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Individual-Level Psychosocial Factors and Work Disability Prevention

10

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Important factors to be carefully considered in work disability prevention are individual-level psychosocial factors. This chapter provides an overview of these factors and links them to theoretical models used in work disability prevention.

10.1 Definition and Overview of Individual-Level Psychosocial Factors

Individual-level psychosocial factors are important factors to measure in the prevention of work disability and the promotion of return to work (RTW). In Sects. 10.1.1 and 10.1.2, we provide a definition and an overview of individual-level (nonwork-related) psychosocial factors relevant for work disability prevention and RTW research and practice.

10.1.1 Definition of Individual-Level Psychosocial Factors

Individual-level psychosocial factors are defined as worker characteristics and concern psychological, social, and environmental factors that impact recovery and the progression of and recuperation from illness and disease (Waddell and Aylward 2010). Examples of individual-level psychosocial factors are unhelpful expectations about recovery, fears about pain or injury, distressed affect, and the workers' perception that the environment is not supportive. Psychosocial factors affect a worker psychologically or socially and may act as facilitators or barriers to a worker's rehabilitation and RTW. The primary individual-level psychosocial factors to consider in work disability prevention and RTW are summarized in Table 10.1.

It is important to note that individual-level psychosocial factors have to be distinguished from psychosocial workplace—or organizational factors (as described in detail in Chap. 11 on Workplace issues).

In the low back pain literature, psychological risk factors and social and environmental risk factors for prolonged disability and failure to RTW as a consequence of musculoskeletal symptoms are also known as "yellow flags," a term coined by Kendall et al. (1997). In occupational contexts, a distinction has been made between social/environmental risk factors, like the workers' perception that their workplace is stressful or not supportive, which were termed "blue flags." More observable characteristics of the workplace, the nature of work, and the insurance and compensation system were termed "black flags" (Nicholas et al. 2011; Main and Burton 2000). While we focus in this chapter on individual-level psychosocial factors, a certain overlap with

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Table 10.1 Individual-level psychosocial factors (see also Waddell 1998; Nicholas et al. 2011)

Attitudes and beliefs
• Attitude: positive or negative evaluation of situation, people, and activities, i.e., passive attitude to rehabilitation and unhelpful beliefs about pain
• Expectations/expectancies: expectation is what is considered the most likely to happen, e.g., expectations of poor treatment outcome and delayed return to work
• Self-efficacy: the belief that one is capable of performing in a certain manner to attain a certain set of goals
Behavior
• Fear avoidance: stems from several beliefs, i.e., pain is a sign of tissue damage and must be avoided to prevent further "harm," a belief that something is seriously wrong and that activity will make it worse; the pain must be gone before any exercise or return to work is attempted
• Coping: is the process of managing stressful circumstances
Emotional responses
• Distress: an aversive state in which a person is unable to adapt to stressors
• Anxiety: is a generalized mood that can occur without an identifiable triggering stimulus
• Depression: state of low mood and aversion to activity that can affect a person's thoughts, behavior, feelings, and physical well-being
Social support (perceived)
• Social support: feeling that one is cared for by and has assistance available from other people and that one is part of a supportive social network

work-related psychosocial factors (i.e., blue and black flags) cannot be excluded, in particular regarding attitudes and beliefs as well as perceived social support (see Chaps. 5 and 11).

10.1.2 Overview of the Literature on Individual-Level Psychosocial Factors for Work Disability and RTW

Most research to date on individual-level psychosocial factors and work disability and/or RTW has been conducted among individuals with musculoskeletal disorders. To provide an overview of the current knowledge about the role of these individual-level psychosocial factors in work disability and RTW in musculoskeletal disorders and other health conditions, relevant quantitative and qualitative reviews were selected. The reviews contained information about the current evidence base for individual-level psychosocial factors influencing work disability and/or RTW outcomes in individuals with musculoskeletal disorders/injuries, cancer, rheumatoid arthritis, mental health conditions, and cardiovascular disease (including stroke). It is important to note that the studies included in the reviews have used several individual-level psychosocial factors and just as many different instruments or tools to measure them. This observation can be explained by a lack of a common conceptual framework for these individual-level psychosocial factors. Therefore, the presented overview has to be read with caution, taking into account that comparisons of studies are often hindered due to the differences in the definition of individual-level psychosocial factors, the definition of outcome, and the study design and context. Table 10.2 provides an overview of the psychosocial factors associated with work disability and/or RTW examined for different health conditions.

10.2 Individual-Level Psychosocial Factors, Work Disability, and RTW in Musculoskeletal and Other Medical Conditions

In the past decade, many literature reviews have been published regarding (biopsychosocial) factors associated with sick leave, work disability, and RTW (e.g., Dekkers-Sanchez et al. 2008; Alexanderson and Norlund 2004), in particular among workers with musculoskeletal disorders (e.g., Laisne et al. 2012; Heitz et al. 2009; Hayden

Table 10.2 Literature reviews regarding psychosocial factors, work disability, and RTW in musculoskeletal disorders, cancer, rheumatoid arthritis, mental health, and cardiovascular disease (including stroke)

	Musculoskeletal disorders	Cancer	Rheumatoid arthritis	Mental health	Cardiovascular disease/ stroke
Attitudes and beliefs					
Attitudes and beliefs	Sullivan et al. (2005)	Tiedtke et al. (2010) Spelten et al. (2002) Feuerstein et al. (2010)	–	–	Mital (2004)
Expectations	Laisne et al. (2012) Iles et al. (2008) Sullivan et al. (2005)	Tiedtke et al. (2010) Taskila and Lindbohm (2007)	–	Cornelius (2011)	–
Self-efficacy	Laisne et al. (2012) Sullivan et al. (2005)	Spelten et al. (2002)	Allaire (2001)	–	–
Behavior					
Fear (avoidance)	Laisne et al. (2012) Iles et al. (2008)	Tiedtke et al. (2010)	–	–	Mital (2004)
Coping	Laisne et al. (2012) Hayden et al. (2009) Sullivan et al. (2005) Truchon and Fillion (2000)	de Boer and Frings-Dresen (2009) Spelten et al. (2002) Taskila and Lindbohm (2007) Tiedtke et al. (2010)	Backman (2004) De Croon (2004)	–	–
Emotional responses					
Distress	Laisne et al. (2012) Hayden et al. (2009) Iles et al. (2008) Steenstra et al. (2005) Crook et al. (2002) Truchon and Fillion (2000)	Feuerstein et al. (2010)	Backman (2004) De Croon et al. (2004)	–	–
Anxiety	Laisne et al. (2012) Iles et al. (2008)	–	–	–	–
Depression	Laisne et al. (2012) Iles et al. (2008) Steenstra et al. (2005)	Taskila and Lindbohm (2007)	De Croon (2004)	Cornelius (2011)	Mital (2004)

(continued)

Table 10.2 (continued)

	Musculoskeletal disorders	Cancer	Rheumatoid arthritis	Mental health	Cardiovascular disease/ stroke
Social support (perceived)					
Supervisor support		Amir and Brocky (2009) Feuerstein et al. (2010) Spelten et al. (2002) Taskila and Lindbohm (2007) Tiedtke et al. (2010)	Allaire (2001) Backman (2004) De Croon (2004)	Blank et al. (2008) Cornelius (2011)	Wolfenden and Grace (2009)
Coworker support	Hayden et al. (2009) (poor relations with colleagues)	Amir and Brocky (2009) de Boer and Frings-Dresen (2009) Feuerstein et al. (2010) Spelten et al. (2002) Taskila and Lindbohm (2007) Tiedtke et al. (2010)	Allaire (2001) Backman (2004) De Croon (2004)	Cornelius (2011)	–
(Family) support Social isolation	Laisne et al. (2012) Steenstra et al. (2005)	–	–	Lagerveld et al. (2010)	–

et al. 2009; Iles et al. 2008; Steenstra et al. 2005; Sullivan et al. 2005; Crook et al. 2002; Shaw et al. 2001; Truchon and Fillion 2000).

For other medical conditions, we found several relevant reviews addressing cancer (Amir and Brocky 2009; de Boer and Frings-Dresen 2009; Feuerstein et al. 2010; Spelten et al. 2002; Taskila and Lindbohm 2007; Tiedtke et al. 2010), rheumatoid arthritis (Allaire 2001; Backman 2004; de Croon et al. 2004), mental health conditions (Blank et al. 2008; Cornelius et al. 2011; Lagerveld et al. 2010), and cardiovascular disease, including stroke (Mital et al. 2004; Wolfenden and Grace 2009). In the following, we will briefly summarize the findings related to individual-level psychosocial factors for musculoskeletal disorders and other medical conditions (see Table 10.2 for overview).

10.2.1 Attitudes and Beliefs

Attitudes—In the reviews among cancer patients and cardiac event (Feuerstein et al. 2010; Spelten et al. 2002; Tiedtke et al. 2010; Mital et al. 2004), attitudes regarding work disability and RTW were mentioned. For example, work becomes less important to the women's lives after they receive a breast cancer diagnosis. A changing attitude to work is reflected by a reduced importance of work and a decrease in aspirations regarding work. Tiedtke et al. (2010) found that participants changed their perception of work. Cancer survivors felt that they valued work less than before, i.e., the relevance of work in their lives was reevaluated. These changes are negatively related to RTW (Maunsell et al. 1999). After a cardiac event, the patients' attitude toward work is an important factor for her/his RTW. If patients feel they have already worked enough during their lifetime, it is very likely that patients may not want to RTW (Mital et al. 2004). The preoperatively expressed desire to work again after surgery, in addition to an optimistic attitude with concrete plans for the future, correlated closely with RTW outcome, more than those of various clinical predictors (Boll et al. 1987).

Beliefs—The individual's beliefs about severity of the health condition were shown to be a significant predictor of RTW outcomes in musculoskeletal disorders (van der Giezen et al. 2000; Schultz et al. 2004).

Expectations, i.e., *recovery expectations*—Expectations were shown to be predictive of work participation and RTW outcomes as documented in two recent reviews on the association between biopsychosocial factors and work participation among workers with musculoskeletal disorders (Laisne et al. 2012) and in workers with non-chronic, non-specific low back pain (Iles et al. 2008). In an earlier review by Sullivan et al. (2005), low expectancies about the probability to RTW were associated with prolonged work disability (Schultz et al. 2004; Kaivanto et al. 1995; Lackner et al. 1996). Another recent review on factors associated with long-term sick leave in workers sick-listed for at least 6 weeks (Dekkers-Sanchez et al. 2008) identified the worker's negative expectation of RTW and the feeling of not being welcome back to work as being associated with long-term sick leave (Heijbel et al. 2006).

Expectations about work disability and RTW were also found in two reviews among cancer survivors (Tiedtke et al. 2010) and long-term disabled with mental health conditions (Cornelius et al. 2011). In female breast cancer survivors, Tiedtke et al. (2010) reported that women experienced recovery as a long process that might take years instead of months. Cornelius et al. (2011) found limited evidence that the absentees' expectations of a disability duration >3 months is associated with longer time to RTW in mental health conditions.

Self-efficacy—In relation to work disability and RTW, self-efficacy was only seldom addressed in the reviews on musculoskeletal disorders but has attracted increased attention in work disability prevention and RTW research in recent years. Sullivan et al. (2005) reported that lack of confidence in the ability to perform work-related activities has been associated with prolonged work disability (Schultz et al. 2004; Kaivanto et al. 1995; Lackner et al. 1996). Self-efficacy has also been examined in cancer (Spelten et al. 2002; Tiedtke et al. 2010) and

rheumatoid arthritis (Allaire 2001). Spelten et al. (2002) reported that some patients surviving cancer felt less confident about their physical ability in relation to their work or about their ability to cope with stress. Tiedtke et al. (2010) described that female breast cancer survivors felt less competent, particularly during the weeks before they returned to work, about their appearance, productivity, disappointing the employer, and job loss. After returning to work, the feeling of being less competent was experienced as if they were letting the company down; this was especially the case in smaller companies that struggled to cope with the extra workload during their absence (Maunsell et al. 2004). The review by Allaire (2001) on rheumatic diseases and work disability suggested that increasing self-confidence in ability to work improved the rate of employment.

10.2.2 Behavior

Fear avoidance (*beliefs*)—While the review by Laisne et al. (2012) reported inconclusive evidence for fear avoidance and work participation, however, moderate evidence has been reported by Iles et al. (2008) indicating that fear-avoidance beliefs are predictive of work outcome in the review. Fear avoidance was not addressed as a psychosocial factor for work disability or RTW in the included reviews on cancer, rheumatoid arthritis, mental health conditions, and cardiovascular disease.

Coping—Sullivan et al. (2005) reported that poor problem-solving abilities is associated with prolonged disability (Schultz et al. 2004; Kaivanto et al. 1995; Lackner et al. 1996). The review by Laisne et al. (2012) showed strong evidence for an association between coping and work disability outcome, but no association with work participation. For the most part, adverse or passive coping styles were predictive of a poor disability outcome. For some patients surviving the debilitating cancer treatment made them perceive themselves as stronger and more capable (Spelten et al. 2002). A Swedish intervention study by Berglund et al. (1994) was focused on improving coping skills; however, no effect on employment or sick leave duration was observed. In rheumatic diseases, work-disabled participants were found to more frequently report adverse coping styles (de Croon et al. 2004). Backman (2004) reported that higher educated patients may have better problem-solving skills which might be a preventive factor for work disability. Moreover, strategies to better manage fatigue, in and outside of the workplace, are an important part of preventing work loss in these patients (Backman 2004).

10.2.3 Emotional Responses

Distress—According to a review of systematic reviews, conducted by Hayden et al. (2009), increased psychological or psychosocial stress has been consistently reported as associated with poor outcomes in acute/subacute low back pain. Iles et al. (2008) found that distress was not predictive of failure to RTW, while Crook et al. (2002) identified psychological distress as an important prognostic factor for occupational disability following a low back injury. Feuerstein et al. (2010) reported that *distress* is one of the most prevalent symptoms in cancer survivors. In rheumatoid arthritis, work-disabled individuals were found to more frequently report emotional problems (de Croon et al. 2004).

10.2.4 Summary of the Literature Review

Several systematic reviews regarding individual-level psychosocial factors, work disability, and RTW outcomes have been conducted. It is important to note that our review of reviews is rather an overview than a rigorous meta-review of the literature and that the quality of the underlying systematic reviews varies to a large extent and has not been assessed (see article by Hayden et al. (2009) for prognostic low back pain research). While the majority of the systematic reviews pertained to musculoskeletal disorders, we also identified reviews for mental health conditions, cancer, rheumatoid arthritis, and cardiovascular disease (including stroke). In all, the most consistent finding is for individual-level psychosocial factors reflecting recovery expectations and coping, both in musculoskeletal disorders and other medical

conditions. It is interesting to note that when looking at other medical conditions, e.g., rheumatoid arthritis, most research is focused on disease or clinical factors and job characteristics. Studies addressing individual-level psychosocial factors are lacking. Dekkers-Sanchez et al. (2008) concluded in their review on factors for long-term sick leave among sick-listed workers that more research on prognostic factors, in particular nonmedical factors, is needed to develop appropriate interventions. Overall, more methodologically sound prognostic studies are needed—in different medical conditions—to investigate the role of these individual-level psychosocial factors in work disability management and the RTW process.

In the next section, we will briefly describe the predominantly used theoretical behavioral models and their application in work disability prevention and RTW research. We hope to help health-care professionals and other stakeholders to understand the mechanisms behind the individual-level psychosocial factors related to work disability and RTW.

10.3 Application of Theoretical Behavioral Models in Work Disability Prevention and RTW Research

RTW can be conceptualized as a complex human behavior change, with the employee taking the final decision to RTW (Franche and Krause 2002). Behavioral models can be used to understand the behavioral change construct and to investigate the determinants of RTW-related behavior among sick-listed workers. In the field of work disability prevention and RTW, several behavioral models have been introduced.

10.3.1 Theory of Planned Behavior Model

One of the most influential models of behavior change is the theory of planned behavior (TPB) (Ajzen 1991). The model is derived from the theory of reasoned action with an added component, i.e., perceived behavioral control. The model states that three components predict human behavior—attitudes, subjective/social norm, and perceived behavioral control—via the intention (including motivation) to perform a behavior (see Fig. 10.1). Attitude is defined as the positive and negative evaluation of the expected outcome of a certain behavior; subjective norm is defined as the belief about what others think of the behavior, as derived from the behavior and/or direct feedback of significant others; and perceived behavioral control is defined as the degree to which an individual believes that the behavior is under his or her control. Behavioral intention is considered as a mediating factor in the association between attitude, subjective norm, and perceived behavioral control on the one hand and behavior on the other hand. Perceived behavioral control is strongly related to the concept of self-efficacy, which is generally defined as confidence in being able to carry out a set of specified activities (Bandura 1977).

In the field of health promotion research, the TPB model is frequently used in the development and implementation of health promotion interventions (Hwu and Yu 2006). To date, only a few studies have applied the TPB (or the derived attitude-social influence-self-efficacy [ASE]) model in RTW research (Corbiere et al. 2011; Brouwer et al. 2009; van Oostrom et al. 2007). Brouwer et al. (2009) studied the predictive value of the three behavioral determinants (attitude, subjective norm, and self-efficacy) of the TPB model on RTW behavior. They found in a prospective, longitudinal cohort study among long-term sick-listed workers (>6 weeks sick leave) that work attitude, social support, and self-efficacy were significantly associated with a shorter time to RTW. This may provide suggestive evidence to address the behavioral determinants in the development of interventions focusing on RTW in employees on long-term sick leave.

Van Oostrom et al. (2007) developed an RTW intervention focusing on these behavioral determinants and the intention to RTW behavioral change. The authors used the ASE model (derived from the TPB model) as a theoretical framework in the development of a participatory work intervention for sick-listed employees with stress-related mental disorders. The results indicated no difference on the three behavioral determinants.

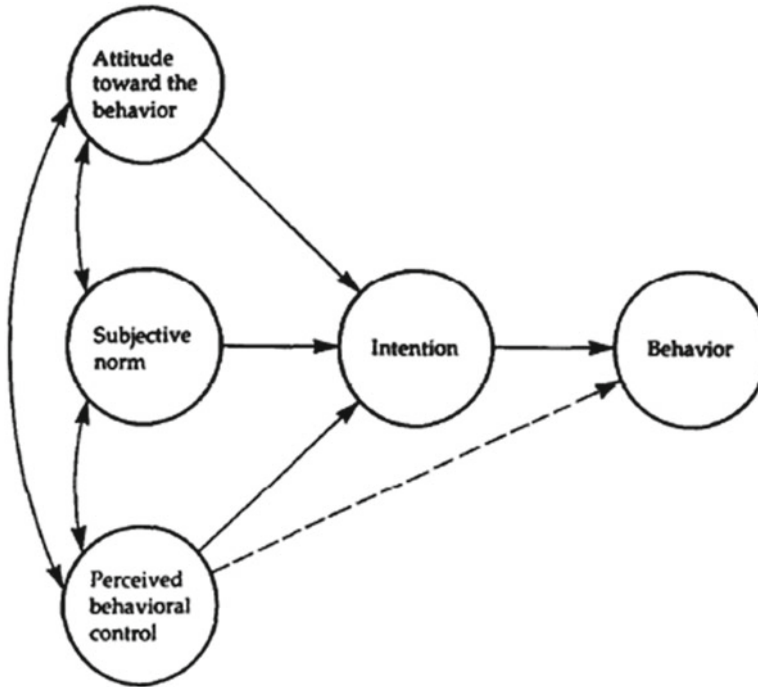

Fig. 10.1 Theory of planned behavior (Ajzen 1991)

However, they found a difference in RTW outcome between workers based on the importance of worker's intention to RTW (i.e., motivation). The authors concluded that workers without intentions to RTW despite symptoms may require a different treatment approach than employees who intend to RTW despite symptoms. The focus on RTW in the less-motivated group may be insufficient without adapting the motivation for working with symptoms. It is suggested that this group may need an (additional) intervention that aims at changing cognitions or motivation regarding RTW (e.g., cognitive behavioral interventions).

Recently, Corbiere et al. (2011) tested a conceptual model based on the TPB model to explain competitive job acquisition of people with severe mental disorders enrolled in supported employment programs. The authors examined the contribution of the TPB in a model extended by including clinical (e.g., severity of symptoms), psychosocial (e.g., self-esteem), and work-related (e.g., length of time absent from the workplace) variables as predictors of job acquisition. The authors concluded that the concepts found in the extended TPB model of work integration could be helpful for employment specialists to guide their interventions because most of the concepts are modifiable, such as perceived barriers to employment, self-esteem, and self-efficacy.

10.3.2 Phase Models of Disability and RTW

Four phase models will be presented: two phase models of disability and two phase models of RTW behavior.

10.3.2.1 Phase Models of Disability

The phase models of disability recognize the developmental character of disability: the 8-phase occupational disability model (Krause and Ragland 1994) and the three-phase model of low back pain (Frank et al. 1996).

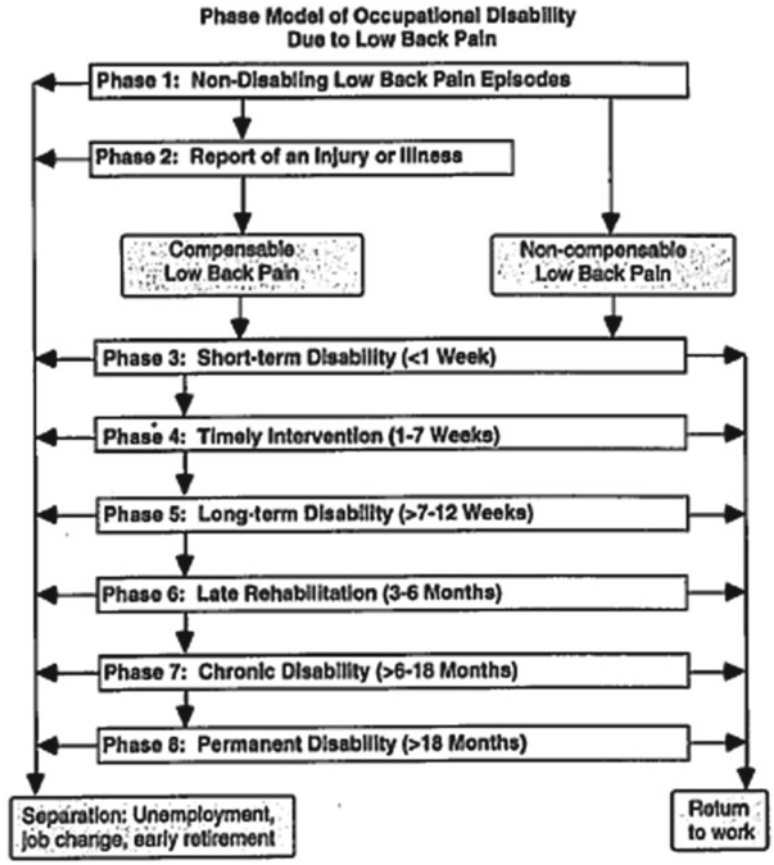

Fig. 10.2 The 8-phase model of occupational disability due to low back pain (Krause and Ragland 1994)

Both models describe temporal shifts in disability-related beliefs and behaviors, and both recognize the developmental character of disability. The 8-phase model of occupational disability (Krause and Ragland 1994) encompasses two pre-disability phases (the occurrence of symptoms and the formal report of an injury or illness) and six disability phases. The phases describe consecutive steps from the occurrence of nondisabling low back pain to the development of permanent work disability (see Fig. 10.2). This model has been developed to reflect the progression of occupational disability in low back pain other than purely biomedical classification of low back pain.

The three-phase model, Fig. 10.3, of low back pain (Frank et al. 1996) delineates three disease phases clinically defined by duration of low back pain. The phases are defined primarily by the presence and duration of work disability: the acute phase (up to 1 month off work), the subacute phase (up to 2–3 months), and the chronic phase of disability (more than 3 months). Both models emphasize the phase specificity of risk factors, i.e., that physical and injury factors are determining predictors of disability in the acute phase, whereas psychosocial factors have stronger predictive value in the subacute and chronic phases of disability (Krause et al. 2001; Dasinger et al. 2000). This statement has found extensive scientific support from other studies, that even though symptoms and diseases may originate from a health condition, the transition toward chronicity often depends on psychosocial factors (Laisne et al. 2012).

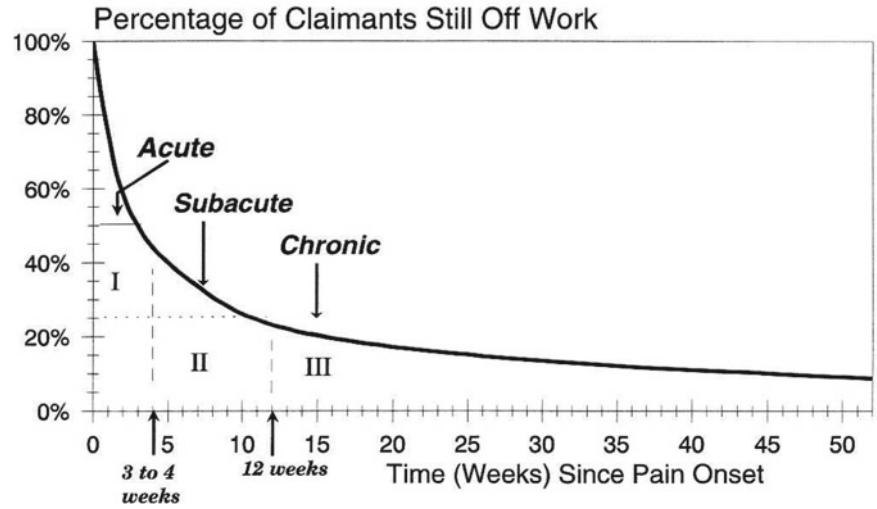

Fig. 10.3 The three-phase model of low back pain (Frank et al. 1996)

10.3.2.2 Phase Models of Return to Work

To understand the employee's decision-making and behavioral change processes regarding RTW, the individual can be conceptualized as progressing through stages of change. The readiness for change model (Prochaska and DiClemente 1992) and the readiness for return-to-work (RRTW) model (Franche and Krause 2002) are the two phase models of RTW.

The readiness for change model addresses the motivational factors contributing to and maintaining behavioral change. This model proposes that relative to a given behavior change, the readiness of individuals to change their behavior is categorized into the five stages (Prochaska and DiClemente 1992; Prochaska and DiClemente 1983): pre-contemplation (not intending to make changes), contemplation (considering a change), preparation, action (practicing new behavior), and maintenance (sustaining new behavior). Individuals will be in one of the five motivational stages, as determined by their self-efficacy, decisional balance, and change processes. The model has received empirical support relative to health behaviors, i.e., smoking cessation and substance abuse and addiction (Prochaska et al. 1994).

Franche and Krause (2002) developed the RRTW model. This model combines elements from above-described theories/models: the stages (Readiness) for change model and the phase model of occupational disability. The RRTW model allocates workers to one of the stages of change based on self-assessed readiness to resume work. The same five stages of change are distinguished: pre-contemplation, contemplation, preparation for action, action, and maintenance. Three dimensions of change determine each stage: individuals' decisional balance, self-efficacy, and change processes about RTW. Although the RRTW model has been not been validated yet, it has been demonstrated that RRTW assessments are useful to allow for an employee's individual staging of the recovery process within the broader framework of the occupational disability phases (Franche et al. 2007; O'Neill and Wolf 2010; de Rijk et al. 2009).

This RRTW model may provide more insight than the TPB model in the role and influence of behavioral determinants in a specific phase or stage of sick leave and may provide more appropriate intervention and/or management tools and measures for the RTW process of sick-listed employees.

10.4 Phase Specificity of Individual-Level Psychosocial Factors in Work Disability and Return to Work

It has been suggested (see Sect. 10.3.2) that the impact of risk factors may vary across different phases of the disablement process (short-term and long-term disabilities) (Krause and Ragland 1994; Krause et al. 2001; Dasinger et al. 2000). Truchon and Fillion (Truchon and Fillion 2000) stated that psychosocial factors may play a smaller role in acute episodes but that their impact increases with time to become major factors in chronic disability. In a recent review on biopsychosocial predictors of prognosis in musculoskeletal disorders, Laisne et al. (2012) found no strong evidence for a clear distinction between the types of predictors in the (sub)acute and chronic phases of pain and disability. The limited number of studies with subjects in the chronic phase of their condition made it impossible for these authors to establish strong levels of evidence for any psychosocial variable. In order to address the phases of disability and RTW behavior, longitudinal studies are needed that monitor all phases in the disability and RTW process—and not only examine a certain (limited) time window.

Besides that the impact of psychosocial factors on RTW outcome may differ over time, the strengths of associations between psychosocial factors and RTW behavior may also differ between health conditions. Yet, most studies addressing phase specificity are focusing on sick-listed workers with musculoskeletal disorders. The pattern of symptoms might be different for musculoskeletal conditions (which might remit within weeks), when compared to mental health conditions that might require a longer time to remit. In our study, we found significant differences in the impact of behavioral determinants as predictors for RTW behavior between somatic and mental health condition subgroups of long-term sick-listed workers (Brouwer et al. 2009). More research is needed to better understand the complex dynamics between psychosocial risk factors and work disability and RTW outcome, which may vary across different phases of the disablement process and different health conditions.

10.5 Future Perspectives on the Measurement of Psychosocial Factors and the Application of Theoretical Models in Practice

In this last section, we will address some challenges and avenues for future research and application to practice in work disability prevention and RTW. As mentioned before, several instruments to measure individual-level psychosocial factors have been developed. To date, the variety of instruments hinders a direct comparison of findings and strengthens the need for the development of a core set of individual-level psychosocial factors. Although sound instruments from a measurement properties perspective are available, the challenge is to select the factors most likely to assess the areas hypothesized to influence work disability prevention and RTW. Moreover, for several existing instruments, the measurement properties are still unknown and validation studies in different target populations are needed.

The question has also been raised as to whether the knowledge on individual-level psychosocial factors and theoretical (behavioral) models from the musculoskeletal literature can be translated to other diagnoses, such as mental health conditions and cancer. The answer is that it may be possible in some areas but not in others; more research in different diagnoses is needed to elucidate this question. As for the assessment of readiness for RTW, Franche et al. (2007) reported on the development and the initial psychometric properties of

Table 10.3 Future research considerations

• Psychosocial factors are important in the work disability/return to work process
• Time is an important factor/aspect when measuring psychosocial factors
• Take other diagnoses into consideration, and think about comorbidity
• Theoretical models have to be tested in different populations/contexts

an instrument. The authors validated the instrument by examining the concurrent validity in claimants with musculoskeletal disorders and suggested that the application of the readiness for change model to RTW is a relevant measure to work disability and RTW research. For instance, the instrument may facilitate the offer of stage-specific accommodations tailored to injured workers' needs and may be used for the evaluation of RTW interventions.

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