disrupted because she could no longer actively participate in sports that she once enjoyed. She was limited in the activities that she engaged in and found that she was not accomplishing all that she used to. The physical limitations interfered with things that Sarah wanted to do such as going for a five mile run. Due to her limitations, she would run only one mile.

Alan was a twenty-three year-old male who was employed as an electrician. He was watching television during the interview. He was visibly in pain and wanted to answer the questions in order to help people in the future. He experienced a disruption in his life resulting from surgery secondary to his herniated disk and was not able to work. Alan stated, “the pain I am experiencing may be brutal at times, but I have chosen to live my life regardless and work through it as best I can.”

Sally who was a thirty-eight year-old woman had a history of pain in her neck and right arm. During the interview she took a lead role to get across her story. She illustrated occupational disruption because she had a job as a chemist and was no longer capable of completing this job due to the constant repetition. Sally became a manager and stated that she is not happy with work because she cannot do the hands on work and that “it no longer feels like a family.” Debbie believes that she has no control in her life. Debbie states, “I feel that I do nothing well, but I try my best.”

### **Occupational Deprivation**

Wilcock, described occupational deprivation as “deprivation of occupational choice and diversity due to circumstances beyond the control of the individual” (as cited in Cronin-Davis et al., 2004, p. 172). Three participants best depicted this concept.

Sam was a thirty-six year-old male who experienced pain in his lower back and was employed as a counselor. He experienced a decrease in social and physical activities. This was demonstrated by his inability to interact with his infant niece and to exercise as much as he did in the past.

Mary Lou was a retired eighty two-year-old female with a history of arthritis who was quiet, thoughtful, and intense on every question. She was relaxing on the couch, eating shrimp during a family party, intent on giving as much information as possible. Mary Lou stopped working due to her chronic pain, and stated that she missed working. She said, “the pain is too great for me and I almost feel better not standing all day like I used to at work.”

Jane was fifty year-old woman who had pain in her arms, hips, legs, and back. Throughout the interview she was making dinner and spent a lot of time making sure the researcher fully comprehended her chronic pain history. She experienced interruption in her life because she was on disability from her job as a social worker. She valued this aspect of her life because she felt it gave her connections with people, and she believed “that people are the most important thing.”

### **Occupational Imbalance**

Wilcock stated the occupational imbalance is a “loss of a balance of engagement in occupations which leads to well-being, and might include balance between physical, mental, and social occupations; between chosen and obligatory occupations; or between doing and being” (as cited in Cronin-Davis et al., 2004, p. 173). Debbie and Suzie are two participants who illustrated occupational imbalance. Debbie had difficulty sleeping and awoke about every two hours with pain and discomfort. Suzie was an

eighty year-old woman who had neck and back pain who often woke up during the night due to her pain. She reported that she often slept for a couple of hours and then got up to read due to the extensive pain in her lower back. Her pain status made it difficult to concentrate and interfered with sleep.

### **Occupational Renewal**

**Inner Strength and Overcoming Pain.** Open coding is the process of examining the information on a line to line basis and identifying how similar information can be grouped into common categories (Carpenter & Speziale, 2003). This type of coding was used to develop this theme.

Four of the participants were able to overcome their pain and not let it interfere with their activities of daily living; Rita, Suzie, Sally, and Sarah.

Rita was a sixty-three year-old woman who was employed at a nursing home in the dietary department, and had a history of arthritis and bursitis. Rita’s performance was not affected by chronic pain. Rita stated, “I don’t have much of a choice for how time is spent, I do what has to be done at home and when I cannot do an occupation I just don’t.”

On the day of the interview, Suzie spent the time weeding the garden and collaborating with family. Suzie also told jokes. Her demeanor was very friendly and outgoing. She did not display any pain, however, she did take some rest breaks during her leisure activity. Suzie displayed strength with an immense drive and determination. If she had difficulty doing something, she found a way around it in order to complete it. She lived alone and completed all daily tasks by herself and she considered herself as healthy as anyone she knows. Furthermore, she enjoyed being around people and attending family and social events. Finally, her family and dog provided her with great meaning in life and that is what kept her going throughout life.

Sally believed that she was very good at analyzing situations. This was useful in her daily life because it helped her to come up with



alternatives. It allowed her to realize her limitations so she could adjust to them. Sally did not let chronic pain limit her occupations. Sally stated “I want to go without pain, but I will still do things whether it hurts or not.”

One activity that Sarah is interested in and does not engage in at the current time is swimming. However, she is a swimming coach for children at a youth center. Coaching swimming provides Sarah with a sense of purpose and meaning as it helps her have a positive influence on the lives of the children. Sarah is motivated to still participate in a meaningful occupation of swimming through being a coach.

### **Occupational Enrichment**

Open coding was also used to identify the emergent pattern of occupational enrichment. Occupational enrichment encompasses manipulation of the environment to allow an individual to still participate in meaningful occupations. The main way that this was accomplished by the participants was through the use of adaptation. In order to complete occupations, Jane had to adapt the environment. As a result of her not being able to lift more than five pounds, she cooked “stove top” and completed laundry by removing one article of clothing at a time. Jane also described sleeping on an angle because lying flat caused her too much pain. To sleep at night, Alan slept on the floor. Sally also illustrated adaptation. Sally was right hand dominant, but the pain affected her right side. Consequently, she used the computer mouse with her left hand and bought an eight pound light weight vacuum to clean her house.

### **Participant Recommendations**

During the interview, the participants provided recommendations for people experiencing chronic pain. These included seeking various treatment options from surgeons, doctors, acupuncturists, support groups, and physical therapists. All ten participants identified how they used positive life experiences to cope with chronic pain. When asked what advice the participants had for those with chronic pain, one participant stated, “help others understand what you are going through. Also, keep a positive outlook, stay upbeat, and do not let depression get the best of you.” Another participant suggested, “think outside the normal box, modify life to avoid and minimize the things that hurt. You have to feel the pain sometimes so you can work through it, the body will assimilate to a certain amount of pain and you won’t feel it anymore.” Another recommendation for people experiencing chronic pain is to “try to find the best way to deal with the pain on an individual basis.” One participant, when asked the question, had a different outlook on providing a recommendation. She stated, “I do not know what to do about my pain therefore I have no recommendations for people experiencing chronic pain.”

### **The Paradigm of Life**

Through this examination of the participants’ occupational risk factors and the emergence of the codes of inner strength and occupational enrichment, a grounded theory evolved to explain these relationships. The researchers call this theory the Paradigm of Life. It is depicted in Figure 1. The Paradigm of Life illustrates the relationship between an individual’s pain, occupational experience, and quality of life.

“Kuhn observed that members of a discipline are bound together by a shared vision” (Kielhofner, 1997, p. 16). This shared vision is a paradigm or way of viewing things. The Paradigm of Life is a metaphor of the cyclic relationship between occupation and pain.

The sun represents occupational enrichment that encompasses manipulation of the environment to allow an individual to still participate in meaningful occupations. The narratives of our

case stories depict this phenomenon. Occupational enrichment occurs when there is involvement with families, hobbies, friends, and other interests.

The birds symbolize the individual's occupational requirements and occupational interests. The storm represents the pain and the lightening bolts are the occupational risk factors

an individual encounters. The storm can occur periodically or continually. An individual can stumble upon pain, a challenge that darkens their occupational story. Occupational renewal allows for a new change in life events incorporating the individual's adaptations, supportive social networks, and inner strength.

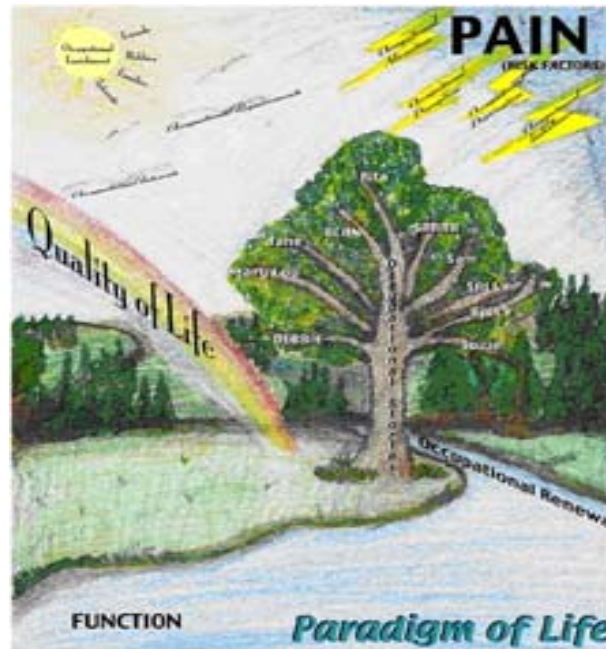


Figure 1

Paradigm of Life- Drawing by Lauren Levine, MS, OT, 2005. Paradigm of Life Grounded Theory by Fisher, Albright, Finelli, Levine, Rooney, and Zanghi (2005).

### Conclusion

Health care professionals are encouraged to utilize the Paradigm of Life model when working with individuals who have chronic pain. These may include injured workers who need support, guidance, and various therapies to help them return to work. The Paradigm can be used to analyze human performance during health promotion programs, including work hardening, return to work, and job site services. All individuals need to maintain balanced lifestyles, as the Paradigm illustrates. Participation in active, healthy, and interesting occupations and activities can help assure wellness and health.

This research had several limitations. For example, there were ten participants in this research study, and the majority of them were Caucasian females. Different results may have been achieved if there were a greater number of participants. This study was done only in three northeastern states. Data collection occurred during a single one to two hour meeting. More time for data collection may have yielded additional important information. Furthermore, the final limitation of this study was that all the participants were a convenient sample of persons with chronic pain, which may have biased the findings of the study.

Recommendations for further research in this area include observation of individuals who have chronic pain in their natural environments as they perform their daily occupations. An experimental research study using a treatment and a control group could investigate how occupational engagement affects occupational performance. Further research is needed to investigate how occupational therapists can help individuals with chronic pain.

By using a top-down assessment and intervention approach, the practitioner can incorporate occupations which will provide positive results in a client's life (Weinstock-Zlotnick & Hinojosa, 2004). Client-centered interventions can help to improve the quality of

life of individuals with chronic pain (Law, Baptiste, & Mills, 1995).

Through completion of this research it has been determined that chronic pain can affect an individual's participant in meaningful occupations and their overall quality of life. The study indicated that the occupational risk factors disrupted the participant's life stories. It was also evident that some participants were able to overcome their pain by either using inner strength or adaptations. This was depicted in the Paradigm of Life, which can be utilized by health care professionals. It provides health care professionals with the opportunity to explore the individual holistically through a structured format, which encourages them to keep an open mind about intervention strategies.

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### **Acknowledgements**

Heartfelt thanks are extended to the ten participants who were interviewed for this study and who patiently informed the researchers about the experience of chronic pain. Without them, this study would not have been possible. The researchers would like to also thank Dr. Gwen Bartolacci for her time and effort as a reader of this manuscript. Additionally, they would like to thank Dr. Helen Speziale for providing information regarding the qualitative research process.

### **Author Notes**

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