

**FORMATION OF EXPECTATIONS OF RETURN TO WORK
BY WORKERS WITH SUB-ACUTE BACK PAIN:
THE ROLE OF PERCEIVED UNCERTAINTY**

by

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Abstract

This thesis explores the formation of expectations of return to work from the perspective of injured workers who were off work due to sub-acute back pain. The findings are based on one-to-one semi-structured interviews conducted with injured workers from the Lower Mainland region of British Columbia. Interview data were recorded from 12 participants (6 female, 6 male) between ages 29 and 63 years. Most participants were in receipt of compensation benefits and were recruited through WorkSafeBC. The average duration of work absence was 3 1/3 months. The data were transcribed and analyzed using grounded theory. The findings identified several interactive categories from the data that influence the formation of expectations, including the overarching category of perceived uncertainty, as well as five inter-related sub-categories: (1) perceived lack of control over the return-to-work process, (2) perceived lack of recognition by others of the impact of the injury, (3) perceived inability to perform the pre-injury job, (4) fear of re-injury, and (5) perceived need for workplace accommodations. Perceived uncertainty was determined to be the core category influencing the formation of expectations, which have been identified as an important biopsychosocial element of the return-to-work process. This qualitative study, the first to explore the formation of expectations of return to work, serves to unpack the dynamic, complex and multi-faceted construct of expectations of return to work from the perspective of the injured worker.

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CHAPTER ONE

Introduction

Most of us will suffer from back pain at some time in our lives, yet the source of back pain remains elusive for many (Kuijer, Groothoff, Brouwer, Geertzen, & Dijkstra, 2006). Acute back pain becomes chronic for some people, due in part to a number of contributing psychosocial factors, such as workplace demands, family obligations, fear of pain or beliefs about re-injury (Gatchel & Dersh, 2002; Kuijer, et al.). The estimated prevalence of back pain, and the associated costs to health services continue to increase (Burton, Waddell, & Main, 2006; Campbell & Guy, 2007). Yet little is known about the expectations of return to work from the perspective of the people with back pain: how are these expectations formed and how do they influence the return-to-work process (Franche & Krause, 2005; Linton, et al., 2005; Schultz, et al., 2002, 2004)? To better understand how people with back pain construct their expectations of returning to work, I explore the formation of expectations taking into consideration the biopsychosocial context of the individual injured worker (Engel, 1977).

Back pain is common and causes much suffering, yet it is rarely associated with severe or permanent damage (Burton, et al., 2006; Roland, Waddell, Klaber Moffett, & Main, 2002). A vast quantity of scientific literature focuses on return to work from the perspective of the medical or forensic models (Schultz, Stowell, Feuerstein, & Gatchel, 2007). However, research has shown that what we believe also plays a powerful role in back pain (Campbell & Guy, 2007; Iversen, Daltryo, Fossell, & Katz, 1998; Roland, et al., 2002). People with back pain become anxious when their expectations do not match their anticipated progress of recovery (Roland, et al.).

In this thesis, I first examine literature related to understanding disability using a biopsychosocial context to conceptualize the many diverse aspects of disability. I briefly discuss this biopsychosocial framework in relation to the traditional medical model of disability, as well as return-to-work concepts,

and what is known about expectations. A brief summary of the literature follows, along with a statement of my research question, my own reflexive stance, the method used, the findings, and a discussion of these findings including implications for future research and practice.

Expectations are now recognized in rehabilitation literature as having an integral role in recovery and return to work. Current return-to-work interventions have not been designed to include expectations as part of the biopsychosocial context of the injured worker. This thesis examines both the internal and external contexts of the formation of expectations of return to work for these injured workers. Unpacking the formation of expectations serves to enhance our understanding of this dynamic process. By enhancing our understanding of the formation of expectations in the return-to-work process, we will be better equipped to design effective interventions for return to work that are tailored to the specific needs of each injured worker.

Review of the Literature

In this literature review, I first discuss using the biopsychosocial paradigm as a lens through which we can gain a better understanding of the complexity of disability. A brief look at the traditional medical model of disability follows. I then look at differing definitions and concepts of return to work, as well as the return-to-work process for workers and other stakeholders. Finally, I examine what is currently known about expectations and how they relate to back pain.

A Biopsychosocial Paradigm

Much of the scientific literature on workers' recovery from illness or injury has focused on medical or physical aspects of worker function (Engel, 1977). However, more recent psychosocial and biopsychosocial models include in their approaches to recovery many aspects

of the injured worker's complex social circumstances (Buchbinder, Jolley, & Wyatt, 2001; Main & Spanswick, 2000; Schultz, et al., 2007). Gatchel and Dersh (2002) conceptualize the transition from acute to chronic pain as occurring in three stages that are directly influenced by psychosocial factors. In the first stage, the injured individual experiences psychological distress such as fear, anxiety or worry. If the acute stage progresses to subacute (beyond 2-4 months), the initial psychological problems may be exacerbated due to psychosocial factors such as socioeconomic status and environment combined with premorbid personality characteristics. In the final stage, the individual's abnormal illness behaviour may consolidate into acceptance of the "sick role" (Gatchel & Dersh, 2002). Psychosocial influences such as fatigue, lack of activity, depression or memories are associated with patient self-report of increased pain (Main & Spanswick). The biopsychosocial model recently presented by Schultz and colleagues (2007) identifies worker expectations as playing a major role in both recovery and return-to-work. Failed treatments result in reduced patient confidence, which has a significant influence on treatment outcomes (Main & Spanswick, 2000). The role of expectations is believed to have more influence on recovery than objective findings in disability, due in part to self-perception of disability, individual capacities for coping, and familial influences (Main & Spanswick; Schultz, et al., 2007).

Information is lacking on the multiple biopsychosocial dimensions that influence an injured worker's expectations of return-to-work, whether on an individual intrapersonal, or "micro" level, such as medical/health status, anticipation about returning to former employment; an interpersonal or "meso" level, such as interactions with health professionals, family roles, employer attitudes; or a systemic or "macro" level such as sociodemographic influences, medical

insurance /compensation policies, economic climate, etc.) (Bronfenbrenner, 1979; Franche, Corbière, Lee, Breslin, & Heplin, 2007; Young, Wasiak, et al., 2005).

The Medical Model

The return-to-work process represents a complex social phenomenon. Conflicting models illustrate the differences between the traditional empirical biomedical approach to return to work and an empirical biopsychosocial one, demonstrating a need for cross-disciplinary research and practice (Pransky, Gatchel, Linton, & Loisel, 2005). The traditional medical model of Cartesian dualism conceptualizes pain and illness as independent from the whole person and treats them separately (Main & Spanswick, 2000). Patients with back pain often do not feel believed since the medical model requires evidence of illness. The medical model supports the idea that there is a cure, or if not, that one will be found and that it should be available (Campbell & Guy, 2007). Patients want a diagnosis and, in the case of back pain, are often told that one is unlikely. This drive for a diagnosis stems from the medical system itself. Patients' expectations of modern medicine are high, and patients have been taught to depend on doctors to give immediate relief and to solve problems.

The intangible and difficult-to-detect nature of back pain does not fit with the medical model solution to containing disease (Campbell & Guy, 2007). Patients unable to come up with something tangible may risk being falsely perceived as malingerers, when in fact they may be passive recipients of a medical system in which their expectations of diagnosis and curative treatment are not being met (Campbell & Guy). This intangibility is being somewhat addressed by qualitative research methods and narrative analysis, which are becoming more frequently incorporated into evidence-based health sciences (Jenkins & Carpenter-Song, 2005). Examining the biopsychosocial aspects of ongoing pain, such as mood changes and impact on family and

social relationships, may increase understanding of injured workers' expectations, especially when they are viewed as unrealistic in relation to pain treatment and outcome (Campbell & Guy; Iversen et al., 1998; Jenkins & Carpenter-Song).

Return to Work

Differing definitions and concepts.

There exists a great deal of research on return to work (RTW); however, the concept itself remains ill-defined, with little shared meaning on what a successful RTW looks like (Pransky, et al., 2005; Young, Roessler, et al., 2005). The World Health Organization (WHO, 2002) International Classification of Functioning (ICF) provided a new way to classify health and functioning, incorporating environmental factors that are key to well-being (Peterson, 2005). Using language provided by the ICF would help to increase understanding and to compare RTW research (Young, Roessler, et al.). Current return-to-work research is in need of new concepts and study designs that include examining the origin of injured workers' expectations and their development over time. Specific contextual factors limiting the success of RTW can be identified using the WHO (2002) classification of environment and personal factors which are thought to influence disability outcomes (Halligan, 2006; Young, Roessler, et al., 2005). Similarly, the ICF (WHO, 2002) concepts of capacity (the ability to execute an action in a standardized environment) and performance (the ability to execute an action in life experience) can assist in determining whether a worker is limited by personal or environmental characteristics or a combination (Peterson, 2005; Young, Roessler, et al.).

Return to work is seen as a process or outcome or both (Franche & Krause, 2005), and is measured in many different ways, such as administrative records of sick leave or health care utilization, assessments of physical or psychological function, or questionnaires on pain intensity

(Pransky, et al., 2005). However, the link between pain and disability is not always clear. Many workers who experience pain continue working; many who return to work share similar concerns to those who do not return, such as job satisfaction, work stress, or the ability to keep working at their job (Pransky, et al.). Past research has generally measured RTW in terms of productivity, which has limited the ability to capture what is important to the worker (Young, Wasiak, et al., 2005). The meaning of RTW needs to be expanded to incorporate the worker's perspective regarding disability consequences, including not only compensation, care received and job ability, but also family consequences, health status, job satisfaction and socio-economic status, all of which are important to workers (Franche & Krause, 2005; Schultz, et al., 2002, 2004; Young, Wasiak, et al.).

Influences on worker expectations of RTW.

The traditionally narrow focus of psychological factors of RTW does not normally include the worker's internal and external contexts of returning to work, and how these interact and impact on RTW. A broadened focus that includes worker expectations would support the development of effective interventions (Franche & Krause, 2005; Pransky, et al., 2005; Schultz, et al., 2002, 2004; Young, Wasiak, et al., 2005). Currently, very little is done in the workplace to modify external factors such as maximizing job accommodations or job flexibility, or addressing the stress of the workplace or its organizational communication and development (Pransky, et al., 2005). Although these external elements likely influence worker expectations regarding RTW, they are often not included in RTW research (Franche & Krause, 2005; Pransky, et al.; Schultz, et al., 2002; 2004).

Worker expectations for RTW are influenced by many factors, including interests of worker families, friends, and labour and legal representatives (Schultz, et al., 2002, 2004).

Employment status and related earnings potential are important considerations for both the short and long term. Workers expect to benefit from a successful resumption of work, with health and quality of life gains, the ability to perform important life roles within the family and community, and possible re-establishment of a sense of self and a place in society (Schultz et al., 2002, 2004; Young, Wasiak, et al., 2005).

Work resumption is important and an increase in work hours is generally thought to reflect greater success in RTW (Young, Wasiak, et al., 2005). However, perceptions of RTW success vary subjectively, and may be related to doing something meaningful rather than achieving full time or paid employment. Important successful RTW outcomes for workers include the perceived ability to have a flexible schedule compatible with the pace of recovery goals, as well as job accommodations or assistive technology as appropriate, and flexible job demands (Young, Wasiak, et al.).

The RTW process includes many important aspects of recovery for the worker, including satisfaction with the care received during the course of recovery, information, pain, quality of work, future earnings and capacity, impact of functional limitations on home life, general life satisfaction, and preparation for other life roles (Franche & Krause, 2005; Schultz, et al., 2002, 2004; Young, Wasiak, et al., 2005). Although they are important, descriptions of RTW outcomes rarely include these aspects of worker experience (Young, Wasiak, et al.).

RTW as a common goal for different stakeholders.

The goal of RTW for workers needs to be seen as attractive and attainable. Workers need to be able to appreciate the expected benefits associated with successful RTW (Young, Wasiak, et al., 2005). Individual and contextual factors each play a large role in shaping specific RTW interests, and these factors also influence motivation and information needs (Engel, 1977;

Halligan, 2006; Young, Wasiak, et al.). RTW research needs to place more emphasis on understanding and considering what matters to stakeholders, recognizing the common goal of RTW success as well as competing goals and varying definitions of what is meant by RTW success. To reduce uncertainty and increase understanding about RTW expectations, regular feedback on how RTW impacts other goals will likely increase commitment to RTW. If pursuing RTW threatens the ability to attain goals, then the desirability of RTW will certainly be in question (Young, Wasiak, et al.). Stakeholders need to know what to expect or what is likely to be gained.

By clarifying the complex and multi-faceted nature of RTW expectations, stakeholder understanding and commitment can potentially be increased. RTW research requires a comprehensive approach incorporating different perspectives including detailed information on workers' characteristics and expectations, and how these impact the ability to achieve RTW goals. Clear expectations along with an understanding of common ground as well as differences would help to improve RTW outcomes.

RTW as a developmental process.

The process of RTW has been recently conceptualized as dynamic and developmental, with multiple phases: off-work, re-entry, retention, and advancement (Young, Roessler, et al., 2005). It is likely that expectations play a role in each of the phases, and particularly at the beginning, or off-work stage. Too often, RTW research focuses on work disability characteristics, rather than taking a comprehensive look at the range of associated actions of successful work resumption, the ability to sustain these actions, their quality or appropriateness, and related outcomes. Young, Roessler and colleagues propose a new conceptual approach of assessing RTW outcomes through a developmental framework that includes not only the actual

event of resuming work, but also the events prior to and following work resumption (Young, Roessler, et al.).

RTW research needs to begin by looking at worker expectations and what is perceived to be of subjective importance to the worker while still off work. By working through these proposed developmental stages of RTW, it may be possible to identify RTW barriers, as well as the characteristics of each phase and related RTW outcomes and priorities from the perspective of the stakeholders (Young, Roessler, et al., 2005). It can be seen by the above discussion that the concept of return to work is highly complex and multi-faceted, and that exploration of the worker expectations of RTW needs to begin by focusing on the first “off-work” RTW developmental phase as proposed by Young, Roessler, and colleagues.

What Do We Mean By Expectations?

Response expectancies.

There is surprisingly little research literature on expectations, even though it is well established in medicine that expectations can influence outcomes and prejudice interpretations (Halligan, 2006). Kirsch (1985) defined *response expectancies* as “expectancies of the occurrence of non-volitional responses, either as a function of behaviour or as a function of specific stimuli” (p. 1189). Positive or negative reinforcement of these non-volitional responses increases the likelihood of particular voluntary behaviours. For example, people who experience claustrophobia avoid certain situations because they expect a non-volitional response of panic. Moreover, expecting these non-volitional responses to occur enhances their response (Kirsch). The power of response expectancies is illustrated by the placebo response, which usually mimics the active drug effects. However, individuals are more likely to have response expectancies in line with their own expectations if their expectations contradict the pharmacological effects of

the active drug (Kirsch). Further, the placebo component can be even more powerful than the pharmacological component of drug effects. From this, Kirsch concluded that classical conditioning trials are mediated by expectancy. Kirsch cites Frank's (1973) proposal that placebos are related to feelings of hopefulness or faith in improvement, which can reduce depression or anxiety and may promote physical healing.

According to Kirsch (1985), subjective experience, behaviour and function are affected by, and even generated by, corresponding response expectancies, which vary over time depending on their strength and magnitude. Physiological changes occur not because they are expected, but because of the expectation of their corresponding subjective experience. To illustrate: "Changes in pulse rate, for example, are not brought about by the expectancy of their occurrence but by expectancies of alterations in subjectively experienced arousal levels" (Kirsch, 1985, p. 1198). Psychologically, the question remains how to causally link specific cognitive states, such as response expectancies, and subsequent subjective experiences, such as pain perception (Kirsch). In more recent work, Kirsch (2006) refers to positive expectations as being additive by enhancing an active treatment.

The conceptualization of return to work needs to integrate biopsychosocial factors, extending its development to include the role of beliefs, which provide for expectancies (Halligan, 2006; Main & Spanswick, 2000). Sperber (1996, as cited in Deeley, 2006) distinguishes between two types of belief: intuitive beliefs, generated by assumptions and inference, which he describes as spontaneous expectations; and reflective beliefs, which are based on interpretations and are embedded in intuitive beliefs. These beliefs cause belief behaviours, or expectations (Deeley, 2006). Beliefs and corresponding expectations can get in the way of recovery (Burton, et al., 2006). Perceived biological, psychological and social

obstacles to return to work overlap and interact, with varying levels of importance that change over time (Burton, et al.). Dysfunctional or inappropriate expectations about pain, disability or health care are central to return to work (Burton, et al.). Expectations of psychosocial aspects of work such as greater pain as a result of work, low expectations of return to work, or expectations of premature retirement have an important, direct, and cumulative effect on individual behaviour (Burton, et al.). The beliefs and expectations of employers, health care providers, and society are inter-related and play an integral role in the expectations of the individual with back pain (Burton, et al.; Main & Spanswick).

Expectations and self-efficacy.

Self-efficacy is closely linked to an individual's sense of control and belief that they have about their capacity to execute a particular behaviour in order to produce a desired outcome (Bandura, 1977; Main & Spanswick, 2000). Self-efficacy beliefs and expectations lead to outcome expectancies and behaviour (Bandura). Bandura identified two distinct types of expectations: self-efficacy and outcome expectancy. Self-efficacy is defined as the belief that one can successfully perform what is required to produce a desired outcome; outcome expectancy is defined as an individual's belief that a specific behavior will result in a certain outcome (Bandura). What a person will do is dependent on what they believe they can do. Overall self-efficacy, which includes expectation of outcome, is deemed to be the most important precondition for behavioral change, since it determines the initiation of coping behavior.

Iversen and colleagues (1998) used Bandura's social learning theory (1977) as a framework to compare patient expectations and pre-operative function before back surgery with post-operative outcomes. Expectations were defined as patient reports of how well they felt they would function after surgery, as well as the time until this change would occur. Closed questions

asked about pain reduction, physical function, social role, and independence, while open questions inquired about improved life, present limitation and expectations of improvement in function after surgery. Patients with many pre-operative expectations, especially with low baseline function, reported greater improvement in function post-operatively than patients with few expectations. More ambitious expectations for physical function were also associated with improved function and satisfaction at six months, in contrast to greater expectation of pain relief, which was associated with less pain relief satisfaction and more pain. The study authors concluded that patient expectations influenced recovery from surgery at six months, and that clinicians would be well advised to review patients' expectations pre-operatively in order to improve satisfaction and outcomes (Iversen, et al.). Some questions remain on the manner in which expectations were measured in this study, as well as the indirect influence of observations and discussion with experts or others with similar experiences.

In a study of expectations of recovery from oral surgery (McCarthy, Lyons, Weinman, Talbot, & Purnell, 2003), participants' expectations of recovery were more predictive of speed of recovery, as well as symptom severity, than were medical factors. Participants who expected more severe symptoms experienced greater symptom severity (McCarthy, et al., 2003). Expectations were studied by Borkan and Quirk (1992), who looked at initial rehabilitation expectations and outcomes pre- and post- hip surgery in an elderly population. The authors' results were similar to those of Iversen and colleagues (1998) and McCarthy and colleagues: participants with positive expectations for recovery and greater previous surgery experience were likely to have better overall ambulation at three months, which suggested a relationship between expectations for recovery and actual recovery. This supported the premise that cognition and affect influence the course of rehabilitation in hip fracture (Borkan & Quirk). Qualitative

responses included levels of emotion from stubborn optimism to despair. However, it is possible that those who had positive expectations were those with more advantages to start with, such as better overall health and more social support.

Green (1993) included the effect of prayer as well as enhanced positive expectations in a study of neurosurgical pituitary patients in relation to post-surgery recovery rates and anxiety levels. Green found that patients with enhanced expectations pre-surgery had a greater decrease in trait anxiety scores post-operatively than patients with normal expectations. The enhanced positive expectations group also had the highest pain levels prior to surgery, and the lowest post-surgery. Green speculated that enhanced expectations appear to lead to reduced trait anxiety. When enhanced expectations were combined with outside intercessory prayer, which was associated with reduced state anxiety, patients' subjective experience of pain was also reduced. This study was limited by ethical concerns that required informing the participants of the purpose of the study (examining effects of intercessory prayer), which may have diluted the study's double-blind design while also influencing expectations.

Expectations about returning to work, as well as worker concerns, were studied using focus groups with 28 participants who had recently returned to work, as well as individual interviews with 23 participants who were about to return to work (Shaw & Huang, 2005). From these qualitative data, self-efficacy constructs emerged related to resuming physical activity and work. Expectations of outcomes included job or financial security, re-injury, support at work and self-image (Shaw & Huang). This study did not address changing family roles or meeting family needs outside of the workplace.

Expectations and back pain.

Campbell and Guy (2007) used qualitative methodology to look at expectations for treatment and outcome for people with low back pain. These authors examined patient narratives of chronic low back pain to gain greater understanding and insight into their expectations for future treatment and to contextualize this in relation to current pain management and medical practices. The main themes to emerge from analysis provide some insight into the development and maintenance of unrealistic expectations for pain treatment and outcome. Unmet expectations were related to perceived inadequacy of health care providers and subsequent anger and frustration. Patients (n=16) were all participants of a pain management program, which likely confounds the data as they had received guidance on pain management. A group discussion format provided detailed accounts of why patients have unrealistic expectations for pain treatment and outcome, and why they persist in pursuing further treatments. Individuals seemed to expect to persevere in spite of pain, and to persist with treatment until the situation improved. Although they had few positive future expectations, these participants did not fit the role of patient as passive but were instead dynamic and determined, unwilling to accept pain, and therefore re-engaging with health care services.

Campbell and Guy (2007) refer to Rotter's (1954) social learning theory of the relationship between perceived outcomes of one's own behaviour as influencing the likelihood of taking steps toward behaviour change. Beliefs relate to the amount of control one perceives in oneself or one's environment, or internal versus external locus of control (Campbell & Guy). Participants were actively engaged with the medical environment through their high expectations for pain treatment and outcome, which may be due to external locus of control. Campbell and Guy also mention the role of the media in promoting expectations that the medical profession has

the means to reduce pain. Expectations result in health-care seeking behaviours. By encouraging patients to have a greater sense of agency, they will likely become more open to the limitations of medicine and the likelihood of successful treatment (Campbell & Guy).

A quasi-experimental population-based study by Buchbinder and colleagues (2001) looking at the influence of messages about positive outcomes for back pain resulted in improved beliefs about back pain, both with workers and general practitioners, as well as reduced disability and back-pain-related workers' compensation costs. Fear avoidance and passive coping strategies were addressed as part of the campaign to shift beliefs about back pain from a medical to a biopsychosocial paradigm (Buchbinder, et al., 2001). The behaviour of general practitioners also appeared to be influenced by patients' expectations (Buchbinder, et al.; Keitz, Stetchuchak, Grambow, Koropchak, & Tulskey, 2007). Patient pre-visit expectations for medications, tests or referrals were met, or alternatives were offered, for almost 90% of visits in a study by Keitz and colleagues that focused primarily on patient communication of expectations.

In their systematic review of studies of predictors for sickness absence with chronic low back pain, Kuijer and colleagues (2006) found consistent evidence that worker expectations predicted return to work, and that workers with higher expectations were absent from work less often. This review also found limited evidence of an association between lower expectations and lower employer response. It is likely that differing individual beliefs and behaviours would result in differences in predictors for sickness absence with chronic low back pain (Kuijer, et al.). This systematic review, although limited by its small number of eligible studies and related papers (17 studies; 28 papers), recommended further research to develop a core set of measurements as well as uniform definitions in order to predict sickness absence and return to work with chronic low

back pain. It is of note that psychological work demands and emotional factors were not included as predictors of sickness absence in the studies reviewed (Kuijer et al.).

Expectations and outcomes.

It is generally accepted that patient expectations are related to outcomes. In a prospective study of return-to-work expectations by Heijbel and colleagues (2006), individuals' own positive predictions about returning to work were highly significant, with only 6 out of 132 persons with a negative prediction of RTW actually returning to work. In looking at the relationship of expectations to the development of chronic disability and pain, Boersma and Linton (2006) concluded that expectancy, along with the interrelated constructs of negative affect and fear avoidance beliefs, has a predictive value for future pain and disability.

The lack of a systematic review of the relationship between patient recovery expectations and health outcomes prompted Mondloch and colleagues (2001) to conduct such a review. They located 15 articles showing that positive expectations are associated with better health outcomes; strength of relationship was determined by clinical conditions and measures used (Mondloch, Cole, & Frank, 2001). Although based on a small sample, these results nevertheless underline the importance of understanding the construction of patient expectations in facilitating appropriate expectations of recovery.

In a more recent review of expectations and injury perceptions in relation to return to work, Fadyl and McPherson (2008) looked at over 8,000 abstracts, 30 studies and 6 review articles, which they pared down to 12 eligible studies on expectations. They concluded that there is still too little evidence that expectations have a significant effect on return to work and that "some good quality qualitative research is needed to identify key factors and processes influencing expectations" (p. 370). In the current thesis, I intend to contribute to our

understanding of key factors and processes that influence the formation of expectations of return to work.

Higher expectations of functioning may be more realistic than higher expectations of pain relief as functioning is more under the patient's control (Iversen, et al., 1998; Jenkins, et al., 2005). By identifying patient expectations, fostering positive recovery expectations, and assisting in setting realistic goals, patient health outcomes may ultimately improve (Iversen, et al.; Mondloch, et al., 2001). However, in order to consider the mediating influence of expectations and their modifications through interventions, we need first to understand their construction.

Looking at biopsychosocial predictors of occupational low back disability, Schultz and colleagues (2002) found that expectations played an important role in recovery. Injured workers participating in this study were in either subacute or chronic stages of recovery, and measurements included psychosocial and workplace-related variables, as well as sociodemographic characteristics, medical status and pain behaviour. Cognitions, such as fear of job loss due to injury, were predictive of disability behaviour. This study illustrates the comprehensive nature of the biopsychosocial model in determining the significance of workers' cognitions in the recovery and return-to-work process. Moreover, results underline the importance of designing interventions to address worker perceptions, expectations and beliefs (Schultz, et al., 2002).

Schultz and colleagues (2004) examined psychosocial factors as predictors of occupational low back disability in their work towards the development of a return-to-work model for injured workers with subacute or chronic pain. As well as looking at psychopathological variables, the authors included cognitive, diathesis-stress, human adaptation and organizational psychology factors. Expectations of recovery and perceptions of changes in

health were both identified as key psychosocial predictors of disability, more so than either psychological distress or job characteristics (Schultz, et al.). In addition, expectations of recovery were associated with reduced pain and increased function. This association underlines the crucial nature of the mind-body connection expectations have with pain and recovery outcomes (Schultz et al.).

Readiness to Return to Work

In conceptualizing readiness to return to work, Franche and Krause (2005) combine the temporal aspects of the Phase Model of Occupational Disability (Krause & Ragland, 1994) with the five stages of the Readiness for Change Model (Prochaska, et al., 1994). The phase model addresses the varying temporal aspects of the process of return to work, from acute to sub-acute to chronic, and the readiness for change model incorporates motivation for behavioural change within a social context (Franche & Krause). By combining these complementary models and applying them to the return-to-work process, Franche and Krause propose a readiness for return-to-work model that incorporates phases of the return-to-work process coupled with recognition of the empirically established crucial role expectations play in outcomes of well-being, including physical and psychological adjustment (Franche & Krause; Schultz, et al., 2002, 2004). The readiness for return-to-work model allows for individual variation in the recovery process, thus permitting interventions to be effectively tailored to each individual's stage of readiness. Expectations of slow recovery, uncertainty about one's recovery progress, and perceptions of poor recovery have been shown to predict a longer period of compensation benefits for injured or ill workers (Franche & Krause). This model considers the impact on the worker of interactions with family, employer, health care and insurer, providing a solid foundation from which to examine the return-to-work process. Although this model recognizes the crucial role that

expectations play in the return-to-work process, little is known about the formation of these injured workers' expectations. (Franche & Krause).

Summary

This representative review of the literature is intended to provide a framework for understanding the role of expectations as part of the biopsychosocial paradigm of the return-to-work process. A biopsychosocial approach to return to work encompasses many aspects of an injured worker's complex social circumstances, including the major role played by worker expectations. Expectations have been shown to have a greater impact on recovery than objective findings, yet information is lacking on how these expectations are constructed. In the current thesis, I use a biopsychosocial approach to consider physical, psychological and social contexts is well suited for an exploration of workers' expectations, which are intertwined within a larger social and cultural context. A grounded theory exploration into the construction of expectations of return to work may add to an understanding of the psychological dimensions of this paradigm.

Using the language of the ICF (WHO, 2002) assists in classifying health and functioning while incorporating environmental factors that are key to well-being, and increasing understanding and the ability to compare research looking at return to work as a gradual, incremental, non-linear process. Differing models of return to work demonstrate a need for greater clarity with respect to the developmental phases of this process in both research and practice, as well as a need for greater understanding of corresponding worker expectations for each phase of the return-to-work process.

The literature review in this thesis provides many examples of the key role expectations play in behaviour and health outcomes. Perceived personal control is believed to contribute to the nature of expectations, as are the interests of worker families, and friends, and cultural and

social factors. There is no doubt that expectations are dynamic, complex and multi-faceted. An enhanced understanding of the construct of expectations will fill a gap in current research (Fadyl & McPherson; Pransky, et al., 2005; Schultz, et al., 2007; Young, Wasiak, et al., 2005).

Research Question

How do workers with nonspecific sub-acute back pain construct expectations of return to work? This exploratory investigation of the construction of these workers' expectations is intended to assist in defining the different factors that relate to their formation. In this thesis, I use a biopsychosocial approach to explore injured workers' perspectives in relation to return to work. My approach integrates medical, forensic, psychological and social aspects of return to work.

CHAPTER TWO

Method

Reflexivity

As a researcher, I have attempted to remain aware of how my experience has influenced my decisions and interpretations of the process of the formation of expectations. I have experienced first hand the impact of back injury and the subsequent formation of expectations of return to work. This personal experience has stimulated my interest in exploring participants' biopsychosocial concerns as they construct their own expectations of the return-to-work process. Because of my own previous experience and potential bias on this topic of return-to-work expectations, I have made an effort to keep my personal return-to-work experience separate from my own expectations of research findings. At the same time, in keeping with a constructivist researcher approach, I have remained aware of, and made use of the interpretative nature of the interview process. The findings reported here describe the constructed reality between the injured worker and myself as interviewer, as well as the injured workers' constructed realities between them and the various interactions with people and events in their lives.

It has also been my experience as a researcher that structured interview questionnaires may not be able to capture some aspects of the subjective perspective of the injured workers. Quantitative research methodologies often preclude asking probing questions to explore psychosocial aspects of experience that may not be addressed in questionnaires. Using a constructivist qualitative grounded theory method for this study has facilitated obtaining an enhanced understanding of research participants' perspectives. Moreover, working with co-researcher Ms. Emily Polak, a PhD student in Counselling Psychology, has helped me to remain

aware of my own preconceptions about the biopsychosocial experience of the return-to-work process after back injury.

Just as my research topic reflects my personal experience, so too does it reflect my theoretical perspective. Much of the current research on back pain uses quantitative methodology based on medical and forensic models, which are framed in positivist or post-positivist epistemology that supports the existence of one ‘true’ reality. I believe it is important to understand the qualitative nature of individuals’ expectations of return to work and that reality is a social construction based on interactions between individuals and events. A grounded theory methodology lends itself well to an exploration of expectations that takes into consideration a biopsychosocial context. I am assuming that multiple biopsychosocial contextual factors (e.g., pain, physical limitation, self-efficacy, family, work, leisure, etc.) may each play a role in injured workers’ formation of expectations of return to work.

This study was conducted as an exploratory grounded theory investigation of injured workers’ expectations of return to work to identify factors and inter-relationships that influence the formation of these expectations. Grounded theory is designed to challenge assumptions and make a new order out of an existing one by carefully studying lived experience and building theory inductively (Auerbach & Silverstein, 2003; Strauss & Corbin, 1990). Research methodology influences how we see and interpret data, and therefore is not value-free (Camic, Rhodes, & Yardley, 2003; Charmaz, 2006; Creswell, 2003; Merriam, et al., 2002). The interpretive nature of the relationship between researcher and participant is interdependent. In keeping with constructivist epistemology, the researcher actively interprets the meaning of data as constructions of participant experience (Charmaz, 2000, 2006). Rather than one “true” reality, reality is constructed (Merriam, et al., 2002), and the influence of context must be considered. As

an interpretive research methodology, grounded theory supports a holistic approach to advancing knowledge that incorporates awareness and understanding of relationship patterns and their related meanings (Camic, et al., 2003; Creswell, 2003). Therefore, a constructivist grounded theory methodology (Charmaz, 2006) is well suited for exploring the inter-related aspects of the formation of injured workers' expectations regarding return to work.

Grounded theory was originally designed to generate theory by observation; however, later developments suggest using “sensitizing concepts” as points of departure in forming interview questions, and reviewing and analyzing data (Charmaz, 2006; Strauss & Corbin, 1990). Charmaz describes sensitizing concepts as initial ideas that “sensitize you to ask particular kinds of questions about your topic.” (Charmaz, 2006, p. 16). Because the importance of the role of expectations in return to work is outlined by the biopsychosocial model of rehabilitation and return-to-work (Schultz, et al., 2007), I chose to use sensitizing concepts representing multiple biopsychosocial contextual factors (e.g., pain, physical limitation, self-efficacy, family, work, leisure, etc.) to develop tentative ideas for the interview guidelines (see Appendix B) (Strauss & Corbin, 1990). The initial categories I identified in this thesis are based on my interpretation of the interdependent relationship between the injured worker and myself as researcher. Subsequent categorizing of processes emerging in the data was done following the lead of the data rather than forcing concepts onto it (Charmaz, 2006). As a researcher, I endeavoured to remain aware of my own influence on the interpretation of the data throughout this exploration of expectations.

Setting and Sample

Recruitment efforts were underway once ethical approval was obtained from the UBC Behavioural Research Ethics Board (Appendix A). To ensure a potentially “data-rich” population of injured workers who were off work and anticipating return to work, participants were

purposely selected from WorkSafeBC (Richmond, BC), and two local rehabilitation clinics: Back In Motion Rehab Inc. (Richmond, BC), and OrionHealth (Vancouver, BC). A sample of 12 injured workers was recruited from these three Lower Mainland sites. I met in person with supervisory staff at each of the rehabilitation clinics to explain the purpose of the study, review eligibility criteria, and arrange recruitment procedures. Supervisory staff at the rehab clinics briefed their staff physiotherapists regarding the purpose of the study and eligibility criteria. If rehabilitation clinic clients appeared interested and eligible, the physiotherapists were asked to provide these clients with the researcher's contact information. The two rehabilitation clinics were also provided with posters for their reception areas, which advertised the study (Appendix D). Participants were recruited from WorkSafeBC by a letter sent from the WorkSafeBC Research Secretariat office (Appendix E) to recent WorkSafeBC back injury claimants residing in the Lower Mainland region. The WorkSafeBC letter briefly outlined the purpose of study and included a reply card for individuals to express or decline interest, along with a stamped envelope addressed to the WorkSafeBC Research Secretariat office in Richmond. Names of potential participants who expressed interest in the study (by returning a reply card with a positive response) were passed on to the author, as primary researcher, for follow-up. Interested participants were screened for eligibility, using a phone script (Appendix F), based on the following inclusion criteria: (1) fluency in English (for ease of data collection); and (2) being 19 years of age or over so that participants are able to provide their own consent. In order to compare findings to existing research in this area, the following exclusion criteria were used: (1) not working at pre-injury hours, (2) off work between three and six months (sub-acute stage of post-injury (Gatchel & Dersh, 2002), (3) not currently pregnant, (4) no prior or anticipated back surgery, and (5) no neck or head injury with back injury.

Of the 90 injured workers who expressed interest in the study, 12 individuals (6 female, 6 male) were eligible and willing to participate: 11 participants were recruited through WorkSafeBC in Richmond, BC, and 1 participant was recruited from Back In Motion Rehab Clinic, also in Richmond. Most of the 90 injured workers who were deemed ineligible had returned to work by the time they were contacted for an interview. This study formed part of a larger funded WorkSafeBC study on this same topic, which greatly facilitated recruitment.

Once interested eligible participants were identified, the researchers made arrangements by phone to meet them for an interview. Once successful contact had been made, the researchers explained the purpose of the study and reviewed informed consent and confidentiality over the phone. All of the initial interviews were conducted in person. Participant interviews took place at WorkSafeBC in Richmond, Back In Motion Rehab Clinic, UBC in Vancouver, and in cafés in a small community outside of Vancouver. Of the 12 participants, 3 participants had a first language other than English, although it was determined by the researchers that these individuals were sufficiently fluent in English to understand the consent form and to participate in the interview process.

Sixteen interviews were coded for this study: the author conducted 9 of the 12 initial interviews and 3 follow-up interviews, while Ms. Polak conducted 3 initial interviews and 1 follow-up interview. The 12 participants ranged in age from 29 to 63 years. The average length of time at the “injury” job was just over 6 years with an average work week of 35 hours. The average time participants had been off work at the time of the interview was just over 3 months. Table 1 provides a summary of demographic information and injury-related work history.

Table 1: Summary of demographic information and injury-related work history

mean age of participants	47 years
age range of participants	29 to 63 years
average # hours worked per week	35 hours
average length of time at “injury” job	6.25 years
range of time at “injury” job	3 weeks to 15 years
average time off work post-injury	3 1/3 months

Data Collection

Interview protocols.

The initial data collection plan was to conduct two, open-ended, in-person, audio-recorded semi-structured qualitative interviews per participant, approximately one hour each, as well as request that the participant complete of a brief demographic questionnaire (Appendix C). The second interview was intended as a follow-up process to allow us to review emerging categories from the first interview with the research participants for confirmation, clarification and possible expansion (Charmaz, 2006; Creswell, 2003). Unfortunately, we were unable to make follow-up contact with 8 of our initial participants, and succeeded in conducting follow-up interviews with only 4 of the 12 participants. There was some speculation among colleagues that the low follow-up rate may be due, in part, to an increased use of cellular telephones which make it harder to track individuals who move or change telephone numbers. Nevertheless, the 4 follow-up interviews were satisfactory in serving the purpose of confirming with participants that our emerging categories represented their experiences of the return-to-work process. All 4 of the participants were still off work at the time of the second follow-up interview, which was conducted approximately 2 months after the initial interview. At least three phone call attempts to arrange follow-up interviews were made to each of the remaining 8 participants before we

considered the file as “closed”, unless the telephone number was no longer in service, in which case no further attempts were made after the initial one failed.

To ensure that each of the subtopic areas was addressed at some point in the interview, the researchers used a semi-structured interview protocol to provide a general guideline. The initial interview protocol included four main areas for exploration, including demographic information, employment history, back injury issues, and health status questions, concluding with an open-ended question to allow for any other content the interviewees might wish to bring into the interview process. The interview topics were developed based on the literature, particularly prior studies by Schultz, et al. (2002, 2004, 2007), as well as the intention to tap into as many relevant areas as possible. As data collection proceeded, the grounded theory strategy of theoretical sampling was used to revise the interview guidelines such that further selective data might be obtained to fill out and refine the emerging categories (Charmaz, 2006). The interviews were revised based on analysis of initial data, interview notes, discussion between the researchers, and guidance from Richard Young, as supervisor of both this study and the larger WorkSafeBC study, on how to conduct subsequent interviews. Further theoretical sampling focused on participants’ changes in self-perception of abilities and control in their lives in relation to return to work.

Procedure.

At the initial interview meeting, each participant was given \$10 cash towards time and travel costs. The researchers again reviewed the purpose of the study, both verbally and in writing, to ensure the participant’s clear understanding of the study before requesting participant consent to proceed with completion of the demographic form and the approximately one hour long audio-recorded interview. As previously mentioned, interviews were conducted using a

semi-structured interview guideline protocol, which allowed for flexibility in the interview process while at the same time ensuring that certain topics were explored. Interviews were recorded using digital audio recorders, and were subsequently transferred to a secure encrypted computer file before being electronically transmitted to the study transcriber. Follow-up interviews were conducted and recorded in person with three participants approximately two months after the initial interview, and a fourth follow-up interview was conducted and recorded over the phone.

As part of the larger WorkSafeBC study on this same topic, we collected data from an additional six interviews that are not included in this thesis. The decision to report on the emerging themes from the first 12 participants was based on the premise that enough data had been obtained to reach a sufficient saturation point. This means that no new or relevant categories emerged from the data already collected and analyzed. Categories were sufficiently developed and their inter-relationships were established.

Ethical considerations.

Every effort was made to maintain the confidentiality of the study participants, who were assured that their participation would not be connected to any WorkSafeBC file or claim. Identifying demographic information was securely filed and kept separate from the interview data. All hard copy data was kept in a securely locked location in the research lab in Richmond.

Transcriptions of the audio files were encrypted and identified by participant identification number only. These audio files were transferred to a computer requiring a password for access, and subsequently deleted from the audio recorders.

Data Analysis

The electronic audio recordings of the interviews were encrypted and sent by email to a transcriber, who typed up the text and returned the files by email using password protection. These interview transcriptions were then checked for accuracy before the analysis process was undertaken. The data analysis process was guided by the constant comparison of grounded theory methodology, which involves: (a) open coding, (b) memo writing, (c) theoretical sampling, (d) constant comparative analysis, (e) saturation, and (f) integration into a theoretical framework (Charmaz, 2000; Glaser & Strauss, 1967; Strauss & Corbin, 1990). Grounded theory methodology demands simultaneous sampling, data collection and data analysis. Therefore, we moved back and forth between data collection and analysis, comparing open codes both within and between participants interviews. Throughout the data collection and analysis process, the researchers met regularly, both independent of and with Dr. Richard Young, our supervisor, with experience with this method, to discuss our ongoing data collection process, and to ensure methodological consistency and awareness of socially constructed researcher interpretation. Both of the researchers kept memos of their thoughts, feelings and observations as they arose in relation to the interviews and subsequent coding of the data. Earlier interviews were initially divided up into “chunks” to get an overall sense of the data and potential emerging categories. Once initial categories had been identified from within the data, each coded participant interview was summarized in relation to these major emerging categories. The author also kept a personal journal of the process to reflect on reactions and other issues that might be influencing the data collection process (Glaser & Strauss, 1967; Strauss & Corbin, 1990). *NVivo* Qualitative Research Software (QSR International, 2007) was used to facilitate the coding process.

Qualitative research software.

The *NVivo 8 QSR* software program (QSR International, 2007) was used to assist with handling data for this study. Both of the researchers for this study attended *NVivo* workshops to learn more about this software, which is designed to assist with sorting and retrieving codes and related text, and does not do any conceptual development – that is done entirely by the researcher. Using the *NVivo* software can facilitate the recognition of patterns and the comparison of codes. The software can also produce a variety of reports based on frequency of code instances. The researchers interpreted the importance of each code and determined relevance, based on context of the data rather than quantification of codes.

Coding.

The first interview was open coded separately by both researchers, who then compared and discussed our open codes until reaching consensus on our codes and definitions. Open coding consists of separating out the data and identifying concepts to represent separate ideas or blocks of raw data. Our list of 89 initial codes was reduced to 77 after discussion. We then coded separately for the next few interviews, meeting regularly to explore coding ideas, discuss our memos, and compare our emerging concepts and categories. After coding the first four interviews separately, we jointly revisited the semi-structured interview protocol to determine the direction of further data gathering theoretical sampling to refine and fill out emerging categories.

We used focused coding to determine which initial codes made the most analytic sense in clearly categorizing the data, relating categories to sub-categories by specifying the properties and dimensions of each. We analyzed and refined our codes to develop 14 higher order super-ordinate concept codes, each of which subsumed a number of sub-codes (Corbin & Strauss, 2008). Based on our analyzed data, we revised our interview approach to support theoretical

sampling, which determined the data we collected next to further explore and develop the emerging categories and subsequent theory (Bowers, 1990; Charmaz, 2000; Glaser & Strauss, 1967). Upon completion of coding the eighth interview, both researchers coded the ninth interview together to ensure consensus and inter-coder “reliability” of our codes, concepts and emerging categories. We continually referred back to original participant data to identify emerging categories and inter-relationships related to the construction of expectations of return to work (Auerbach & Silverstein, 2003; Charmaz, 2006; Strauss & Corbin, 1990). In this manner, we ensured that the emerging data was relevant to the research question while at the same time remaining “grounded” in the constructed reality of the injured workers as interpreted by the research process (Auerbach & Silverstein, 2003).

Emerging conceptual categories.

Through analysis and discussion, the list of 89 original codes was reduced to 77 to facilitate collecting and coding data. Constant comparison of codes and concepts resulted in grouping the data into 14 higher order concept codes, base on underlying uniformities in the original set of categories. This allowed data analysis to become more select and focused. An overarching core category emerged and the theory began to take shape. The core category forms the heart of the grounded theory “around which all other categories are integrated” (Strauss & Corbin, 1990, p. 116). The higher order concept codes were qualified in terms of their properties and dimensions and subsequently grouped hierarchically into six major emerging inter-related categories that were based on concerns raised by most of participants. The inter-relationship among these six major categories was analyzed based on each category’s properties, dimensions and subsumed sub-categories. This analysis of inter-relationship among categories resulted in the development of one core over-arching category that related to many of the other concepts in the

data, including identifying five sub-categories that incorporated the remaining conceptual categories.

Saturation.

Based on our analysis of 16 interviews (12 initial, 4 follow-up), we had reached a sufficient saturation point in the data, where we saw repetition and redundancy in our coding process and no new information was being obtained (Munhall, 1994). This saturation point was later confirmed when comparing this study's findings to those of the larger WorkSafeBC study, conducted by the same researchers and including findings from another six injured workers.

Rigour and trustworthiness.

As a qualitative research method, grounded theory has no strict rules regarding the "validity" or "reliability" of the interpretation of the data (Charmaz, 2006). The credibility and confirmability of the findings of this study are based on frequent consultation and consensus building between two researchers involved in the data coding, analysis and interpretation processes. We met regularly to share impressions of our independent interviews, as well as our memos and ideas about emerging concepts and categories. We questioned the data and challenged each other when confronted with apparent contradictions, which contributed to refining the emerging concepts and the developing grounded theory. Credibility of the data is ensured by agreement in our findings and interpretations when assimilating the data into categories. Further, the findings are meaningful in that they directly reflect these injured workers' formation of expectations. Our initial impressions of the depth and variety of uncertainty were confirmed in later analysis of the data, which underscores the value of allowing the data to lead and expand the concepts, rather than attempting to reduce it to any one dimension with a preconceived theory.

CHAPTER THREE

Findings

This study addresses how workers with nonspecific sub-acute back pain construct expectations of return to work. The findings of this study indicate that expectations of return-to-work are constructed based on *perceived uncertainty*, which is the core category, or main “story line” of this grounded theory (Dey, 1999, p. 9). This core category subsumes five inter-related sub-categories that emerged from the data: (a) the injured worker’s *perceived lack of control* over many aspects of the return-to-work process; (b) the injured worker’s *perceived lack of recognition*, by others involved in the return-to-work process, of the impact of the injury on the worker; (c) *perceived inability* to perform pre-injury job; (d) *fear of movement/(re)injury*; and (e) perceived (lack of) accommodations. Each of these categories plays an interactive role in the formation of expectations of return to work, thus influencing every other category. Expectations, once they are formed, are influenced by the injured worker’s experience with *coping* with the impact of the injury. The experience of returning to work or attempting to return to work (or not ready to return) stimulates changes in coping appraisals, shifting expectations once again as perceptions of uncertainty shift. This theorized relationship of the formation of expectations of return to work is illustrated in Figure 1.

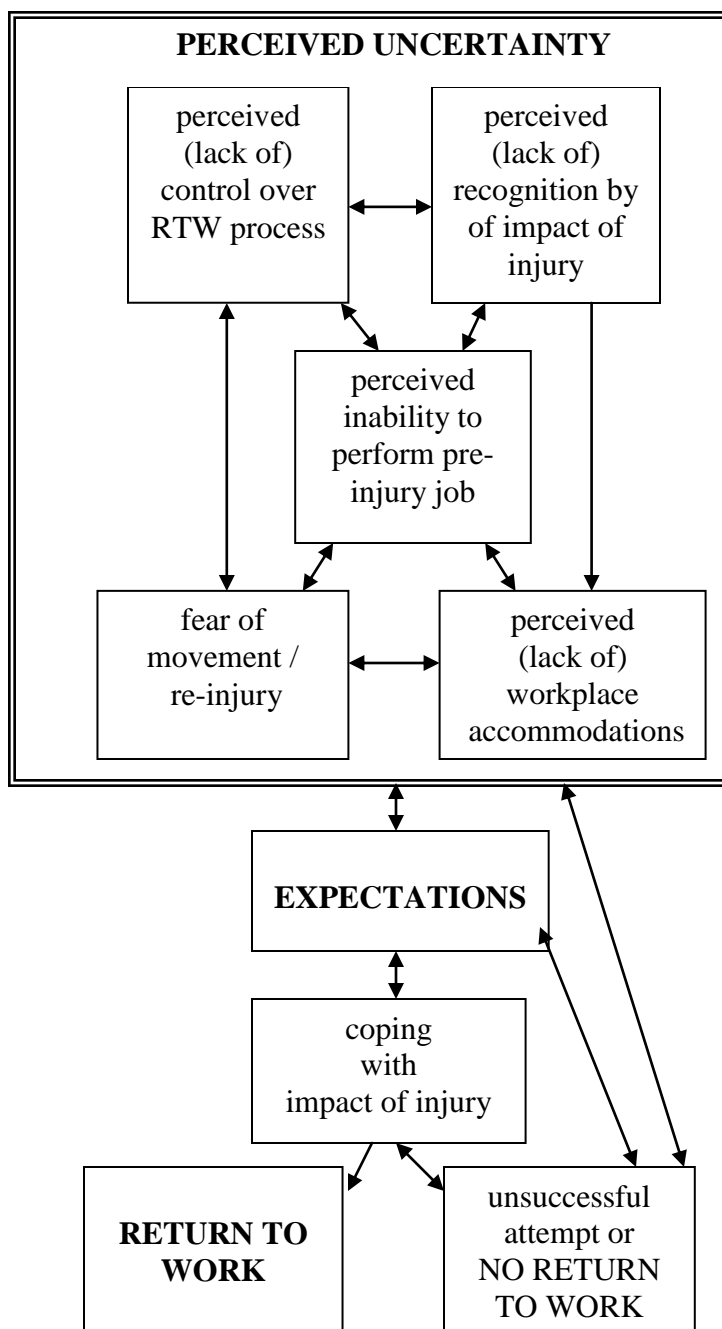


Figure 1. Relationship of Perceived Uncertainty to the Formation of Expectations of Return to Work

Injured workers off work with sub-acute back pain, formed their expectations of return to work (RTW) based on Perceived Uncertainty related to (1) perceived (lack of) control over the RTW process; (2) perceived (lack of) recognition by others of impact of injury; (3) perceived inability to perform pre-injury job; (4) fear of re-injury; and (5) perceived (lack of) workplace accommodations. Expectations change according to an individual's capacity for coping with the impact of the injury, which in turn is influenced by successful or unsuccessful attempts to return-to-work.

In keeping with the tenets of grounded theory, the properties and dimensions of each of the above-mentioned categories are now examined. I first discuss the properties and dimensions of the core category of perceived uncertainty, followed by the five salient sub-categories mentioned above, using examples that emerged from the data. For ease of understanding the multi-dimensional nature of the formation of expectations, the examples are presented in relation to individual (micro), interpersonal (meso) and societal (macro) levels of psychosocial context (Bronfenbrenner, 1979). These levels of psychosocial context, taken from Bronfenbrenner's ecological systems theory, emphasize the importance of considering influences on individual development from various levels: the immediate environment or microsystem, such as self and family; connections among immediate environments or mesosystem, such as rehabilitation program and work; and the larger cultural context, or macrosystem, such as national economy or political culture. The examples illustrate the multiple biopsychosocial contextual factors (e.g. pain, physical limitation, self-efficacy, family, work, leisure, etc.) that each play a role in injured workers' formation of expectations of return to work (Schultz, et al., 2007).

The following examples of data taken from the transcripts have been abbreviated or changed for clarity. The ellipsis points (...) indicate that material has been omitted, while the text in brackets indicates material that has been inserted for clarification and/or to remove potentially identifying information.

Formation of Expectations of Return to Work

For the 12 participants interviewed, the formation of expectations of return to work was based on the overarching core category of *perceived uncertainty*. Each participant's pre-injury self-narrative of how life should be was disrupted by the event of the back injury. These individuals struggled with varying degrees of uncertainty in their daily lives, from uncertainty

about the rehabilitation process, to changing roles in home and work life, to the awareness of new limitations that brought their abilities into question, to fear of re-injury or, worse, possible permanent disability due to overstepping the boundaries of these new-found limitations. Many aspects of these participants' lives were perceived as uncertain in relation to their back injury and the return-to-work process: Can I do the tasks I used to do? Will I ever be able to do them again? Are there ways to do these tasks without hurting myself? What if I injure myself again? Will I become permanently disabled - or dependent on others for my daily needs? Will I ever be able to work again? If so, doing what?

Adding to the struggle of not knowing oneself or one's future were these injured workers' perceptions that life as one knew it had become out of control: not only due to difficulties in managing the immediate personal consequences of injury such as pain or difficulty with sleep, but also due to the perception that one had little, if any, say in decisions related to the return-to-work process. This perceived lack of control in the return-to-work process interacted with the injured worker's perceived lack of recognition by others of the impact of the injury on her or his life. The invisible nature of back injury played a role in this perceived lack of recognition, while the perceived lack of recognition also interacted with fear of re-injury. Each of these sub-categories interacts with the injured worker's perceived need for accommodations when returning to work. These injured workers were apprehensive that return to work likely would involve employers expecting them to perform tasks they were uncertain they were capable of doing. Each of these categories was subsumed by the core category of this grounded theory: an injured worker's perceived uncertainty when constructing expectations of return to work. The multi-dimensional nature of these categories is listed in Table 2.

Table 2. Categories, properties and dimensions of perceived uncertainty in the formation of expectations of return to work for injured workers with sub-acute back pain

Category	Properties	Dimensions	Examples
perceived uncertainty	awareness of ambiguity about present and future options in relation to RTW and life in general	individual differences regarding tolerance of perceived uncertainty; interpersonal relationship stressors; systemic powerlessness	micro: physical abilities, pain management, recovery timeline home life, leisure activities meso: rehabilitation services, financial concerns, coworkers, accommodations; stigma macro: future employment, labour market, retirement plans
perceived (lack of) control over the RTW process	(lack of) participation in decision-making processes related to rehabilitation and RTW	degree of collaboration in RTW process, relative power or powerlessness, feelings of self-worth, (lack of) voice, suspected of malingering	micro: (in)ability to manage pain, medications, sleep, concentration, meso: coordinating appointments; mobility challenges, changing family roles/tasks, (lack of) workplace accommodations macro: rehab timelines, rights re: accommodations; insurance policies re: objective findings
perceived (lack of) recognition by others of impact of injury on worker	invisible nature of back injury; sudden, unexpected event; subjective nature of pain; being suspected of malingering	self-doubt about extent of injury; feeling blamed/guilty re cause of injury; disclosure and accommodation concerns; stigma, discrimination	micro: feel guilty while off work meso: concern about RTW too early; high-risk job demands; changing family roles; unsympathetic friends, coworkers macro: stigma; accommodations; future employment prospects; need for objective findings
perceived (lack of) ability to perform pre-injury job	level of confidence in relation to work tasks, future employment possibilities	self-doubt re: physical and psychological capabilities; being judged by others; changing identity; concerns re: future prospects;	micro: stamina; strength; fear of pain, safety concerns meso: concerns re: adequacy of work simulation at rehab clinic; co-worker resentments; employment termination macro: stigma; work history
fear of movement/(re)injury	fear of dangerous workplace, high-risk job demands, fear of pain, avoidance behaviours	pain experience, physical limitations, fear of permanent disability/dependence	micro: previous injury; pain management meso: workplace safety, financial pressure; changing roles at home macro: accountability re: GRTW, accommodations; concerns re long-term disability
perceived (lack of) workplace accommodations	level of confidence in relation to requesting accommodations or belief in their likelihood	previous unsuccessful attempt at RTW; witnessing unmet coworker needs for accommodations; difficulty imaging their implementation	micro: previous RTW attempt meso: communication with employer re accommodations macro: awareness of lack of implementation of accommodations in workplace; stigma: needing accommodations

Perceived Uncertainty

The over-arching category of perceived uncertainty can be described as an awareness of not knowing what will happen in relation to the back injury and health, work and life in general. A point of clarification is needed here regarding my choice of the term “perceived uncertainty.” In the context of this thesis, perceived uncertainty may also be understood as the “experience of uncertainty.” Although the term “experience of uncertainty” may fit better with qualitative research methods, I have chosen to use the term “perceived uncertainty” as it links this concept with the cognitive psychology approaches of quantitative literature in the rehabilitation field. It may be possible in the future to build on understanding of this emerging concept by developing a means to assess perceived uncertainty. However, it would be difficult to assess the experience of uncertainty.

Perceived uncertainty includes feeling lost, anxious and insecure about present circumstances and their implications for the future. It is important to note that overall, participants were reluctant to either form or express their expectations related to return to work, other than their certainty about their uncertainty. They did not know whether they would be able to return to work, or if so, under what circumstances. These participants struggled with the stress of not knowing, the challenges of tolerating ambiguity and a lack of clarity about future work and life options.

The dimensions of this category reflected individual differences in the way each participant managed anxiety about the future. Dimensions included introspection due to not knowing oneself and one’s limits (micro level), feeling powerless to evaluate options related to employment, rehabilitation and family (meso level), and consideration of larger life matters (macro level) such as concerns regarding the insurance compensation system or the state of the

economy in relation to the labour market, employment options, career change, overall financial planning and/or retirement plans.

On an individual or micro level, the degree of uncertainty experienced fluctuated according to specific circumstances and demands of each day. Seemingly inconsequential situations significantly affected individual mood or quality of life: for example, whether or not one was capable of throwing a stick for the dog or vacuuming the house. An injured worker's degree of perceived uncertainty about abilities to participate in simple daily events was related to the individual's perceived lack of recognition by others of the impact of the injury, and how the back injury influenced quality of life on a personal level.

I used to take my dogs down and throw the ball in the water and I can't...I can't do it for her anymore. She brings me the stick and looks at me and I'm like, I can't honey, I'm sorry.

My housework and stuff starts to suffer...because my physical energy goes into work. So, I need to regenerate and I find that you know my housework gets undone. I haven't vacuumed for a month, you know.

Perceived uncertainty on an interpersonal (meso) level includes concerns about return to work, rehabilitation treatment, family and friends. Hesitation about returning to work related to the category of an injured worker's perceived inability to perform regular job duties. Most participants felt trapped between a perceived need for accommodations to assist with return to work and anticipation of probable employer reluctance to provide accommodations, or an injured worker's belief that accommodations for the job were not possible, or both.

My graduated return to work is a little bit different...um, it's full duties...reduced hours...right? Usually they're light duties, light hours...It's - it's a company policy...and I, there's not much I can do about that.

I don't want my boss to find out through [the insurer] that I need a lighter load. I want to call her. But then I'm afraid of what she'll say ...we don't have lighter loads in the [workplace].

Some individuals felt that the only way to test their abilities to do regular job duties was to get back on the job and try it out, which related to the category of fear of re-injury and possibly worse, that is, permanent disability.

Bending, yeah. Yeah ... I think, ah, my back, the only way I can find out is when I return to work. That's the only way that my husband – my doctor said, "Okay, go back to work and if it really bothers you come back and see me."

Two participants felt that they were being encouraged by their employers to retire early, so that the employer would not have to deal with the return-to-work process. Another two participants had concerns about finding future employment, after being laid off from their employment post- injury.

So I came in to do the paperwork and she said, "Here's your ROE and your final cheque. We're not longer going to need your services." And I was like, "I have a doctor's note saying I'm injured." I had a doctor's note for the days I was supposed to be off. I had everything that they needed...when I phoned [the insurer] and they say that because they gave me a week's pay in lieu of notice, that's a severance-type package. So, there was no legal repercussions to that.

They continued to pay me I guess until the end of, ah, the end of January I think they paid me till, which was huge...part was sick leave and I - I guess - hoping I would come back. I was kept on payroll and ah not paid. And then um I guess, it was probably about the middle of March they finally laid me off.

One participant was having difficulty with the unpredictable nature of her pain and decided that the only course of action available was to leave her job:

I got this back pain, like I did when I first injured my back. So, I just had to quit.

Most of the study participants were receiving insurance compensation benefits. They expressed uncertainty about potential financial loss if a claim was closed prematurely because they attempted to return to work but were unsuccessful. Participants reported being obligated to attend a rehabilitation program even if they didn't feel physically ready, in order to continue to receive their benefit payments. This feeling of obligation related to participants perceiving a lack of control over their own rehabilitation process.

Well, I know it's up to a six-week [rehabilitation] program...but I don't know after yesterday. I don't even know if I'm ready for it.

Participants also experienced uncertainty at the meso level due to perceived inflexibility of compensation and rehabilitation systems to adjust to individual needs and circumstances.

They [rehabilitation company] follow a pretty strict model. They say that injury, 6-8 weeks recovery and, and, um healing, and another 8-12 or 8-10 weeks rehabilitation, healing and strengthening...and then return to work. Not everybody falls within that timeline...not everybody works in that model. Like even, I've seen people who had multiple ruptures come here, with the assumption that healing has already occurred after 10 weeks...and these people can't even, can't even stand up for more than 3 minutes.

Uncertainty was expressed in relation to the inability to manage pain, as well as a lack of trust in, or awareness of treatment options.

I don't have a big faith in ...Indian medicine. They say you've got to believe it or it don't work. But I don't believe in it. But I'm trying everything thing just to take the pain away. The Demerol works perfect – just it makes my head crazy.

That's what my concern is. You don't know. Cause my doctor—I'm still doing x-rays and ultrasound, so what's the next step? I really don't know.

One participant felt uncertain about looking after his two-year old son, for whom he shared custody, due to his perceived lack of ability to take care of his child, given the pain and limitation he was experiencing after his back injury.

A two and a half year old is too heavy for me... I haven't been seeing him as much...because I've been in – I've been in too much discomfort.

Even an event as simple as going out with friends for a social evening involved uncertainty about the physical toll such an event might take, and whether or not it was worth doing.

I haven't been out for dinner. I think we just started a week ago, ... going out for dinner...um, yeah, I couldn't sit...for extended periods of time.

At the macro level, participants perceived varying degrees of uncertainty when they had to wait, sometimes many months, for medical appointments and/or assessments, such as x-rays,

CT scans or MRIs. This lengthy wait appeared to be related to government policy decisions, which were reflected in an over-extended and under-equipped provincial medical system.

Three months later I see him at [hospital]. And I get there and he says, "I can't do anything for you. I don't have your" ... 'cause he's a back specialist... "I don't have a back MRI" ... Once he ordered it with [the insurer], it took a week and a half... So I lost, you know, 4 months... you know? It's the waiting.

Participants perceived uncertainty about the state of the economy, and how the current economic downturn would influence the labour market and their potential future career options.

And then when return-to-work program comes into play I don't know what's going to happen there. Right now my company's laying off. They're not hiring. So I'm sure once I go back to work, it won't be long after that they'll let me go.

What the hell else am I going to do? ...I don't know – I mean, what am I gonna go do - work at 7-11 for ten bucks an hour? ...like I can't live on ten bucks an hour.

The above examples of perceived uncertainty in forming expectations of return to work illustrate how each of these categories interacts with every other category.

Perceived (Lack of) Control over the Return-to-work Process

The properties of the category of *perceived lack of control over the return-to-work process* included the worker's perception of having little or no say in the decision-making process as it related to rehabilitation and return-to-work. All participants were frustrated with their perceived lack of influence on aspects of the return-to-work process that directly affected them, and expressed feeling powerless, weak, or worthless. This perceived lack of control interacted with the category of perceived lack of recognition that some participants expressed when feeling that their input regarding their own rehabilitation process was not valued. Most participants were uncertain about decisions made by others, for example, health care

professionals, insurers, employers, who were involved in the rehabilitation and return-to-work process.

On an individual or micro level, dimensions of perceived lack of control included such concerns as an inability to manage pain, as well as difficulties with sleep and/or concentration. Participants were often reluctant to take pain medication for various reasons including perceived lack of effectiveness of the medication, fear of becoming addicted, concern about managing side effects that may affect digestion, concentration and/or sleep, and personal preferences or beliefs regarding taking medication in general. Fatigue from dealing with pain and/or sleep disruption over time contributed to participants experiencing life as being out of their control.

When I first hurt, I went – I went four and a half days without sleep.

And my concentration's pretty bad. You know when you stand up and – oh I've got to get my glasses and you stand up to get your glasses and then you go ... what was I getting? You can't remember and then you go back and you sit down and like oh, it was my glasses because I can't read. And then you go up to get your glasses and again, what was it? You know that happens two or three times. You start to – hmm, am I ready to go back to work?

Meso level dimensions of perceived lack of control included attempting to coordinate services with health professionals, contact with the insurer, and arrangements with the employer regarding workplace accommodations and/or a gradual return to work.

Oh, I don't know – I would do like whatever they wanted me to do like ... if they said you know it's coming to a point where you know let's try you two days a week...then I would do two days a week.

But like the physio lady said to my adjuster, she said, "Well, if you want to put him back to work, you're doing it against my beliefs. She said, "his own doctor's belief. And if you want to take the responsibility of sending him back, so that he goes in and hurts himself and he's back off again. That would be ah, your responsibility."

There didn't seem to be any flexibility because it was, "Well, this is what your doctor said," would be the answer I would always get. So, I was hoping to open up a conversation around it [gradual RTW] so that it was a little more flexible based on my symptoms rather than a prescribed number of hours.

Participants perceived uncertainty and a lack of control with respect to being believed by employers, health professionals and insurers.

I don't know—it made me feel really small in the room with him [doctor]. I felt like—he made me feel like—that I was lying, right?

“I don't know what's wrong with you,” he said. “It's in your mind. Go back to work.”
[participant recalling doctor's comments]

I'll be really nervous if my CT scan doesn't show anything.

Perceived lack of control also occurs in family relationships, with changing roles within the household and division of household chores.

It put a little stress on the ol' relationship thing a little bit. Just not working...there's a lot of different aspects.

It's good that my dad's there. Um, I try to do the dishes. I'm getting better because I can stand there more long – or longer now with doing the dishes. For a long time I couldn't do the dishes. It just got to the point where I didn't try.

I just find even walking the dog. You do even an hour of walking with the dog and it's just – you've gotta go home and you're on your back for a bit.

On a macro level, workers perceived a lack of control in relation to overall policy and practice regarding rehabilitation treatment timelines and eligibility for insurance compensation benefits.

Well, I exercised at home before that but I really started exercising because I couldn't sit down. I got one of these stepper machines. I walked on that...And I've got a whole bunch of those different ah elastics, you know the different coloured ones...and I worked with my arms and things...and I did this for five hours a day. And then all of a sudden I get a call from [the insurer] that I've got to go through this [rehabilitation program]. And then I was stuck there after.

And then when I got the letter from [the insurer], they only give you one [type of] treatment at a time.

And then the insurance company goes, “Oh no, [the insurer] gave us a report of what happened two years ago, and that shows you already had a pre-existing injury, and we're not going to cover you, so you're on your own.”

Some participants expressed feeling overwhelmed by what they perceived as a highly complex, confrontational compensation system where they felt they were seen to be at fault for causing an inconvenient insurance claim and disruption to the workplace.

[It was] like I did something wrong. [The insurer] treats you that way and the same with your employer. You feel like you've done them something wrong, right? It's- it's not as straightforward as they make it sound out to be. And they're all under an umbrella. They're all saved ...they can treat you anyway they want and there's not much you can do about it unless you have a whole pile of money you can get a lawyer and then any lawyer you call, they almost refuse to take a case to fight [the insurer].

A perceived lack of control extended to the challenges participants experienced in getting from place to place due to the discomfort of driving, getting in and out of, or sitting in a car, sitting or standing on a bus, or an inadequate transportation system for people with mobility challenges. During early recruitment for the study, a few potential participants declined to be interviewed because it would have involved an hour or more of travel to get to the interview location, which they stated would translate into many hours of discomfort for them. One participant gave a poignant example of dealing with the stigma of “invisible disability” related to transportation:

I used to ride the bus. But now I can't...So, I'd go grocery shopping and I'd have an old lady cart. My friends laughed at me with my old lady cart and I'm like, "Well, it works." And then, um I was getting on the bus one day and I had my cart and it was quite heavy. It had heavy stuff in it. And I asked the bus to put the kneeling bus down, so I didn't have to lift my cart... and ah he refused. And I said, "Well, I can't lift my cart." And he says, "Well, it's only for people with disabilities." And I said, "How do you know I don't have a disability?" He said, "Well, you're young and you look fine" ...and so he adamantly refused to put the bus down.

Perceived (Lack of) Recognition by Others of the Impact of the Injury on the Worker

Along with perceived lack of control, or feeling a lack of voice, participants expressed a *perceived lack of recognition by others of the impact of the injury* on their lives. This perceived lack of recognition can be explained as these injured workers' perceptions that others did not

seem to be aware of the degree to which they had been adversely affected by the unusual and unexpected circumstances brought about by the injury. Properties of this category included self-doubt about the extent of the injury in relation to health concerns, limitations, how to handle disclosure of an “invisible disability,” and the potential need for accommodations in the workplace.

Dimensions of the category of a perceived lack of recognition ranged from an individual’s own self-doubt about the severity of the injury, feelings of guilt about being off work, to perceiving that you were suspected of malingering (micro level). One participant was counting on an upcoming CT scan to provide objective medical evidence of the injury, which she then hoped would translate into recognition of the impact of the injury on her life.

Of course, that’s today you know, when I see the level of—mistrust [from insurer] You get a little paranoid you know. I’m thinking—so to me—and I feel guilty being off. So it [CT scan] validates that yes I do have something.

Participants were concerned that employers, co-workers and health professionals (meso level) would not recognize the severity of the injury and its impact on their lives, potentially misjudging the worker’s readiness to return-to-work and encouraging the worker to return before she or he was ready. This perceived lack of recognition interacted with the category of fear of re-injury.

“Well, we’ll have to get our, um ah, occupational therapist to look at that job, then...because you know we don’t necessarily believe that you can’t do that job.”
(Participant recalling words of the return-to-work coordinator)

I’ve only spoken to the case manager in the beginning, telling me that I was assigned a case manager...in the middle, when she had done, I guess a courtesy call, asking how my rehab is going...and in the end, when she pretty much told me that I’m, I’m due back to work.

Another participant felt that an insurance representative should have gone to her job site to witness the workers in action on the job. She stated that she was told that it was unlikely that the injury could have happened in her line of work, and thus she felt unjustly accusing of lying.

They haven't seen you and ah they said that their doctor, according to their doctor, that I won't get this injury by doing my regular job. They never believe – they should have...– before they [used to] go to our work place...

Some family members seemed to find it difficult to recognize that, while their injured family member did not have any outward and visible signs of injury, she or he was not be able to do usual chores such as yard work, laundry or taking out the garbage. One participant described her husband's initial lack of recognition of the impact of her injury, and his subsequent need to adjust:

Yeah, at the beginning it was kind of hard for him...because he never did his own chores.

In contrast, another participant described the recognition of the impact of the injury and the subsequent support he received from his partner:

Oh no, she's gone above and beyond...Before she went to work in the morning.... when I was in bed, she'd bring me a tray with my breakfast and she – she had a thermos, okay, and my lunch was made in the fridge, so all I had to do is get to the fridge...and – and I mean I was just – I don't know how I would have managed to ...it was – it was pretty ugly there.

Many participants spoke of friends who had disappeared after a number of rejected invitations, apparently unaware of the injured worker's discomfort and physical costs related to going out for a social evening, that is, needing to rest and recover the next day.

I've actually lost friends that don't understand.

On a macro level, participants expressed concern that insurance companies relying on objective findings of medical evidence would deny claims for soft-tissue injuries that were based on subjective self-reports of pain.

First and foremost it [CT scan] will show that I do have something. 'Cause I always feel something here [at insurer] that—you know do they really believe me?

Moreover, participants perceived a lack of recognition of their rights in relation to accommodations. They expressed uncertainty about whether employers would be held accountable for the implementation of accommodations, and anticipated a lack of recognition by insurers of the necessity of monitoring and enforcing the ongoing implementation of accommodations. This perceived lack of recognition interacted with the category of perceived lack of control in relation to the return-to-work process.

But the company policy, of not recognizing people's limitations, I'm not sure, that might even be a labour code violation? Because there's the um, I forgot the term, but there's the employer's responsibility to accommodate ...duty to accommodate?

Future employment prospects appeared limited to these injured workers due to a perceived lack of recognition in the general workplace of the potential need for implementing workplace accommodations. The stigma of being off work and receiving compensation benefits, coupled with having an employment “gap” in one’s resume, also contributed to perceived uncertainty about employment options.

I'm embarrassed to be on [compensation].

Because your resumé reads one way, and when you're trying to make a career change you've got to rewrite your resumé but you're more likely to get a job in a field because you have experience in it.

Perceived Inability to Perform Pre-injury Job

For this category of *perceived lack of ability to perform pre-injury job*, injured workers were uncertain about having sufficient ability to carry out the functions required of the pre-injury job. Individuals expressed a lack of confidence, hesitancy and/or weakness in relation to the

ability to function at work, an experience that was markedly different from pre-injury employment.

The dimensions of this perceived lack of ability on a micro level included self-doubt about tasks that involve lifting, bending or sitting, as well as having sufficient stamina to be able to work a full day or full week.

Well I spent time on my feet and sitting, and sitting at the moment is what gets me. Although, I'm not really good on my feet for long periods of time either.

Um, there's still things that I can't do like ... Well, I couldn't – I couldn't do a - a full 40-hour workweek. Right now I could do half a week. Oh I – if I worked a day, I'd be sore at the end, right?

These perceived limitations influenced meso level considerations about the need for rehabilitation to be individualized and to provide adequate work simulation exercises.

Because they're totally inadequate [rehabilitation clinic], as far as I'm concerned, and it's not just me. It's a lot of the other people participating there. It's a fact they don't have proper equipment... it's supposed to be a kind of work simulation type thing. And they have no idea what the jobs are out there – these are just young almost kids out of school. And they have no idea what the real world's about. And they're trying to tell you this is going to help you get back to work, you know?

“According to studies, you're a ...” Its formulaic and... it's too rigid... But they go by numbers [rehabilitation clinic]. This – this length of time for you to finish - it's a set time. And to me, this is not right.

So I went down to see them and I saw them working on those and I said to my co-worker, “Just thinking about lifting those instruments—I can't. I can't.”

Family dynamics were affected as the injured worker attempted to fulfill household tasks, often using the home as a testing ground for the ability to accomplish workplace duties.

It's causing actually lots of trouble, um, in my world. I can't do none of my yard work.

I could see that, ah, if you didn't have a strong relationship with either your employer or your partner, um, that there would be repercussions.

Macro level concerns related to a perceived lack of ability to perform the pre-injury job included future employability issues such as career change, training opportunities, labour market trends and the current state of the economy.

Ah, then they're paying – they're paying 30-odd bucks an hour for two guys on the boat. It's just inefficient...and ineffective for costs...and nobody wants, especially in this economy, nobody wants to be spending any more money.

And the union—and I said what's your training like? And she said... “Oh, that's so far down the road and it's so complicated. We won't even go there for now.”

Fear of Re-injury

The category of fear of re-injury represents an instinctive emotion that is aroused by a sense of impending danger or pain. Properties of this category included whether an individual had previous experience of injury, as well as hesitation to return to work based on perceived danger in the workplace. Dimensions of fear of re-injury were influenced by perceived severity of injury, pain, and previous experience with the recovery process. There appeared to be a continuum ranging from mild hesitation to put oneself back in a potentially dangerous work situation to severe anxiety based on the individual's perceived likelihood of re-experiencing physical impairment due to a high-risk workplace.

On an individual or micro level, some participants were concerned about being ready to go back to work, and whether they would be able to do the work without risk of re-injury. Participants who had finally managed to get their pain under control as part of their recovery process tended to be apprehensive about doing something that might risk starting that pain up again.

So, the thought of going back to the job because I have to go back to the job ... adds to my anxiety and the thought about you know...if I go back ...it's pretty high chance I'm going to get injured again.

I think maybe I should buy some kind of extra support...and I will put it on my chair.

Because all the pulling and the twisting is – I wouldn't even want to take a chance because the next thing you know it's bad.

Yeah, I'm afraid to because of the twisting and pulling at the same time.

Longer-term micro-level concerns about fear of re-injury included uncertainty and fear of possible permanent disability or dependence if re-injury resulted in a lack of employability or worse, lack of mobility.

Like if I got worst or I'd have to go into some kind of place where they take care of me. I don't want to go into those places. That's mostly my fear because I'm very independent. It would scare me if someone had to come in.

Like that-that struggle. If I don't take care of my back and I go to work—will I have pain all the time? For the rest of my life?

They said, "You're—you're never going to do that again, sir." Right? "What we're going to do now is try to figure a way of getting you into something else." Blah blah blah, right? And all the specialists I seen through those people, right, just flat out said "No, if you keep doing that, you're going to be crippled."

Individual apprehension about the fear of re-injury included feelings of injustice due to perceived excessively high-risk physical job demands in the workplace (meso level), which related to the category of perceived lack of recognition of the impact of the injury on the worker.

Well, just jump into the fire. And, and that's another thing, if something breaks, it breaks, what are you gonna do? ... I am kind of in a band-aid situation.

I think it's very hard for me to work nine hours a day. Because if I sit – sit down in a chair for too long, my back feels sore.

The invisible nature of back injury affected how others perceived the injured workers who were generally reluctant to request accommodations of an employer based on a fear of re-injury, as colleagues might see them as pulling less than their weight if they had a lighter workload.

You know, to say I have a sore back at work won't fly because everybody has a sore back.

Some family members did not appear to understand the fluctuating and invisible nature of back pain, and that an injured individual could walk the dog yet would hesitate to do household chores involving bending or lifting, such as vacuuming or gardening, based on a fear of re-injury. Other family members restricted the injured worker from doing household chores to protect the individual from injury, thus potentially reinforcing a fear of re-injury while at the same time possibly reducing motivation to test abilities in the home setting where presumably there would be more control over one's actions.

I'm cut off from doing the laundry...because of the lifting of the - the stuff and bending over the ... machines and ah I'm not allowed to do the vacuuming anymore.

Friends misconstrued declined invitations, especially if the injured individual did not wish to disclose a fear of re-injury related to the social activity.

They call you for golf, three times in a row - if you don't go, they stop calling you.

On a macro level, injured workers felt uncertain about returning to high-risk job demands and unsafe work practices, a possible lack of future insurance compensation coverage, and the apparent lack of accountability of employers and insurers to take into consideration potential lifelong consequences to workers who return to unsafe work situations.

Well I'm afraid too that, that, in the future, you know, let's say I hurt my back again, and they say "Well, you know, you already had a pre-existing injury, and our, and you've already, we've covered that... We have less liability now." You know what I mean? I'd hate it if that happened.

I think there should be a limit, but ah if don't get hurt again after five or ten years, the application should be closed. They don't go back there. Because it's like a glass. You can be a - there can be a - yeah, what do they call it? - a hairline in there.

Nobody on site needs to know you're injured but you're going around with an injury and trying to work it out and putting other people at risk, which I think is unfair...especially in my trade right? Cause I'm not working in an office where I can avoid people. I work in an industry where there's up to 100 people sometimes working around you, right? ...And you pack like up to 200 pounds I put on my shoulder. I carry, right? So if I have an incident with my back or my legs go weak—I get that-that feeling and I fall down and

there happens to be a plumber or an electrician working underneath me I'm going to hurt him as well which—they put all that on you.

These findings of perceived uncertainty have emerged from the data, which revealed five interrelated categories that created a web of perceived uncertainty for the injured worker with respect to the formation of expectations of return to work. The properties and dimensions of each of these categories have been explored and illustrated in the context of micro, meso and macro levels of participant experience.

Perceived (Lack of) Workplace Accommodations

As mentioned earlier in relation to the overarching category of perceived uncertainty, most participants anticipated a need for workplace accommodations, especially in relation to high-risk workplaces. However, based on their experiences of present day workplaces, these participants expressed scepticism regarding the likelihood of the implementation of workplace accommodations.

I went and tried to go back to work on light duties...there's not much light duty on a construction site.

Injured workers who perceived a need for lighter duties or job accommodations in order to return to the pre-injury job were reluctant to ask the employer for accommodations.

Participants expressed concern about how, or whether, to present one's need for accommodations to the employer.

They used to recognize light duties and people's disability, inability to work... to the full, yeah, but now they're not.

Somebody asked me how – can you do light work? People will kill me at work if I do light work. There's no light work at work. I cannot pick what I want.

I had asked her in the past about a single day accommodation about not having to drive because I was feeling the effects of fatigue and everything. And that was actually the day that I had the um car accident.

Macro level concerns about workplace accommodations involved doubt about the availability of job accommodations in the workplace in general, and the willingness of employers to accommodate individuals with a history of back injury and compensation claim.

Well, they do have an accommodation process. And I mentioned that I worked at [x] once before and I went through the accommodation process. It's a very negative process.

And my boss has told me, "Don't come back till you're better."

Coping with the Impact of the Injury

An injured worker's coping with the impact of the injury involved the individual's appraisal of the situation in an attempt to make some kind of personal order to create a more harmonious situation given the new circumstances resulting from the injury. The properties of this category injury included: self-awareness of physical, mental and psychological limitations; learning new behaviours; reconsidering options to compensate for loss of some abilities; and individual ways of making sense of the situation, or meaning making.

On a micro level, dimensions of coping with the impact of the injury category varied according to individual factors such as severity of injury and pain experience.

If it's really bad, I don't even eat. I just lie down. But ah ... that's life - I never understood why people got back pain and everything. Now that I have it I can understand.

It'll be another two or three months or - or longer before it, ah, comes around. So, it's just a matter of time. But it is progressively getting better...which is a great thing...I'm an optimist.

I'm always dealing with it, right? So I think psychologically—mentally—that was the probably the biggest impact I had, was to learn how to deal with my injury.

Individual personality characteristics and differences also played a role in coping with injury, which was influenced by meaning making and personal insight.

So I realized—I had a moment while waiting for the bus in the pouring rain and the cold - that if I didn't take care of my back, nobody else would.

If I – if I - cried or if I am very upset, it won't help me to get – to get well...either my physical situation or even my - my soul, like...and I will take whatever happens and I try my best to recover it and I'm not an optimist, I'm not, but I always think in a good way, but I'm not 100% like that.

And it's just basically, you know, sometimes you can't control everything and you've just got to make the best of what you can.

These injured workers' abilities to cope with the impact of the injury affected, and were affected by interpersonal relationships (meso level) with family members, friends, employers, health professionals and insurers. One participant described doing the groceries with his wife, who was expecting a baby:

We're keeping everything nice and low and buying – buying real small packages ... Yeah, instead of buying 20 things – 20 kilo things of sugar and dog food ... It's all just – we just buy 8 kilogram ones...Well, it's so we can pick it up – I can pick it up or she can pick it up.

It's kind of crazy, um—I probably did more crying in the last month—six weeks, than I've done in my entire life. I'm really worried about my children—my home. Um—just my well-being. Um—their well-being—what's going to happen right? Um—where I'm going to end up. Where do I go from here? Nobody really gives you any answers.

And less time with my friends, and your friends going, “Oh, we haven't seen you in a month.” And it's like, “Well, I'm sorry,” and it's like ... I'm cancelling appointments or cancelling stuff with my friends because I'm too tired.

On a macro level, injured workers' coping with the impact of the injury included uncertainty about the larger picture of employment trends, the labour market and the current state of the economy in relation to training or career change decisions as well as retirement or pension options.

Ah, not knowing what happens, we've had to re-jig some of our finances because this compensation thing will run out at some point.

I want to fix it so I can—'cause this is impacting my retirement. 'Cause it doesn't count. Um—[on compensation] you don't accrue—I think-and I have to check. You don't accrue working time.

Summary

As can be seen by the examples presented in this chapter, perceived uncertainty plays an integral role in the formation of expectations of return to work. Each of the categories that emerged from the data has elements of perceived uncertainty, on individual, interpersonal and societal levels. Further, each of the identified categories interacts with every other category, making it difficult for these individuals to be certain about any aspect of the return-to-work process. Individual differences regarding the ability to tolerate ambiguity influence the relative reluctance on the part of some participants to form, or articulate, expectations. Further, each individual's biopsychosocial context has the potential to influence each of the identified categories. Greater perceived uncertainty in one area can lead to increased perceived uncertainty in another, thus perceived uncertainty becomes an over-arching category in the formation of expectations of return to work.

CHAPTER FOUR

Discussion

The findings of this study have identified a number of interrelated categories that influence the formation of expectations of return to work. These injured workers, who were off work due to sub-acute back pain, formed their expectations of return to work (RTW) based on perceived uncertainty. This perceived uncertainty encompasses (1) perceived (lack of) control over the RTW process, (2) perceived (lack of) recognition by others of the impact of the injury, (3) perceived inability to perform the pre-injury job, (4) fear of re-injury, and (5) perceived (lack of) workplace accommodations. Expectations undergo continuous revision according to an individual's capacity for coping with the impact of the injury, which in turn is influenced by successful or unsuccessful attempts to return to work (see Figure 1).

The identification of the concept of perceived uncertainty, present in each of the interactive sub-categories mentioned above, as a major influence on the formation of expectations of RTW, shifts the discourse of RTW from primarily a bio-medical one to consideration of the biopsychosocial context of these injured workers. It is important to note that, overall, participants were reluctant to either form, or articulate, their RTW expectations due to their perceived uncertainty. This grounded theory of the formation of expectations incorporates concepts from much of the existing rehabilitation literature. In particular, fear of movement/(re)injury, locus of control, self-efficacy, coping and accommodations have all been associated with the return-to-work process. Perceived uncertainty has been shown to be related to the concepts of justice and fairness, which themselves are related to recognition. Justice and fairness also have been recently identified as having important roles to play in the return-to-work

process. The current thesis ties these concepts together under the umbrella of perceived uncertainty as an overarching influence in the formation of workers' RTW expectations.

Perceived Uncertainty

The finding of “perceived uncertainty” as integral to the return-to-work process is unique to this study of the formation of injured workers' expectations of return to work. Uncertainty is recognized as a basic condition of human knowledge that varies with individual cognitive processes, perceptions of the environment and social expectations for perceptions of uncertainty (Douglas, 1985, as cited in Ericson & Doyle, 2004; Downey & Slocum, 1975). Characterized as an awareness of the difference between knowing and not knowing, perceived uncertainty can consist of anxiety, despair and confusion, or hope and opportunity (Downey & Slocum, 1975; Ericson & Doyle, 2004; Foreman & Murphy, 1995; Gabe, Bury, & Elston, 2004). The data from this study clearly revealed the overarching influence of perceived uncertainty in the formation of expectations of return to work: uncertainty regarding recognition of the impact of the injury by others, lack of control over the RTW process, doubt about one's ability to perform pre-injury job, fear of re-injury, and challenges of implementing workplace accommodations. The influence of perceptions of uncertainty as identified in this study related to different aspects of injured workers' expectations of the return-to-work process on multiple levels: individual, interpersonal and systemic.

There is a paucity of literature about the psychological concept of perceived uncertainty in rehabilitation. Social psychology has described uncertainty as a level of understanding that prevents one from saying for certain what will happen, even when more information might be available (van den Bos & Lind, 2002). This uncertainty was evident in the reluctance of the participants to form, or articulate, their expectations of return to work. Socially constructed

uncertainty has been viewed as interactive, the result of doubt when one is unconvinced of the claims of another (Grills & Grills, 2008), as was illustrated in some participants' doubt regarding the implementation of workplace accommodations. While variations in perceived uncertainty may be attributed to individual differences, perception of environmental context, such as a high-risk workplace, has also been related to perceptions of uncertainty (Downey & Slocum, 1975). Illness uncertainty, a cognitive stressor, has been described as consisting of perceptions of insufficient information and loss of control, along with an inability to make meaning out of illness-related events that change over time (Johnson, Zautra & Davis, 2006; Mishel, 1990).

With the event of the back injury, performance of regular daily activities was thrown into doubt when participants were confronted with unpredictability about basic life roles that had previously been taken for granted. Personal stability and independence were disrupted, which interfered with participants' previous modes of functioning (Johnson, et al., 2006; Patel, Greasley & Watson, 2007). The unpredictable nature of back pain contributed to illness uncertainty, which was dynamic and fluctuating over time depending on symptom variations. A reduced sense of mastery over events due to uncertainty has been associated with psychological distress, which in turn heightens a sense of danger and reduces levels of learned resourcefulness, affecting health status and ability to cope (Johnson, et al.; Mishel, 1990; Wendell, 2008).

Uncertainty played an influential role in diagnostic treatment decisions and communication with injured workers, especially since it typically has not been possible to provide reliable medical information in relation to back pain (Patel, et al., 2007; Slade & Molloy, 2009). For example, some participants were relying heavily on information from the results of medical tests, such as MRIs, and were at a loss when these objective medical findings were inconclusive regarding the nature of their back pain. Some study participants reported being

confronted with differing opinions from health professionals, insurers, employers, family members and friends regarding their physical status in relation to return to work. This incompatibility between different cognitions, cognitions and experience, or cognitions and behaviour contributed to uncertainty (van den Bos & Lind, 2002).

Serious illness has been associated with uncertainty about basic assumptions of life roles, faith in one's body and the future (Grills & Grills, 2008; Patel, et al., 2007). Basic assumptions about work roles were put into question by the current study participants' experience of the return-to-work process itself, in part due to unfamiliarity with terms used and roles of rehabilitation health professionals, especially with a first injury. From her research on people with chronic illness, Charmaz (1991, as cited in Grills & Grills) suggested that sustaining doubt required greater effort than certainty about symptoms, diagnoses and future limitations. The overarching category of perceived uncertainty was reflected in participants' overall doubt about their return to work, whether or not it would be possible to return to the pre-injury job, and if so, under what circumstances.

Existing psychological literature about perceived uncertainty has mainly been concerned with the intolerance of uncertainty as it related to generalized anxiety disorder. Intolerance of uncertainty has been defined as a fear of unknown, potentially harmful consequences that may result in responses that characterize anxiety sensitivity (Carleton, Sharpe, & Asmundson, 2007; Downey & Slocum, 1975). Uncertainty itself may have been perceived as a threat, contributing to anxiety and thus further exacerbating the perception of threat (Carleton, et al., 2007; Dugas, et al., 2005). Some individuals cope with uncertainty better than others, and some jobs are inherently uncertain (Franche, et al., 2009). The higher the intolerance one has of uncertainty, the greater the concern about ambiguous situations (Dugas, et al., 2005). Participants' capacities to

cope with uncertainty influenced expectations, which in turn affected related aspects of perceived uncertainty. Research has shown that individuals who were feeling uncertain were particularly concerned with fairness, since perceived fairness made uncertainty more tolerable (van den Bos & Lind, 2002). In the context of job security, uncertainty intensified the health effects of fairness, and as such was relevant to the justice system of workers' compensation systems (Franche, et al., 2009; Patel, et al., 2007).

Perceptions of unfairness were common for the current study participants, particularly in relation to the insurance compensation system and related benefits. Perceptions of unfair treatment from health professionals, insurers, and/or employers, who did not believe there was anything wrong and thought that they should go back to work, exacerbated perceptions of uncertainty, particularly with respect to self-doubt.

The categories that emerged in the current study illustrate the potentially pervasive nature of perceived uncertainty in relation to injured workers' formation of expectations of return to work. Uncertainty has been encountered in a broad range of situations where important features are vague and ill-defined, leading to varied conclusions (Johnson, et al., 2006; van den Bos & Lind, 2002). For the participants in this study, the typically elusive nature of back pain was met with perceived uncertainty in many aspects of their lives, including the return-to-work process.

As mentioned earlier, due to their uncertainty, most participants expressed reluctance to form, or at least articulate, expectations of return to work. Uncertainty theory states that conclusions from uncertain situations can be based either on inference drawn from related examples, or on illusion created from positive or negative constructed beliefs or expectations (Johnson, et al., 2006). Participants' experiences with lack of employer support resulted in inferences that accommodations at the workplace were unlikely. This uncertainty regarding

employer support led to forming an expectation of returning to work only when one's physical state had returned to "one hundred percent", which also implied an expectation that one would return to pre-injury health status. Uncertainty about returning to a pre-injury physical state led to as yet unformulated expectations, that is, no expectations, about what other type of work might be possible (Franche & Krause, 2005). Self-awareness of hesitancy about being able to return to pre-injury employment led to greater uncertainty about being able to obtain any employment in an uncertain job market, especially with a gap in work history and the expectation of having to deal with the stigma of being off work with a compensation claim. At the sub-acute stage, approximately three months or more post-injury, participants expressed a need for more information about their health status and work situation before forming expectations returning to their pre-injury employment. The various aspects of this perceived uncertainty all contributed to the formation, or lack of formation, of these workers' expectations of return to work. I now take a closer look at each identified category of perceived uncertainty, as illustrated in Figure 1.

Perceived (Lack of) Control over the Return-to-work Process

Perceived lack of control over the return-to-work process related to the extent that these participants felt they had a say in decision-making pertaining to their eventual return-to-work circumstances as well as the rehabilitation process itself. Downey and Slocum (1975) reported that perceived uncertainty resulted when one felt out of control of a situation, as well as potentially oneself. Research literature refers to the opportunity to provide "voice", or provide input in the context of a decision-making process, which influenced people's identity and their self-esteem (deCremer & Blader, 2006; Nichols, 2008; van den Bos & Lind, 2002). In a qualitative study of partnership in care for people with chronic low back pain (Slade & Molloy, 2009), the participants expressed a desire for active involvement or "engagement" in the

management of their care, including accessible and understandable information from health care providers. These participants wanted to reduce their uncertainty by the provision of comprehensive explanations of problems and rationales for treatment, so that they could share in the decision-making process and ensure that their preferences were based in fact rather than misconception (Slade & Molloy). Driedger and colleagues (2008) suggested that, to support worker empowerment, injured workers and health care providers needed to manage the rehabilitation process collaboratively.

The current study data revealed a great deal of participant uncertainty about the rehabilitation process and related decision-making. Decisions and changes in the rehabilitation plan and compensation process were often made with apparently little or no communication with the injured workers. The concept of internal locus of control taken from Rotter's social learning theory (1954), where an individual expects her or his own behaviour to influence the outcome, has been demonstrated to be of considerable importance in rehabilitation (Selander, Marnetoft & Asell, 2007). "Perceived consideration" or perception of some control came about when people felt that they had an opportunity to participate, and potentially influence a decision, or when a third party appeared to have been responsive directly or indirectly to their concerns (Shapiro, 1993). This perceived control contrasted with external locus of control, where an individual expected the outcome to be determined by people or external factors beyond their control (Selander, et al.). Selander and colleagues determined that perceived control was changeable rather than static, and that clients with high internal locus of control were 70% more likely to receive a positive rehabilitation outcome than those with low internal locus of control.

Perceived lack of control over the return-to-work process was evident in the data in relation to participants' hesitancy to return to work. An unsuccessful attempt to RTW was seen

by participants as a potential financial risk due to possible premature closure of the compensation file. This possible threat was exacerbated by perceptions of unfair treatment, based on perceived suspicion of malingering by employers, health professionals and/or insurers. Perceived fairness is reported as playing a key role in reducing perceived uncertainty (Franché & Krause, 2005), Franché and Krause found that fairness in the compensation system was of great relevance to the injured worker, and that a worker can feel diminished, disliked, or even tricked when perceiving broken promises.

Perceived (Lack of) Recognition by Others of the Impact of the Injury

Due to the invisible nature of back pain, most participants expressed apprehension based on the apparent lack of awareness on the part of others of the impact the back injury was having on their ability to function on a day-to-day basis, as well as interpersonally and over the longer term. Recognition has been described in chronic illness research as acknowledgement of how serious the situation is, by “some appreciation of what it must be like to...accommodate one’s life to an unpredictable body...and beyond this, a frank appreciation of the demands of such a life” (Carson, 1995, p. 121). Respect implies recognition, the need for which is an integral part of any relationship, whether intra- or interpersonal (Franché, et al., 2009; Mordacci, 2006). All participants in this study expressed feeling that they had been treated impersonally in the RTW process. This perception of lack of recognition either by the insurer, health professionals, and/or the employer, was based on various forms of contact, including unsigned form letters, minimal one-on-one contact either by phone or in person, complex administrative procedures, standard rather than individualized timelines for rehabilitation programs, and delayed or refused claims and/or payments. Recognition of an injured worker’s specific circumstances and acknowledgement of the individual worker’s perspective have both been shown to assist in

predicting workers' expectations (Melles, McIntosh, & Hall, 1995). Impersonal treatment has been perceived as a form of disrespect; lack of recognition has been tied to personal identity, and without it, one does not feel truly respected by another (Mordacci, 2006). Respect is central to sound ethical practice and, while respect supports minimal interference in each other's lives, too little involvement on the part of care-givers can deprive an injured worker of much needed regard in the form of dialogue, acquired familiarity, attentiveness and consideration (Carson, 1995):

Because our very identity as moral beings is shaped in significant measure by the reflection of ourselves mirrored back to us by others, recognition is not optional but is a necessary acknowledgement of our membership in a moral community (Taylor, 1992, as cited in Carson, 1995, p. 124).

Along with their own doubts about the extent of their injury, most participants perceived a lack of recognition from health professionals, employers, and/or insurers regarding the impact of their injury. This perceived lack of recognition was similar to the findings reported in another qualitative study of return to work for individuals with back injury (Soeker, Wegner & Pretorius, 2008), in which participants expressed doubt that employers and medical professionals had sufficient information regarding injury management strategies; participants in that study described unsupportive work environments and unsympathetic employers who doubted the injured workers' abilities (Soeker, et al.). In another qualitative study about care for individuals with chronic low back pain (Slade & Molloy, 2009), all participants wanted a partnership with care providers that included empathy, listening and respect, as well as recognition of their own expertise and understanding of their condition. Similarly, in a study of fairness in relation to

claiming compensation, Roberts and Markel (2001) reported that injured workers perceived a lack of recognition from employers about the workers' knowledge of the severity of the injury and the ability to work. Further, workers in that study perceived that their status changed in the eyes of the employer from valued employee to problem employee when off work due to injury. Rather than recognition of the impact of the injury, they perceived a lack of trust from employers who might view compensation benefits as an incentive to delay return to work, or to exaggerate or falsify a claim (Roberts & Markel). This perception of mistrust resembled the perceptions of some participants in this study, who expressed feeling mistrusted by the insurer or employer for being off work and receiving compensation benefits.

Recognition of the impact of the injury needs to change form along with changes in the rehabilitation and return-to-work process over time (Carson, 1995). A number of participants in the current study stated their beliefs that a first hand visit to the workplace by an insurance compensation representative or health professional would likely result in recognition of much-needed accommodations due to the physical demands of the workplace. These participants believed that a workplace visit also would result in recognition of their reluctance to return to work due to safety concerns, and an understanding of the challenges of implementing workplace accommodations. Research literature confirms that injured workers perceived that a lack of recognition by others of the impact of the injury was reflected in inadequate workplace policies, where injuries might be prevented if the work environment were safer (Soeker, et al., 2008). Injured workers in the Soeker et al. study, as well as in the current study, believed that health professionals disregarded their opinions about workplace demands, and that doctors were not aware of functional and psychological workplace demands (Soeker et al.).

Successful implementation of workplace accommodations also may have been influenced by coworker recognition of the returning worker's need for such accommodations (Nichols, 2008). Research has demonstrated that there was a greater chance of injured workers returning to the job if employers treated them with dignity and respect (Pease, 1995, as cited in Fisher, 2003), and if typical barriers to rehabilitation were recognized and addressed (McIntosh, Melles & Hamilton, 1995). A perceived lack of recognition by others of the impact of injury on the worker tied into the current study participants' fear of re-injury and overall perceived uncertainty about returning to work.

Some participants of this study perceived lack of recognition from family members and friends regarding the impact of the injury on their ability to participate in activities. This finding is similar to those of Soeker and colleagues (2008), where injured workers described some family members and society in general as being unsupportive and discriminatory. As Shapiro (1993) stated of the struggle for recognition for people with disabilities: "to be seen as a patient or in need of charity is to be thought incapable of the same life as others" (p. 60).

Perceived Inability to Perform Pre-injury Job

Downey and Slocum (1975) suggested that perceived uncertainty came into play when an individual felt unable to perform the behaviours required by the environment. In the current study, most participants expressed feeling a lack of confidence in their ability to carry out the job demands of the pre-injury job, or uncertainty about their self-efficacy compared to before the injury. There are multiple dimensions of self-efficacy, which has been defined as an individual's sense of control and belief about their capacity to execute a particular behaviour to produce a desired outcome (Bandura, 1977; Main & Spanswick, 2000; Shaw & Huang, 2005). Perceptions of self-efficacy apply to beliefs about abilities to accomplish discrete tasks as well as fulfilling

complex occupational functions, such as managing symptoms, avoiding re-injury and knowing how to access help (Shaw & Huang). Low self-efficacy beliefs have been associated with slower recovery and delayed return to work (Busch, Goransson, & Melin, 2007).

Research literature has determined that an association exists between an injured worker's intent to return to the pre-injury job or pre-injury type employment and the perceived physical demands of that job, as well as the worker's satisfaction with the job (Fishbain, Rosomoff, Cutler & Steele-Rosomoff, 1995). The ability to control and influence one's work, as well as the need for freedom in deciding how to manage one's work situation were mentioned as concerns by individuals with chronic back pain (Raak & Wahren, 2006). Some of the current study participants perceived uncertainty about fear of re-injury, with respect to being able to manage the physical demands and/or pace of the pre-injury job, especially without accommodations or a gradual return to work, which they perceived as unlikely. Fishbain and colleagues (1995) found pace to be the second most important source of job dissatisfaction for individuals with chronic pain. A few of the current study participants expressed uncertainty about being able to manage their pain symptoms upon returning to work. Gibson and Strong (1996, 1998) reported that perceived capacity for work-related tasks and expectations of returning to work for individuals with chronic back pain were influenced by perceived disability, as well as physical and pain self-efficacy.

Some participants in the current study expressed dissatisfaction with rehabilitation clinic work simulation exercises, which they judged to be inadequate for building up the necessary stamina and muscle groups required to perform their pre-injury job tasks. This doubt brought the expertise of the occupational therapists into question, as well as the policies of the insurer, which obliged participants to attend the rehabilitation clinic in order to receive financial compensation.

These participants were concerned that they would be sent back to work after completing an obligatory exercise program they deemed as insufficient and undermining of their self-efficacy.

As mentioned earlier in the section on perceived lack of control over the return-to-work process, uncertainty about the likelihood of the implementation of workplace accommodations emerged as a recurring theme throughout the course of this exploratory study. Although potentially beneficial, accommodations were viewed as virtually impossible to implement. The incompatibility between different cognitions about accommodations contributed to perceived uncertainty about self-efficacy and potential success with the return-to-work process (van den Bos & Lind, 2002).

A change in labour market status, such as being off work, has been shown to contribute to lower self-efficacy (Labriola, et al., 2007; Patel, et al., 2007), especially when workers were pessimistic about their return to work (Haldorsen, Kronholm, Skouen & Ursin., 1998). Some of the current study participants were unsure of how they would meet family and home demands when they returned to work, and were apprehensive that their situation would get worse. Haldorsen and colleagues (1998) found similar concerns of a worsening situation in workers with low back pain who had been off work for 12 months. Research shows that psychosocial factors have an important role to play in affecting physical and occupational performance (Gibson & Strong, 1998), and lack of self-efficacy is strongly associated with adverse return-to-work outcomes (Dionne, et al., 2007).

Fear of Re-injury

All participants stated that they were experiencing pain during the course of the interview, and that they were uncertain about returning to work due to fear of re-injury at the workplace and potential exacerbation of pain. Some individuals were unable to sit comfortably

for the entire one-hour interview, frequently changing position or choosing to stand. It is well established in the literature that fear and avoidance behaviours are based on beliefs and expectations that movement can cause (re)injury and increase suffering (Adams, Ellis, Stanish & Sullivan, 2007; Boersma & Linton, 2006; deJong, et al., 2005; Dionne, et al., 2007; Godges, Anger, Zimmerman & Delitto, 2008; Leeuw, et al., 2007; Swinkels-Meewisse, Roelofs, Verbeek, Oostendorp & Vlaeyen, 2003; Lateen, et al., 1995a; Vlaeyen, et al., 1999; Vlaeyen, deJong, Geilen, Heuts & van Breukelen, 2002). Fear of movement and the expectation that movement cause re-injury have been shown to influence patterns of performance at work (Boersma & Linton, 2006; Vlaeyen, Kole-Snijders, Rotteveel, Ruesink & Heuts, 1995; Vlaeyen et al., 1999). Participants in the current study perceived a great deal of uncertainty about being able to return to work without risk of re-injury, and expressed fear of increased pain related to specific work demands, such as lifting heavy loads, sitting for prolonged periods, and bending or crawling in small or confined spaces. For most participants, this fear was coupled with perceived uncertainty about re-injury due to the pace of the workload at the pre-injury job.

Individuals with musculoskeletal conditions and fear of movement/(re)injury are known to be at increased risk of prolonged pain, recurrent episodes and disability (Adams, et al., 2007; Boersma & Linton, 2006; Brooker, Cole, Hogg-Johnson, Smith & Frank, 2001; deJong, et al., 2005; Fritz & George, 2002; Leeuw, et al., 2007; Swinkels-Meewisse, et al., 2003). For the current study participants, fear of re-injury and perceived uncertainty were not only related to immediate return-to-work considerations, but also to future longer term health concerns due to physical demands of the workplace and the possibility of eventual disability, unemployability, and dependence on others. Fear-avoidance beliefs have been associated with the development of prolonged work restrictions and have been suggested as the most important psychosocial variable

for individuals with acute, work-related back pain in preventing chronic back disability (Adams, et al.; Fritz & George; Swinkels-Meewisse, et al.; Vlaeyen, Kole-Snijders, Boern & van Eek, 1995). Fear of movement and physical activity have been wrongfully assumed to cause re-injury, and return to work has been associated with a reduction in this fear (Adams, et al.; Brooker et al.; deJong et al., 2005; Swinkels-Meewisse et al.; Vlaeyen, Kole-Snijders, Rotteveel, et al., 1995; Vlaeyen, et al., 2002). Research literature has established a connection between fear of movement/(re)injury and pain catastrophizing, or the degree to which one experienced certain thoughts or feelings during pain (Leeuw, et al., 2007). While individuals may have cognitively understood that the fear/avoidance behaviour was irrational, they still reacted negatively to suggestions of performing specific activities if the activities were related to a memory of a previously negative experience of that activity (deJong, et al.). Perceived uncertainty about the fear of re-injury was a concern for some of the current study participants in relation to perceived unsafe workplaces. Based on previous experience with injury and perceived uncertainty about the physical demands of the workplace, an individual's fear of movement/(re)injury can become deeply ingrained (deJong, et al.; Vlaeyen, et al., 2002).

Perceived (Lack of) Workplace Accommodations

These injured worker's perceptions of the challenges of implementing workplace accommodations were, for some participants, based on previous experiences of work injury and the return-to-work process. Increasingly, accommodations are being recognized in the research literature, as well as in the workplace, as playing integral role in the return-to-work process. In their critical review of determinants of occupational disability after low back injury, Crook and colleagues (2002) identified modified jobs and lighter duties as predictive of faster return to work.

Perceived lack of workplace accommodations interacts with each of the other identified categories in this thesis. The topic of accommodations elicited a number of concerns about control over the return-to-work process. Although workplace accommodations were viewed in general as beneficial, they were also viewed as difficult, if not impossible, to implement, based on inferences drawn from related examples that participants had witnessed themselves, or heard about from friends and coworkers (Johnson, et al., 2006). Research literature supports uncertainty about the implementation of workplace accommodations. For example, the Harris survey, sponsored by the U.S. National Organization for Persons with Disabilities (NOD) in 2004, found that 21% of persons with disabilities reported being refused a workplace accommodation (Nichols, 2008). This survey also reported that the most frequent claim (36%) made against government agencies under the American Disabilities Act (ADA) was the failure to provide reasonable accommodations (Nichols). Further, many persons with disabilities were unwilling to make requests for workplace accommodations (Nichols). Participants in the current study expressed a perceived lack of control over the RTW process due, in part, to their perceived uncertainty about the feasibility of implementing accommodations at their workplace, as well as anticipation of negative repercussions from employers and/or coworkers, who might perceive accommodations as unfair. Research has shown that successful implementation of accommodations was influenced by coworkers who, unaware of or not understanding the context of accommodation decisions, responded negatively toward the returning worker (Nichols).

Coping with the Impact of Injury

The category of *coping with the impact of injury* emerged from the data as influencing participants' expectations after an initial appraisal of coping strategies to manage a suddenly altered sense of self. There is a vast amount of research literature in relation to coping and

rehabilitation. However, this category emerged in the data as being important after the formation of expectations, and therefore is discussed here as part of the RTW process, rather than in relation to forming expectations. Coping has been described as an array of strategies people utilize to appraise a situation with the goal of increasing well-being and avoiding harm when faced with a life stressor (Bishop, 2007; Chronister & Chang, 2007; Livneh & Antonak, 1997). A contextually based process, coping changes as the situation changes, influenced by both internal and external environmental factors such as one's health or strength, family or social support, and policy changes (Bishop, 2007; Busch, 2005; Robinson, West & Woodworth, 1995). Coping efficacy, or one's belief in an ability to cope, has been associated with important health benefits including pain management (Busch; Johnson, et al., 2006; Wang, Badley, & Gignac, 2004). The unpredictable nature of back injury, with its "good" days and "bad" days, along with the accompanying limitations and flare-ups, presented varying degrees of coping challenges for all study participants in anticipation of return to work (Johnson, et al.; Patel, et al, 2007; Raak & Wahren, 2006; Slade & Molloy, 2009; Verbeek, Sengers, Riemens, & Haafkens, 2004; Wendell, 2008).

Coping can be described as appraisal, or "what can I do?" (Bishop, 2007; Livneh & Antonak, 1997). Current study participant appraisals of the impact of injury varied according to individual differences on a continuum ranging from anticipatory anxiety to calm optimism. Coping appraisals were influenced by expectations of needing to figure out new ways of doing things, based on perceived uncertainty. These appraisals were subsequently revised depending on evaluation of the success of their application. Quality of life was affected by the inability to accomplish basic household chores such as vacuuming or gardening, requiring participants to reappraise the situation to cope with a different standard of cleanliness or upkeep than usual.

All participants expected that returning to work, especially without accommodations or a gradual re-entry, would require coping strategies such as resting in the evenings and on weekends to recover from the strain of work. Some participants expressed reluctance to return to work if the cost of working meant increased pain due to work and travel, as well as an inability to relax at home. These participants had difficulty imagining being able to maintain household chores due to the pain and fatigue they anticipated when returning to work. While coping efficacy has been shown to be a significant mediator between activity limitation and independence, this did not appear to apply to household tasks (Wang, et al., 2004). Limitations in activity levels have been shown to have a detrimental effect on one's perception of independence (Wang, et al.). The current study participants experienced their rehabilitation programs as geared only towards return to work, without considering the need to manage many other aspects of their lives that were also affected by their limitations due to the injury.

Participants had to cope with the impact of injury on an interpersonal level. More than one participant referred to the strain the back injury had put on their primary relationship. One individual had to revise his shared custody arrangements; another actively avoiding thinking about returning to work, rather than facing the fear of being unable to cope physically or financially. Some participants had spent a considerable amount of time working in one specific occupational field and were resistant to the idea of training for a new occupation, or accepting a job at a lower rate of pay than they were used to (or that was needed to cover financial obligations). Patel and colleagues (2007) identified injured workers' concerns that accepting a lower level job would not take into account previous experience, and might result in a future of low paid employment.

Expectations of mobility and access challenges upon returning to work related to a perceived lack of recognition by others of the impact of the injury. The discomfort of travel did not appear to be considered by others with regard to the numerous medical and treatment appointments of the rehabilitation program. Expectations of return to work were influenced by coping with these new transportation concerns.

On a societal level, stigma regarding disability, compounded by the invisible nature of back injury, influenced participants' capacities to come to terms with a possible new identity as a person with a disability. For example, participants realized that requiring workplace accommodations would put them at a distinct disadvantage in the competitive job market (Patel, et al., 2007).

Summary

The findings of this study clearly demonstrate the major interactive influence of perceived uncertainty on the formulation these injured workers' multidimensional expectations of return to work. The participants of this study, while eager to return to work, were reluctant to form, or articulate, expectations of return to work due to perceived uncertainty in many aspects of their lives, which suddenly had been disrupted by the back injury. This perceived uncertainty was based on fear of re-injury, reduced self-efficacy, feelings of lack of control and lack of recognition, and a coping strategy of keeping expectations low to avoid disappointment. Most participants expressed feeling discouraged that they were still in pain and off work at three or more months post-injury. Expectations were based on inference or illusion, with perceived uncertainty interacting among the categories of recognition, control, self-efficacy, fear of re-injury, and need for accommodations. The data revealed an integral link between coping and expectations of return to work, which were continually revised based on how well these injured

workers managed their perceived uncertainty about return to work. As expectations shifted, coping strategies shifted. For the few participants who had experienced unsuccessful attempts to return to work, coping appraisals were revised, affecting expectations and levels of perceived uncertainty.

Uncertainty feeds on itself and generates further uncertainty. Experiencing injury may cause individuals to become more aware of their own mortality, thus becoming more uncertain (McGregor, 2001, as cited in Van den Bos & Lind, 2002). The more uncertain individuals feel, the less they feel confident or in control, and the greater the need for perceived fairness (Franche, et al., 2009; Sullivan, et al., 2009; van den Bos & Lind).

The important role of expectations is becoming clearer with advances in research. A recent review of research literature on expectations in relation to the placebo effect confirms the enhancing effect of psychosocial context surrounding the patient, including both therapeutic interventions and patient interactions with health care professionals (Finnis, Kaptchuk, Miller & Benedetti, 2010). The findings of this thesis enhance our understanding of the biopsychosocial context of the return-to-work process by unpacking the multidimensional formation of the construct of expectations of return to work for these injured workers.

Implications for Practice

The unpredictable nature of back pain contributes to a reduced sense of mastery and is associated with psychological distress, a heightened sense of danger and reduced ability to cope, all affecting health status (Johnson, et al., 2006; Mishel, 1990; Wendell, 2008). As part of the rehabilitation process for injured workers, psychological interventions designed to assess and evaluate perceived uncertainty may serve to address concerns related to the categories identified by this research. To address negative expectations of return to work, it may be helpful to

examine the biopsychosocial context of the injured worker's underlying perceived uncertainty. Expectations of successful rehabilitation have a significant effect on treatment outcome. Highly individualized and specifically tailored interventions need to be geared toward individual beliefs, not only about self-efficacy, pain management and fear-avoidance behaviours, but also individual perceived uncertainty related to environmental and psychological factors of returning to work. (Adams, et al. 2007; deJong, et al., 2005; Dionne, et al., 2007; Fritz & George, 2002; Gibson & Strong, 1996, 1998; Leeuw, et al., 2007; Vlaeyen, et al., 1999; 2002). An individualized tailored approach to interventions would contribute to recognition of the impact of the injury on these workers' lives.

Exploration of injured workers' perceptions of fairness of the return-to-work process might need to be incorporated as part of vocational rehabilitation intervention (van den Bos & Lind, 2002). Similarly, returning workers who feel a need for recognition of their circumstances, might benefit from being consulted about decisions related to their rehabilitation, including decisions affecting their work situation (Shapiro, 1993). A collaborative rehabilitation process where individuals feel they have a voice would potentially assist with managing injured workers perceptions of being out of control of the return-to-work process, unfamiliarity with rehabilitation terms and roles, and frustration at not knowing whether or not it would be possible to return to the pre-injury job, and if so, under what circumstances. Perceived uncertainty may be reduced if injured workers have easy access to understandable information about the rehabilitation process, including the players and procedures involved. Further, employers or insurers might consider providing injured workers with an individualized service where workers can get information specific to their situation.

Implementation of a monitoring policy on an ongoing or occasional basis for workplace accommodations may be beneficial to encourage compliance with accommodations on the part of the employer, co-workers and returning worker, in support of successful return to work over the longer term. Uncertainty may be reduced by ensuring that returning workers, co-workers and employers have access to information about rights and responsibilities in relation to workplace safety and accommodations, along with knowledge about procedures and assertiveness.

Workplace education programs about accommodations might serve to support their implementation and reduce the apparent resistance and stigma associated with them.

Injured workers value the reduced uncertainty and increased recognition that result due to effective and knowledgeable communication with health care professionals and other individuals involved in the return-to-work process. Ericson and Doyle (2004) describe insurance as a key institution for understanding risk and uncertainty, citing the following “uncertainty principle”:

Nowhere else in medicine is there as large a gap between what we think we know and what we can prove as in the area of musculoskeletal disorders (Sommer, 1999, p. 26, as cited in Ericson & Doyle, 2004).

Rehabilitation professionals should be encouraged to include establishment of rapport, validation of experience, and disclosure of expertise as part of their interventions with injured workers (Slade & Molloy, 2009; Shapiro, 1993; Soeker, et al., 2008; Van den Bos & Lind, 2002). Educational programs about the influence of uncertainty on return to work that are geared towards health care professionals, insurers, employers, co-workers and family members may assist in supporting injured workers as they navigate the uncertainty of the return-to-work process. Rehabilitation professionals and society in general might benefit from education

programs designed to correct misunderstandings and misinformation about back pain, especially in relation to elusive causes and fearful reactions. Employers and insurers would do well to ensure that policy decisions are implemented that support consultation and collaboration with the injured worker whenever possible in return-to-work decisions. Collaborative evaluation of the returning worker's job tasks would help to identify which tasks can be done without risk of pain or re-injury.

As an integral part of the return-to-work process, evaluating workplaces for the feasibility of implementing accommodations both before and after the injured worker's return to work, and including worker participation, would increase the likelihood that safety concerns are addressed, that recommended accommodations are put in place and remain in place, and that workers are prevented from returning to work too early and risking reactivation of pain or injury. Some jobs are uncertain by their very nature. However, overall workplace design needs to aim for clear and unambiguous job descriptions and reporting structures wherever possible, as well as supportive and consistent policies to reduce uncertainty and increase perceived fairness in the workplace.

Implications for Future Research

The findings of the current study clearly indicate that perceived uncertainty influences the formation of expectations regarding return to work at every level, from individual to interpersonal to organizational. This raises questions of how to develop new techniques and sources of information to manage perceived uncertainty in the future (Gabe, et al., 2004). Expectations have been clearly identified as playing an influential role in the return-to-work process. The identification of these workers' categories of perceived uncertainty supports future development of effective measures to assess the formation of RTW expectations. These findings also underscore the potential importance of assessing perceived uncertainty, by developing

measures similar to those currently in use to assess intolerance of uncertainty for generalized anxiety disorder.

It is also clear from the findings of this study that further research is required on the topic of workplace accommodations, which surfaced as a recurrent theme throughout this exploration. Development of educational programs, not only about back pain but also about workplace accommodations, may need to be geared towards employers, insurers, health care professionals, workers and co-workers, as well as family members and friends. Workplace visits would form an essential and integral component to much-needed research on the successes and barriers to implementation of accommodations and gradual return-to-work programs. Further, research on accommodations using a biopsychosocial context would assist in analysis of costs of an injured worker who is off work on a long term basis, compared to costs of implementing accommodations and/or gradual return-to-work programs to support an injured worker potentially returning to work successfully, and sooner.

The grounded theory generated by the data of the current study would benefit from further testing with a larger population of injured workers, as well as with other target populations, such as workers who are off work due to mental health disorders, particularly since uncertainty is associated with anxiety, which itself is often associated with depression. Given these participants' descriptions of various aspects perceived uncertainty, future research might examine the inter-relationships among these categories, and how these inter-relationships might influence the formation of expectations and the return-to-work process in general.

Limitations

As with all qualitative research, the goal is understanding of experience rather than generalizability of findings, which is limited to the participants of this study. Participants were

not asked for ethnic or socio-economic self-identification. Therefore it is impossible to determine the extent that alternative cultural or sociodemographic perspectives were reflected in the data. All participants were self-selected, and it is worth mentioning that all study participants perceived return to work as desirable. As well, all interviews were conducted in the Lower Mainland region of British Columbia, which places a geographical limit on these findings. A larger sample of individuals from diverse cultural backgrounds and varying geographic regions may be beneficial for enhancing our understanding of these expectations. While saturation of the theory was attained with a sample of 12 participants, a larger group may have strengthened the findings. Two Caucasian female graduate students conducted the interviews, and different information may have been forthcoming with male or non-White researchers. Similarly, different interviewers may have elicited varying perspective on participant experiences. This study, while limited to an exploration of the perspective of injured workers, can be used to inform future studies of expectations from the perspective of health care professionals, family members and others involved in the rehabilitation and return-to-work process.

Conclusion

The findings of this study serve to enhance our understanding of the important role biopsychosocial context plays in the formation of expectations of return-to-work process. From this study, we have learned from the injured workers perspective about the influence of perceived uncertainty and related categories in the formation of these participants' expectations of return to work. These findings can inform future research on the inter-relationship among the identified categories of perceived uncertainty and their influence in the return-to-work process. Further, by giving these participants an opportunity to voice their concerns regarding the return-to-work process, this study has contributed to recognizing the impact that back injury has had on

their lives, allowing these individuals to feel that their perceptions of the return-to-work process are valued and may very well contribute to improvements in the return-to-work process in the future.

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CERTIFICATE OF APPROVAL - MINIMAL RISK

PRINCIPAL INVESTIGATOR: Richard A. Young	INSTITUTION / DEPARTMENT: UBC/Education/Educational & Counselling Psychology, and Special Education	UBC BREB NUMBER: H08-00507
INSTITUTION(S) WHERE RESEARCH WILL BE CARRIED OUT:		
Institution	Site	
N/A	N/A	
Other locations where the research will be conducted: WorkSafeBC, Richmond, BC		
CO-INVESTIGATOR(S): Janet Vaughan Marshall Izabela Schultz		
SPONSORING AGENCIES: WorkSafe BC		
PROJECT TITLE: Expectations of Return to Work for Injured Workers with Subacute Back Pain		

CERTIFICATE EXPIRY DATE: April 8, 2009

DOCUMENTS INCLUDED IN THIS APPROVAL:	DATE APPROVED: April 8, 2008	
Document Name	Version	Date
<u>Consent Forms:</u>		
Consent Form	1	February 25, 2008
Consent Form	2	April 4, 2008
<u>Questionnaire, Questionnaire Cover Letter, Tests:</u>		
Interview Protocol	1	February 22, 2008
<u>Letter of Initial Contact:</u>		
WorkSafeBC Introduction letter	2	April 4, 2008
<u>Other:</u>		
The application for ethical review and the document(s) listed above have been reviewed and the procedures were found to be acceptable on ethical grounds for research involving human subjects.		
<i>Approval is issued on behalf of the Behavioural Research Ethics Board and signed electronically by one of the following:</i> Dr. M. Judith Lynam, Chair; Dr. Ken Craig, Chair; Dr. Jim Rupert, Associate. Chair; Dr. Laurie Ford, Associate Chair; Dr. Daniel Salhani, Associate Chair; Dr. Anita Ho, Associate Chair		

APPENDIX B

SEMI-STRUCTURED INTERVIEW PROTOCOL

Demographics and background

1. Date of birth
2. Marital status
3. How many people live in your household?
4. What are their relationships to you (spouse, children, parents, siblings, etc.)
5. What is the highest level of education you have completed?

Employment

6. What is your usual job title?
7. What is the type of business you work in?
8. How long have you been working for your present employer?
8. How long were you working at your specific job before you were injured?
9. How many hours per week were you working when you got injured?
10. Are you working at all now? If so, how many hours per week?

Back injury, recovery and return to work

11. How did you injure your back?
12. How would you describe your current health in relation to your back injury?
13. What types of limitations, if any, have you experienced due to your back injury?
14. How long do you think it might take to return to your usual activities?
15. What are your thoughts about returning to work?
16. What are your thoughts about returning to your pre-injury job?
17. How do the people closest to you feel about your returning to work?
18. How would you describe the treatment from insurer regarding your claim?
19. How are insurance employees reacting to your injury?
20. How would you describe the treatment from your employer regarding your injury?

Health

21. How would you describe your current state of health in general?
22. What are some limits in your daily typical activities due to your injury?
23. How do you feel about your current ability to accomplish usual activities?
24. How has your injury affected your regular social activities? family roles?
25. What is your experience of pain? How are you managing the pain?
26. What does your doctor (or other health professionals) tell you about your back injury?
27. How well does your back work now compared to before your injury?
28. What else would you like to tell me about how your back injury is affecting you?

APPENDIX C
DEMOGRAPHICS FORM

Expectations of Return to Work for Workers with Sub-acute Low Back Pain

Date of Birth: _____
(day/month/year)

Marital Status: _____
(single/married/common law/divorced/widowed)

Number in Household: _____

Relationships to you: _____
(spouse, children, parents, siblings, etc.)

Your Highest Level of Education: Some High School Bachelor's or
 Completed High School Professional Degree
 Some College/University Graduate Degree

Pre-injury Job Title: _____

Business or Industry: _____

Length of employment at this job: _____

Pre-injury work hours: _____

Date of Injury: _____

Are you currently working? (Yes/No) _____

If Yes, is it with the same employer? _____
(please specify)

How many hours per week? _____

Anticipated date of Return to Work: _____

APPENDIX D
RECRUITMENT POSTER



**Hello,
I'm a graduate student
looking for volunteers
to participate in a
study which will
involve sharing your
experience of being
off work due to a back
injury.**

If you:

- have been off work for more than 4 weeks due to back injury
- are fluent in English
- are 19 years of age or over
- have not had and is not anticipating back surgery
- do not have a neck or head injury with back injury

then you are eligible to participate in this study.

For further information about participating in this study, please contact me by

Email: amschool@interchange.ubc.ca

or

Voicemail: (604) 276-5124

Project title: Expectations of Return to Work for Injured workers with sub-acute back pain
Principal Investigator: Dr. Richard Young, professor, UBC
Co-investigator: Alison Stewart, master's student



APPENDIX E**WORKSAFEBBC LETTER OF INTRODUCTION TO PARTICIPANTS**

Worker Name

Address

Dear

As a result of your recent back injury, you have been selected by the WCB as a person who may be interested in participating in a research study about back injuries that occur in the workplace. There is a UBC research study underway to learn more about injured workers' expectations of return to work after a workplace back injury. The UBC researchers need workers with back injuries who are interested in participating in their study. The UBC study is in **no way connected** with the claims process at the WCB.

If you are interested in participating in the study, please open the enclosed envelope that explains the study and what is asked of you. You will not be contacted by any member of the UBC research team unless you decide to participate in the study. Details of how to participate are explained in the enclosed envelope.

If you are eligible and decide to participate in the study, you may withdraw at any time without consequences to your continuing medical care or WCB benefits. Any decision you make regarding participation in the study will not affect your treatment, medical care, compensation (WCB) benefits, or the adjudication of any WCB claim past, present or future.

If you have any questions concerning this introductory letter, please call _____. If you have any questions about the study or your rights as a participant in the study, please call the UBC Research Coordinator, Alison Stewart, at 604-276-5124.

Sincerely,

APPENDIX F

INTRODUCTORY TELEPHONE SCRIPT

- “Hello, may I speak to _____? This is ----- from the University of British Columbia, calling regarding a referral for research participation from WorkSafeBC.”

- “I am calling to explain the study, and the eligibility criteria for research participation, in order to determine if you are eligible and if you are still interested in participating. Do you have a few minutes right now?”

- Explain Basics of Study:
 - Interest in understanding the experience of individuals with back injuries that prevent them from working, as well as their thoughts about returning to work.
 - Involves 2 separate taped interviews, an initial and a follow up a few months later, each lasting an hour, which can be held at WSBC or UBC. Reimbursement for travel.
 - Hope to improve recovery and outcomes for injured workers

- Eligibility Criteria:
 - Age 19 – 65 “How old are you?”
 - Has a back injury “I understand you injured your back?”
 - Date of back injury (4 weeks to 6 months post-injury) “When did you injure your back?”
 - Have not yet returned to work at pre-injury job (eligible if went to another job) “Have you returned to work?” “At your old job?”
 - Speaks/Literate English “How comfortable are you with speaking English in this interview?”
 - Never had/no plans for back surgery?
 - No related/current head/neck injuries?

- If criteria are met: “It seems like you are eligible to participate, so now that you have heard a little bit about our study, do you have any further questions? Would you be interested in setting up an interview?”

- Appointment
 - Time: _____
 - Date: _____
 - Participant #: _____
 - Phone: _____

Provide contact information and directions. “I will give you a reminder call the day before the interview. Thank you for your interest and time!”