

Building a Foundation for Assistive Technology in Return to Work

by

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Abstract

This qualitative study examines some of the major factors that contribute to or impede timely and appropriate access to and use of assistive technology (AT) by injured workers (IW) returning to work. It describes the process whereby IWs learn to manage their life and health after injury, come to terms with the injury, and then (re)negotiate their place in the workplace (WP), thus making possible the acquisition and use of AT. The study discusses social barriers within the WP which impede IWs' return to work, and social conditions which facilitate a return. It describes how, through problem solving and sometimes with assistance, the optimal physical WP accommodation may become available to the worker, and ultimately, how many IWs develop their understanding about AT and become expert on their own condition and needs. This study has implications for those concerned with the implementation of workplace accommodations involving AT.

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CHAPTER 1 INTRODUCTION

This research began as an investigation into the use, misuse or abandonment of assistive technology (AT) in the workplace (WP) in the return to work (RTW) of injured workers (IWs). The initial research question was posed within a theoretical context of self efficacy (SE) theory. It was intended to elucidate the importance of SE in IWs' use of AT, and to investigate whether other individuals involved in the RTW of an IW facilitated the development of this SE.

A number of assumptions were made in the formulation of the original question, some of which were articulated in the original proposal, some of which only became evident in the course of the research. Initially, I expected to find that many of the worker participants obtained AT through the help of a rehabilitation professional, occupational health nurse (OHN), occupational therapist (OT), physiotherapist (PT) or perhaps with assistance from a human resources (HR) professional. This proved to be true for only a minority of the participants I interviewed.

I assumed that users needed to learn how to use their AT. While this is certainly true in some instances, much of the WP AT described by participants was so simple that there is very little learning involved in its use. Because there was no demanding learning process, there was often not much need for prolonged instruction, nor was there a need for persistence through a process of learning to use the AT. In many instances, the AT simply worked, or it didn't. Questions about the user's confidence level with respect to their AT were not generally at the core of the issue.

I assumed that returning a worker to his or her previous job would be the primary goal of RTW efforts, if possible. This did not prove to be the case in all

instances, especially in the case of workers with lower levels of education and training. Similarly, I expected that most workers would return to a WP that was not much changed from when they left. However, many WPs today are in a constant state of change, especially, though not only, in the provincial government. Being out of the WP for a few months may mean coming back to a different supervisor, different coworkers, a redefined job, and, possibly, a relocated office; not really a “return” at all, but rather an entry into a new job.

When a RTW cannot be accomplished without some modification of the WP, AT may be needed. The AT may prove to be adequate for the task, or inadequate, and it may be of large or minor concern. However, there is frequently a lack of awareness of AT in particular, and of products in general. Products in everyday life often make little impact on end users. If there are no problems associated with use, nothing demands notice.

When machine controls work intuitively, rather than demanding attention, it is usually evidence that the product is well designed. The product designer has considered how a user might use the controls, how best to convey the use of the control, how to make them easy to grasp/push/pull, as well as how to manufacture them efficiently and make them aesthetically pleasing. However, for the user, these controls are taken for granted and are of no great interest, except as an intermediate step to some end result.

When a product does not fulfill its intended purpose, or when a person cannot do something they feel they ought to be able to do with the product, then the product demands more attention and may assume greater importance in someone’s life.

Similarly, if a product is incongruent with some aspect of a person’s identity, particularly some aspect about which the person has some sensitivity, products may hold a previously

unfelt significance. These two conditions may be created when someone experiences the effects of some previously unknown limitation, and finds that a previously functional tool or workstation has become difficult or impossible to use.

Good product designers begin with the premise that the user is right. If users consistently try to open the wrong door or push the wrong button, the fault is determined to lie with the product, rather than the user. Indeed, the whole field of ergonomics had its origins in airplane design during WWII. When valuable aircraft were lost because of “pilot errors” the reframing of this as resulting from design flaws resulted in the development of the field of ergonomics. In discussions of AT, however, the vocabulary sometimes carries overtones derived from a medical model, in which such terms as *compliance* and *abandonment* refer to a patient’s response to treatment, rather than a user’s response to a product. In this context, when AT does not work, there is frequently no recognition that the product may be at fault rather than the individual, and it is sometimes implied that the user has made a wilful, and potentially harmful choice in choosing not to use it.

There is an assumption that is found throughout the literature on RTW that IWs are autonomous individuals whose personal characteristics are central to their success. For example, on a Worker’s Compensation Board (WCB) brochure for the Hire a Worker Program, there are two quotations that point to the importance of individual character traits in RTW. The first states that “If a person is positive and they think they can overcome their injury, they usually can. And the injury doesn’t take away from their knowledge or experience.” (Russ Hilland, Snootli Creek Hatchery, Bella Coola). On the same brochure, Susan Marie Price, of Healthspace Integrated Solutions in Hope, is quoted

as saying “Physical disabilities don’t matter. It’s the character that’s important.”

Speaking to a local doctor gave me the impression that he also felt that with enough confidence, RTW could be accomplished by most IWs.

Reading about the use of AT in the WP, I discovered the Psychosocial Impact of Assistive Devices Scale (PIADS), a well validated scale aimed at measuring the psychosocial effects of AT use and at predicting AT abandonment and use. SE is one of the central variables measured in the PIADS (Jutai & Day, 2002). Based on my own experience with learning to use voice recognition software, I understood how someone might resist or reject some AT if they did not have the perseverance and confidence to carry them through the frustration stages of learning.

The literature suggests that abandonment of AT is of concern in the non-work arena and it appeared that AT in the WP was likely to be a problem area as well. The match between an individual’s limitation and his or her job is, except in the case of some common occupational injuries, likely to be unique or at least uncommon. These assumptions led to the hypothesis that SE plays a significant role in the use or misuse/abandonment of AT in the workplace-whether directly, through an IW’s SE with respect to their AT or indirectly, through professionals’ belief that SE was one of the primary determinants of success or failure.

Given the previous research and the perspectives of employers and insurers reflected in policy and promotional literature on the issue of RTW, SE appeared to be central to a successful RTW and therefore likely central in the use of AT, which functions to support RTW. However, in the process of this research the initial hypothesis was challenged, as was the dominant position on the role of SE in RTW.

This study addressed some of the issues involved in acquiring and using AT in RTW. Although the literature suggests that various factors such as supportive workplace practices (e.g. Shrey, 1997; Akabas, 1992; Keough, 2001) and an atmosphere of trust and respect (Friesen, Yassi, & Cooper, 2001) are important to successful RTW outcomes, there is very little research which explores the reasons this might be so. Williams and Westmorland (2002), in their review of workplace disability management, found that “a greater understanding of workers’ perceptions of legitimacy and vulnerability is needed” (pg. 90).

Similarly, there is very little research available which discusses how IWs come to use AT in their RTW. AT appears to offer great promise to many IWs returning to work, yet this promise appears to be unfulfilled. If it is true that there is suitable AT which is not being used, or is being used improperly, this negatively affects the lives and work of many IWs, as well as the costs of insurers and businesses. Findings from this research could be of value to RTW professionals, businesses, insurers, AT designers and ultimately IWs. This study investigated the factors which were salient to the use of AT in RTW, primarily from the perspective of IWs. Because of this perspective, it contains many illustrative quotations, selected as being representative of the participants’ thoughts, feelings or experiences on the theme under discussion.

CHAPTER 2: REVIEW OF THE LITERATURE

This review of the literature addresses AT and its use in the workplace. Research on relevant aspects of disability, disability management and salient elements of the RTW are included. Because of the scarcity of literature which directly discusses AT in the context of the WP, much of the literature relating to AT is drawn from the non-workplace environment. Relevant research on SE is also discussed as indication of the initial logic of the research.

Injury and disability in the workforce

The population of injured workers in the work force is extremely diverse. It includes workers with injuries ranging from the relatively insignificant to the severe, and workers who will recover fully as well as those with permanent limitations or fluctuating levels of functioning. As well, some injuries may predispose individuals to degenerative conditions, or be the cause some other related condition.

Although there are a number of individuals who may be categorised as having a disability who do not have the disability as a result of injury, there is considerable overlap between the population of workers with a disability and IWs, and there is some merit to examining some of the literature relating to workers with disabilities in the context of IWs returning to work. Although some of the literature pertaining to workers with disabilities concerns itself with individuals with progressive diseases or congenital conditions, some injured workers, including some with severe injuries, face many of the same issues discussed in the literature relating to workers with disabilities. The question of whether or not a worker self identifies as being “disabled” rather than as an “able” person who

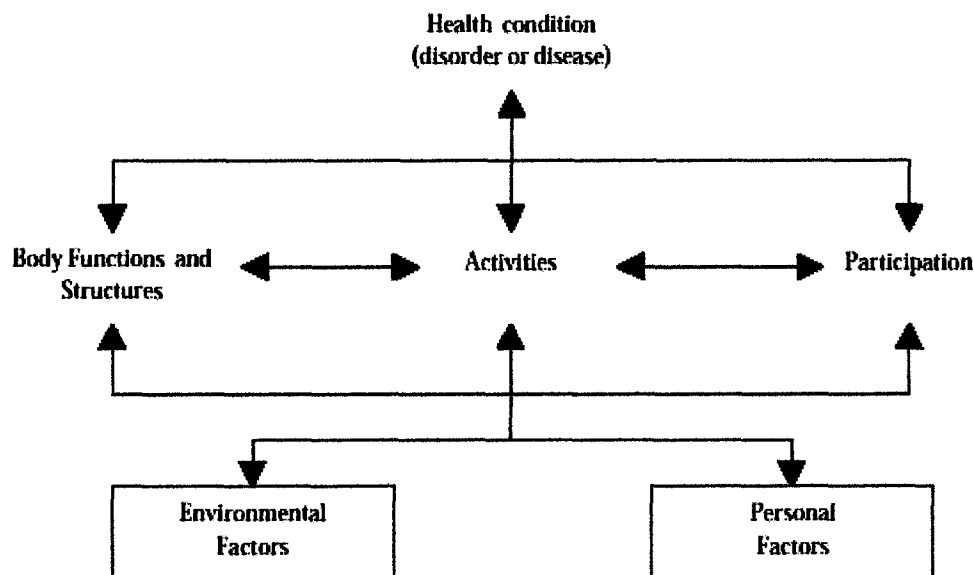
happens to have some injury is sometimes salient to the discussion of their RTW.

Although the RTW of IWs is primarily discussed in the RTW literature, it is useful to examine some of the literature more broadly identified as being in the domain of disability as well, as some of it is useful in contextualising some of the discussion of RTW. Statistics related to disability should be considered with this caveat in mind.

There is presently a highly charged discussion about the nature and meaning of the terms *disability*, *impairment* and *handicap* in the disability literature. At issue is a fundamental difference in world views on the nature of disability, and on the extent to which it is based on physical limitations rather than environmental or social conditions. The discussion challenges the idea of the existence of some norm (not disabled), against which disability can be measured, and of the purposes and implications of drawing such a line of demarcation.

Perhaps the best known definition of disability may be found in the World Health Organisation's International Classification of Functioning, Disability and Health, which is known as the ICF (WHO, 2001). This model suggests a biopsychosocial description of disability and health, recognising that it is only in the interaction of an individual with his or her environment that disability can manifest. The ICF defines *impairments* as "problems in body function or structure such as a significant deviation or loss." *Activity limitations* are defined as being "difficulties an individual may have in executing activities. *Participation* is defined by WHO (2001) as involvement in a life situation. *Disability* is defined as being an activity limitation or participation restriction resulting from an impairment. The interactions among these constructs are illustrated in the model provided by the WHO (2001), which is widely referenced and used (Figure 1).

Figure 1. Interactions between the components of the ICF



This model is viewed as an improvement over previous, medically based models and definitions of disability. However, many contentious issues surrounding the meaning of *disability* persist within the disability rights community. One of the central concerns is that implicit in the construct of *impairment* is the idea of there is some norm from which people with disabilities deviate; that is, embedded in the language is a judgement of abnormality. This is in contradistinction to a conception of human functioning as existing on a continuum, with all humans with some limitations of some sort, and to a greater or lesser degree (Shakespeare, 1996). It is notable that in the communications of disability rights groups, the voice of older adults is missing, although it is among this population that one finds the highest incidence of impairment. Thus it is clear that it is not solely on the basis of impairment or participation alone that individuals are identified as having a disability (Shakespeare, 1996).

Connected to these concerns are issues of blame and responsibility. If disability is conceived as having its roots primarily in social causes, society may be identified as responsible for removing handicapping features of the environment. If disability is seen as a location on a continuum of human functioning, then design solutions may be more likely to be situated within the model of universal design. As a result of this conception of disability, there may be an expectation for universal access and usability, rather than a desire for special status by those who declare a disability.

The following discussion and the statistics on disabilities that are included should be read and interpreted within the following limitations. For the purposes of gaining a sense of appreciation for the numbers of individuals who are affected by some limitation, it may be sufficient to simply use the medical model's definition of individual physical disability, bearing in mind that these statistics often ignore environmentally and socially imposed handicaps.

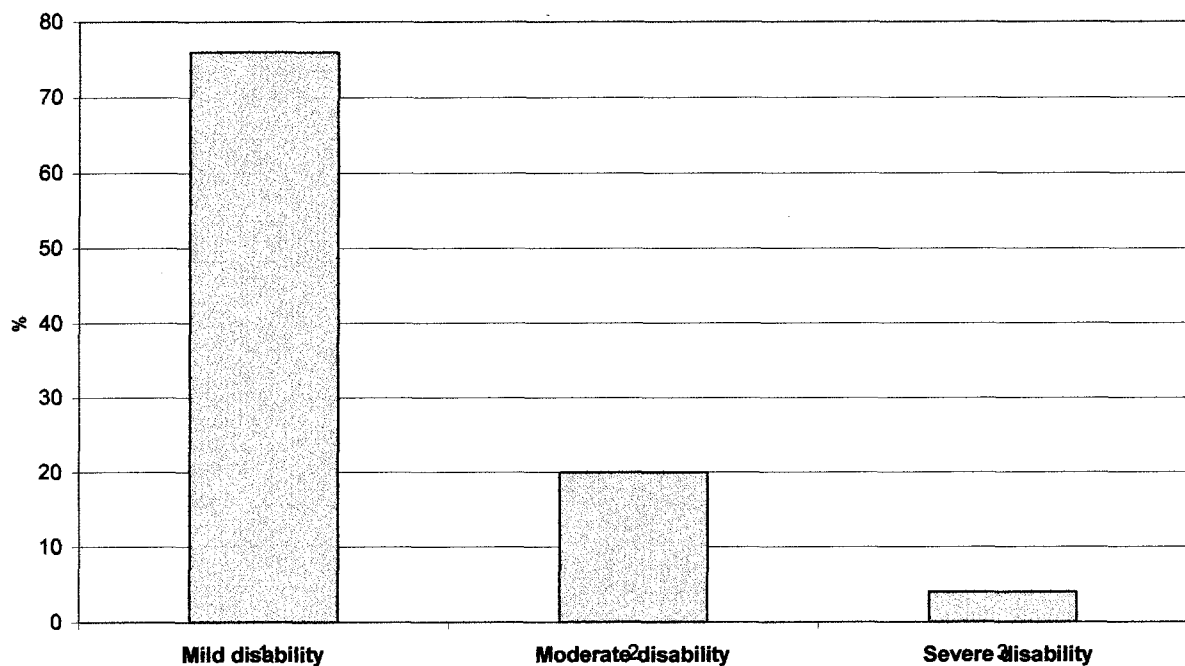
Disability is not a static state, but a fluctuating condition, and, as Akabas et al. (1992) state, "Disability is an everyday event waiting to happen to any employee" (pg. 1). Canadian labour force statistics (HRDC, 1996) showed that only 36% of individuals who reported having a disability in 1989 reported having a disability of the same severity in 1990, and 44% of individuals had a complete reversal of their status; that is, they had no reported disability in 1990. Roughly 10% of individuals reported an increase in the severity of symptoms, and a similar number reported a decrease in symptoms.

The majority of people were identified as having "mild" disabilities (76%), while 20% claimed a disability with a "moderate" degree of severity and 4% a "severe" disability (see Figure 2). However, of the individuals who entered the ranks of the

disabled in 1990, about 39% had experienced some limitation in function prior to 1989. Thirty percent of the people who reported having a work limiting disability in 1989 worked the full year (HRDC, 1996). Injury statistics from a study using data from the Ontario Worker's Compensation Board (Johnson, 1990) showed that back cases form 32% of all worker's compensation claims, and cost an average of 50% more than other cases. Sprains and strains account for 27% of cases, fractures for 15%, and crushing injuries for 13%. The most common work limitation is due to back injuries, which account for over 20% of limitations. Other significant conditions are heart disease (10.9%), arthritis (8.9%), respiratory disease (5.6%), mental disorders (4.9%), lower extremity impairments and diabetes (Stoddard et al., 1998).

Figure 2. Severity of individual disabilities

From: HRDC (1996)



There is legislation which governs the treatment of IWs in Canada. The primary legal considerations governing the treatment of workers with a disability in the WP are sections 2 and 15(2) in the Canadian Human Rights Act. These prohibit discrimination based on disability, and require that an employer accommodate the needs of an individual with a disability unless this creates an undue hardship on the employer. The Employment Equity Act places a positive obligation on federally regulated employers, federally contracted employers and the federal public service to ensure that people are not excluded from jobs for reasons based on disability rather than lack of competence. Employers are required to engage in a four step process (Lynk, 2001):

- 1) Determine if the employee can perform his or her job as it is;
- 2) if the employee cannot, then determine if he or she can perform his or her job in a modified or “re-bundled” form;
- 3) if the employee cannot, then determine if he or she can perform another job in its existing form;
- 4) if the employee cannot, then determine if he or she can perform another job in a modified or “re-bundled” form.

It is clear from the literature that different individuals may have very different responses to the same injury. For example, Gibson (1995) examined lower back pain and lower back disability and found a lack of conceptual framework linking the two; a lack of explanation for why some individuals with lower back pain develop lower back disability and others never seem to progress past pain to disability. He proposed a model with three forces in equilibrium: biomedical, sociological and psychological, and suggested that strength in one domain can mitigate the effects of problems in another. Thus, a person

with strong family support may be less likely to become “disabled” than a person with the same physical condition, but a weaker support system.

The demographics of disability in the WP are complex, but there are a few notable trends. Labour force participation rates among workers with a disability are positively correlated to education, and negatively correlated to age (Bergbob, 1995). Salkever, Shinogle, and Purushothaman (2000) report that the incidence of paid injury claims is five times as high for unskilled blue collar workers as it is for white collar workers.

It is evident that psychosocial dynamics play an important role in both disability in the WP and in the use of AT (Gates, 2000; Jutai, Ryan, Rigby & Stickel, 2000). Psychosocial stress is often defined in terms of control, with low control creating high stress (Hanse & Forsman, 2001). Job control has been found to negatively correlate with physical exertion, and both low control and high exertion are in turn positively correlated with incidence of disorders and injuries associated with repeated trauma. Thus, there appears to be co-variation between WP physical and psychosocial stress (MacDonald, Karasek, Punnett, & Scharf, 2001). This co-variation makes it difficult to separate out the relative effects of the physical and the psychosocial stressors on repetitive strain injuries in particular.

Elliott, Kurylo and Carroll (2002) comment that personality assessment in rehabilitation is often focused on the detection of problems, and is relatively insensitive to the achievement potential of an individual. They remark that psychologists are likely to attribute the locus of control to an individual and to downplay the role of the environment. They suggest that there is a lack of appropriate normative tests for people with disabilities, who may exist in a less friendly environment (both physically and

socially) than their able bodied peers (Elliott, Kurylo & Carroll, 2002). Thus the role of the environment may be underestimated when assessing persons with a disability. This would imply two things. First, it implies that individuals with a disability will tend to focus on their disabilities rather than their abilities when in contact with RTW professionals. Secondly, these same RTW professionals are apt to believe that overcoming handicaps will be easier than it really will be, and that it will be under the individual's control to a greater extent than it will be.

Return to work

There is a large body of literature concerned with RTW. However, in their extensive review of the literature, Krause et al. (2001) found the "entire field is undertheorized" (pg. 468). In part, this is the result of the evidence being scattered across many diverse disciplines, including medicine, psychology, sociology, epidemiology, management and others. In part, it is because it has a "polar focus on determinants and outcomes. The process in the middle remains a black box." (Eakin, Clarke, & MacEachen, 2002, pg.49). The field is complex, with many levels of analysis possible, from the societal to the individual. Much of the research is driven by a desire to reduce costs of compensation and absenteeism, and is therefore practical in nature.

One of the fundamental problems with much of the research in this area is the lack of any conceptual framework with which to examine the question of return to work. Franche and Krause (2002) proposed combining the Phase Model of Occupational Disability and the Readiness for Change Model into a Readiness for Return to Work Model. This model would provide a framework for the examination of return to work

from the initial, precontemplative phase through contemplation, preparation for action, action and maintenance within a three phase disability model (acute, sub acute and chronic phases). If successful, the model could aid in targeting interventions more precisely.

Many factors have been found which correlate to success or failure in RTW, including demographic and personal/psychological characteristics of the individual, psychosocial job characteristics and social support (Keough, 2001; Nordqvist, 2003; Friesen, 2001). Some research correlates specific organisational behaviours to success. Amick et al. (2000) describe four WP factors that are important for RTW. These are: a “people oriented culture”, in which employees are involved in decision making and there is trust between management and employees; the presence of a “safety climate” in which there is obvious concern for employees’ safety; the presence of ergonomic practices and; the availability of disability management policies and practices. Pransky et al. (2004) argue that communication (or lack thereof) lies at the root of much of this success (or failure)

It would appear that the presence of a “safety climate” is important not only for its direct results, but also for the feeling of concern for the IW that is created. The presence or absence of a labour/management committee was found to have no correlation to the success of a RTW program, perhaps because the existence of a committee implies nothing about how active or useful it is in practise (Amick et al., 2000).

The existence of an internal system of risk management has been found to be associated with positive outcomes, as has being a long-term employer (Habeck & Lord, 1991). The extent and use of a grievance/conflict resolution process has been reported to

be positively correlated to success (Lewin & Schechter, 1991), and it was the authors' feeling that this was due not to these WPs having more conflict than others, but rather that there was a process whereby conflict could be resolved, so the WP was not full of unresolved conflicts. Work force stabilisation and continuity policies have also been found to be significantly and inversely related to the incidence of disability, and the authors propose that this is related to stress among employees, which has also been shown to correlate with rates of disability and injury (Lewin & Schechter, 1991).

Some research has found that using co-workers to support workers in their transition back to work is more successful than interventions of professionals (Storey & Certo, 1996). Though this is mostly due to social facilitation by the co-workers, it may also relate to co-workers' intimate understanding of the demands of the job. There is also, however, some contradictory evidence with respect to co-worker support, which seems to indicate that support can act to deter IWs from returning to work if the support takes the form of reassuring the IW that they should "take their time" in coming back, and should not strain themselves (Franche & Krause, 2002).

Time away from the WP appears to have a strong negative correlation with RTW. Statistics from the National Institute of Disability Management and Research (from CCDS, 1998) show that for workers who have incurred a disability there is only a 50% chance they will return to work after a 6 month absence, a 20% chance after a one year absence and only 10% after two years away from work. Although comparisons of severity of injury to time lost and more information about the durability of these RTWs are needed in order to see the significance of these figures, they are indicative of the value of returning workers to work as soon as possible.

There is a dearth of well designed research related to long term durability of successful returns to work. In part, this is because of because of the complexity of compiling statistics about workers who will naturally change jobs, move, have unrelated injuries or medical conditions, and suffer the effects of ageing or of a declining economy or sector. Some of this research may be biased towards more positive outcomes, as it is likely to be the most vulnerable who are the most transient, and thus the most difficult to track. For example, Pransky et al. (2000) could only locate 46% of follow up participants a year after injury.

Much of the RTW literature is quantitative. In this context, both medical predictors of RTW and psychosocial factors figure prominently and have been linked to RTW. However, there is very little literature that examines the worker's perspective directly.

Assistive technology

Accommodations and AT may play a role in RTW. Accommodations to the job may include AT, a term that essentially includes any product that compensates for a functional impairment. This research uses the term *assistive technology* as it is defined in the American Assistive Technology Act of 1998: "any item, piece of equipment or product system, whether acquired commercially off the shelf, modified or customized, that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities." Although a majority of the assistive devices used in the WP are very simple, and a number are improvised in situ, there are some that are very complex and sophisticated.

In the WP context, much “AT” is in fact only AT by virtue of its function. It may also be referred to as *adaptive technology* or *physical workplace accommodations*. WP AT may also include things which may be used as a prophylactic. Although a worker returning to work with a wrist injury may need an “ergonomic” workstation in order to be able to accomplish the tasks related to his or her job, this same workstation could be used by uninjured workers to reduce their chances of injury on the job.

Much AT which is used in daily life (which users may well use in the WP as well) carries with it more obvious connections to injury or disabling condition. Thus, canes, braces and similar devices all fall into the category of AT. The term is useful insofar as it directs attention to the disabling aspects of an individual’s functioning in the environment. By studying AT, researchers are in effect acknowledging the role that elements of the physical environment may play in enabling individuals, and lending support to the idea that many of the problems resulting from some impairment are correctable.

Using the term *AT* draws attention to disability, to the human - environment interface. The term covers an extremely broad range of items, from the simple to the complex, from the highly individualised to the universally available, for use in the home or the WP (or elsewhere). However, it is therefore so broad a term as to be conceptually almost meaningless, except insofar as it draws attention to this human – environment interface. Nonetheless, it has some heuristic value because of this.

There is some consensus about the factors related to the successful use of AT outside the workplace. Primary among these are the involvement of the person in the process of selecting AT and the careful consideration of all of the factors involved in the

use of the AT, beyond the obvious functional criteria (Scherer & Cushman, 2002). This process includes examining the milieu in which the AT will be used, the personality of the user (Scherer, 1996), the service and support network around the person or the technology, and, if appropriate, the user's cultural context. There has recently been a shift in the view that accommodation is simply a technical process, that accommodation is "a what not a who" (Gates, 2000). The current view holds that accommodation is very much a "who" process. Engineering and design are viewed as being important to a successful accommodation, but only when directed by an understanding of the individual's personal characteristics and context.

A significant factor contributing to abandonment of AT is the level of involvement of the consumer in the selection of the device (Scherer, 1996). This is presumably mediated by other variables, as off-the-shelf devices, selected by consumers, also have a high rate of abandonment, possibly because they have been purchased without adequate knowledge (Phillips & Zhao, 1993). Device performance is important, as is the relationship between performance and expected performance. Depending on the device, training and service may play a significant role in use or abandonment.

AT is often brought into the WP with high expectations that it will fix some problem related to the performance of an individual with a limitation. Although the chosen AT may hold this potential, there is evidence that the successful use of AT is the result of a process that generally involves the user, management, some professional (e.g., from medical field, sales or Occupational Health and Safety) and often co-workers (Angelo et al, 1997; Gates, 2000; Storey & Certo, 1996). Simply providing AT to the user is likely to be insufficient. For example, Goette (n.d.), in her study of the use of

voice recognition technology, reported that support from management was important, as were expectations of the user regarding the duration of the training and the performance outcome. Resnick and Chaffin (1997) and Stuart-Buttle (1995) found that materials handling equipment could reduce lifting loads, but that detailed examination of the job and installation were crucial to their successful use. Improper installation was found to actually increase the effort required by workers using a particular scissor lift. In this case, when workers refused to use the lift on the grounds that it made the work harder, management felt that the workers were “resisting change”. A redesign of the installation by ergonomists finally corrected the problems (Stuart-Buttle, 1995).

Although there is a requirement to balance the needs of all of the stakeholders in the accommodation process and the use of AT, the general trend in therapeutic practice today is to use a client-centred approach. This is founded on the assumption that the users will best know their needs, will eventually have the most experience with the AT, and so will be able to best assess its appropriateness. This approach was identified as the first of four best practices identified through focus group discussions of experienced occupational therapists (OTs) discussing AT best practices (Angelo, Buning, Schmeler, & Doster, 1997). The other practices were: the OT’s responsibilities (evaluation of client, being current in knowledge, the use of teams, and being aware of funding).

Hocking (1999) addresses the question of *consumer* identities with reference to AT. She suggests that individuals construct identities partially on the basis of the objects with which they surround themselves, and she poses the question “What is it like, for instance, to become someone who drinks from a Wonder Flo Vacuum cup?” (p. 8). She suggests that individuals with disabilities may lose some of the consumer freedom which

able bodied individuals take for granted, and must therefore in some way confront the dissonance between their personal identity and their consumer identity. In a sense, some disabled identity is forced on them by the products they must use. Hocking also stresses the importance of SE and learning styles in the successful acquisition and use of some complex AT.

Louise-Bender Pape, Kim and Weiner's review (2002) of the shaping of the individual meanings associated with AT draws attention to the differences between people who have acquired disabilities, those who have impairments related to ageing, those with progressive disorders and those who have congenital conditions. In the case of individuals with acquired disabilities, much of the non use of AT (Cushman & Scherer, 1996) comes about through improvement in health. Some AT use depends on a person's acceptance of his or her disability. Those who deny their disability have a higher probability of rejecting their AT (Louise-Bender Pape, Kim, & Weiner, 2002). People with acquired disabilities may see AT as evidence of declining function rather than as help. Persons with a congenital disability are more likely to use AT, and more likely to view it as beneficial. Individuals with progressive disorders tend to increase their use of AT with decreasing function, but this is contingent on a number of personal factors. One factor is the change in the meaning the AT assumes over time. As functional abilities decrease, the role of AT can shift from being an indicator of decline to being a positive step towards maintaining independence (Cushman & Scherer, 1996).

It is evident that some AT has the potential to create a dramatic impact on the life and work of an individual. In a study conducted by the American National Council on Disabilities, (1993), AT users were asked to estimate the effect of AT on the quality of

their lives (QOL). Without AT, they estimated their QOL at 3.0 on a ten point scale (unspecified scale), and with AT, at 8.4. Six of the 42 AT users who worked indicated that the AT made it possible for them to work and 39 said that the technology made it possible for them to work faster or more effectively. In most instances, the cost of an accommodation involving some AT is negligible. Figures vary, but the Job Accommodation Network (2000) found that 80% of all adaptations or technology cost under \$500 US, with a median cost of \$250 US. It is clear that AT has the potential to provide large benefits for small costs.

A number of factors enter into the selection and use of AT. These relate to the environment (both physical and psychosocial), the individuals involved in the process, and the AT itself. It is evident that all of these factors are interdependent.

Self-Efficacy

One of the common themes in the literature relating to AT use is the importance of self efficacy (SE) in the user (Day & Jutai, 2002; Regenol, Sherman & Fenzel, 1999). SE originated with Bandura's social cognitive theory (Bandura, 1977) and has been widely applied, especially in the fields of academic performance and health. Essentially, the theory of SE holds that the confidence of an individual that they can accomplish a given task is a robust predictor of how well they will be able to accomplish the task. Bandura believes that this is not due simply to SE being an accurate predictive cognitive assessment, but rather that SE levels directly affect results. SE theory holds that an increase in SE, even without a concomitant increase in skill, will result in improved performance and conversely, that low levels of SE will result in low levels of

performance. Bandura (1977) suggests that SE is best used to describe efficacy in a particular domain rather than efficacy in a general sense. Thus, it is possible to have a high level of SE with respect to one's ability to perform some mathematical task at the same time one has a low level of SE with respect to one's ability to run a marathon. However, there is some evidence that generalized (i.e. non-specific) SE provides some resilience and general health benefit in the face of adversity (Jerusalem & Mittag, 1997).

Self-efficacy is described as having a number of sources. Demonstrating mastery of a process (enactive mastery) is thought to be the most potent source of SE, because it provides the individual with the most convincing evidence that they can successfully do what is necessary (Bandura, 1977). In addition, enactive mastery fosters the creation of a number of coping mechanisms to deal with problems encountered. However there is not always a direct correspondence between performance and perceived SE, as someone with a high perceived SE in a given area may discount a failure as being a "fluke", while for someone with a low perceived SE, the reverse may hold true, and a success may be processed as a fluke (DeVellis & DeVellis, 2001).

Observational, or vicarious experience can also foster SE. Thus, one can gain some degree of confidence in one's ability to perform some task by simply watching someone else perform it. Verbal encouragement can bolster SE when couched in positive terms (e.g. you are sixty percent of the way to attaining your goal). It is easy to undermine SE with negative feedback (e.g. you are forty percent short of your goal). Physiological state can also influence SE, either positively or negatively, depending on interpretation of the state (DeVellis & DeVellis, 2001). For example, exhaustion after exercise can be seen as being a sign of getting into shape or as a sign of being out of

shape. Moods may affect people's sense of SE, both in transient recall of success or failure and in the formation of the sense of SE (Bandura, 1989).

One factor which is less commonly discussed in the literature, but which may be salient in real life situations are the individual's outcome expectations; their belief that their action will produce some desired result. This can obviously affect performance, as there is little reason to expend effort in doing something which will have no useful result. As well, Pajares (2002) notes that "if obscure aims and performance ambiguity are perceived, sense of efficacy is of little use in predicting behavioural outcomes".

Self-efficacy has been implicated in a number of health outcomes, including pain tolerance, health promoting behaviour, addictive behaviours, recovery levels and levels of functioning following injury (DeVellis & DeVellis, 2001). Though it seems likely that a higher sense of SE is generally a positive attribute, there may be instances in which the effects are negative, and override judgement. For example, individuals with a high sense of SE with respect to exercise may overstrain themselves following an injury (DeVellis & DeVellis, 2001).

There is evidence that SE is related to socio-economic status, occupational prestige, education and personal income (Boardman & Robert, 2000). They explain that this may result from the high number of mastery experiences that these individuals have as a result of their increased range of daily activities. These experiences are related to their numerous resources. Another explanation is that some characteristics of their jobs (e.g. complexity and autonomy) promote high SE (Boardman & Robert, 2000).

Franzblau and Moore (2001) argue that SE theory positions the individual as the originator of change, and depoliticises social mechanisms of control, perpetuating the

“blame-the-victim” approach to problems. They argue that efficacy is socially constructed, and related to control over and access to power and resources. In the context of RTW, one might expect to see evidence of SE being used to explain results perhaps better explained through more external factors.

It is clear that a number of factors could mediate the development of high SE in the context of AT use. One of the most salient is the initial lack of enactive mastery. In many instances, an individual will have had no previous experience with AT and, in the context of SE theory, will be drawing on a more general sense of SE, which is usually found to be a less reliable predictor than task specific SE. SE theory is not generally explicitly concerned with emotions, and it is likely that many individuals who are inexperienced with AT will be experiencing strong emotions. They may also be in physical pain, which often has complex effects on an individual.

It can be seen from the literature that injury, RTW and the use of AT are individually complex subjects, and that, especially in the case of RTW and AT, they are not well supported theoretically. Overlaying them on top of each other produces a complex, multifaceted experience. While it appeared logical, from the literature above, to position SE as playing a significant role in the use/non-use of AT, it will be seen that this hypothesis did not hold up to scrutiny. While it may be that using a model of SE to examine the use of AT could be useful in some particular instances, this use takes place within such a complex environment that it is necessary to do some pragmatic triage, and to distinguish what is most important first. In the experiences of most of the participants I spoke to, before SE with respect to AT could even become an issue, there were a number of crucial elements which needed to be in place first.

CHAPTER 2 METHODOLOGY

Because there was little in the literature which related directly to the question of use/non-use of AT in the WP, this exploratory investigation was designed using qualitative interpretive inquiry methods. Some qualitative methodology is often optimal for exploratory studies of human processes, as it allows the researcher to clarify and refine the research questions, as well as to contextualise them.

Interpretive inquiry, which has its roots in the philosophy of Heidegger, maintains that one can only gain understanding through following the “hermeneutic circle”. That is, in order to understand individual components of someone’s “being in the world” one must understand their larger context. Conversely, in order to understand the larger context, one must understand smaller components more deeply. This is not at all to imply that it is impossible to understand anything, but simply that one must constantly deepen one’s understanding through a process of understanding pieces of the world, thereby deepening one’s understanding of the whole, which in turn informs one’s understanding of the parts and so on *ad infinitum*.

Interpretive inquiry holds that it is in the interplay between an individual and their context that one can find meaning; that the person is inseparable from their world. The person and their world “co-constitute” each other, and there is an “indissoluble unity between the person and their world” (Koch, 1995, pg. 831). In Heideggerian phenomenology, the unit of analysis is the transaction between the situation and the person (Koch, 1995).

This research was initially framed by the theory of SE. However, it is fundamental to the qualitative research paradigm that any theoretical findings emerge

from the data in an “emergent fit”, rather than being forced onto it. Thus, the researcher balances the need to understand the general question of “what’s happening here” with the need to focus the discussion on a particular aspect of the topic under investigation.

The purpose of the research was to examine some of the major factors that contribute to or impede timely and appropriate access to and use of AT by IWs returning to work. The study discusses some of the ways in which IWs develop their understanding about AT in RTW as they learn to become expert on their own condition and needs.

The researcher

My interest in AT originated with studying product design and ergonomics (Carleton University), working with a volunteer AT design group (the Tetra Society), and building a database of WP AT (the REHADAT database, for the National Institute of Disability Management and Research). These experiences and education helped to shape this study and sensitise me to some of the general issues of product design, and, to a limited extent, the design of AT. My interest began with the role of products in people’s lives, and how the designed world can sometimes have profound effects on an individual’s life, whether to limit or increase their options.

Participants and recruitment

The initial research design called for six focus groups, two comprised of injured workers, two of human resource (HR) professionals/managers and two of RTW professionals such as occupational therapists (OTs) and occupational health nurses

(OHNs). I expected that the professionals would assist in the research by passing a recruitment letter along to injured workers.

I contacted most of the large employers in Victoria, both unionised and non-unionised, sending out an introductory recruitment letter (see Appendix A) and following up with a phone call. As well, I contacted local unions, addressing my letter to the particular person responsible for sitting on RTW committees. I also contacted local insurers, both private and public. I sent letters out to rehabilitation professionals listed in directories and to a number of local disability-related non-profit agencies.

The letters outlined the intent of the research, the time required for the interviews, stressed the confidentiality of the interviews and mentioned the \$25 honorarium. In my follow up telephone conversations, I clarified any questions that people had concerning the research, and ascertained whether or not they wanted to participate.

Five RTW HR professionals and one disability manager responded and were able to participate in one of the two focus groups comprised of individuals involved primarily in the HR aspects of RTW. Two others had to withdraw at the last moment. These professionals saw the focus groups as being a chance to network, as well as being a potentially valuable source of information for them. All were from large employers (employing over 1,000 employees), and all of the work sites were unionised. Although I did contact a number of professionals from non-union companies, none of them were available to participate. One unfortunately had to withdraw at the last moment because of a crisis at her workplace.

A number of companies had no individual responsible specifically for RTW. One HR professional with a large retailer explained that it “was impossible” to provide accommodations for employees given the nature of retail jobs, and so there was no one on staff who concerned themselves with the issue. Several large employers have a RTW co-ordinator based in Vancouver, and do their RTW co-ordination primarily via telephone. Since only large employers can afford to have an in house RTW coordinator, the pool of possible participants was limited.

There were two focus groups comprised of rehabilitation/RTW professionals, one with four participants, the other with three. These participants also saw the groups as a welcome chance to network, as well as to help with research. They had varied backgrounds, as described in Table 1.

Table 1

Backgrounds of Professional RTW Participants

Professional training	Employer	Sex
Occupational health nurse (2)	Consultant	Men 3
Consulting ergonomist	Private insurer	Women 4
Occupational therapist (3)	Rehabilitation clinic	
Disability manager	Health care (2)	
	Large employer	
	Mid sized employer	

All were asked before attending the group if they would be willing to pass along recruitment letters to injured workers who might be willing to participate in a group. Although this did not generate much response, I did not ask again until after they had participated in a group, believing that they might wish to see what the groups were like before passing my contact information along.

Initially, I wanted to speak to workers who had returned to work within the past six months or less, as the literature regarding the abandonment of AT indicated that abandonment was most likely to occur relatively early in a person's use (Phillips & Zhao, 1993). I extended this somewhat arbitrary criterion to a year, once it became evident that there were few suitable participants in Victoria and that the RTW could be lengthy. After each of the focus groups, I asked if anyone might be willing to pass along a letter, or pass along my contact information. I explained that I wanted to talk to workers who had been injured and who had returned to work within the past year and who had done so with the use of AT, whether or not they still used the AT and were satisfied with it.

While everyone professed to be willing to help, the participants found it difficult to think of individuals who might be interested in participating and fit into the research criteria. From their comments, I began to realize that very few workers used AT in RTW. The need, in the study, for the workers to be recently returned to work further limited the possibilities. One HR professional felt that the employees might feel their confidentiality had been breached if they received a letter, even though no actual breach would have occurred. With others, however, this did not appear to be the primary concern. Although I expected there might be some professional reticence to contact past clients with whom the relationship had not been positive, or had been quite cursory, I had thought that there

would be some established relationships between professionals and individuals that would make such contact relatively straightforward.

Although a few suggested possible candidates for the research, they were individuals with degenerative, non-injury related conditions, and so were not suitable, as research (Heinemann & Louise-Bender Pape, 2002) had led me to expect that individuals with congenital or degenerative conditions might have very different reactions to AT than did IWs. Although I did send out a general follow-up email a month or so after the focus groups, explaining that I still needed IWs as participants, I could not follow up with individuals without potentially compromising the confidentiality of any IW who had been contacted and decided not to participate. Thus, I do not know if they did send out letters or contact individuals on my behalf. Certainly, no one called with contact information for potential participants except one professional who called with contact information for a woman who did not have an injury, but had a degenerative condition, and was therefore unsuitable as a participant.

I contacted the local office of the Worker's Compensation Board (WCB), as well as local private insurers. Although this did not provide any contacts initially, the WCB did send out 4 recruitment letters on my behalf in January. This represented the total number of potential participants available to the WCB in Victoria at the time. Most of the insurance companies did not reply, even after follow up calls to individual contacts. As well, I contacted the Insurance Corporation of British Columbia (ICBC). They declined to participate on the grounds that their client base was already subject to enough solicitation by researchers.

Some professionals and union members stressed the importance of confidentiality, especially in circumstances where the worker/employer or worker/insurer relationship was strained. Bearing this in mind, I developed a poster (see Appendix B) outlining who I was hoping to speak to, and inviting potential participants to contact me. Though I had originally intended to interview participants in a focus group setting, I offered participants a choice to be interviewed individually, as I thought this might be less threatening. I posted the posters around both campuses of Camosun College, around the University of Victoria, the local hospitals, and rehabilitation and physical therapy clinics. A radio host on the University of Victoria's radio station saw one of these posters and invited me to talk on her show.

Through the Grounded Theory Club, a group of Grounded Theory researchers who meet bi-weekly in the School of Nursing at the University of Victoria, I met a graduate student who had recently researched back problems from a grounded theory perspective (Valerie Watanabee, personal communication). After discussion with her, I decided to interview a few participants who had returned to work after a longer time than a year had passed, to see if they might be appropriate participants. Her sense was that often the experience of injury (in her case, back injury) was so traumatic to individuals that speaking to them after some time had passed was sometimes beneficial, as it gave them time to process their experience. It was also her experience that these individuals tended to have very good recall of their injury and recovery. Her experience appeared to hold true for my research as well. I found that speaking to individuals even years after their injury provided valuable data. It became clear as well that injury and accommodation was frequently not a one time event, and establishing even one

accommodation was often a process that extended over many months, if not years.

Valerie also referred me to someone who provided me with contact information for three individuals who used wheelchairs, who had all been injured over ten years ago.

Through these means, I was able to interview fourteen individuals (nine women and five men) who had been injured and used or had used some form of AT in the WP. They were an extremely diverse group. They ranged in age from their late twenties to late fifties. Four had personal experience as an IW using AT as well as being professionally involved in some RTW capacity. Their educational attainments ranged from less than high school completion to completed doctorates. Their injuries were similarly diverse. Two workers had broken wrists; one was on the road to full recovery, and was expecting to use her AT as a temporary measure to help her over the recovery period, and the other had some irreparable damage to her wrist, and was living constantly with pain, but had successfully returned to work. One worker was recovering from a fracture of the hand, hoping to regain all function, but not sure if he would, especially since his recovery was likely to be compromised by his pre-existing arthritis. One worker had a back injury, one a neck injury, one had a hip replacement as a result of injury compounding an incipient congenital problem. One worker had a painful back condition. Four participants had spinal cord injuries, and used wheelchairs. One of them used a ventilator for breathing. One IW had an injured knee, another had multiple chemical sensitivities as a probable result of WP exposures to toxins, and one had had carpal tunnel surgeries and a had a degenerative condition in her knees. These descriptions are intentionally vague, intended to give some sense of the participants without revealing possible identifiers. Table 2 below provides a summary of the participating IWs.

Table 2

Backgrounds of IW Participants (columns are unrelated, to protect identities)

Injuries	Jobs	AT used or rejected
2 Broken wrists	3 Skilled office workers	Telephone
Broken hand	Technician	2 Headsets
4 Spinal cord injuries	House painter	Misc. office/desk equipment
Multiple chemical sensitivities	Gardener	V R software
Carpal tunnel surgery	2 Nurses	Tarpaulin
Hip replacement	Graphic artist/writer	Gardening tools
Neck injury	Educator/researcher	Chairs/stools
2 Back conditions	Unskilled worker	Med cart pill crusher
Knee injury	3 Counsellors	Sit stand workstations
		Sander
		Walker
		Paintbrush
		Repeater pipette
		Drumsticks
		Truck ladder
		Assistance dog
		Anti-fatigue mat
		Truck seat
		Forearm rests

Difficulty recruiting IW participants is apparently not unique to this study. For example, even with a peer network, an experienced research team and an intense initial recruitment strategy, recruiting injured workers proved difficult for researchers in Thunder Bay. (Stone et al., 2002) Another qualitative study (Beardwood, Kirsh, & Clark, 2005) described IWs as being “an essentially wary population” (pg. 36).

One union that was particularly helpful in trying to find participants was extremely concerned in verifying that no information would get back to the employer or insurer in any identifiable form. This was likely a concern for a number of people, especially those who were involved in a difficult or unsuccessful RTW. It may also be that people’s work or health status changed between the time they thought about calling and could do so. For example, I made arrangements to meet with one health care worker who was on a gradual RTW plan, but she called to cancel the interview after getting the results from an MRI which showed that she required surgery and could not continue with her RTW.

I spoke to many informative people in the return to work field in the course of information gathering. These included specialists in AT, designers, doctors, and RTW professionals who for some reason were unable to attend focus groups. I also had valuable telephone conversations with a couple of IWs who did not participate in formal interviews, one because she stopped her RTW, the other because her condition was not related to injury.

In order to maintain confidentiality, all possible identifiers have been changed.

Interviews and focus groups

The interviews were conducted using a semi-structured, open-ended question format. As the research progressed, I pursued questions that had arisen in previous interviews, and the questions evolved. I generally began IW interviews with a request to introduce the story of their injury and RTW, and then asked what it had been like living with the injury. I asked IW to tell me of the mechanics of how the AT had been chosen, designed and purchased, and what or who had been helpful or unhelpful in this process. I asked about reactions of coworkers and supervisors. I asked how confident they had been that their AT was going to work, and how well it did work.

I conducted the four focus groups using a semi-structured format as well, beginning with introductions and an overview of their experience with working with IWs who used AT, probing what factors they felt were most significant with respect to AT in the workplace. A sample of some of the questions can be found in Appendices C, D and E. The letter of consent follows in Appendix F.

Data collection and management

All of the focus groups were video and audio recorded. The videotapes were intended to be used as backup in case of a malfunction of the tape recorder, or to facilitate the identification of an individual on the audio tape, and they proved to be unnecessary. All transcription was done without difficulty from the audiotapes. Interviews were transcribed verbatim. Most of the transcription was done by a transcription clerk. I listened to the tapes immediately after the interviews, and again, while going over the transcriptions to check for accuracy.

Since some of the individual interviews were conducted in the participants' office, I decided against using a video camera, as I felt it would be too intrusive, as well as being cumbersome and potentially awkward to set up. The individual interviews were simply tape recorded, using a small portable tape recorder. The tapes were transcribed as soon as possible after recording.

All transcriptions, as well as some memos and notes taken during short information gathering telephone interviews, were input into NVivo 1.3 qualitative research software. This software was chosen for its ability to manage information and facilitate analysis. NVivo has a well developed coding capability (Weitzman, 2000), and my intended research appeared to be well within its capabilities.

Like most current qualitative research software, this program serves primarily as a data management tool, and has no analytic capabilities of its own. It is the researcher's role to identify which passages to code, how to code them, how to recognise higher level themes and how to relate these themes to each other. To say that the themes "emerge" is, while widely accepted to be a description of the process of analysis, essentially a misnomer. Any themes which "emerge", emerge solely as a result of effort on the part of the researcher, and while some may perhaps be said to "emerge", others are extremely recalcitrant, and it may require concerted effort to bring them into existence. It is this analytic work which informs the results of the inquiry.

Participants who were IWs returning to work also filled out two forms pertaining to their AT. The QUEST (see Appendix G), is a well validated questionnaire which generates quantitative ratings of an AT's function and the user's satisfaction with the AT

(Demers, Weiss-Lambrou, & Ska, 2002; Fuhrer, 2001). It consists of 12 specific questions and a global assessment (Demers, Weiss-Lambrou, & Ska, 2000).

I developed another form (see Appendix H), following Bandura's Guide for Constructing Self-Efficacy Scales (Bandura, 2001). This scale was designed to measure the level of self efficacy an individual had with respect to their AT. To this end, it posed questions intended to measure an individual's confidence in their ability to use the AT under specified stressful conditions. It also asked questions pertaining to individual's expectations with respect to their AT. The injured workers filled out these forms after the interview. In cases where writing was physically demanding or impossible, the participants dictated their responses to me.

Memos

Throughout the research, I kept "memo journals" in which I recorded ideas, theories, observations and questions as they occurred to me. I took care to write a quick summary after interviews, noting particular questions or issues that had arisen, so that these questions could be explored further. One of the primary functions of these journals is simply to capture ideas before they are lost, and the memos within them range from the cryptic to the well reasoned. I referred to these journals throughout the interviewing period and the analysis of the data. I entered memos into NVivo, linked to particular passages, when the memo was directly related to the passage. As well as documenting and developing some of my hypotheses, these memos served to record and make evident ideas which were not readily apparent from a simple examination of line by line coding.

Analysis

Initially, line by line coding was used to categorize elements of the interviews. Reviewing the data in this way required me to carefully consider the meanings of individual words, phrases or paragraphs, so that significant concepts would be recognised. The codes were used to identify significant aspects of the data. I found that some “higher level” codes emerged at this level as well. As analysis progressed, and I went through the data again, some of the codes changed, merged with others or acquired new meanings. As the analysis deepened, comparisons of concepts and elements of the concepts moved the process forward. This constant comparison of concepts and data clarified which emergent themes were of greatest significance (Glaser & Strauss, 1967). Throughout the research, it was necessary to visit and revisit the question of what I was researching, especially as SE became less and less central to the investigation.

Throughout this phase of analysis, I also sketched diagrams, flow charts, models, and made word maps to help some conceptual schematic emerge from the data (see Appendix I). Eventually, an approximation of the final interpretive model emerged, and it was further refined and clarified during the writing of the results and discussion.

Although the questionnaires were analysed (see Appendix J), this proved to be of limited relevance to the interpretive analysis.

Ensuring rigour and trustworthiness

As analysis proceeded, I took some results and questions to the Grounded Theory Club, a group of faculty and student grounded theory researchers who meet bi-weekly. This provided mentoring in grounded theory (Schreiber, 2001). As well, I brought

analysis in progress, as well as questions and dilemmas, to my supervisor, who provided direction when needed. This provided me with some feedback on how well my interpretation seemed to flow from the data, and whether it was indeed grounded in the data, as opposed to being grounded in my previous conceptions or biases.

As my interpretation developed, I took the results back to participants for further clarification, or to verify that I was indeed on the right track, and had not created interpretation that had not emerged from their descriptions of their experiences. Some of the IW's comments were reassuring in this respect, and also interesting, as they underlined how unheard this population sometimes feels.

Triangulation

The research was designed to examine IWs' experience of RTW. To give me, as researcher, additional perspectives to use in interpreting their experiences, I obtained and analysed data from HR professionals and rehabilitation professionals as well as from the central participants, the IWs. Working with these three groups allowed me to compare one group's perceptions with those of another, and to see how the same issue might look from different perspectives. Given more time and a larger study, it would be valuable to extend the research to include the perspectives of line managers, co-workers and family as well, as these people are often important to IW's RTW as well.

The professionals were able to give an overview of some themes they had found in their work, because they had experience with many instances of RTW, and emotional distance from the process. Both HR and RTW professionals gave insight into corporate and professional values or culture on some issues. An issue was not so much the hope that all three parties would tell the same story, but rather that the viewpoint of professionals

could be used to deepen my understanding of IWs. I did not expect to find that all three viewpoints would always be congruent, and indeed they were not.

It is impossible to come to know all of the various aspects of a person's experience and personality over the course of one interview, no matter how skilled an interviewer one is, how lucid, perceptive and open a participant is and how insightful and creative an analyst one is. However, many of the IWs, as well as the professionals seemed genuinely interested in participating in the research in order to improve the experience of those who came after them. The IWs had usually found the process to be difficult, and wished to contribute to helping others going through the same process. I had the impression that most were trying to give me as accurate a picture as they could, without exaggerating either their suffering or their accomplishments. I think the honorarium was a significant incentive to a couple of the IW participants. Twenty five dollars is not insignificant when one is in a precarious financial state. Two participants were also perhaps motivated by some desire to expose people or organisations that had caused them trouble, although I made it clear at the outset that this would not be part of either the thesis or any report.

The more aspects of a question one can consider, the closer one is likely to come to some useful or valuable theoretical insight. Whether one names this process triangulation, crystallization (Janesick, 2000) or something else seems moot. What is important is to achieve some sense of the lenses through which the question can be viewed, and some sense of the relationships between the different lenses. Where one stops seems often a pragmatic decision, based on the limitations of time and resources.

Sensitizing concepts

In doing qualitative research, there is often a question about when and if one reads the literature. This is of particular concern for grounded theorists. For example, Glaser states that the pre study literature review “is a waste of time and a derailing of evidence for the GT study” (Glaser, 2004, para.46). Interpretive inquiry, however, holds that expert knowledge of the researcher is valuable in guiding the inquiry, and is important to making the inquiry a meaningful one (Lopez & Willis, 2004). However, it is essential for the researcher to retain his or her integrity and see what emerges from the data, rather than being constrained and directed by ideas derived from the literature. In my case, although I did have some familiarity with AT, I had virtually none with RTW, or with AT in RTW, and thus it was essential for me to read some of the literature in order to sensitize myself to some of the possibly salient factors I might meet. Once I had decided to use the lens of SE theory, I also needed to read enough about SE to have a clear sense of why it might be a useful theory in this context, and what SE would look like, were I to find evidence of it. As the research progressed, I read other literature that seemed appropriate as ideas arose. Some of these readings allowed me to more clearly refine my ideas as the research progressed. I used the literature to deepen my understanding and to generate new hypotheses to test in interviews and analysis.

Ethical concerns

Angen (2000) notes that interpretive inquiry plays an ethical role in moving us towards a new understanding of the subject at hand, and that it should move understanding forward rather than providing the final word. It appeared at the outset that

research in this area could certainly be of benefit to some people, and would serve to further understanding of some of the factors that were relevant to RTW with AT.

The protocol for the recruitment and interviews was approved by the Ethics Review Committee of the University of Victoria. As well, the Worker's Compensation Board of British Columbia (WCB) approved the recruitment letter that was sent to WCB clients. The primary concern with respect to injured workers was that no information be made public that could in any way jeopardise a participant's relationship with either an employer or a service provider. This is not at all to imply that any IW were being deceptive, but simply that some of their negotiations were private, and consisted of delicate interpersonal balances.

The issue of anonymity was also of concern for HR providers and rehabilitation professionals, who needed to feel free to discuss employers or insurers, or to mention instances of AT use with which they had experience (without, of course, breaching the confidential nature of the client-professional relationship). Thus, all identities have been obscured, and where appropriate, possible identifiers (such as jobs or places of work) have been changed.

CHAPTER 3 RESULTS

In the process of this research I found that in many workplaces today, the salient question often is not what happens once IW have AT, but how and whether they get AT at all, and if they can keep it once they get it. The pressing issues were less with using or not using AT than with getting it and retaining the right to use it. Determining the appropriate AT and obtaining it was not always easy, but was possible, if and only if some foundation was laid for the use of AT. Creating this foundation was a complex process, and it was rarely a one-time effort. The nature of an individual's job and his or her physical condition changes over time, and thus, for IWs with permanent injuries, especially injuries associated with degenerative conditions, the process is ongoing. As the research progressed, and its parameters shifted, I began to understand more clearly what Denzin and Lincoln (2000) meant when they referred to qualitative researchers as bricoleurs and quilt makers, who cannot necessarily determine research practices in advance.

A few specific stories led me to question the relevance of both the construct of *abandonment* and of SE with respect to the use of AT in the workplace. During an interview with one IW, he recounted how he had been given a hands free telephone that was well suited to his needs. However, the insurer took it away from him, for reasons he was not clear about. He was given a substitute that did not work at all despite his protests. Another IW had been given an effective anti-fatigue mat, as she spent much of her day standing, and had trouble with her back. The mat worked well for her but her employer took it away to give to someone else. A third woman was given a walker with no consultation about whether or not it would be suitable for her work, which it was not.

These stories, among others, persuaded me that the question of people's self efficacy with respect to their AT might be relevant under some circumstances, but it certainly did not speak to the essence of the experiences of many of the IWs that I interviewed, at least in the manner I had originally conceived it. Thus, the issue of SE with respect to their use of AT was immaterial to many of the questions concerning AT in the WP. This would tend to support the position of Franzblau and Moore (2001), who argue that SE theory places the responsibility for action and success on an individual, deemphasising the significance of social processes and structures. They found in their review of the SE literature that "social support is particularly important for those who have the least power" (pg. 91). It appeared that in the RTW of IWs, many IWs do not have as much power as might be supposed, and thus social negotiations assumed a large importance in the provision of AT in RTW.

The data from the interviews also intimated there might be a need to reconsider the concept of *abandonment*, at least when referring to AT in the workplace. Having AT taken away obviously meant that the IW no longer could use it, but it was certainly not intentional abandonment.

As the research progressed, it became evident that the use of AT in RTW was very complex. It was not simply a solution to a physical dilemma, a question of design within a context of the IW's identity, whether that identity was a disabled (Harlan & Robert, 1998) or a consumer identity (Hocking, 1999). It was not wholly a question of some individual characteristic or personal motivation. It became evident that it was impossible to examine IW's experiences with AT without also examining the circumstances in which they were using the AT and how they had arrived at the solution they had.

Thus, analysis of the QUEST and SE questionnaire data proved to be of less value than anticipated (see Appendix J). The QUEST indicated primarily that IW were quite satisfied with their AT, and the SE questionnaire indicated that most IW's confidence in their AT increased with use. Even some people who had extremely low SE with respect to their AT at the outset developed confidence as they used it. There was no evidence of a direct function-usage correlation, except in instances in which the AT was found to be completely unsatisfactory. For the most part, people used what they had to use to do the job, and made do if something was less than perfect.

The process of RTW using AT is complex, and though I have characterised it as a process of building a foundation, this is not a linear process, as much of it may happen concurrently. Fundamental to any IW's RTW is managing their life, especially their health and finances. Most need to renegotiate their place in the workplace, a process which takes place within the context of the WP, and entails a complex process of establishing their competency and value while simultaneously maintaining WP awareness of their limitation in performance. Sometimes, IWs encounter resentment, scrutiny and blame while doing this and frequently, they find the WP is oblivious to their needs, whether intentionally or through oversight and lack of understanding.

IWs need to discover how their limitations affect their performance of a task, and how to rectify any problems encountered. If this can be done more effectively through the use of AT, it must somehow be procured. Especially initially, many IWs require a trial of the AT in order to see if it is suitable. In some WPs, IWs may need to assert their rights to maintain use of their AT. As time passes and they become more experienced with living with their limitation (assuming the injury is permanent to some degree), they

are increasingly able to recognise and acquire useful AT. The results section will be organised as follows:

Managing life and health – certainty, control, quality of life

Negotiating a place in the workplace – value, recognition, performance, moral judgement

Planning the return to work – analysis, information gathering, learning about AT

Using AT – successful AT

Expert – experienced consumer and user

It can be seen from the data that in many workplaces there may be little, if any credit given to the idea that living with a limitation is a learning experience. Because this sense of learning is often absent, there may be little support offered for the learning.

Indeed, not all workplaces have the resources to support such learning.

The process of going from injury to expert user of AT is complex, and this process and factors of significance to its success or failure are reported below. The results describe an individual's initial response to injury, how he or she then manages his or her life, some of the critical issues involved in returning to work, and then how the IW discovers which AT might be suitable, and whether or not it works.

Managing life and health

Data from the focus groups and interviews suggested that the time immediately following injury was an extremely difficult time for most IWs. For many, especially those with severe injuries, it was really a period of crisis, of dealing with many physical and emotional issues, while at the same time ensuring that finances, insurance and

benefits were in order. A number of processes occur concurrently, making this management extremely complex. Some idea of this is given overleaf, in Figure 3, entitled Return to work processes.

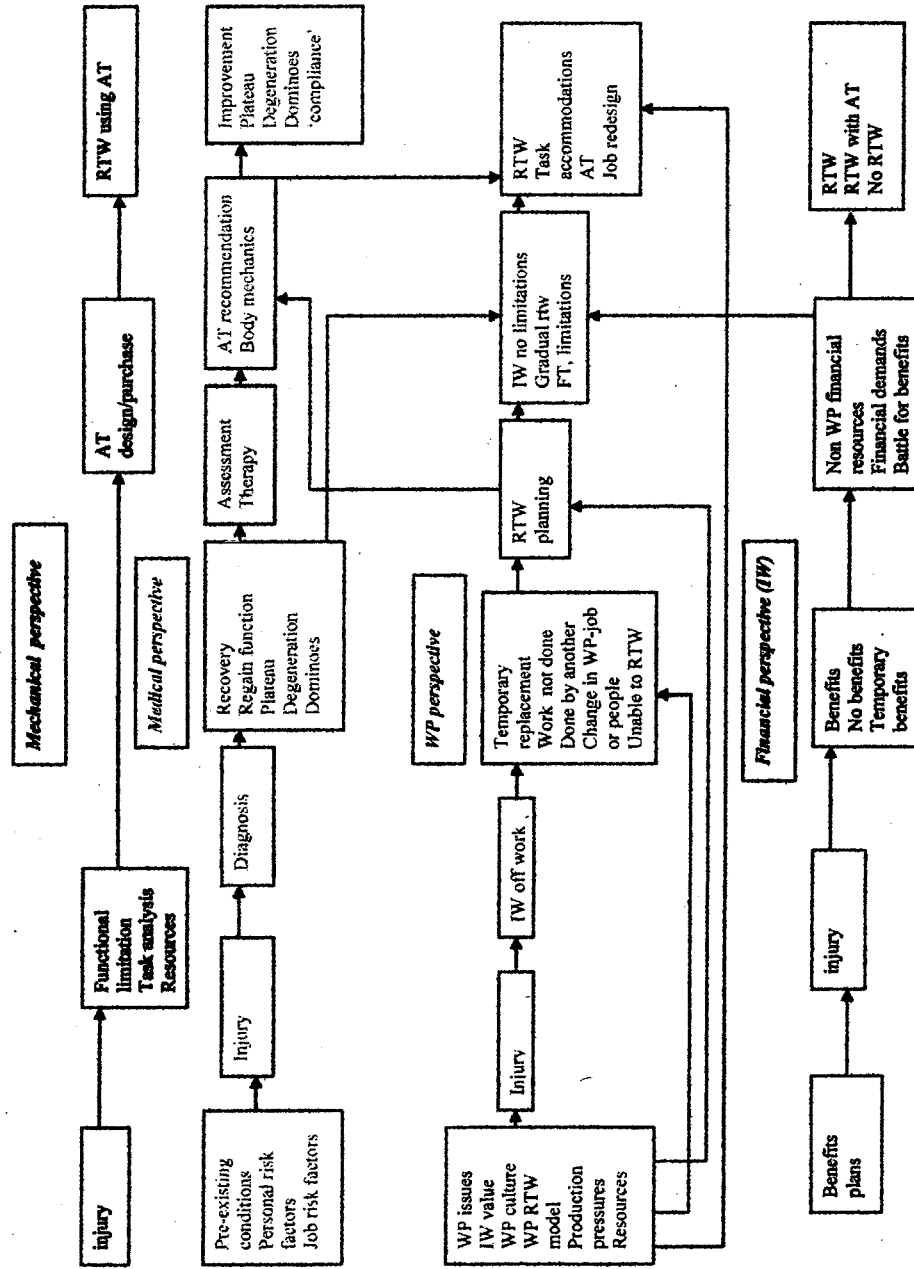
Meeting medical needs

The first priority of most IWs was to attend to their medical needs. Although this could be a straightforward process, in many instances the process was lengthy and complex. Professionals commented that many of their clients, especially the sicker/more seriously injured ones, are unable to cope with all of the effort of staying on top of all the necessary appointments, therapies, and follow up. These people benefit from professional help to keep on top of all the ongoing decisions, appointments and therapies.

When I find someone who can manoeuvre their way through XXX, through all of the doctors and everything else, that's fine, they are on their own. Basically, they are not as ill. But what I find is that the people that are really going down hill fast, and really seriously ill, they are just blown away with a referral to this doctor, a referral to that doctor.

A number of IWs found themselves back at work without a clear diagnosis of what had happened, wondering what was wrong with them. This was sometimes the result of doctors being unable to diagnose their injury, sometimes a matter of getting conflicting information from different sources, and sometimes a function of stoicism on the part of the IW, who waited, in pain, for the promised recovery. This sometimes led to performance issues when they returned to work, especially when the IW was expecting to be able to perform at a higher level than proved possible, but was unable to 'legitimately'

Figure 3. RTW processes



complain because there was no medical explanation/justification for the symptoms.

I worked out something with my supervisor that I would work half days and try to the best of my ability to continue doing my work without having to sit as much as possible but it was very difficult. I tried it for about a month but it became too much in the sense that the traveling to work was causing me a lot of pain because I could stand on the bus but it was quite a little bit of an excursion for me to be sitting and standing. I didn't know what I had or what was wrong with me because the doctors kept telling me that nothing was wrong with me.

The waiting may lead to complications, as well. For many workers, navigating the medical system in a weakened condition is a challenge. There are tests to follow up on, specialists to see and alternative approaches to try, if treatments fail. Many IWs try a number of avenues of treatment before they find one that works. The woman quoted below ended up losing confidence in doctors and physiotherapists, and eventually finding help from a chiropractor and movement therapist, after trying a number of "woo woo far out New Agie things" along the way.

I think I didn't get relief until almost a month and half before I had no pain at all. I tried different medications from the doctor and they just weren't working. She kept giving me sleeping pills. I tried to tell her sleeping was not a problem if she took the pain away because I'd only slept for 45 minutes at a time for weeks. So and she kept giving me sleeping pills and then it was just getting worse. I would take one pill. I

got to the point where I'd try one and then I would be drugged out on pills and be in pain. So it was even worse. So I stopped taking what she gave me so... I finally got relief from my chiropractor.

In instances where diagnosis was difficult, a good deal of persistence was required before some resolution was found to the question of the aetiology of persistent pain. The medical system can be slow to respond, especially from the perspective of someone who is in constant pain and unable to work.

It progressively got worse. Pain down my arm. Pain down my leg and eventually I had to say 'No' and went into my doctor and spent probably a month and half to two months exploring and spent another close to four months before I could get in and get an MRI done and then we found that there was a disc protruding or degenerated or how ever you want to put it and at that point I went and saw a surgeon, neurosurgeon Doctor XXX And had this consultation with this guy and waited around for about 6 months before he decided 'OK, we've got to do something.'

Dealing with health/injury can become the focus of an individual's life, and while they may recognise that this is not their ideal state, and they can see it taking over their life, there is often little else they can see to do. While the perception from the outside may be 'If you just didn't think about it so much you just wouldn't feel so bad', the IW feels left with no other option.

So at that point, all you're doing is surviving. You're just coping with symptoms, coping with what's going on in your body, and it's so

overwhelming there isn't much space for anything else. I mean, all articles had to be put off, all deadlines had to be postponed. It can be pretty all consuming at times. Not that you want it to be, because I certainly recognise that if my nose is stuck in the muck all the time it becomes a little obsessive and I certainly don't want become obsessive, but at the same time, there's a fine line when you sort of say 'Well yeah, but I have to acknowledge that this is having a profound effect on my life.'

Some IWs feel abandoned by the system, left without support to cope on their own.

The lack of follow-up from XXX and or outside sources is none if at all and that would make a big difference if you knew where your support was and someone to talk to when you're down and lost in the world.

In one focus group of RTW professionals, one woman outlined how she was able to work with IWs from the time they were injured, so she could ensure that medical issues were resolved before RTW planning began. The others expressed envy at this, and expressed that they did not generally have that ability.

Managing pain

Much of the difficulty in dealing with injury came from simply being worn down by unremitting pain and the related lack of sleep. One woman said "I was almost ready to commit suicide at one point when I was really really sleep deprived and in constant pain." The pain pervaded their lives, making the decision to return to work difficult.

So much changes in your life when you're dealing with chronic pain that that's kind of the least of your worries [returning to work] but you need a job to obviously have a way of life. And to pay for your medical, the amount of pills they were trying to put me on - I couldn't have gone to work with that they were trying to put me on - I mean the pain killers.

Many of the IWs I spoke with told of using prescription pain killers for weeks or months. Eventually, most of the individuals I spoke with became resigned to living with pain. Some were given some help by a pain clinic, others simply grew tired of with living in a drug induced fog and chose feeling pain as the lesser of two evils.

But like I said, I've just gotten used to the pain. When it doesn't hurt, then I think 'OK. Something's wrong here.' You know, there's always this nagging pain, and sometimes it gets worse, and like I said, it doesn't have to be work. It can be - I can be sitting here and reading a book - and so I've just adjusted to it. Like most people with chronic injuries do.

The effects of the injury may be prolonged and extensive. One IW, who I contacted again ten months after the initial interview, wrote in an email that things were not getting better. He was working, supporting his family. He was by most RTW criteria, a successful RTW. He had a new career and a steady employer. But life was not good. He was still in pain and not able to sleep. His physical pain was affecting his emotional closeness to his children and his inability to sleep in bed with his wife was affecting the marriage.

I struggle every day to sleep and to manage myself through my daily routine. My sleeping is not working any longer on my couch, as it is destroyed by this and I have even a harder time sleeping on our bed. That is another issue to where I have not slept with my wife for three years, if you think this does not hurt the relationship well it has. We have become further apart, I guess that does not effect these people such as XXX etc who deal with people with disabilities. I know it has hurt my kids because Dad just can not be a Dad as to what he used to be. Well I guess there is no end to my hurt as to what I am missing with my family.

Body mechanics

Many IWs find the help of a movement therapist of some kind to be invaluable in learning how to work with their new limitations. Many of the most fruitful of these relationships occur over an extended period of time, meeting new challenges as they arise, and dealing with changes in physical capacity. Although some of this support can be specific to learning to do work tasks, much is also related to such commonplace things as sitting and standing, and carries into the workplace. A gardener describes her learning, and the support the therapist lent to her regime:

I was very limited in what I did. Another thing I had to modify was how I weeded. I would stand up and weed and I would just bend from my waist. Right at the beginning I was constantly on my knees crawling around. Then we were worried that I would pull something else because I was weeding in kind of a weird way. So with the movement woman I would

show her the way I was weeding and she said ‘Well, you can’t do it all on one side. You have to kneel on your right knee for a while. You have to kneel on your left knee for a while.’ So I still kneel when I weed.....I don’t go to the movement woman any more but I went to her for almost a year or more than a year. And I think it was just near the end it was just because I’m not very good in discipline with the stretching and stuff like that.

Another theme that sometimes arose was a “domino” effect, in which new injuries result from using unusual ways of doing things. This creates a new need to solve the problem of proper body mechanics. The gardener quoted above remarked later in the interview that “This spring actually my right knee was quite sore from kneeling on it. So the chiropractor was working on that and telling me not to kneel down. I was ‘Oh, yeah-great.’” Many IW saw themselves as holding off some future decline in function. One woman described one of the many benefits of her assistance dog.

Because I’m not ready for a power chair yet because that brings a whole can of worms all by itself. But by having him I still have the alternative to have a manual chair. Otherwise I would have to have a power chair.

Because I can do hills but I can’t do a lot of them and I was getting rotator cuff injuries and stuff like that.

Because finances are frequently an issue with IW, many find it difficult to obtain as much therapy as they need.

They're asking me whether or not the physiotherapy is really going to make a difference, and I'm telling them yes and my therapist is telling them yes, and I do believe that I can regain 100% if I have the proper help. Apparently this is the absolutely best place to go XXX. I have nothing but I have to have a little bit of faith I guess is what I'm trying to say that it's going to work. But right now I'm in limbo. Because my position has changed I need another splint or I need my splint redesigned. I don't have \$75 to go and do it myself. I have to fight through the government in order to get 10 additional visits. So it's just hindering absolutely everything in my life. I have three trades, Mary, and they all require hand eye co-ordination.

Complications

Some of the IW I spoke with had degenerative conditions that compounded the effects of their injuries. This man, who had been self employed through most of his life, outlined some of his fears for the future. Not only did he have to cope with the day-to-day struggles with his injury, but also the day to day struggles with his arthritis.

I'm in a lot of pain. I've had arthritis for 8 years, so a lot of this stuff is not just for my hand, it's because I've worked with my hands for so long that - well, I've had arthritis for 8 years. I was diagnosed at 30, so.... My mother has totally crippled hands now, so I know that's probably the direction I'm headed. Everything I've ever done, I've done with my hands. Kind of disheartening at 30, but now I'm 38 and it's getting worse

and probably I don't know how long I'm going to be able to paint for a living, so....

In one instance in which an IW had a degenerative condition that gave her problems in addition to those resulting from her injury, this seemed to make her WP less sympathetic. It was as though she had exhausted their sympathy quotient.

Physicians and therapists

Many HR professionals and therapists see the role of physicians as central to an IW's perception of whether or not he or she will be able to RTW or perform some task. Although the doctor-patient relationship in general will be shaped by an IW's attitude towards the medical profession and their own attitudes towards health, there are a few elements of the relationship that are specific to the RTW environment. First, it is important to underline that most doctors are not well versed in occupational medicine (Pransky, Shaw, Franche, & Clarke, 2004), and often have no very clear idea of exactly what tasks the IW will be doing, nor of how these tasks can or will be modified upon their RTW. However, they are often called upon to determine whether or not someone is fit for work. This can place them in an awkward position, as they have insufficient information upon which to base their opinion, and run the risk of losing an established relationship with their patient if they disagree with the IW's perception of their condition and ability to RTW.

As physicians, one of their primary roles is to encourage people to get better, not to dwell on their injury for longer than necessary. This must be balanced by a need to caution those who want to push themselves too hard. The general consensus among

therapists and HR professionals seemed to be that physicians generally corroborate what IWs think, mostly because they lack the time to do an extensive investigation and analysis. However, another consensus appeared to be that physicians were often very important in giving people confidence that they could attempt a RTW. Thus, many HR professionals made an effort to give physicians information about what a RTW would entail. As one HR professional described it:

We've done some pretty comprehensive job depend analysis on different positions. And we'll do an independent one on specific job. But even when I give those to the doctors, they don't understand what's happening in the workplace, so for them to make a recommendation to enact in a workplace, they may or may not have a clear understanding. I can give them the job description, I can give them the job demands analysis. They are still not necessarily going to know what that work environment is like.

Given that most physicians were seen by rehabilitation and HR professionals to essentially confirm a patient's views, this might be seen to imply that IWs did not have a clear view of what their RTW would entail, or perhaps of what the implications would be. That doctors were seen to be important to encouraging RTW may be seen as a reflection of the fearfulness and lack of confidence of IWS. If IWs were seen to be correct in their assessment of their health status and RTW capability, it should not appear so problematic when physicians simply confirm IW's assessment. In some instances, this theme reflected the fear of malingering which pervades these discussions. Research suggests that the role of physicians in RTW is complex, and likely phase dependent (Dasinger, Krause, Thompson, Brand, & Rudolph, 2001). The research in this area is still

preliminary, and is complicated by confounding issues such as severity of injury, WP factors and physician role. Although a positive recommendation to RTW appears significant in the sub-acute/chronic phase of back injury, it remains unclear how much of this effect is due to IWs' perception of their state, how much is due to the positive effect of general support and advice offered by the physician and how much is due to education of the IW by the physician of realistic expectations of recovery (Pransky et al., 2004).

There was a sense among both IWs and RTW professionals that physicians sometimes lacked an appreciation of the non-medical realities of people's lives. One IW recounted talking a physician into approving her RTW. "Yeah, she wasn't supportive of me going back to work at all. But it was because I said to her 'I can't survive like this any more, like I can't pay my rent, so I need to.'"

Although some of the IWs I spoke with did find support from their doctors, a number of others lost faith in one or all of their doctors.

...if I couldn't work then he would recommend that I did have a back operation. So I said to him 'What is the percentage of it being better? He said 'It's only... I can't really tell you a percentage.' And I said 'Well, is it 50%?' And he said 'Well, yeah - maybe that much.' I was, like 'Forget it.' I would have to be in constant pain all the time to warrant having an operation because they really don't have a clue.

Not surprisingly, physicians' general lack of knowledge about occupational medicine seems to extend to AT as well. Thus, because IWs are frequently ignorant of possible accommodations or AT as well, decisions about whether or not a patient is able to return to work will not generally include any recognition that AT may be available.

The research indicates (Pransky et al., 2000) that many IWs will reinjure themselves, yet physicians generally do not give advice about how to avoid reinjury.

Benefits, insurance, finances

Most IWs found that injury brought financial stress and worry. This was especially true for independent businesses or contractors. One man, an independent painter who had been out of work for months, found himself in danger of losing many of the tools of his trades.

Now it's all in the pawn shop on a loan. I don't know who I'm going to get to bail me out of that one. But it's all on a loan because I needed money to move, and I'm in jeopardy of losing my golf equipment and my spray equipment. It's pretty grim. Hoping my phone will ring and someone will save me.

Family often steps into the breach, but families may place their own financial stability in jeopardy to support an injured family member. Many IW spend a good deal of money on care provided by practitioners outside the funded health care system.

My Mom paid a lot of my rent. And she had gotten oh - what is it called - not like an overdraft - a line of credit with the bank so she could pay my rent for me while I was working because of all my care I was getting - seeing a naturopath and I was seeing my doctors on a regular basis.

Return-to-work-professionals find that most IW will only ask for assistance when in dire need. In instances in which expensive AT is needed for day-to-day life, or there is no WP support, counsellors may encourage an IW to apply for aid from local charitable

organisations. It is often a difficult thing to do while still maintaining some pride, which can act as a deterrent. As one counsellor said, referring to IWs who she could see needed financial assistance: “They don’t want to be a charity case-they’d much rather live on the poverty line than go there.”

Some IWs find themselves embattled with an insurer. This battle may push the IW into feeling a need to prove an injury is real, or that it was caused by some particular incident or activity. This need to prove the existence of or cause of an injury was a large stress to a number of IWs. It can act as a deterrent to recovery, as well, as the IW may focus on proving injury, rather than on improving function. One IW found himself stuck, waiting to hear the results of appeals, feeling unable to move forward.

I’m still kind of sitting here and I haven’t been able to move on to the rest of my life because I’m constantly fighting and arguing, dealing with my lawyer, worried about what’s going to be tomorrow... whatever. Just all the parts of the injury and I shouldn’t have to be there and I don’t think anybody should have to be there.

One IW simply gave up trying to convince her private disability insurer that her back injury was work related. After years of paying for disability insurance, she now works uninsured, convinced that paying premiums is simply throwing her money away.

HR recognises the power of money, and will sometimes intentionally use it as a weapon to try to force someone back to work. As one HR professional put it “If we can dry up the money with somebody that we’re having problems with, they come and they start cooperating.”

Coming to terms with injury & limitations

The initial injury creates a tremendous amount of fear and uncertainty. As a sympathetic therapist describes the initial phase of injury:

They're [IWs] not in a space where they can assimilate it rationally.

Especially when somebody is in pain. The pain creates a lot of fear and anxiety. That's the focus point of somebody who is injured. That's where they're coming from. We don't understand that as therapists, as employers. You know, intellectually we do, but really we're not there.

Where they're at is in a place of fear and anxiety. You know but the pain creates all kinds of fear. Am I disabled? Am I reinjuring myself? Will I ever be better? Can I go back to work again? Can I have a family life? Can I have a sex life? Can I do all these things?....My theory is that when people are going through an injury for them, it's a crisis situation.

(general agreement) I think as therapists, employers, we don't realize it's a crisis - at some level. And you just don't act rationally. Most people don't have the skills and – right, to act rationally in a crisis.

This change is often profound, reaching into all aspects of a person's life.

I know it's part of life and I know it's something you've got to learn to live with but at the same time it's taken away a lot of my life. I can't enjoy going and playing with my kids. I can't go ride my bike with my kids. I can't do....Even certain things at work I can't go do. It's just that part of

my life that's not there any more, and it's hard - how do you replace that?

I don't know.

Most IWs are surprised and often overwhelmed by the toll the injury takes on their day to day functioning. As one woman who required surgery to mend her broken wrist said:

Besides that, my brain was hardly functioning. It's amazing how long it takes to get back when you're not - just fully trying to cope with the body that's not working the way you're used to. That's what most of my brainpower was doing. Every time I wanted to move I had to think - can I do this with my left hand or do I need to switch it to my right? You just - every action is hard.

This energy drain surprised everyone I spoke with. They were surprised that a simple (or not so simple) injury can pervade one's life, affecting everything one does. Without living through the experience, it seems virtually impossible to imagine all the repercussions of an injury. A great deal of resourcefulness is needed just to get through the day. Some IWs take this as a challenge.

I had to learn everything myself. I took it as a challenge as opposed to this great big disappointment, because I was pretty depressed when it happened and it was in middle of winter and I was thinking when am I going to get back to work? When am I going to be healthy? A few things happened that were really funny. The first time I tried to shave with my right hand, it was ridiculous, because I had a full beard by this point. I had

just gotten to the point where I just-but I had to clean myself up, so I mean I cut myself to ribbons-it was just-and I took it as a challenge....Cause I had to play the game with it in my mind cause I would have went absolutely crazy had I felt sorry for myself.There's a whole bunch of things that you really don't think about. Just getting out of bed was difficult - and getting dressed! Really difficult. Like - we're talking a half an hour for like a 2 minute - it was hard.

The IWs I spoke with tended to try to push themselves too hard, too soon. They wanted to be back at work or school, and were taken aback at their inability to do what they wanted to accomplish. Initially, most of the IWs I spoke with set expectations for themselves based on their pre-injury performance. This places a tremendously heavy burden on people, who frequently will not ask for any assistance. One man, who uses a wheelchair because of a spinal cord injury, describes his experience:

Another barrier that was there for me was that I couldn't determine -when I didn't succeed at something, I couldn't determine for sure in my mind - was it because I wasn't good at it, or what percentage was because I wasn't good at it - and what percentage was due to my disability. If I could have said, 100%, 'You know what, I didn't do that well because it was my disability' - that would have been - I could have accepted that. I would have had someplace else to place the blame-it would have been outside of my locus of control, to use proper terminology-but I couldn't, and that wasn't clear, and so I internalised an awful lot in that process

that, looking back on it now, I realise that was absolutely nuts to take on that kind of burden

This mention of locus of control is interesting in the context of RTW and AT. This particular IW was highly educated, articulate and had a supportive family. And though the aim of most rehabilitation professionals is to encourage IWs to assume responsibility, to take control over their RTW, it can be seen that there can be a negative side to encouraging this self reliance before the IW has reached some state of readiness and WP issues have been resolved. In the case of this individual, while he was attending university no one made any overtures to him suggesting that he might take a lighter course load, no one discussed access issues – and he, taking everything on his shoulders, did not ask. It was only much later that he could see the destructive effect this self reliance had had on him.

At this point in time, it may be of limited use to speculate about what might have happened, had he a) had a sense that someone would be willing to listen to his difficulties b) had a sense that there were possible solutions to some of his access and other issues c) not felt as though he was not successful because he was finding it hard to simultaneously go through graduate school and come to terms with his spinal cord injury. However, it is easy to imagine that being on an accessible campus and not having to deal with first generation voice recognition technology would have affected the quality of his whole life. Part of what is so difficult about coping with injury is simply being “worn down” by the added energy required to accomplish even simple things, and some of the usefulness of AT comes simply through reducing this burden. It is not that it is impossible to do something, but rather that to do so takes energy from individuals’ finite stores of energy.

The combination of being worn out and not knowing some of the possible options can work against finding solutions.

The inaccessibility of the department was a huge problem and simply wore me out, and I think that without that issue I would have finished my master's degree in far less time and probably would have felt much better about myself as I was doing it, and would have done much better, both in my coursework and in my thesis. There were so many things I had to battle against. You know, some things that no one could have alleviated- that's just the nature of having a disability. Many things that were barriers that didn't need to be there. Or at least in an ideal world, wouldn't be there. I made a lot of mistakes in that process. If I did it over again, I could fix a lot of things.

There is widespread consensus in the current research that an early return to work is beneficial to workers for a wide variety of reasons (e.g. Franche & Krause, 2002; Sandberg & Cornfield, 1998; Schultz et al., 2004). However, depending on the severity of the injury and how far reaching its effects have been on a person's life, it may take a long time to even begin to think about and negotiate the RTW process. A counsellor put it into context thus:

... a lot of people with disabilities, their confidence has been hurt and shattered, because it may be something that has happened suddenly. A brain injury, or spinal cord injury or multiple trauma or an amputation or all of a sudden they are a super confident person and all of a sudden they don't look the same -they aren't the same - physically, maybe cognitively.

They've had a lot of losses -they may have lost some parts of their body, some function - you know gone through some marital break-ups, lost their house, their car - you know they'd have a lot of losses because of that initial loss and then they're trying to build themselves up and one component is, well, 'Do you want to start work?' 'Well, yeah but I don't even like to see myself in a mirror so how can I go apply for work?' Sometimes it takes a long time.

This professional, who worked with people with severe injuries and was an IW himself, commented on the need to maintain a perspective on all the aspects of the IW's life, to see it in its totality and to allow them some time to find their way to re-establishing their lives.

Sometimes in rehab we forget. Person needs to start to feel comfortable in their community before they can feel comfortable in their workplace. Step by step - feel comfortable living with their family, feel comfortable living in their body and what are their push points.

Coming to terms with injury may include coming to terms with living with uncertainty. A number of IWs had uncertain prognoses, and did not know if they would be further incapacitated as a function of degeneration or if their injury might result in other problems. The uncertainty of the progression of their physical condition may result in considerable anxiety that extends to all aspects of the IWs' lives.

And in the other sense, I have to be careful, because - something happens - I could end up paralyzed. If I was to hit my head the wrong way or

whatever - the way it's all screwed together, and that's what my surgeon told me 'If your head is hit the wrong way, and that was to break open or those screws were to come apart or the fusion were to come apart - Be careful.' So, I'm always paranoid of what I do.

Once the initial crisis has passed, and someone has become more comfortable with their injury, they are more able to initiate discussions about their limitations. It often falls to the person with the injury to initiate discussions, as many people in their work and non work lives will be uncomfortable around disability. Developing the ability to put people at ease may take time, as it requires that one be comfortable oneself, and that one have figured out how best to make others comfortable.

So if I go to a bus stop people are very interested but afraid to approach - but actually kind of everything quiets - because they are observing, mentalling and uh - you: 'Great day, eh?' - [mimes peoples' shock at being spoken to by someone in a wheelchair] 'God, he talks!' So you have to get by that and you get on to other things.

Two IWs who had had previous injuries were much more assertive when coming back to work after the second injury than they had been after the first. They said they had realised they needed to be proactive in asserting their need for time and flexibility to RTW.

Some of the process of coming to terms with limitations is practical; learning how to cope with work and daily life. There is a recognition that the limitation is of less significance than other aspects of life. One IW reported that:

I just thought of it right now, I see that as my largest, as my assistive device in that I was able to go to school and get the education that would allow me to do a job that would be mostly with my mind and less with my body.

Most of the participants in this study did not appear to have “disabled” as a central part of their identity. Their limitations simply existed, sometimes as irritants, sometimes as major impediments. But they were peripheral to who the *person* was. Thus, “coming to terms” with injury was not so much a matter of assuming a new identity, but rather one of learning deal with injury-related limitations and with the reactions of those with whom they came into contact. In some instances, this involved a quite conscious separation of the body and the self identity. This process appeared sometimes to be essentially a reforming of identity. One IW described losing his “physicality”, which, as an athlete, had formed a fundamental part of his self identity. In his new identity, this “physicality” appeared to be less central, even though his physical life probably consumed more of his time and energy than it had previously. There is sometimes a sense that injured individuals must “accept” their disability. It would appear from the participants I spoke with that coming to terms with limitation frequently seemed to involve deemphasising the importance of the limitation, rather than bringing it to the fore and incorporating it into their self identity. The individuals who were having difficulties in living with their injury were more likely to dwell on their injury.

Allowing time

Sometimes IWs need a considerable amount of time to come to terms with the injury. There is an implicit assumption among therapists and HR professionals that an early return to work is better than a later one. However, recovering from injury can be a lengthy process, both physically and emotionally, and the RTW can be extremely stressful for individuals who are still feeling the effects of their injury.

Although returning to work demands the negotiation of the timing and process of the RTW, IWs may not be able to realistically predict their capabilities in the RTW process and the initial tendency of many is to overestimate their capacity for work.

I came back on a Monday and she [the OHN] wasn't involved in my case yet so I actually worked for 6 hours - or I was here for 6 hours. That was a real mistake because it was way way too long. So the next day I came in for 5 hours and the next day I came in for 4 hours and I think it was on that third day that I actually connected with her and when she heard what I had been doing she said 'We would never have suggested anything more than 4 hours to start with.' And so once she got involved then she took sort of - what would you say - she set it up, as it should be. I think I was on 4 hours a day for about a month. One week I went to 5 hours and then the next week I went to 6 hours. That was last week. This week I'm back to full time.

One HR professional described reassuring and encouraging workers who felt they were not performing up to either their or others' standards that "You're doing your best, we all know that. This is what you focus on now." Though this attitude shows evidence

of support and understanding from HR, it also shows worker's concern about their productivity. IWs are very conscious of any perception of reduced productivity. When the RTW is negotiated so that the expected productivity is in line with the progress with their injury there is a feeling of accomplishment in at least doing their best-rather than simply failing to meet some undefined standard. "And I knew that I wasn't very productive probably for three weeks, I would say. But I was here and I was doing my best and I was doing something."

One of the IWs I spoke with described how crucial the gradual nature of her return had been to her success. At various points in the interview, she described how she had taken advantage of the flexibility built into her RTW plan. When necessary, she was able to stop what she was doing, and recover for a few hours, and in this way she had used her time to gradually re-acustom herself to working. She had initially been told by a doctor and physiotherapist that she could never return to her job, but persisted in her RTW.

Coz at my age, that was two years ago, so that would have made me 55, I thought "You know, they're not going to want to retrain me for anything' So that's why - usually they don't give you a long return to work, but I was fortunate that they did, and they were very accommodating. I could set my own hours. Started out two hours at a time, and very slowly just doing a couple of things and then over the 4 months built it up so I was working a full shift.

Allowing time for recovery for the RTW can be confused with forgetting that that the IW is in the process of recovering for a RTW in the WP. HR professionals found that

when they relied on individual departments to maintain contact with IWs off on extended leave, the departments often were unable to do this, either because of staff changes within the department, or because of a lack of time and attention.

We have the problem with our human resource computer system that when someone went LTD, it showed them as terminated. Just a simple thing like that. It truly - as soon as they went to LTD, which they go to at about six months, they were unknown entities, they were gone. Nobody thought about them, the supervisor didn't try to contact them. Nobody had anything to do with them. If they came back at some point and said 'Well I'm getting better, I need to come back to work.' 'Oh. Oh. Well, OK.' People would start talking to them again. Nobody had any contact with them at all. They just simply vanished off the face of earth.

Initially, IWs may be extremely nervous about returning to work. One professional stated that she accompanied some IWs to work on their first day "Just to get them through the door and then they're OK."

Negotiating a place in the WP

When IWs come back to work, even when following a prescribed RTW plan, they must renegotiate a place for themselves in the workplace. Although establishing a place in the WP is not a process unique to injured workers, there are a number of elements of the process that are specific to the IW experience. When they return to work, they are changed, to a greater or lesser extent, and their capacity for work is frequently affected,

whether temporarily or permanently. This change may alter relationships in the workplace. Many IWs and co-workers have established their domains of responsibility and competence interdependently, and changes in one individual frequently have ramifications for others. Some of the issues encountered by IWs can be resolved by clear communication between the IW and others in the WP, but there are a number of factors which act as impediments to clear and open communication.

The WP environment & culture

While there are many factors within a WP which affect RTW, three were prominent in this research: whether or not there was a strong the culture of “non-complaining”, how or if the WP showed trust and respect for the IW, and if there was a supportive climate or process for problem solving in the WP.

Culture of non-complaining

The WP cultural norm of “not complaining” was widespread among my participants. There was a sense that complaining about the injury was “being a wimp”, and that IWs should “suck it up”. Many of the rehab professionals lamented that this attitude was a real deterrent to proactive work. An RTW professional who worked with health care workers explained that “Nurses are, as you guys probably already know, ‘Well of course I’m sore. I’m a nurse.’ Rather than - ‘Maybe I should deal with this.’” Many workplaces have clear, if unstated, taboos about complaining of physical discomfort. This leads to some problems being unaddressed until they have progressed too far to ignore, and also lays some of the ground for IW’s difficulties with setting boundaries and striking the balance between constructively pushing and harming

themselves in the RTW. It can be difficult to find a way to mention limitation without creating a perception of complaining at the same time.

Workers returning to work without a RTW plan frequently pushed themselves to exhaustion without complaining in the WP. Some continued to work until they reached the breaking point, as this woman recounts.

You are in a male dominant profession where you don't complain. You tough it out. You work those long hours. You don't wimp out, right? So, I never asked. It was funny. I was talking to the equity officer and she says 'Have you ever asked for help?' And I said 'No'. She said 'Now is the time.'

IWs did not generally get credit for what they were doing in returning to work. Things were often not made easier for them, and they could not talk too much about how hard RTW was for fear people would think them incapable or a complainer, and people at work may not have wanted or been able to hear. It was frequently only professionals or friends and family who could act as a cheering section, who could acknowledge what a good job they were doing, and how hard it was for them.

Showing trust & respect for workers

A number of IWs found that their co-workers or supervisors did not trust them, which they found to be hurtful, frustrating and demeaning. They felt that their integrity was challenged, when in some instances only a signed doctor's note was taken as evidence of the truth of their recovery status, or in other instances when supervisors were unwilling to allow the IW to self limit their activities. In many instances of RTW, the

IWs felt that it was incumbent on them to prove their good will and lack of malingering. Although the vast majority of HR and rehabilitation professionals I spoke with concurred that it was only an extremely small percentage of IWs who malingered for anything other than perhaps a few days, IWs frequently felt that they were not really treated as responsible adults during their RTW. Before she returned after carpal tunnel surgery, an IW pre-emptively made it clear that:

‘OK, I’m going to have some limitations. I’m going to have to be able to say ‘No’ to work that I don’t think I can do. And if I’m doing something and my hand’s beginning to bother me, I want to have the freedom to stop that for now, go do something else, and go back to that later.’

This triggered a demand for a fitness to work examination. As she saw it, her quite reasonable request was being seen as an attempt to get out of work, although she “wasn’t trying to get out of anything”, but just trying to ensure that she would be able to monitor her own condition and respond appropriately. The request for a fitness to work exam seemed to her to be less motivated by a concern for her actual recovery and wellbeing than from a refusal to acknowledge her as an autonomous and trustworthy adult.

I returned to work on my due return date anyhow and they said ‘OK well you can’t work until you’ve had the fitness to work.’ So I just do office work until then. And I thought that was silly because office work is one of the things that is hard on carpal tunnel! I said ‘Can’t you trust me and my doctor to determine what’s best for me?’ So that was frustrating.

Another woman recounted how important it was to her that her boss had shown his support and trust in her by waiving the requirement for signed papers from the doctor. It is notable how important this one seemingly small gesture was in terms of indicating trust.

...my boss is really good, and one of the things I appreciated about him the most was - we have this really formal system of getting these doctor certificates when you're sick you are supposed to get this doctor certificate. It costs you thirty bucks. Twenty five or thirty bucks because the doctor has to fill out this form, right? He knew my surgery date, so I said to him 'I don't have to get an SD02?' He said no, I didn't have to do that.

The lack of trust, (whether systemic or personal) evident in RTW in some WPs can undermine relationships. Workers feel judged, coworkers or supervisors feel burdened and suspicious, and an acrimonious climate begins to grow. In WPs which demonstrate trust and respect for the IW, RTW can proceed quite smoothly, the IW working as diligently as possible, and the coworkers aware and supportive.

One of the reoccurring themes of this research was the idea of *responsibility*. Implicit in many of the therapists' discussions was the idea that IW needed to take responsibility for their return to work. While this sometimes conveyed a moral judgement, it was often cited that IW who claimed some responsibility for their own RTW seemed to enjoy the best, most successful RTWs. This issue of responsibility arose also in conversation with workers, sometimes from workers who felt they had been forced to take responsibility for things that were really not within their control, sometimes from

workers who were denied a chance to exercise their responsibility. Sometimes I heard more positively, from workers who had successfully taken responsibility. An atmosphere of trust and respect supported IWs taking responsibility, though some IWs also took responsibility for their RTW and AT because they had no other option.

Problem solving

A number of the IWs I spoke with treated their RTW and accommodation as a challenge in problem solving. This attitude was associated with IWs who had some autonomy in their workplace, whether it was autonomy they had naturally as a result of their status and position, or whether it was the outcome of a hard fought battle. These IWs tended to be more amenable to trying AT, and to researching it. They saw themselves as being instrumental in obtaining their AT, and did not (in some cases, could not) rely on others to do so. Two IWs who were engaged in acrimonious discussions with a supervisor and insurer had a difficult time obtaining the correct AT. Their quest for AT was made difficult by the lack of respect in the WP that they experienced. Their concerns were not listened to, and the AT they were given was inadequate. There was no sense that they were engaged in a problem solving experience.

One health care professional attributed a great deal to the influence of the supervisor and the work environment generally.

I think it has a lot to do with management style and the area....Do they allow them autonomy in terms of work processes and how things work? If the manager has that approach to her employees you will see employees

do the same with their work station take ownership of their workstation and become good problem solvers.

This theme was echoed by another therapist, who recounts one case in which the therapists (consultants) were engaged in intense problem solving, but the general WP atmosphere was unsupportive of their client:

So if client perceives that their employer isn't supporting them, you can throw all the assistive technology at them they want. The majority of the time, it's not going to work. At least, we found we've gone to XXX and an example is that there is this one woman, she worked in an organization, she just counted money all day, it's for XXX. They count. She had bilateral tendonitis in both wrists. There is no real diagnosis. She didn't have carpal tunnel. Didn't have, just some kind of tendonitis kind of thing. So we went to XXX and rigged up this amazing - physiotherapist and I, got out the diagrams and measurements and - this is something we thought we were going to patent. We thumped our chests about it. It was amazing; it really cut down on the strain in her wrists in terms of the angle of movement, the repetition, blah blah blah. We got two or three of these things for her. A couple months she ended up going off work and there is a lot of you know animosity between her and her employer. Again, it's not a strict cause, cause and effect relationship. You can't directly say because she has a problem with her employer, she went off. But certainly from what we see in the program, there is a strong correlation between conflict or the perception of no support from the employer and the poor

work durability vs. support from the employer, feeling the person is being accommodated in the WP and that really leads to a strong durability in the workplace.

The implementation of solutions arrived at through problem solving may be hindered or prevented by WP policies and culture. Accommodations that involve flexibility of hours are sometimes some of the most difficult to implement (Harlan & Robert, 1998). This paraplegic woman explains her predicament:

XXX don't work part time, did you know that? You're not allowed, XXX can't work part time. You either work full time or not at all. You can have sick time. I can take a month of sick time if I wanted to but then I would have to come back full time. You know - work your 30 hours/week would be good, right? But that's not an option. So what they did was give me an assistant to keep up the volume of work. And still not like - I work 50 hours a week instead of 60 hours a week. But at least my productivity is up and I can - if I feel I need to take a day off or take some time I still can because I still physically have somebody helping me. I can still produce. It's all about productivity. And if I don't produce at the normal level then I won't have a job.

While a discussion of some of the economic reasons for policies such as this is beyond the scope of this paper, it is important to mention some of these factors, as they comprise some of the WP foundations on which any request for AT will sit. From an IW's perspective, they appear unsupportive and arbitrary.

(Re)establishing relationships with others in the workplace

Upon their RTW, IWs may find that relationships have shifted within the workplace. If they have been away for a long time, there may have been changes within the workplace. Someone may have been brought in to replace them, or job duties may have shifted around to accomplish what needed to be done. Depending on the people involved, and the time and tasks involved, this can create resentments or altered expectations of performance. If someone has been carrying part of the absent IW's workload, they may be looking forward to his or her return, and hoping the returning worker can take back their own workload.

Recognition of value

Much of the dynamic of establishing a relationship in the WP and determining performance standards is established by both the IW's perceived value in the workplace and their perception of how valued they are. Although it is generally good practice to let employees know they are valued, it is of particular significance to IWs, who are often unsure of their value, both in terms of their perceived value and in terms of their own ability. Some IWs work very hard to prove their worth, only to get no response. One woman, who had earlier described some of the personal cost of working extremely hard, described some of her disappointment at receiving no feedback for her outstanding effort.

I was sort of anticipating a letter from the director of XXX or something because I was doing two full time jobs and being paid for one. As well as the XXX coordinator had a mental crisis and had to go on leave for 6

months and I ended up picking up a lot of her jobs that I probably shouldn't have done because I don't have a degree.

One IW, who had discussed quitting her job with HR, was surprised at the results of the discussion. "I had no idea of what a ruckus I had made behind the scenes. I had no idea. I was considered really valuable. I ended up getting a huge raise." Although she was a highly valued employee, she was unaware of her perceived value, and was determined not to "wimp out". Rather than ask for accommodation before reaching the point of exhaustion, she continued until the only option that seemed open was to change jobs, a prospect she was not enthusiastic about.

I can't do this anymore. It's killing me. You guys are going to kill me. I can't keep going at this speed and this expectation. It's just too hard. I never cried at work. I was just a mess because I was so exhausted. It was amazing [being given a large raise and a restructured job] That's like, really cool. My productivity went up because I was able to do what I do best, which is my own, stuff right?...That made more of a difference to me - getting that raise and having XXX do a few things for me meant so much to me. And I would never ask for help.

An OHN commented that she spent time reassuring clients that all their uncertainties were perfectly natural, and common to many IWs. She described how she ensures that her clients receive adequate feedback from her, knowing that they often will not hear it directly from anyone in their workplace:

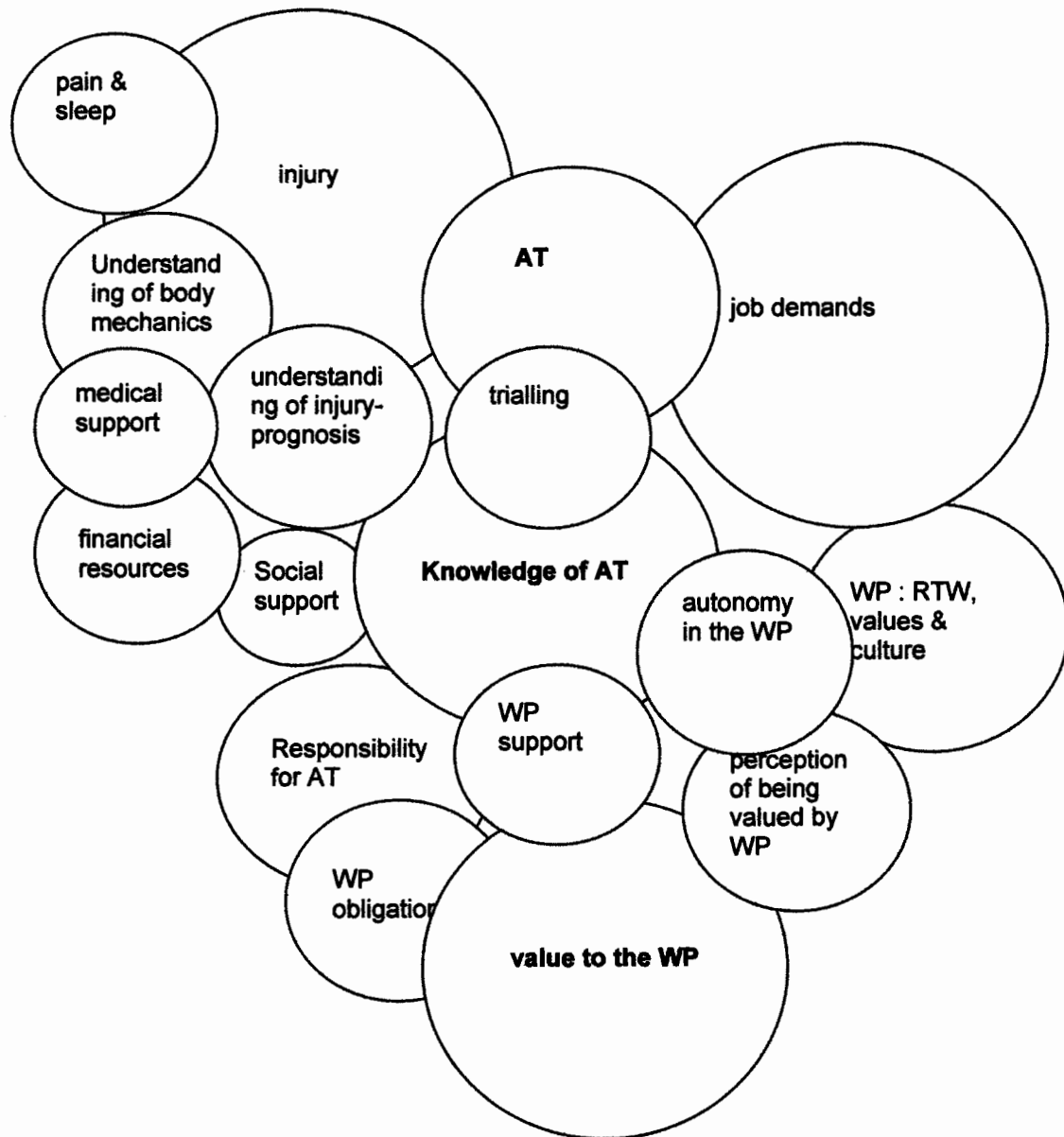
When they're back at work, I'll ask the boss or whoever it is, how are they doing and relay that back to the person because often they don't get told directly. Then say, "Oh yeah, she said you're doing great. Didn't she tell you?"

It is especially difficult for IWs who are changing jobs, or who do not have well established connections in the WP to ask for accommodations, as they have no clear sense of how the request will be received. Many feel very reluctant to broach the topic.

I felt badly, I had just started with XXX. I really hadn't - in my total work life I hardly have had any sick time. So here I am. I'm just starting with XXX and I'd been with them a year and I had to - actually, in March I told them I was going to need a couple of hip replacements. My only hesitancy was that he thought I just got the job for the benefits to go off work, so that was my only hesitancy.

IWs feel valued when the WP allows them sufficient time to regain their productivity, when peers, clients or supervisors show them consideration and respect, when AT is provided promptly and readily, when they are given jobs they can do and when they are consulted about their RTW. They feel devalued when it appears that the provision of AT is a burden to the WP, when they are expected to do more than they can, and when they are not listened to. Some of these interrelationships are depicted below, in Figure 4.

Figure 4. Some mediating factors between value to the workplace, knowledge, and assistive technology



Performance issues

Productivity of an IW is central to many issues in RTW. It lies at the root of much WP resentment, as co-workers or supervisors may need the IW to accomplish certain tasks, and may be faced with doing it themselves if the IW is not capable of doing so, or be faced with the consequences of it not getting done. The IW and the supervisor or peers are all aware of this, yet are unable to correct it. The IW may not be able to work harder, and the coworkers/supervisor may chafe at the low productivity, even while understanding (if not fully believing) its cause. Not surprisingly, this can lead to resentment and open or veiled references to the IW's non-productivity, and possibly some weakness or lack of moral fibre. One IW was told: "You must be very pain intolerant." "Just work through it." "Things can't be perfect."

Sometimes there are productivity issues that hold over from before the RTW – sometimes related to the injury (as in the case of people who RTW with incomplete diagnoses), but in others, not. IWs who have had performance issues before the injury are generally not welcome back into the workplace, especially if they have been replaced by someone else. From the perspective of the HR professional, these IWs are among the most difficult cases to successfully RTW. As one professional said, "They're pretty happy that the employee is gone, thank God. They were crappy in the first place, and they're going to be crappier now, now that they're not healthy."

Coming back into this situation is difficult for workers, who often work extra hard to compensate for their perceived performance issues. One woman, who blamed herself for not performing well before she left for the second time, recalls how she reflected on

the reasons she could not perform well prior to her second leave, and braced herself for her return:

There was some - a little personal guilt because I felt yeah I didn't do a very good job before I left. I was really anxious and the fact what was going on with my body so I was very not mentally at the job. I was trying to figure out what is going on with me. I was just so stressed out about everything. I had to try to plan like OK if I'm going on leave what is it going to look like for finances? Is it something am I going to have to move back to XXX? How am I going to get my health care? I was worrying about so many things. Feeling like I wasn't ready to be back at work but knowing I had to try, so that work level was just totally - so I reflected on that before I went back to work.

She ended up doing two and a half jobs for one salary, proving to both herself and her employer that she was more than competent. This compensatory behaviour eventually resulted in "burn out" on the job as well as having a negative effect on the other parts of her life.

In some cases, unrealistic expectations are set by management in a manner that lacks common compassion. An OHN described a scene in which a woman undergoing chemotherapy for cancer was effectively bullied to work against medical advice, by a supervisor.

She's in the supervisor's office crying, because she can't do the full job. And they're still kind of pushing her right, with some kind of expectation that she can do this, right. I'm really trying to say 'Don't you think this

person is - there's a risk where she can actually over exert herself, you know and actually make it worse.' Besides the fact that she's in tears.

Obliviousness and lack of knowledge

Uninjured people's obliviousness to the problems created by injury proved to be one of the most challenging aspects of returning to work. This is one of the areas in which professional intervention can be invaluable. Professionals outlined how they have learned to spell out the requirements for RTW explicitly, outlining exactly what they mean by "self paced" and "supportive environment".

A number of IWs described how their supervisors were oblivious to their needs. One woman described how her "very perceptive" supervisor, who was willing to "bend over backwards" for her, was unaware that there was no wheelchair accessible washroom on the floor of a clinic that served a large number of patients in wheelchairs.

.... like, they hadn't even thought of putting in a wheelchair bathroom in the clinic. I said 'Well did you know there is no other wheel chair accessible bathroom on this floor if you don't put one on?' 'Oh, good point.' I said 'Our clientele is - probably 30% are in wheelchairs!'

Another IW described how her supervisor "wouldn't think to come and monitor that sort of thing [RTW] or involve himself at all". Describing an earlier incident, she said:

My boss at the time had said 'We'll take it easy on you and just give you stuff sitting at the desk'. Well, it's not what happens. Even though

someone may have that intention of not having you, expecting you - to do those duties that require you to trot around the office - that's not what happens. In order to do your job that's what you have to do.

This lack of follow through on good intentions appears to result in part from the lack of awareness of the many ramifications that can ensue even from a very simple injury. It is simply impossible for most people who have not been injured to imagine the various outcomes of an injury, and extremely difficult to maintain attentiveness to an IW's state. Discussion about the practical ramifications of the injury is difficult— both for the IW and for others, who are frequently unwilling to ask about “the elephant in the room” for fear of offending, or broaching personal boundaries. Some of the problems experienced by IWs are both personal and cumulative in nature. For example, someone with a broken wrist may have trouble getting dressed, bathing, brushing their teeth, washing the dishes, doing up their shoes and driving to work. Paraplegics and quadriplegics may spend a great deal of time in addressing personal care needs. Although all of these issues may individually have been resolved, coping with all of them takes time and energy, and without itemizing everything it is impossible to convey the cumulative effect. However, it is generally not socially acceptable to discuss these issues.

There is a general reluctance among most individuals to describe details about their physical condition. For this reason, many professionals equip their clients with scripts designed to see the IWs through some of the difficult spots. It provides an acceptable way for IWs to assert their needs without making them as vulnerable to being perceived as being shirkers or complainers.

I have given people a script to carry around with them. (agreement) Nurses are terrible. 'Well if someone asks me to do something, I can't say no.' Well, yes you can. And here, say this. I've had things where, if they say 'I'm in a rush. Just pick them off the floor instead of going and getting the mechanical lift.' It's like, well blame it on me. 'Well I have to do it in this manner because my occupational therapist told me that I have to do it like this.' 'I'm going to get in trouble if I don't do it like this' and blame it on me, it's my fault, I'm the big bad person here. People are happy about that.

Interpreting this lack of awareness by others is difficult for the IW, who may already feel he or she is not producing enough, and is complaining too much and drawing negative attention to themselves. One woman described trying to understand this "forgetfulness" on the part of her co-workers. She feels that co-workers think she is shirking her duties, she is annoyed and hurt at their callousness, realises it is possibly unintentional-but is still left to cope in an environment that continually "forgets" about her limitation. This quotation captures some of the complexity of these relationships

When there's an invisible disability and you can tell people, but they don't understand and they forget. And then you think 'They're not being considerate of what I've told them'. But I think they just forget. They don't understand. Or they think that maybe you're trying to get out of work or something like that.

There is a sense that some "forgetfulness" may be expedient, and, if not quite intentional, intentional enough to be reprehensible and within an individual's control. One health professional described how she sends a letter to supervisors "because it puts

them [the supervisor] on notice that this is what needs to happen, and their conscience starts working.”

Being matter of fact and open about a limitation seems to increase awareness, as does letting people know what they can do to help, provided of course that it is not too burdensome. Being in a position of power helps. One employer warned new employees about her back condition. “So the first day, if someone new was helping me I would say ‘These are my back pills and if I am experiencing pain you have to come and get them and give me one.’ And they’d be, like ‘OK (laughs) Hmmm maybe I won’t work with you!’” Periodic, often humorous reminders can sometimes keep people aware of an IW’s limits.

Asking for help, receiving help and advice

A number of IWs commented on the difficulty of asking for help – and on how willing most people were to give it, once they had been asked.

Yeah, it’s a learning experience but I think it’s a learning experience for a lot of people with a disability because most people are used to doing their own thing. How often during the day do you ask for help? Not often. Well what’s it like to ask for help 20 times a day? That’s something you really have to learn. I’ve learned most people want to help other people.

Being asked for help too often is irksome, and most IWs are understandably reluctant to ask for (or need) help on an ongoing basis. Relying on someone else to do something reduces their control over their life. One man, a self described “control freak”, had dispensed with volunteer typists when going through university, and paid to have his papers typed. He found it too frustrating to be at the mercy of sometimes unreliable

people, and being unable to complain because he was, after all, receiving well intentioned help. Another IW described how freeing it was to be able to travel without needing an assistant, once she had an assistance dog. She gleefully described the experience of going through airports with her dog carrying long poster tubes. "He looks hilarious and he whacks everybody's knees with it, but people get out of the way real fast!"

As one IW said, pragmatically "Society is telling you or your own mind is telling you you have to be as independent as possible but you also run into situations where you have to ask for help. Those clash sometimes - you have to just get used to it or life is going to be a bit of a struggle." This fear of asking for help may create its own barriers.

I thought I had to do it- I couldn't ask for those things coz that was -uh - wrong, or I would be looked at differently, or I would be looked at as though I wasn't succeeding or I shouldn't be there, and looking back on it a lot of those my own attitudes and beliefs were barriers they may be psychological barriers or attitudinal barriers, but they're barriers against removing physical barriers.

Sometimes people, even strangers, offer unsolicited help and advice. Initially, this is perceived of as evidence of empathy. One woman described an incident in which she found herself an unwitting member of the women with injured wrists club.

I have to tell you one funny story. I am a musician and some time in that time we had gone and played this gig. There were these old ladies - we were at lawn bowling club and this one little old lady - they always come up to you after and say 'Oh that was nice, dear' and everything. So this one lady came up to me and I was expecting comments like that, but she

was looking at my arm. I still had the cast on at that time and she said in this confidential tone, 'I recently went through that myself' and broke her arm or wrist or something, and 'I just wanted to tell you I don't know if you figured it out, but I'll just tell you how to put your bra on.'

Complicated - turn it upside down and snap it (gestures). It was all I could do not to break out laughing. Well, actually, I've got a sports bra on right now. It's way easier just to wear a sports bra - but wasn't that sweet of her?

Eventually, as IWs acquire their own expertise, this well intentioned help becomes annoying.

In some circumstances, IWs may find it necessary to assert and establish their competence, because over solicitous co-workers try to protect them. One IW had been told, on her initial RTW, that she would be required to do 100% of her job if she was to be able to RTW. She saw these unnecessary offers to protect her as undermining her ability to prove her value.

With the heavy lifting and the transferring at work at first a lot of the staff members - coz most of the time you need 2 people to do it, they'd say 'Oh, no I'll get someone else' and finally I had to say 'No, I've got to do it. If I want to keep my job, I have to be able to do everything.'

Asking for and receiving help is an integral part of establishing how the workload is to be distributed in the WP. The conditions under which an IW chooses to ask for help will be determined by personal characteristics (independence/interdependence, need for

control etc.), their perceptions of how valued they are (if they perceive they are valued and accepted, it presents less of a problem to ask for help), need, relationships with others (which will in part be determined by when and if they have previously asked for help).

Resentment

When someone is injured, and others need to pick up their workload, WP resentment of the person with the injury can develop. Supervisors and peers may also have issues about the difficulties of their work not being recognised as well, and there may be other unresolved WP issues. They too may be caught in a situation not of their making, and unable to complain without seeming churlish and unsympathetic.

In many work sites, equipment may be linked to power-the boss in the corner room gets the comfortable chair, while the clerks get the twenty year old steno chair. This can lead to resentment, especially when the AT is something that everyone could benefit from, though they may not particularly need it. This places the IW in the awkward position of defending themselves, of justifying their special treatment.

One IW commented that people visiting her office assumed her workstation was a personal choice. "They always assume it's because I prefer to stand. I'm a princess." People in her immediate office are aware that it was an accommodation, but she has developed a script to normalise her situation "I kind of explain it but I don't get into it... I just say I have a bad back."

Three RTW professionals commented independently that, although some workers might initially believe that a holiday from work would be desirable, "after a few days of sitting on the couch watching Oprah", they had had enough, and actively wanted to RTW. If not work, then Oprah. This reference is interesting in that it may indicate where some

of the resentment of coworkers has its roots. Namely, that time off work may be characterised as being a holiday rather than as a housebound, boring interlude, and that, while the uninjured have been working, the IW has been having a pleasant holiday.

When others in the WP had a clear understanding of the extent of the injury and its consequences, especially when there was a clear and positive prognosis, they appeared less likely to resent any effects of the injury.

Scrutiny and moral judgement

There is a moral overtone to social relations in the workplace, an internalised sense of what “ought” to occur (Eakin et al., 2002). As such, many IWs felt that they were being scrutinized, as though people were paying more attention to them than would be paid someone without injury. They needed to prove themselves, in part because of this sense of being continually judged (and found to be failing).

One HR professional described how some manager’s compassion for children “with challenges” did not appear to transfer to adults. Whereas they were able to ascribe non-performance in children to inability, this same non-performance in adults was more likely to be ascribed to laziness.

We have some managers, and there are XXX and XXX that are our managers, basically, and they have an incredible work ethic, they drive themselves to the ends of the world - morning, noon and night. They see someone coming back in, you don’t want them to think of the person as lazy, or just not doing it. And try to have them realize this is what this person needs and this is why. And whether they have all the empathy and

sympathy in the world for a kid that might have some challenges, they live as an adult and they don't make that transference - that an adult can have challenges.

This sense of judgement and obligation is held by some IWs as well; a feeling that they should be able to do it on their own, that they should give full value to their employer. The only IWs who felt comfortable producing less than 100% were employees who knew their recovery period was going to last for only a specified time or independent IWs, who had the option of producing less, and getting paid less. This group essentially fulfills the conditions for having what Charmaz (1999) terms "high moral status", or a "validated moral claim" in her discussion of chronic illness. That is, they have had a medical emergency, with an involuntary onset, and they are blameless for the condition. It can be seen below, in the discussion of blame, that some WPs may attempt to undermine an IW's moral status through attributing blame to them for their injury and resultant limitation.

Blame

Although some of the professionals I spoke with mentioned the importance of where the IW placed the blame for their injury, it was not something that formed a part of these IWs' discussion. This may reflect the particular individuals with whom I spoke. Perhaps if I had spoken with more IWs who had had a claim rejected for a WP related injury, this might have been a more important element of their experience. Among these IWs, however, I did not hear evidence of workers holding grudges or of complaining about unsafe or ergonomically deficient working conditions. The general sense seemed

to be “it happens”. It appeared to be an accepted part of the culture of the WPs represented in this study. Even for instances in which it seemed likely to me that ergonomic interventions could have prevented the injury, the IWs made no connection between their injury and any culpability of the WP.

It’s just because a lot of times in a XXX life you’re rushed. You don’t have time with some things that should be done and whatever that’s just because of the busyness and the requirements of the job.

Blame was more likely to be attributed to the IW than it was to be attributed by him or her. One woman was told that her carpal tunnel problems were likely attributable to being overweight, even though this was contrary to her doctor’s attribution of the injury.

WCB came out and looked at what I did and said it wasn’t forceful enough and that I probably had carpal tunnel because of my weight, which bothered me. And I talked to my doctor about that and he said ‘It’s a factor, but I don’t think it’s an important factor in your case.’ So when I had to have the second carpal tunnel surgery on my left hand, I didn’t even bother with WCB.

Later, the supervisor of this IW told her that she had created her problems for herself, by being overweight, and so she should find her own solutions to the injury. Many IWs felt that they were treated as though they were somehow to blame for their injury, and felt this to be patently unfair, especially as they were trying as hard to RTW as expeditiously as possible.

IWs may be held to be responsible for work not getting done, even though there may be nothing they can do to rectify the situation. IWs perceive this as being unjust, but may still feel guilty about the lack of productivity.

I would have liked to have had more - less onus on me - to sort of make up for things - like, I was told you know, work wasn't getting done because I wasn't there, and because when I was there I couldn't work, do everything - and you know, I - well - that was an unfair expectation, you know. And I suggested that they could hire someone while I was away if that was a problem. It wasn't for me to fix that. You know, that I didn't have control over health problems.

Although individual traits certainly play a role in IWs' RTW and their use of AT, it became evident over the course of this research that in fact, much of what happened was outside the worker's direct control, especially for workers of lower perceived value. Some believe the worker is wholly responsible for his or her injury, as did one rehabilitation consultant I spoke with, who declared that "WCB is in place for people who have been careless-plain and simple." Although many people may not blame an IW directly for his or her injury, many IWs feel that others believe that recovery is more in their control than it actually is; that perhaps if they tried a bit harder, or thought about it a bit less, they'd be better able to recover.

Once an IW's moral credibility is undermined (e.g. he/she isn't trying hard enough, he/she caused it themselves, he/she just wants compensation benefits), some individuals in the WP appear to lose a sense of moral obligation to act with compassion towards the IW, and to gain the (generally self interested) moral high ground.

Expectations

Unless limits are set by the RTW plan, some IWs work until they are exhausted. Their expectations of themselves are affected by their perception of the degree of acceptance of their injury in the WP. Without the benefit of a RTW plan, their injured status does not create the changed work expectations one might predict.

I tried to make the point that ‘OK, I don’t always do the same number as everyone else, but sometimes I do more, and sometimes I do less. Just some things I’m really good at, and I can do twice as fast as anyone else, and there’s other things - I look at someone and I think “Oooo - how’d she do that so quick!?” We all have our skills. It just seems that when you set yourself up as different, then you better measure up to the best that anyone can do.

These WP expectations tended to be implicit. In many workplaces, the assumption is that a returning worker can fully do their job, and it is left up to them to indicate when they cannot. Sometimes the expectation is not so much that the IW will be able meet all job expectations immediately, but rather that the employer will follow the worker’s lead, thus putting the burden onto the IW again (Driscoll, Rodger, & de Jonge, 2001). There is a tendency for the WP to pressure workers for a clear and definitive statement of their capabilities that may not reflect the changing nuances of reality. An IW’s ability to perform some task will likely vary from day to day if they are recovering, and the individual is best equipped to monitor this.

Assertiveness - the pros & cons of confrontation

Acquiring AT for IWs who have a budget of their own or who are self employed is much more straightforward than it is for those who work under the control of a supervisor. Workers who must apply to a supervisor or insurer to acquire AT often find themselves in a delicate negotiating position. They must simultaneously present themselves as being competent to perform the job duties and as requiring some AT in order to do this. They feel extremely vulnerable and concerned about being perceived as being less competent than their able bodied previous self or other co-workers. Although it may be necessary to be assertive about their needs, the quality of their interpersonal relationships appears to suffer as a result of this assertiveness (although there is sometimes a question of whether the assertiveness or the need for the assertiveness comes first). One woman, who was returning to a particularly inhospitable work site, described how she needed to keep pushing for her AT, which had been supposed to be on site at the time of her RTW. This AT did not appear until weeks after her return, during which time she was in the awkward position of having to report to work for a job she could not do without the promised AT.

It took me every few days saying, you know 'What's the status of the equipment, where is it? Can I get some ergonomic mats, because I can't stand all day on carpets.' Even at XXX I had mats to stand on. I just sort of like 'Where are the sides of my desk? When is that happening?' I was always initiating that conversation. It wasn't just given to me. It was something I had to keep fighting for.

Even once an IW has acquired appropriate AT, it may produce resentment. One woman described how management made her feel that accommodating her was an imposition on their time and resources. Although she worked in a unionised work site with a clear duty to accommodate her, this duty to accommodate was enacted reluctantly.

And - I don't know. I feel when I go to management and have a solution, like with the scooter stool, that they're upset with me saying 'Here you are, asking for something again. And we've done so much to accommodate you already. We gave you this lovely walker.' (laughs) [management purchased the walker with no consultation with her, and it was unusable in her job]....And then there's the problem it takes more time of everyone to talk to me about these things, to try to find something. You know, I know when I said I wanted the scooter stool then they had to go shopping for one. I said, 'Do you want me to find it or do you want to find it?' 'Oh, we'll find it.' But then there's 'Oh, it took us hours to find this. We spent so much time on you, XXX'. Never mind the money - you take so much of our time.

Therapists may also get caught up in the difficulties in the WP. They may be torn between advocating for the IW and thereby possibly making the IW the target of negative feedback and leaving the IW to negotiate a possibly less complete accommodation that creates less direct negative social repercussions.

But at the same time, if you do get involved in management, then you know, you can piss people off. You can make it harder for the worker because it comes back on them. And management just hates seeing us.

Some of them are open to it, but sometimes they see a therapist coming, they think you're WCB, ICBC, they think you're coming in to tell them how to run the show and so the hair - it's like two cats standing staring at each other.

Occasionally, an IW experiences an extremely negative reaction of others to some AT. A group of university students was "disgusted" when a woman brought her assistance dog to class. She was so furious at their reaction that she turned the episode into an opportunity to educate them, but it is easy to see how this situation could have had more devastating consequences for someone with less confidence and control.

Fear of losing job

A number of IWs had concerns about being able to keep a job, or to get another, if they lost the one they had. This concern was elevated when the IW was relatively new to the WP. In this circumstance, they were less likely to ask for any accommodation, or to do anything else that might single them out as being a less desirable employee.

I'm hoping that in time she will see the need to change desks and find up to date versions of desks and she will find it. She's a great person. I'm trying not to step over my boundary, too, and go in there and say 'I need I need I need.' And then if I was to say 'I don't want to be here' and leave here in six months I would feel like a real heel and I just wouldn't be comfortable. So, in the other sense I'm trying to feel my way through the employment right now and not overstep my boundaries. Because if I overstep them too far, they're just going to say 'No way. You're just going

to cost us too much money. We don't want the responsibility of something happening to you.' That's my biggest fear....That's where I sit right now; I don't want to burn the kettle and burn the wick at the other end. It could damage me, major, and I'll be out on the street, and who's going to want to hire somebody with a disability? That's where I sit. Where are you going to go work?

Because acquiring any form of accommodation can be so difficult and fraught with opportunity for failure, many IWs are fearful of changing jobs and repeating the process of negotiation again. Even if they have had a relatively easy RTW, it appears to them that much of their success is dependent on their good luck in having a compassionate or perceptive boss, a responsive WP and caring and supportive co-workers.

Planning the return to the job with AT

In order to RTW, every IW interviewed in this research had some support and help. In some instances, this help was not directed specifically at WP issues, but at more general medical issues of pain management, rehabilitation, physical therapy and movement therapy. This help varied in effectiveness, and in the form that it took. In one instance, the "help" was of very questionable value, and, probably not coincidentally, this RTW was probably the most tenuous. At some point, it was necessary for the IW to confront the fact that they were unable to accomplish some task they wanted or needed to accomplish, and to choose whether to abandon the effort to do it, change the task or change how they did it.

A number of professionals described the population they saw as being “different” from the norm. They saw their clientele as being the problematic ones, the people who for some reason or other, only sometimes related to the severity of injury, needed professional help with RTW. Although some of the ‘blame’ for needing professional help was laid at the feet of the individual IW, much was also attributed to a lack of support within the workplace.

....is probably the employers that are very accommodating and generous, those people don't make it to the clinic. They just don't. So we get this skewed vision of all these dynamics and some employers have been great. But on the other hand, a lot of people have come in our clinic, they were fired from their jobs, just for having an injury. I'd say maybe 1/5 of them get fired or laid off, just because they have a history.

In answer to a question about the role of assertiveness in obtaining AT, one therapist explained that professionals had to deal with people as they were, rather than devoting too much energy to changing them. This quote seems to reinforce this sense that the population using the services of rehabilitation professionals is somehow lacking some essential life skills.

I mean that's a lot of the reason why so many people chose these jobs to begin with. Because they haven't had the 'life is my oyster' spirit to go out and find meaningful trade or education, or something they enjoy and there's all sorts of complex factors here, so if I'm 35 years old and I'm filleting fish for 12 hours a day, how easy is it going to make me to turn around and make me the assertive person?

Though many IWs return to work without any help from professionals, this cannot be taken as evidence that these returns have gone well, simply that these IWs have returned to work. It obviously depends on one's perspective whether one judges a RTW to be successful or unsuccessful. Though much of the research is based on outcomes concerning "durable" RTW, definitions of the term may vary from study to study, and follow up studies seem to indicate that many durable returns are in fact not as durable as first supposed (Pransky et al., 2000). This research also generally neglects questions of quality of life, which may be of significant concern to IW, though of smaller or negligible concern to employers and insurers. As one professional commented:

I acknowledge that these other things are difficult, or crappy, but this is worker's compensation, it's not leisure compensation. The Board doesn't care if you can't play soccer. This is about worker's compensation. It's about getting back to work. We have to be cognisant of the boundaries that we have to work in, and recognize that there are limitations.

Throughout many discussions with professionals, the tension between an individual IW's responsibility and that of the professional was evident, carrying with it issues of collaboration or compliance. Health professionals characterised themselves as using their knowledge to educate and advocate for IWs as well as providing suggestions for AT or other accommodations. They also saw themselves as directing the problem solving in the cases they were involved with. In some instances, their role was to push the client forward, out of somewhere they were stuck. One professional said "Rehab is not nice and warm and fuzzy sometimes. Sometimes we're ugly, cold bitches."

Job analysis

In speaking with HR professionals, both in focus groups and in telephone conversations, I heard reference to workplaces “not needing” to find AT. What this generally appeared to mean was that the WP preferred to move employees into different positions rather than accommodating their needs in their regular job. While this may at times be unavoidable, it is likely to cause disruption in the workplace, as workers may be shuffled into jobs they may not like, or are given jobs that are “make work” jobs, and thus demeaning, or desirable jobs, which creates resentment among co-workers. It is hard to “parachute” someone into a job and balance all the social and production issues, yet there is a perception in some HR departments that it is easier than accommodation. There is an implicit sense amongst employers that these workers are interchangeable.

So we've been fairly fortunate we haven't used much assistive technology because we haven't **had to**. [my emphasis] We've had such a diversity of jobs, they're all in one bargaining unit. You can move people around wherever you want.

When an IW is returning to work, the timing of the job analysis is important, especially for workers who are “returning” to unfamiliar jobs. Although most of the IWs I spoke with were familiar with their job and job site, one complained that the only assessment of his work site was done before he or the professional who did the assessment had a clear sense of the demands of the specific job.

They asked me questions that I had no idea. As to what do you think you'll be lifting? What do you think you'll be doing here? I have no idea.

And that's what I said to them. I have no idea. I just got here. How am I supposed to know this in what my duties are? I don't know how far I'll have to bend down. Now I do know....

In many instances, although the initial impulse may be to "fix" a job with some form of AT, this is often insufficient. The job itself must be restructured. There is no "easy fix" in these instances.

.... a lot of those people, they just have these treacherous jobs. Jobs that are horrific to look at. They are doing the same thing for 8 or 9 hours a day. So there is a number of issues there. One is that, whatever the adaptive technology is, when you're doing it for 10 hours a day, you're doing piece work, it's not going to make a bit of difference. It's more the issue of the rotation, the nature of the job.

Many experienced therapists and AT users tend to use AT as a last resort. There are a number of pragmatic reasons for this. These include the fact that few therapists are funded to do sufficient follow up, employers are resistant to the use of AT because of a perception of high cost, the AT may be hard to design or find, or IWs discover easier ways to do things on their own, without the need for AT. There is sometimes a perception that reliance on AT is detrimental to individuals. This therapist preferred to give people training in body mechanics:

And I guess that is part of our window, as therapists, and anyone who is in a wheelchair would tell you this too, if they didn't have to use that wheelchair, they would not-they would throw it out the window. It is only

if it is an absolute necessity. And the more they can do on their own, the better. Part of our role as therapists, in a sense, is to educate people and empower them not to be dependent on technology. Part of the issue is, is if you're dependent on that technology, can you change jobs, can you be flexible, can you be adaptable, can you cope? So in a sense, is a bit of cliché, but the less external things they can be dependent on, the more internal things, in terms of the way they deal with their injury. The way they cope with their posture, coping, stretches, whatever it is. The more likely they're going to be able to succeed at work and at home.

To be effective, however, this desire to dispense with unnecessary objects must be balanced against engineering controls' value in forcing individuals to use correct body mechanics, as well as on whether or not the body mechanics which are taught are in fact superior to those naturally employed (Gagnon, 2003; van Dieën, Hoozemans, & Toussaint, 1999). This desire for simplicity is also associated with the feeling that people who don't "need" AT are somehow more able to cope, stronger. The description of an IW being "dependent" on technology is in itself an indication of the judgements inherent in AT and RTW. No one is concerned about eyeglass wearers being "dependent" on their glasses, nor of marathon runners being "dependent" on their orthotics. Food processors are not perceived of as compensating for poor food preparation skills. They are simply seen as useful tools. It is not the AT itself that presents a problem in creating dependency, but how it is used and the role it is given in someone's life.

One IW described why she rejected a proposed AT solution, and how she restructured her job to accommodate her limitations, rather than bringing in AT.

I was given an option I could order some repeater pipettes where it sucks up a larger volume and then automatically dispenses it. I chose not to go with that because they're bigger and heavier, and I just thought that I would try other things, like pipetting with alternate hands and breaking it up a little more. Coz I do have some flexibility - so I could load a few plates in the morning and load a few in the afternoon. And if I'm calibrating pipettes-that's a lot of pipetting-hours. To do a couple a day, instead of sitting down and doing them all at once. To do things like that was more workable, coz just the idea of extra weight on the hand - coz I guess my shoulder's bothering me now from this sort of work and I just thought 'More weight there - I don't think I'd like that.'

Although in some instances it was important to do the job analysis prior to the RTW, in many instances analysis continued indefinitely. The ongoing nature of this analysis underlines the importance of IWs being able to solve problems on their own, whether through intrinsic ability, education, access to resources, or WP support. Professional interventions are, of necessity, limited in time.

Formalising a plan

IWs who had a RTW plan found it to be of great value. This plan helped to make objective some of the amorphous nature of the process of recovery. Assuming the plan is reasonably designed, it formalises both the expectation that the worker will get better, and that they need time to do so. In some instances encountered in this research, follow up by some professional involved in their RTW was integral to the plan. Though the follow up

was often nothing more than a quick phone call, it gave the IW a chance to ask questions, and reassured them that they had not been forgotten.

I guess it helped once I got the return to work program set into place and I knew for the next however many weeks I was only coming in for four hours a day. Once I knew that, I felt better that there wasn't going to be the expectation for me to do more than I could physically handle. For the first couple of weeks 4 hours a day was wow - that was the absolute max. I could handle.

Plans serve to educate both supervisors and co-workers, and make to legitimate both the injury and the recovery process. The plan provides the IW with a genuine defense against those in the WP who might try to push them to do more than they are able. "Had there not been any other intermediary bodies or people it might not have been so smooth. I think there might have been other expectations that might have come into it from my boss."

Learning about AT-from initial research to refined use

Before IWs have had time to develop an understanding of how to live with their injury they are often at a loss as to how to go about solving the mechanical problems of working with their limitation. Although many HR professionals have the sense that the AT is the "easy part", in fact, sometimes some technical/professional understanding is needed to come to a solution. In terms of the whole RTW process, the actual provision of AT is "easy", in that it is a relatively clear process with clear possible solutions, not murky and clouded in the way that the interpersonal dynamics of RTW can be. It is

generally solvable, given an RTW that is not problematic in other respects. However, it still may take knowledge, persistence and creativity to arrive at a solution.

Professional help

In many cases, neither the IW nor anyone in the work site has any idea about what AT is available to solve the performance problem related to the injury. In these cases, the help of some professional is necessary. Sometimes, IW will resist suggestions because they have no clear sense of exactly what is being proposed. One rehabilitation professional described this problem.

People often say, no I am not using a headset, but that's because they have only seen one kind of headset and then you go, did you know there are 3-4 different styles of headsets? Really? And now they are willing to listen. Sometimes, they will say no, but it's because their view of the situation is very very small. They don't know what you're talking about. You have an image what you're talking about and they have a completely different image of what you're talking about.

IWs are often open to ideas when they RTW, though some require some persuading. Although they often have a clear understanding of which tasks are problematic, and a sense of how to resolve the issue, they may not be familiar with the specific relevant AT. Sometimes an IW may be unaware of the significance of an issue.

My chiropractor and movement woman really focussed on my truck seat. And they were - they would drive me crazy about this truck seat because they would ask what's your truck seat like? Is it hard? Is it soft? Is it a

bench seat? Is it a bucket seat? The movement woman gave me a - just a piece of plywood she had upholstered and she said 'You have to try this in your truck. You have to sit on this.'

Frequently the worker is clearly aware of constraints that are not at first evident even to a professional. Thus, some impractical suggestions are rejected, and the recommending professional loses credibility with the suggestion.

Well, one OT told me at the first gradual return about a year before I actually went back 'What if we put the pill crusher on the floor?' I thought 'No, you don't do that.' And then she says 'Well, what if you put it in a baggie?' I thought she was joking at first. But she wasn't. I said 'No. The floor's the most contaminated part of the hospital.'

Another professional spoke with amazement of an unworkable suggestion she had been given as an IW.

I know that actually when I was attempting to go back to work after an injury, what they suggested to me is that I get- because I had trouble standing- so I should get a pressure relief mat - but the recommendation says - what do I do? Put it down in front of me, walk across it, lift - I thought - suggest something sensible to me!

Although there are many skilled professionals in the field of RTW, N. Farah, the director of the Job Accommodation Service of the Canadian Council on Rehabilitation and Work, reported that there are few adaptive technology specialists, and employers often do not consult those there are available (personal communication, March 29, 2004).

Problem solving design team or individual

Some self-reliant individuals are able to design their own AT. They have both the natural inclination and the resources with which to design or fabricate what they need. One IW, a painter, designed a vibration dampening cover for his sander. Earlier in the interview, he explained how he had made a prototype of an ingenious sprayer extension tool before it became available on the market.

With the orbital sander, I had this idea of a rubberised cover to kind of dampen the effect of vibration. I made a prototype and then I took it to an upholsterer friend of mine who has proper cutting tools, and I gave him a block of rubberised sponge and I showed him exactly what I wanted and I showed him how I wanted it to fit on, where there should be a hole for the on and off switch, and a handle that actually fits my hand, and it slides over top and basically with a couple of strand of tape it makes my life a lot easier. I'm actually able to hold onto it on the ladder without dropping it. And it does dampen the effect a little bit.

Working with a peer can be an extremely effective way to solve a design problem. The peer who has encountered similar problems is able to draw on their experience to help find a solution and in this process, provide support for the IW.

Then with talking with some of the RNs during my gradual return we just kind of came up with 'What if we just crack them?' Coz there was another RN, she's retired now - she had a shoulder injury and she said that she

tried different ways, and we came up with this just crack them and add a little bit of water.

Frequently, day to day awareness in the WP of issues relating to people with limitations is extremely low. This is often unintentional-the issues are simply not considered. The information gleaned from an exchange of information may extend into universal design considerations. Frequently, design changes or AT introduced into a WP have this extended benefit. One IW describes how her new found expertise in using a wheelchair was used in a redesign of a clinic, where one might think that awareness would be high to begin with. In this case, the benefit extended not only to clients in wheelchairs, but also to mothers with small children.

But I then got used a lot when setting up the new clinic as to how we needed to set up the new clinic for people in wheelchairs....A lot of our kids are in wheel chairs and moms and strollers and I mean strollers and wheelchairs are about the same thing when it comes to functionality and needing space. Moms usually go to the bathroom with three kids at the same time, right? You know, especially when they are toddlers because you can't leave them alone, so you need a bathroom that is big enough for 3 kids and it has nothing to do with being wheel chair accessible. It has to do with 'Can you fit the whole family in there?'

Negotiating an accommodation or AT is much simpler in instances in which the AT has few or no effects on others. There is a need to balance the needs of all parties when some change will affect coworkers.

I just worked with a nurse, she's about my height, and there are some nurses that are tiny, you know not even 5 feet, they're short. They have a table where they do charting. So, so far, the short nurses have won the argument. They have a table about this high off the ground (gestures) and of course, the tall nurses go there, and their legs will go up and this nurse has a back injury and we were in there, and I said 'We need to raise the table up.' These shorter nurses got angry. 'That doesn't meet our needs.' I said 'You have an adjustable chair, you can raise your chair up, and we can get you a footrest.' And she says, 'When I'm nursing a baby, my feet need to be on the ground.' 'Well then you lower your chair.' 'I'm not going to raise and lower my chair.' So we ended up getting two tables. And then you go 'This is crazy!'

In one WP with a well established RTW plan, in house designers create individualized AT for returning workers when necessary. A few organisations had managed to co-ordinate their resources in order to do this, though it does require that the organisation have fairly extensive shop or design abilities.

One therapist noted that the reporting system itself worked against creating an atmosphere conducive to problem solving. In many instances, an accident report is filed as though the particular event which precipitated the injury was the only factor which was salient to the injury.

So part of it is a reporting process so therefore, the nurse says, 'I don't need body mechanics training. It was a completely fluke event. It will never happen again. A patient fell on me.' Rather than looking at the big

situation, 'It's cumulative. My back was already exhausted by the time it happened. My body mechanics weren't great, so I didn't do a great assessment on the client before I stood I them up because I didn't have time. I wasn't in a good position when I was standing them, so therefore, I had them under the arm on one side, so when they fell sideways, I got yanked along with it, rather than using a different transfer technique so that I was in a stronger position.' So part of it is a reporting process that makes people think of it as an incident vs. a cumulative kind of thing.

Thus, creating a climate conducive to problem solving is a multidimensional process, involving systemic, interpersonal and personal dimensions.

Research by individual IW

Finding the proper AT frequently falls to the IW, even in instances when there are professional resources available. One IW ended up doing her own research, starting from information she initially found on a support group web site. Although she was successful in getting the AT eventually, her RTW hung in the balance until she resolved the AT issues.

So to have a little bit more support set up by an employer would be a little better. I'm not sure what that would look like but I mean - in terms of equipment that's great. But I also think that it would be good if there was somebody to be able to research what kind of equipment for what sort of illnesses. Like I guess occupational therapy does that but they didn't know about the workstation. They didn't even know that was an option. They

knew about standing workstations, but they didn't know about sit/stand workstations.

While this may end up being an empowering process, it presumes a certain resourcefulness and knowledge on the part of an IW which may or may not be warranted.

Insight from friends and family

Some of the most important steps towards AT originate with friends or family. In these instances, it seems that the friend or family member can see a potential forward step that is invisible to the IW, and they gently pressure the IW to take the step. Admitting that this step may be a good one entails admitting that things aren't perfect, and could be improved, getting out of the "old velvet lined wrap", as one man put it. In the instance below, the IW had always been very independent, and a great lover of biking and the outdoors. She had "let go" (her words) of her outdoors life until she got a service dog. She said "I didn't think I needed a dog. You know, I go 'I don't need any help'." The dog has been extremely useful, and she credits it with keeping her in a manual wheelchair (and out of an electric wheelchair), as well as allowing her to travel for work without needing an assistant. Having the dog has also had many other benefits.

One of my research assistants... we left and went to XXX for lunch - just for a break you know and I took her out for lunch there. And there was a booth there for service dogs but puppies; mostly just puppies and they had a thing and she goes 'Get a dog for the lab, get a lab dog'. I was like 'No, no, no' and she stuffed it in my bag. I didn't even know she stuffed this brochure and this application in my bag and when I got home I saw it

there and I left it on my desk at home for probably half a year and then she kept bugging me about it and so I just applied. And then I got more familiar with what they could do and stuff like that. I didn't know anyone that had a dog. So it was all sort of theoretical, I thought 'Well, maybe they can pull'. I had no idea how you did it or how it worked.

Another IW, who depended on a ventilator to help him breathe, described one of his first steps towards independence. The passage also illustrates some of the power acquired from taking forward steps.

Why did I get into a power wheel chair? Just to get in and out of the sun. I felt so disabled, I thought just the manual wheel chair is good enough. Wherever I'm going, I'm going with people anyway. My friend said 'No, you love the weather, you love the sun. Just give it a day, get out in the sun and when you want to you can get in the shade.' Oh yeah, good idea. To get back to that - with each step you take you see a little further, with each enabling thing you do, you see how you can go further.

A brother provided the insight in this instance.

My brother first came up with it. He came to visit and I had just a kitchen stool in the kitchen. And then I got told - he went back home -and I got told 'There's a present for you over at Staples.' And I went to pick it up and it was an office chair. 'Why would he think I need an office chair?' And I brought it home, and he said 'That's for the kitchen! Isn't it great? Now you can wheel around in there' And I thought 'That is really good. I

really need this.’ Yeah. So that’s where the idea originally came from. I had no idea. ’Why is he giving me a chair? An office chair.’ It’s interesting that someone comes in and instantly comes up with a solution for you.

Not only do solutions like this solve some physical problem, they come with a recognition of the IW’s limitation and an expression of genuine concern and caring that make them especially welcome.

Spread of AT within the WP

Once RTW planning and AT become established in a workplace, some professionals find that the desire for AT spreads to others in the workplace. Though some lament the “me too” aspect of this spread, and complain that “everyone wants one”, there are many positive aspects to this. This HR professional saw this as being a positive preventative action she encouraged. Her responsiveness is helping to create a problem solving workplace.

Because I’m bringing stuff in now, faster for people. Because we’ve dealt with a lot of different cases. We’re doing some stuff preventively. If I even see a beginning of an issue, like if it’s a back, or if it’s the shoulder, or it’s arthritis or it’s different things, there’s a number of things I will suggest right up front. Because we seen some things that work and so have a tendency to rely back on those things that work. People are starting to come forward.

Some IWs adopt AT when they see others using it effectively. In effect, the others are performing the preliminary trialling for them. This IW describes how he came to realise a headset could help him, while still maintaining his sense that he didn't need much, and was doing fine without a lot of AT.

Well I just you know, the people in the building use them so I thought 'Geez, that looks kind of cool' I thought because they had a lot of freedom of movement and it just looked really comfortable, to be honest. So I tried it and I thought 'Yeah, this is nice, it's fairly private' [as opposed to a speaker phone] - I'm more of minimalist because I don't like a lot of stuff around. I've only reluctantly added things as I've gone along. For example, I've only added that headset in the last year and half - just because I realized that it's a lot more comfortable than sitting with a phone glued to your ear - instead you've got a headset you can be very relaxed and comfortable and not end up with a kink in your neck at the end of the day. So things like that you just learn as you go along. So I'm not really needing a lot of things.

The flow of experience from the non-work domain to work

Even though someone may have technical knowledge, in the end much of the specification of AT comes down to evidence obtained through trialling. This trialling may occur at home or in the workplace, either formally or informally. One woman, a health care professional, used a raised work counter at home as the model for her raised work surface at the office. She simply measured the height of her counter at home,

scavenged a height adjustable table from the surplus office furniture in the basement, brought a kitchen stool into the office and kept working.

In instances in which the WP is not particularly responsive to AT, it can take some time for this to occur. The office/kitchen chair described above also provided the model for a chair at the place of work.

I had it at home for a couple of years before I asked for it at work. As my knees got worse, I sort of would try and save my knees for work and then I asked for an accommodation as a last resort.

Trialling and refining

Every IW I spoke with began their RTW with doubts – doubts about whether they would be able to perform, doubts about whether the AT would work, doubts about what the pacing of the RTW should be. Obviously, different individuals had different general levels of confidence, and some limitations were more difficult to overcome than others. However, everyone expressed some concern about RTW. Trialling was one of the most significant ways that IWs learned about how to work with their limitation. One OHN explained how she had given IWs the opportunity to trial things:

I actually purchased equipment that I actually took with me when I did an assessment. I had keyboards, wrist rests, I had - I tried out different things and I found the ones I liked in terms of price and terms of function. There is so much stuff out there. And when a manager is sitting down trying to decide what to buy - I thought I added a lot of value in terms in saying 'Well, this is one I've tried out. I really like it. You can keep it for two

weeks and try it out and see if it works.' **That actually probably was the most useful thing in terms of actually recommending any kind of assistive devices for people.** [my emphasis] They there were actually able to try it out instead of going to a catalogue and seeing this was, I would recommend this one and then just looking at a picture. Everybody is a different human being and people respond to things differently and what I might like and what I might find comfortable the next person - In terms of what I would say, in terms of assistive devices, is that people have to have the opportunity to try them out and first of all they have to have a good assessment in terms of identifying what it is they can do to improve how they work with their workstation and then to be able to try things out.

Of ten "abandoned" AT devices discussed, seven were not used because they were found to not work well. Three of these had been "prescribed" with no consultation with the IW, and were evidently unsuitable. The other four were only found to be unworkable upon trialling. Two devices were suitable, but were taken away. One AT became unnecessary as the IW recovered function.

There are a number of reasons an IW may resist a particular AT initially. Some AT draws too much attention to their limitation, sometimes an IW doesn't feel it will work. In these instances, trialling is crucial to the acceptance of AT. This IW describes her reaction to new pruners.

He totally turned me onto a whole different line of hand pruners. And if you're a gardener you are a snob when it comes to pruners, and so I was

like this 'OK. Yeah, whatever. Sure they are better for ya. I will give it a try' and I was like 'Brother, these aren't any good' and I think what I did was I carried them around with me and one day I forgot my pair. I left them at home or something so I was forced to try them because I wasn't going to try them. I wanted my own. I didn't even like the look of them and they weren't the top of the line. They only cost a hundred dollars and I thought they weren't good enough. I love them! They're great! So I totally switched over to these other pair of hand pruners. They are just a little bit different in the way you hold them. You don't have to twist your hand quite so much.

The SE model suggests that mastery experiences are the best way of increasing SE (Bandura, 1989). Certainly, most users gain confidence in their ability to use AT with practice. Trialling is essential to successful use for most users, and also increases an individual's sense of active involvement in problem solving.

Accessing AT

The question of who pays for AT is often at the centre of issues of blame, power, value and responsibility. Certainly, if one can specify, order and pay for one's own AT, one is likely to draw less attention to one's limitation, and more able to maintain one's autonomy. How one perceives one's position in the WP will affect this decision, as will one's ability to pay, which will in turn be influenced by one's financial resources and the nature of the AT. For people engaged in battles with insurers, paying for AT themselves may involve a loss of face or credibility, if they believe it is the insurer's responsibility to

pay. Some of the people most involved in struggles with insurers may also be those with the fewest financial resources, and so purchasing AT for themselves is impossible. This inability to provide AT or medical therapy for themselves is the source of much pain and frustration. They feel caught in a Catch-22 in which they need the AT or therapy in order to perform their job better and be more sure of income, yet they cannot get the money to pay for it. Workers with more financial resources or less perseverance may simply drop out of or avoid the battle altogether.

Many supervisors are placed in an untenable situation, in which they are forced to assume the costs of someone's AT, an expense that has not been foreseen, and which must come out of a budget which may have inadequate provision for such purchases. They are sometimes left to fend for themselves by HR departments.

It was interesting to note that the ideas for most of the AT in this research originated with the IWs themselves, and much was also purchased by them. In the case of self employed IWs who are not covered by an insurance plan, this purchasing is unavoidable, if not without hardship. Much of this issue revolves around how much control an IW has in the WP. Do they have a private office over which they have control? Are tools or equipment shared? Does a change made for them have any impact on other workers?

In two of the most acrimonious RTWs, it is perhaps significant that the WP was required to provide the AT. Without knowing more of the financial issues within the workplace, it is impossible to assess how much of an issue the cost actually was, but certainly getting AT was part of a larger power struggle in these cases. Two of the smoothest RTWs were also in instances in which the employer provided AT, but these

instances were also cases in which the injury was covered by an insurer, and the costs and inconvenience to the employer were quite low with respect to providing AT.

Retaining AT

Once the IW has acquired AT, one might expect the battle (if there was one) to be over. However, some workers find their AT can be taken from them. Of the five IWS who had AT supplied by their WP or an insurer, two had their AT taken from them against their will. One IW managed to “whine” (her word) loud enough to get it back, after documenting her need with letters from a nurse and going over the head of her supervisor. Supplying one’s own AT certainly reduces one’s vulnerability to this, but for a number of reasons, including legal obligation on the part of the employer, this is not a satisfactory solution for many IWs.

Successful AT

Once an IW has acquired AT, defining the “successful” use of AT depends on one’s perspective. All would agree that it should improve productivity, aid or at least not hinder recovery (if this is relevant) and be cost effective. Whether IWs decide to use or not use some AT depends primarily on a number of factors, including what other options are open to them, how important accomplishing a particular task is to them, how well the AT functions, as well as a variety of factors relating to the conditions under which they have obtained their AT. How satisfied they are with it depends on how well it answers their needs (be they functional or psychosocial) and on if it seems that a reasonable attempt has been made to resolve their problem. Most people are able to adapt to a wide

range of conditions when necessary, and will generally do so if satisfied that their needs have been met as far as they consider to be reasonable.

Simple, functional

Once all of the elements are in place for a successful RTW, function appeared to be the primary determinant of the success of AT. Many IWs were averse to “clutter”, a term which in this context was used to describe AT which was intended to ameliorate some specific problem but in fact got in the way when not in use, and overall was perceived as more cumbersome than beneficial. This tendency to resist clutter was especially pronounced among more experienced AT users, who might have tried a number of products. Many IWs were quite pragmatic, and assessed their need, how useful the AT was, and what its associated costs might be, be those costs monetary or psycho-social. Ease of use and simplicity are related to function.

Simple AT was almost universally preferred to complex, except perhaps in instances where there is something else at play (for example, the IW described below who preferred a Palm Pilot to an egg timer). Professionals are unwilling to recommend something they know they will be unable to support in future. Users generally had more than enough to contend with, without adding unnecessary complexity to their RTW. A number of professionals commented that voice recognition was one of their more unreliable interventions, as it takes a good deal of time and patience to learn. The one IW interviewed who used his voice recognition program all the time, really had no other option open to him. Although he is an extremely experienced user, and has been using it since the first generation of voice recognition software, (which was far less accurate and easy to use than the current edition), he still said he was “not very satisfied” with how

easy it was to use, and was only “more or less satisfied” with the degree to which it met his needs. One ergonomist confessed her own delinquency in using the program.

IT people will install stuff then abandon them. So stuff gets put aside until there is “time” to learn about it. I have Dragon Dictate because I’ve got RSI that flares up all the time. Well, I haven’t spent time to train the software because I’ve been too busy with reports. The report writing causes my RSI, so I’m in a vicious cycle. Self-imposed partly, but I have deadlines. I know logically and professionally what needs to be done, but finding the time to train etc, is something I don’t get paid for.

For many IWs, simply improvising a solution, as long as it is quick and easy, is all that is required. “...in 30 seconds it was done, boom it was done. Again, it’s not right but it works. I don’t need a lot of big fancy things but so it seems to work and it’s OK.” Sometimes these solutions benefit from refining, however.

I walked into the office one day, and here she is, and this is, she didn’t come to anybody for assistance....she had six little pillows stuck in her chair, behind her, for her back. Well I had a lumbar support in my office. I brought it over to her.

Thus, simplicity may result from improvising as well as from purchasing.

Validating

It is important that the AT validate the employees’ limitation and be respectful of their identity, not simply be a mechanical solution to a mechanical problem. One IW,

who was having trouble with the height of his monitor, vigorously rejected the suggestion that he use a telephone book to elevate his monitor to the correct viewing height.

Although this is standard shoe string ergonomic practice, he construed it as being a demeaning suggestion, and it exacerbated an already antagonistic relationship with his RTW professional.

Yeah, I basically said to them that 'I'm not at your office I'm at my work You're XXX You are supposed to be a "work safe" individual You are supposed to come to my work site and tell me what is work safe and make sure that my area is suitable to be under those standards. What you do at your office is not my issue and not my problem. You as a work safe agent or whatever should know better. That's not a work safe area and not a work safe environment. But, no - 'That's what we do'. Get a telephone book, put it under your computer!

Sometimes an IW will demand something for reasons that are unclear to professionals. And though it is essential to focus on the function of AT, one cannot lose sight of the person behind the limitation, and the ways in which consumer products reflect an individual's personal image. Experienced professionals acknowledge this, as witnessed by the following description.

And we've met this person has attention deficit disorder. So we met with the psychologist. There was this whole issue, he wanted to get a Palm Pilot for managing his time. The psychologist said an egg timer would work. Set it on for 40 minutes when a person comes in and you'll know when your appointment ends, right? This guy really wants a Palm Pilot,

so XXX here recommends a Palm Pilot. But it'll work, this guy knows it will work. But it's the same thing, an egg timer would work too.

Even though one can see the logic in using purely functional criteria for selecting AT, it is apparent why someone might want to use a Palm Pilot as an alarm rather than an egg timer, or have a proper monitor riser rather than a telephone book. Professionals sometimes make reference to the "stigma" of AT, and how this can be a problem. It may perhaps be useful to reframe this into an examination of how much the AT draws attention to someone's limitation (vs. how well it compensates for the limitation) and how well the AT fits into a person's self image. Marketers know not to sell things by emphasising the negative, and AT would appear to be no different from other products in this respect.

Experienced therapists know the value of placebos, and value their relationships with their clients. In some instances, they will recommend something that they know will do no harm, simply on the basis of a person's conviction that it holds the key to their success. One therapist described going with her "gut feeling" when a client seemed to be telling her that something was important to them.

It's what the person sometimes believes will do the work. If that's magnets you know - fill your boots, put magnets into the bottom of your shoes, if that's the key in getting you back to work because it helps your plantar fasciitis, then who am I to say that the paper that you showed me that was the testimonial from Bob in Arkansas.... What is the placebo?.... But if this is what you truly do believe, then you know, maybe you do it. I mean, I've seen odd things. I've done odd things.

AT can be seen by outsiders as somehow being able to fix what is broken in an IW's life. One IW, who relied on a ventilator, complained about people suggesting that computers were the answer, without acknowledging or understanding what the fundamental problem was. It is difficult or impossible for most people to understand the reality of living with serious injury, and, while the suggestions to "get on the computer" are likely well intentioned, they can be felt by the IW as a denial of their reality, an attempt to create an easy fix for a problem that won't go away.

Just a quick comment when you first get injured and your life revolves around your physical ability. You've got no drive to sit behind a computer and it's the first thing that people might tell you is 'Get on that computer and you can do anything.' It's not what I want to do. I've lost my physicalness and you're saying a computer is going to replace that and I'm thinking 'I don't think so.'

Support for AT

Some AT requires substantial support if it is to be useful. This applies particularly to high tech products, particularly software. I spoke with a woman who had a degenerative eye condition, and had been given software designed for blind individuals. Though she was diligent, intelligent and highly motivated, and had the full support of her employer, her entire RTW failed because no one could give her the support she needed to learn how to perform simple operations. Everyone was unhappy with the outcome, including the employer, her co-workers, and the worker herself.

Some AT is implemented without ensuring sufficient support for maintenance. Although some IWs find ways to work around these problems, this places some at risk of re-injury, or of not being able to perform their job. It is also a waste of scarce resources. Although many IWs probably get better, and no longer need their AT, it is worrisome that a lack of maintenance support may cause re-injury.

I mentioned people that have voice dysfunction, typically what happened there is some piece would stop working, like the microphone stops working or the amplifier stops working. They basically say I will do without, because the process of going back and re-initiating that claim is very difficult. And the employer doesn't necessarily follow through with the repair that's timely so the person just struggles along and typically what would happen in that case, the person would re-injure themselves and be off again, which is not very efficient but I guess it's the result of our system's lack of an ability to follow up on those people.

Providing sufficient support for the maintenance of AT is also construed as evidence of ongoing WP support and valuing of the IW.

Individual AT

Although the AT discussed here is specific to an individual IW, it is worth mentioning some of the perils associated with generic ergonomic solutions. Though there are certainly ergonomic hazards which will be common to all individuals performing a given task, there are others in which individual variables will be central. This next quote describes an overenthusiastic response to a specific solution proposed by a therapist.

All the directors thought this was a great idea, they went out and bought 50 for the building. They're all stacked in cupboards, nobody uses them! Because it was one person, really a couple of people who identified the problem and it was decided that was a solution for everybody....

There is a different, though related problem associated with the purchase of "ergonomic" equipment. One of the major benefits of much "ergonomic" equipment is its ability to be adjusted to fit the user. Without proper adjustment, it may be no more "ergonomic" than whatever it has replaced, and perhaps less so. A number of professionals had stories of ergonomic office equipment being given to whole offices, at vast expense, to no one's benefit. One woman described the set up in an office of vocational rehabilitation professionals.

That is exactly the case where I just came from. Their work stations are gorgeous, expensive chairs with like seven levers. I walked in there and went 'Ohhhhh. Do you want me to show you how to adjust that?' and they go 'No. Adjust?' One of my co-workers is 6'4". Well he was sitting in his chair and they gave a little teeny weeny - and he was like this (demonstrates being hunched up) in his chair and I said 'This has got to be a \$600-700 chair.' [another woman in the group commented that it was more likely in the \$1300 range]

Another therapist described arriving at an office, where, unbeknownst to him, a rehabilitation clinic had just given away some promotional lumbar support pillows.

I don't know, of course, big clinic promotion. They mailed out lumbar rolls. So when I go to visit there, I went by like 6 or 7 chairs and they have them behind their heads like pillows. They thought they were like neck pillows or something. (laughter) So what do you do?

This problem of needing to understand body mechanics *and* have the appropriate AT was frequently mentioned as being problematic by the health professionals. They complained that many employers were unwilling to fund both.

Transferable AT

Changing jobs creates anxiety, and injury makes people even more anxious at this possibility. Most IWs I spoke to about this felt that their injury made them less desirable to potential employers. They could see no reason that an employer, who might have ten qualified candidates to choose from, would choose one with a disability. AT played a role in this fear.

A number of workers expressed concern about being able to move their AT to a new job, if they changed jobs. This concern made them reluctant to consider a job change, because they felt that their accommodations had been hard won, and, while they felt sure of their support in the current workplace, they were not confident of finding similar support in another work site. One IW in particular felt particularly vulnerable to her dependence on AT. Her AT had been costly (about \$5,000), and she relied on it completely to be able to perform her job duties. Although she had asked if she could purchase it from her employer, they had refused, saying that it would go to another employee if she were to leave.

In changing employers, those with invisible disabilities faced the question of whether or not to disclose their disability, while those with visible injuries had to decide whether or not to disclose before the interview.

Expert user

During one interview with an IW, I became increasingly uncomfortable as the interview progressed. The IW I was interviewing had used a wheelchair for eighteen years. He began to list all the things he used in life and work that could be considered to be AT. The list seemed endless, from cups with wide bases and big handles through low bulletin boards, pens that required only a light pressure to use, easy to use staplers, etc. It was a litany of things in which his physical limitations could play a role if the environment had not been altered to suit him. However, this list of things affected by his limitations was really a list of issues that were long resolved. Essentially, he had arranged his world so that it worked for him, and in describing his AT he was in effect drawing attention to every handicap he would have had, had he not found some solution. The AT was peripheral, taken for granted, and by focusing attention on it I appeared to be focusing attention on potential or real limitations rather than on him as a person. Obviously, this is not to say that his life with a spinal cord injury was as easy as life would have been without the injury. However, he had, with years of experience, developed a sense of what was needed to remove some of the handicapping elements of his environment. He had become the expert.

I guess maybe when I was first in rehab the basics of what would work for me were kind of given to me and ever since then it's almost been a process

of running into things and 'Hey, that would work better than what ever I am using now'. So I'm really the expert now. I know more about what will work, what I have used in the past and what didn't work about that... than any body else does by far. So, and I have an idea about what doesn't work now and what I can't do now and so I'm always on the lookout but maybe not consciously - I don't have a list of things I'm looking for but I'm always interested in other options for various different things and if I see something that I think will work then I try it. So, at the beginning there was influence but now it's pretty much 100% me.

Becoming an expert on their own needs with respect to AT involves a great deal of learning for IWs. Not only must they learn to manage their physical limitation, but they must often adapt to changes in their life as a result of the injury. In addition, IWs must navigate through the WP dynamics and learn to find/use/hold onto the necessary AT. This process can be very demanding. It can also be an empowering experience, for those who manage to succeed. As one woman said:

I'm appreciative of having the opportunity to create an accommodation to a work program with collaborating with other people in XXX. But I mostly feel proud, not to toot my own horn, of initiating everything.

Another expressed her satisfaction at having earned control over how she performed her duties. This same IW had initially been told, on her RTW, that she would have to do 100% of what everyone else did if she wanted to retain her job. Although there were still a very few things she simply could not do, these did not interfere

significantly with her performance, and it seemed that the anxiety levels of both the IW and HR had abated, as she had proved, both to herself and to her employer, that she was capable of performing her job well.

They don't treat me any differently than anybody else now, and you know, I've never been told 'You should be doing this or that. They just say 'Just do what you feel you can do, and adapt, and you're the only one who knows how you have to do it, and how much pain it's going to cause, and learn some other way.

AT can simply make life easier, "...so your energy is used for more important things instead of wasting five minutes trying to pick up a piece of paper off the ground." If it is not a central issue, this may mean that things are going well enough or someone has incorporated them into their life well enough that some lack is not too intrusive. It does not mean that things are necessarily optimal, however.

I kind of think that's in large part of what I've done all along is you make do with what you have. You always have an eye out for something that would work better. But to a certain extent you look at what you have and those are your only options - and so if you're not aware of better options you almost don't miss them.

"Most people just end up making do with whatever is provided and they're happy with that." In many cases, this quote sums up IWs' experience of using AT in the WP (though "happy" perhaps overstates the case in some instances). At some point, it becomes necessary to simply do what one can, and stop trying to improve one's

accommodation. It becomes counter productive to continue to advocate for better physical conditions when the psychosocial costs become too high, and it may simply require too much energy. This becomes problematic if this point is reached before the AT is adequate, and the IW may be unable to continue to work.

Because recovery from or coping with injury is a process rather than a one time occurrence, it is important that IWs learn not only how to manage their current state, but also how to problem solve future changes, if necessary. This does not mean that life is without challenges, or that it is perfect, but that the environment is well enough designed that AT is a peripheral part of life.

Summary of Results

The successful use of AT in the WP is frequently difficult to attain. However, when successful, AT can have a large impact on an IW's working life. Figure 5 and Table 3 present an overview of some of the findings (see overleaf).

Injury may have a profound and pervasive effect on the lives of the IW, family relationships, finances, confidence levels and their physical condition. Although different individuals have different personalities and coping strategies, it seemed clear from the IWs I spoke with that it was exceedingly difficult, if not impossible, to successfully RTW and to obtain AT without having some control over these other aspects of life. This did not imply that IWs needed to be pain free, in good financial condition, and in possession of a firm diagnosis and positive prognosis. It was simply that these helped. "... if you have no general quality of life, do you have the energy, the resources in order to try to improve your situation?"

Figure 5. Foundations of successful use of assistive technology in the workplace

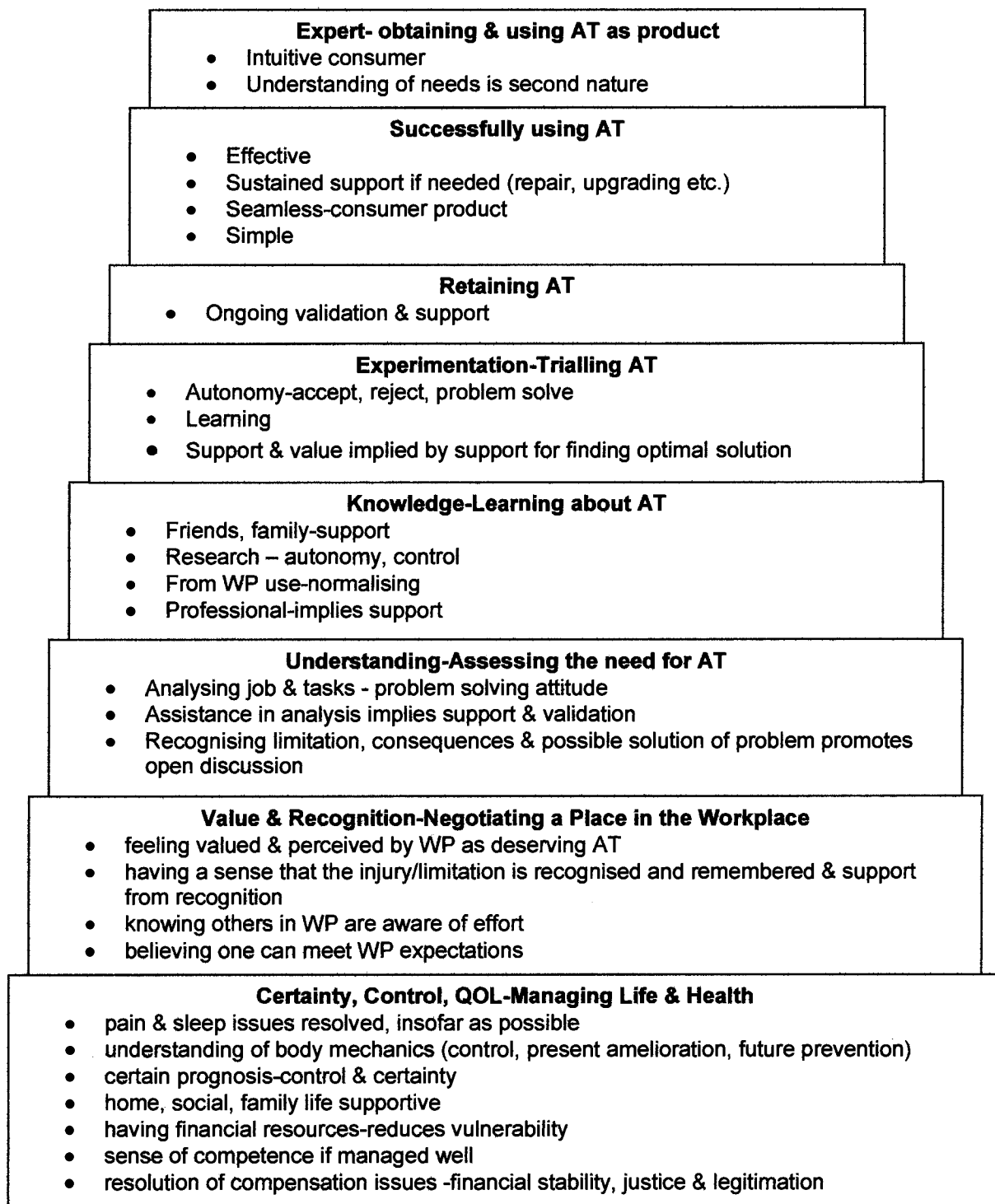


Table 3

Possible positive and negative outcomes in various stages of returning to work

POSITIVE OUTCOMES	NEGATIVE OUTCOMES
Expert- obtaining & using AT as product - Intuitive consumer, understanding needs is 2nd nature	Non-expert- Reliant on others for AT ideas, resistant to useful AT,
Successfully using AT - AT is effective, available, used when appropriate	Unsuccessful AT - Very conscious of image or of disability (from self or WP), AT doesn't work (no consultation with IW, based on incomplete assessment, unforeseen reasons), clumsy, clutter, inefficient, insufficiently supported, degenerative condition makes it unusable, not validating
Retaining AT – functionally supported (repair, IT), feeling supported, non-issue	AT taken away – injury invalidated, antagonism created
Experimentation-trialling AT - increased understanding of abilities, ways of accomplishing tasks, increased confidence, possible uses or AT, sense of support if WP supports trial	No experimentation or trialling of AT - reduced sense of problem solving, reduction in empowerment if the AT is given to IW. less likelihood of getting it right, less learning
Knowledge-Learning about AT – knowledge of types of AT: where to access them, possible benefits/down sides, sense of control over when/what to use, possible sense of support if learning is supported, reduction in fear of not being able to accomplish tasks	No Knowledge or Learning about AT – no idea of resources, reduces sense of possibility
Understanding-assessing the need for AT - problem solving attitude; assistance implies support, open assessment reduces fear by reducing uncertainty, informs/educates others, normalises by talking about it	Not understanding & assessing the need for AT - less likelihood of open & proactive discussion; incompetent assessments leads to frustration
Negotiating a place in the WP- feeling valued, perceived by WP as deserving AT, having a sense that the injury/limitation is recognised and remembered, knowing others in WP are aware of effort, believing one can meet WP expectations	No value & recognition-trouble negotiating a place in the WP - feeling undervalued, perceived by WP as not deserving AT, having no sense that the injury/limitation is recognised and remembered; injustice, hurt, want to leave, don't want to draw attention to injury - don't want AT, believing one cannot meet WP expectations-fear of losing job, intention to quit job, fear of future
Managing Life & Health - pain & sleep issues resolved, insofar as possible; understanding of body mechanics developed - control, present amelioration, future prevention; certain prognosis-control & certainty; home, social, family life supportive; having financial resources reduces vulnerability; sense of competence if managed well; resolution of compensation issues helps establish financial certainty & sense of justice being done & legitimacy	Not Managing Life & Health - pain & sleep issues unresolved affect function & emotion; no understanding of body mechanics – fear of re-injury, possible re-injury; uncertain prognosis - lack of control & certainty; home, social, family life not supportive-stress; having no financial resources-increases vulnerability-less likely to ask for AT; compensation issues -financial repercussions & sense of injustice & invalidating & disabled identity; money issues can lead to lack of treatment options

When they returned to the WP, it was helpful to many IWs to have a supportive WP, in which they were given evidence of being valued and were shown that others recognised their injury was affecting them. Again, this is not to say that IWs could not RTW without evidence of support. Some returned to actively antagonistic WPs and succeeded despite them. For many IWs, however, it is not worth the battle, and it is simply too unpleasant to work under such circumstances. At some point, IWs need to assess their job, and, during this process, determine whether or not AT might be useful. Although some arrive at a solution independently, many are unaware of resources, and need assistance from either a rehabilitation professional or experienced HR staff. They then begin to learn if and how the AT works in the WP, and reject or accept it accordingly.

Generally, once an IW has acquired AT, they can continue to use it for as long as it is needed, although support for maintenance may be difficult to obtain. However, in some extremely antagonistic WPs, the AT can be taken from them. After IWs have used their AT successfully for a time, they become expert at its use, and AT becomes in effect simply another consumer product.

CHAPTER 4 DISCUSSION

Frequently, getting and using AT is the least of IWs' concern when returning to work. Not that it isn't important-it may be central to someone's ability to do their work - it is just that the central problems are generally not about the AT, but rather about the whole process of returning to work after injury. For most IWs, once the foundations are laid for a successful RTW, the use of AT usually evolves without any problems. AT in itself, is not a "quick fix".

Initially, most IWs do not have the experience or knowledge to be able to envision what their AT should be. One of the most important factors in finding the right AT for someone is being able to trial it. It can also be important to be able to see it, possibly see it in use, prior to trialling it.

Many HR and rehabilitation professionals involved in the RTW process would like the employee to be ultimately responsible for choosing what they need to have, in order to do the job. This results either from a desire to empower the employee, an understanding that this works best or the desire to not be bothered with having to figure it out. However, it is often difficult for someone with an injury to choose the right AT without having some experience of working with the injury (whether in the workplace or elsewhere), or getting some information from some informed source (e.g. a peer mentor, occupational therapist, ergonomist or retailer). Employees would like to be the "expert" in their own return to work, though they are frequently are not experienced enough or well enough informed take this role initially. Many rehabilitation and HR professionals encourage injured people to take responsibility for directing their return to work (within the constraints of the work situation). When this encouragement is bolstered by education

or support, it appears to generally produce a positive outcome. However, there were instances in this research in which it was used either as a technique with which to blame someone for their injury (e.g. being overweight as the cause for carpal tunnel surgery) or to deny them support to which they were probably entitled.

Over half of the ideas for AT in this study originated with the IWs themselves, though co-workers were also significant contributors. Ideas also came from family, friends and professionals. The vast majority of successful AT was provided by the IW themselves, though the workplace purchased some, particularly the higher priced AT. It was not primarily seen by the IWs as a medical issue, but rather as a functional one. The question is not so much self directed as task directed: not ‘how can I overcome this limitation?’ but ‘how can I do this job?’ The optimal AT solution needs to combine an understanding of the actual requirements of the job and tasks within it, an understanding of relevant body mechanics and injury healing (if relevant), an awareness of the available AT resources, plus a sense of the social dynamics of the workplace and the personal characteristics of the individual.

The study of assistive technology in the workplace is made complex by the number of factors that must be considered, and the levels at which these affect the RTW and AT. Societal attitudes towards disability and injury, as well as attitudes towards work provide the backdrop to union and corporate values, which in turn may affect the internal social dynamics of a particular WP. Both satisfaction with and function of the AT are relevant, and quality of life factors may be as well. Similarly, personality factors play some role. No one denied the importance of determination and motivation, but as one participant said “if you’re an extremely driven - extremely - knocking your head against

the wall – eventually, it’s going to fall down. But most people don’t have those resources.” People used the resources and traits they had, and there was no one approach that could serve as the model for everyone.

At the root of some problems are issues relating to cultural attitudes towards injury, disability, and work. There is currently a tension in disability theory, between the medical, physical model and the social model of disability. These two conceptions have yet to form an integrated picture of the experience of disability (Edwards & Imrie, 2003), which encompasses both the physical and social, as well as the psychological and perhaps spiritual.

Many people are not comfortable around obvious signs of disability, and many individuals with disabilities find (for instance) that those who do not know them often assume a mental impairment when seeing evidence of a physical one (Toombs, 1995). Somehow, the disability interferes with the perception of the person. Frequently, disabled individuals are treated less respectfully than able bodied persons. Individuals who use wheelchairs grow accustomed to accessing buildings through “accessible” back door entries in garbage filled alleyways and garages. This evidence of socially constructed disability doubtless influences some IWs’ decision on whether to remain silent or to disclose any difficulties they may have. However, many IWs recover, and are never faced with the possibility of having to permanently integrate some physical limitation into their identity.

O’Day and Killeen (2002) note that current attitudes towards disability and work are becoming more realistic than they were advocated to be in the early advocacy days of the 1970s and 1980s. The messages of this era, designed to counteract prevalent

stereotypes about individuals with disabilities, were oversimplified, and effectively claimed that individuals with disabilities were just as easy to employ as people with no disabilities. It remains a question, however, how successful these messages were, as many individuals, both among the injured and the un-injured, still have the sense that many injuries imply that the IW is unemployable, though they may “genuflect” to the ideas of disability management (to quote a disillusioned professional). Both society and the workplace reflect this ambivalent attitude towards IWs, and it is one of the central issues they deal with upon their RTW.

Though I have used a standard, quite broad definition of *AT*, and a similarly broad definition of *injury*, within these two domains lies an enormous range of possible conditions. Although it may well be useful to examine these questions broadly in these early stages of research, it quickly becomes evident how individual a process RTW can be. Although someone who is quadriplegic as a result of injury and depends on a ventilator to breathe is certainly “injured” and an AT user, it is clear that this situation is far from that of someone who has an injured wrist that will return to pre-injury condition within the year, and who uses a few workstation modifications to compensate for the injury. When one adds an individual’s gender, social roles, support systems, culture, personality traits, work, geographical location, income and other factors to the mix, it becomes evident that no simple model will be able to account for everyone’s RTW and use of AT, and that there is no panacea that will make RTW with AT easy for everyone.

When the question of motivation came up in interviews or focus groups, the most common response was to indicate that indeed, it was important that the IW was “motivated”, but that this was insufficient to guarantee success in most cases. As

Berglind and Gerner (2002) note, IWs' motivation must be understood in a social context, and is "not a personal attribute of the client."

One aspect of motivation which is commonly overlooked is that it is goal directed, and benefits from having the goals clearly defined. Grahn, Ekdahl and Borgquist (2000) describe it as being "latent" until the goals are clear. Thus, although *motivation* of IWs came up in discussion, it was rarely linked to any specific goal (other than general RTW). Rather, it was mentioned in terms of factors which pushed the RTW, such as a love of the job or a need for income. Examining motivation in this way may help to explain part of why the RTW plans appear to be so useful. Given that most IWs have not had time to develop a clear sense of how best to effectively RTW, the plans effectively increase motivation by creating short term goals that bridge the gap to the long term goal, which is still unclear. IWs are frequently incapable of clearly formulating what their RTW will actually look like, especially in instances in which the injury produces permanent limitation. When motivation was defined as an ability/inability to accurately envision an every day utopian life, this factor, in conjunction with pain upon movement and sick leave time at baseline, accounted for 29% of the variance in health related quality of life, which in turn had an effect on working ability (Grahn, Ekdahl, & Borgquist, 2000).

Berglind and Gerner (2002) describe an action theory perspective, in which three basic factors determine how an individual will choose between different alternatives: what the individual wants, what he or she thinks himself or herself capable of, and what he or she thinks is possible. It became clear in the research that the third element (what he or she thinks is possible) is often very unclear to someone experiencing an injury and RTW for the first time. Conceptions of what will be possible are often quite mistaken.

Many IWs face a number of barriers to acquiring AT in RTW, and without negotiating through them, the possibility of their RTW is unknown.

The second factor (what an individual thinks himself or herself capable of) is most closely synonymous to the original construct of interest, SE. Understanding of capability is still forming when an IW returns to work, and may continue to evolve if their condition changes. IWs do not yet know what they will be able to do, and, depending on the individual and the circumstances, their initial estimations may be high or low. Very few are aware of accommodations and AT that might make their job possible.

What is salient in action theory is the emphasis on seeing how what someone wants is tied to what they think is possible and what they think they are capable of. I initially wanted to examine IWs' SE with respect to their AT, not fully understanding how inseparable the AT was from the whole RTW process. To focus on the internal confidence of the individual rather than the external factors contributing to what is possible or what is perceived to be possible and what may affect confidence appears to attribute an unrealistic level of control and experience to individuals as they negotiate the RTW process.

One of the most inclusive RTW models in the literature is the model of human occupation (Kielhofner et al., 1999), which outlines four main factors which influence work behaviour. Three of these are related to the person: volition, habituation and performance. Volition is comprised of three elements: Personal causation (sense of capacity and efficacy), interests and preferences, and values. Habituation includes internalised roles and habits. Performance reflects the skill and ability basis for skilled performance. Environment includes both physical and social elements. Kielhofner et al.

(1999) write that “Work success of the worker who is injured or disabled depends as much on the work environment as on the worker’s characteristics” (p. 9). This model perhaps most closely reflects the sense of multifactorial causation in the use of AT in the workplace found in this research. However, it does not provide a sense of the process through which an IW must pass before being able to satisfactorily acquire and use AT.

One can approach overcoming the barriers to AT from the perspective of how to reduce the barriers, or how to increase individual’s abilities to negotiate the barriers, though the solution is not to do either/or, but to do both, and frequently to do them concurrently.

Managing life and health

The initial transition to an injured state is invariably difficult, the difficulty being related both to the severity of the physical injury and all of the other relevant personal or environmental factors. IWs must call on all their resources to cope with this change.

Morse (2000) found, with reference to severely injured or ill people, “they are learners in a new territory who must work to understand what the prognosis may mean for themselves, their families, their work, and their lives” (p.539). It takes time to process the injury. Morse comments, too, on the social prohibitions that prevent researchers from describing injuries. It’s simply “not polite”. This same prohibition plays itself out in the workplace, when employers or coworkers may avoid discussion of “the elephant in the room”, as one IW described it.

Research has found many workers reported that their psychological state deteriorated in the process of being injured and going through the compensation system. Poverty, role disruption and stress were found to contribute to this, and depression was common (Beardwood et al., 2005). This is consistent with the experiences of the IWs in this study, many of whom mentioned being depressed at some point, one to the point of considering suicide. Two individuals specifically mentioned conscious actions they took to avoid becoming depressed, as they could see how easy it would be to become depressed in their situation.

Åsbring and Narvanen (2004) found that women with the “uncertain illness trajectories” found in chronic fatigue syndrome and fibromyalgia used various strategies to acquire control in their interaction with the medical system, and in particular, with physicians. Knowledge was seen to be a primary power resource, and patients educated themselves about their condition, especially when the physician’s level of knowledge was perceived to be inadequate. The ability to use knowledge as a resource appeared to be associated with level of education within this small qualitative study (Åsbring & Närvänen, 2004). As well, patients exercised “patient power” by exiting (changing health care provider), non-compliance, confrontation, persuasion/insistence, making demands and “demonstrative distancing” (refusing to cooperate with the health care provider). Cast in this light, some “abandonment” of AT could be seen as the reaction of a patient to a situation in which they have been disempowered, as well as being sometimes simply a reaction to something that didn’t work. Obtaining knowledge about their condition and how to live with it was central to an IW becoming “expert”. Although some of this knowledge was acquired through simple experience, a number of IWs manifested active,

independent, information seeking strategies which would likely be beyond the capability of IWs with lower levels of literacy, education or financial support (e.g. using the internet, finding alternate treatment paths, or understanding the implications of incomplete or complicated diagnoses). They would also likely be impossible for an IW to accomplish independently when the injury was affecting them severely and depleting their resources, in effect removing their power to act for themselves.

It is likely that IWs with less power and education are also more vulnerable to financial hardship caused by missing work. It formed a much more central part of the discussions of IWs who I imagined were less well paid (though I did not ask about incomes). Financial hardship was also found in an American study (Pransky et al., 2000), which found that 4.8% of IW participants who had missed less than a week needed to sell belongings to compensate, and this figure rose to 22% among those who had missed over a week, but less than a year. Over 38% of this latter population borrowed money, and 51% dipped into savings.

Coming to terms with injury & limitations

Charmaz (2002a), in her discussion of the self and habit in chronically ill individuals, comments that much of an individual's perceptions of the "self" rest with habit, and that habits are rarely noticed, except when it becomes impossible to perform them. This holds true for IWs, who frequently alter habits, whether permanently or temporarily. This disruption may form the basis for much of the experience of crisis they experience – their day to day world can no longer proceed as it has in the past. There is

also, however, a more immutable self concept that may withstand many changes of habit, and this self carries through in most people.

Many individuals with chronic illness partition themselves, only speaking of illness in certain relationships, and keeping quiet in others, which frequently include the workplace (Charmaz, 2002b) These individuals may remain silent when others cannot comprehend their situation, no one wants to hear their story, or telling their story would be “too costly”. Their disclosure may be contingent on many variables, including a cost-benefit analysis. Many people find it hard to hear stories of pain, and may unwittingly silence individuals, who sense this.

Sharing a common experience of injury with another IW can be invaluable in supporting an IW as they cope with RTW and life issues (Stone et al., 2002). However, experienced RTW professionals cautioned that, while support groups were of value to some individuals, they could have a negative effect, depending on the individual and the group. Because the group’s identity came from people having some illness/injury/disability in common, the group sometimes focused undue attention on the injury. One woman noted that a client of hers had stopped going to a cancer support group because she found it too depressing to watch the composition of the group change as group members died.

Although an extensive discussion of identity is beyond the scope of this paper, there are a number of alternate views of the role of limitation in identity. For example, Watson (Watson, 2002) writes that everyone’s sense of self is continually changing, that “we constantly reconfigure ourselves through multiple identities” (pg. 511). And thus, everyone is continually involved in emphasising, deemphasising and changing aspects of

themselves. To choose to make disability central to one's identity is counter intuitive, and possibly destructive, as the limitation is not something one has actively chosen, nor does it generally improve one's status. Although the subject was not discussed directly, the IWs who had been injured for a long time and were paraplegic or quadriplegic appeared to have an identity in which disability was peripheral. They did not see themselves as being "a person with a disability", but as a researcher, counsellor, friend, spouse, parent, social person, etc.. Watson (2002) argues that while *disability* is predicated on an assumption of normality vs. abnormality, life with limitation is, to someone with limitations, normal. He or she has no reason to define himself/herself according to the views of individuals who perceive themselves to be *normal* and the individual with the impairment to be somehow abnormal.

There is a thread which runs through much of the medical literature, in which it is assumed that the ideal state of someone with a disability is to be as independent as possible. Thus, Louise-Bender Pape et al. (2002) comment that "despite the fact that dressing aids allow independent dressing, respondents to Weingarden and Martin's (1989) survey reported delegating this activity to an attendant." (pg.13). While many of my IW participants expressed having difficulty with asking for help, their decisions were often quite pragmatic. Given a limited number of hours in a day, would you rather spend them getting dressed or doing something else, likely more interesting, fun or productive? At some point, the balance shifts, and it becomes easier and preferable to have someone do it. To call it all an issue of independence is to characterise it as being a part of identity. However, for many individuals who live daily with some limitation, it is simply

life. To give an illustration of this, Harriet McBryde Johnson, an American lawyer who has a neuromuscular disease, describes a moment in her day (Johnson, 2003).

Between classes, I catch up with Dave, a classmate who is quadriplegic as a result of spinal cord injury. There's a good movie at the student union tonight. Let's go. O.K., and a burger before. Fine. A plan. Nearly. First we repair to adjoining pay phones to reschedule our afternoons. Each of us grabs a passing student to dial. Busy signal. Try this number. No answer. Try that first number again. Hey, can you do 4 instead of 5? Then another call. No answer. Try this one. My student dialer has to run. Another takes his place. Hey, I'm going out. Can we do 10 instead of 9? Do you know where so-and-so is? Hi. Can you unpack my books at 3? Between us, it takes about a dozen calls. "Dave," I say, "this is some crazy way to live, ain't it?" He gives his diffident C-student shrug. "Yeah. When I was injured, I didn't want to live this way. They said I'd adjust, but I wanted to die. Well, you know, the guy I was then, he got what he wanted. He died. I'm a different guy now." It's a complicated life, to schedule in advance each bathroom trip, each bath, each bedtime, each laying out of our food and big law books, each getting in and out of our chairs. But it can be done. We're doing it. We can do what we want. No need to get anyone's permission. No need to have it documented in any nursing plan or logged onto any chart. No one can tell us no. We can meet for a burger and a movie if we want.

Perhaps because so much of the literature arises from concerns of insurers and employers whose focus is on the WP, there is little research which documents the relationship between quality of life (QOL) outside the WP and the success of RTW attempts. From the evidence collected in this research, it would appear likely that “non-work-related consequences may actually contribute to a more prolonged absence from the job marketplace” (Pransky et al., 2000) Given the small number of participants in this study, and the complexity of the issue, however, it was impossible to fully develop this theme.

Negotiating a place in the workplace

It is in the social process of finding their place in the WP that many of the difficulties of IWs have their roots. As Harlan & Robert (1998) state, the “negative effects of the social environment have been less studied [than the physical], and are potentially even more debilitating to a greater number of people with all types of disabilities, excluding them from full participation in work” (pg. 402). They found that employees in higher grade jobs could usually make informal arrangements for accommodation, whereas those in lower status jobs were forced to rely more on formal requests. They also found that African Americans were far less likely to ask for an accommodation than Whites were (29% vs. 83% of employees with some disability), underlining how power relationships in the WP may affect the response an IW receives upon RTW. The African Americans reported that they did not ask because Whites did not believe them, and thought they were engaged in a ruse to get undeserved benefits.

The theme of discrimination in the WP as being integral to ease of RTW was also reported by Strunin and Boden (2000), who found that white males were more likely to be given light duty jobs upon their return than were either blacks or women. This would appear to be linked to broader issues of power in the WP, although it is impossible to separate out the confounding variables in this study. Dembe (2001) argues that the social consequences of injury fall most heavily on women, minorities and “other vulnerable populations” (pg. 412). These populations are most likely to have their conditions dismissed or trivialized and to have their compensation claims denied. While these particular findings could not be substantiated in this study because of its small size, there was some anecdotal support for the theory. Certainly, IWs’ autonomy and perceived value figured largely in their experience of acquiring AT and returning to work.

Because so much of the process of obtaining and retaining AT is related to the negotiation of a place in the WP, it may be important to examine models of facilitating this. Rumrill and Garnette (1996) found that a program that trained workers with a disability in how to initiate a request for accommodation was successful; 72% of participants (vs. 28% of the control group) obtained some accommodation. Interestingly, though, the experimental group was no more confident than the control group about their ability to advocate for themselves, i.e. their “career maintenance SE” was no higher than it had been before the intervention. This may have resulted from a sampling bias (ceiling effect), as both the control and experimental group had quite high SE scores to begin with. This may also have resulted from some expectancy confounder, however. The workers may not have believed that advocating for themselves would work in the long term. Unfortunately, the follow up in the study was done at only eight weeks post

intervention, so it is impossible to evaluate how successful the interventions were.

Pajares (1997) found that when the outcome that relates to a particular performance is not controlled by the performance, the role of efficacy beliefs is reduced. This is particularly significant in the early stages of behaviour change (for instance, when someone is contemplating the use of AT).

Although it seems that teaching IWs about their rights and how to ask for accommodations is a useful intervention, it places the burden for initiating accommodation onto the IW. Many employers have a legal obligation to provide accommodation, provided this does not create undue hardship. Thus, it is not so much a question of whether accommodation should be arranged, but how and when. Because the process requires the active involvement of both the WP and the IW, it would seem that encouraging WPs to offer accommodation would also be helpful in establishing a successful RTW. In WPs with active disability management programs, this is in fact what frequently happens. Strunin and Boden (2000) characterised WP responses into three types; “welcome back”, in which provisions were made for RTW, “business as usual”, in which IWs were welcome back if and only if they could perform full duties immediately, and “you’re out”, where IWs were either directly fired or driven out of the WP through other means. Although the WPs which welcomed the IWs back constituted 50% of their participants, many IWs still were unable to continue work. “Business as usual” and “you’re out” responses comprised 26% and 24% of their sample, respectively. In fact, IWs who return to “business as usual” WPs frequently are unable to stay on the job.

Trust and respect of workers have been found to be significant in a number of studies (e.g. Baril, Clarke, Friesen, Stock, & Cole, 2003). One aspect of RTW that was not widely discussed by the IWs I spoke with was the importance of coworkers having a sense of the mutual benefit which could be derived from RTW policies, the sense that the RTW policies which were inconveniencing them when someone else was recovering would be the same policies which would help them should they be injured one day. This has been found to have affected coworkers' reactions to some IWs' return (Cunningham, James, & Dibben, 2004). Although the idea was not fully explored in this research, there was an issue of justice/injustice which ran through some of the interviews. This took a few forms: the injustice of being held responsible for injury or absence that was beyond the IW's control, the injustice of being denied what were seen as essential medical services such as physiotherapy because of a lack of money, the injustice of having a legitimate insurance claim denied, and the injustice of not being able to opt to work less in exchange for less pay. In general, the injustice was perceived to be rooted not in having the injury *per se* (it was not a question of "Why me?"), but in not being accorded proper recognition of its repercussions.

All IWs found the experience of injury to be extremely difficult. Bury (1982) described the effect of chronic illness (based on research with people diagnosed with rheumatoid arthritis) as "biographical disruption", which he describes as "disrupting normal rules of reciprocity and social support" (pg. 169) Although he is explicitly referring here to the growing dependency of someone with a chronic illness, there is some relationship between this idea of disruption and the idea of renegotiating a place in the WP. The established order has been upset, and it is necessary to reconstruct some order.

Reconstructing this order may be complex and demanding, and, depending on the status and place of the IW in the WP, any given IW and WP may require help with the process.

The support of management is central to whether or not IWs receive AT.

Employees with arthritis ranked “support of management” as the most important element of getting accommodations to their WP (Detaille, Haafkens, & van Dijk, 2003). It can be useful for all IWs, but especially for those with “invisible” injuries, to follow a WP psycho-education process, in which supervisors, co-workers and the IW work together to create a workable plan for RTW. Gates (2000) found that one of the most significant benefits of the education was that it taught workers (in this case, the workers had mental health issues) to speak up when something was not going well, rather than staying quiet, as was the more common pattern. Supervisors complained that they thought that all was well, and did not realise there were unresolved problems. While these findings are somewhat congruent with those of this research, one of the problems of some IWs in this research was the constant burden on them to draw attention to problems, and how welcome it was when coworkers simply noticed, and showed compassion and respect. Though some of this burden could doubtless be ameliorated through assertiveness coaching, the assertiveness must have a receptive ground, or education becomes simply another way to shift responsibility away from the WP and onto the IW.

AT

Attitudes towards AT are changing. Hocking and Wilcock (1997) outline how Australian OTs’ attitudes towards AT have changed over the years. They found that therapists were preoccupied with mechanistic thinking, and were focusing on achieving

independence. Most of the literature was concerned with discussion of AT as a tool, rather than as an object with any possible emotional significance. They also comment on the implicit assumption that independence is the most desirable state, ignoring the positive aspects of interdependences.

With the increased awareness of disability has come an increase in the variability of available AT. Scherer (2002) feels that there has been a shift from population centred thinking to individual focused thinking, and calls this the shift from “people to person”. Today, for example, there is not one style of wheelchair for everyone, but innumerable styles and functions to suit the needs of many individuals.

Accepting or rejecting AT can be related to accepting disability, and the identity of being “disabled” (Hocking, 1999). To accept that one needs some AT is to accept that one has some limitation one cannot cope with without external aid, and if the need is great enough, it will override any aesthetic or other concerns associated with one’s image of oneself as a consumer. Though there is discussion in the literature about “accepting disability” and the “disabled identity”, some of this discussion is not relevant to injured workers, especially those who are anticipating a full recovery. How this question of AT use/non-use resolves itself in the WP is a complex issue, in which form, function and identity all play some role.

Some AT is obviously pulled from the pages of some medical catalogue or OT workshop. While function may be the central consideration for AT, there seems no reason to expect that anyone should be happy about the ugliness of some products. Tolerate it, perhaps. There are many examples of AT that is designed well and spreads into the work force, however (Mueller, 1998) and hopefully, the tendency towards

universal design will continue, and AT will become less inelegant and functional appearing. Part of the issue of identity and rejection seems more a reflection of the design and the context in which it is presented than of the user.

There can be “stigma” associated with the use/non-use of AT (Louise-Bender Pape et al., 2002), though feelings of stigma will vary tremendously among people, and between situations. Because the workplace is oriented towards productivity, it seems likely that stigmatizing will occur differently than in much of the outside world, where simply not doing something, instead of doing it with the aid of AT, may be more of an option. People at work may be under more pressure to accept their AT, because they have no option to decline to do a task. I heard only one IW tell me that she had resisted using a particular AT in order to avoid having to do a job, and she was a self employed gardener, who happily confessed that she didn’t really want to buy an ergonomic fan rake because she didn’t like raking, and would lose her excuse to pass the job to her employees!

Lack of awareness of AT appears to be a pervasive problem in RTW. The number of options has increased enormously over the past years, and it can be difficult to specify, source and trial AT. Independent IWs may have established relationships with suppliers and can draw on their knowledge to find a solution to their needs. However, most IWs do not have this resource.

Many WPs do not have this resource, either, though some are developing it as their RTW plans mature. Two of the RTW plan managers I spoke with were working with plans which were less than two years old, and there was a common theme that awareness of AT was increasing in the WP. This was seen to be particularly significant

for supervisors, who were beginning to understand and implement the concept of accommodation. Driscoll et al. (2001) found both employer and co-worker attitudes to be important to IWs' success, and that there was frustration from employers about the difficulty they had in accessing information about AT

Knowing one's options in terms of AT is seen as an empowering experience, one which places the IW (or person with a disability) in the role of consumer rather than patient (Andrich & Besio, 2002). This empowerment was evident in this research as well, as was the corollary of disempowerment and attendant frustration of IWs who were simply given AT with little or no input. Campbell and Martinko (1998) argue that learned helplessness and empowerment are at opposite ends of the same continuum, and that research pertaining to these two constructs would benefit from being integrated. In their research, they found emergent themes that indicated that "some portion of empowerment and learned helplessness may be organizationally induced and is expressed regardless of whether an individual demonstrates an attributional style that is typical of empowerment or learned helplessness" (pg. 22). Thus, it could perhaps be argued that some WPs are encouraging learned helplessness.

Some service providers devote time to establishing relationships with suppliers in order to get valuable trialling privileges for their clients. Trialling allows the IW to choose which AT fits best into his or her WP, and also situates them as the decision makers in the provision of the AT, while allowing time to learn about working with the injury in the WP.

A lack of trialling may be one of the reasons that abandonment statistics are so high for off the shelf devices purchased by consumers without benefit of professional

advice (Phillips & Zhao, 1993). It may also be that some AT requires education before it can work to best advantage. This is certainly true of many items which require adjusting, such as “ergonomic” chairs and desks.

Although the use of AT was evidently a complex phenomenon, not surprisingly, need appeared to be highly related to use. This agrees with the finding that severity of rheumatic disease correlated with AT use in the workplace (Allaire, Li, & LaValley, 2003). Although I did not measure severity of injury, or quantitatively interrelate task analysis with AT use, it appeared that useful AT was not going unused.

Expert User

One characteristic of expert AT users was that they were proficient at problem solving solutions to their limitations. Although in this study, becoming expert at discovering what was needed was generally linked to experience, it was also associated with a predisposition for mechanical design, and with independence.

There is some evidence that teaching problem solving skills has a positive effect on the durability of RTW (van den Hout, Vlaeyen, Heuts, Zijlema, & Wijnen, 2003). In this research, it was evident that that this attitude was useful for discovering which AT to use as well. It would appear that problem solving environments can be either cultivated or undermined, and thus, along with it, possibly an IW's SE with respect to solving issues of accommodation. If never given an opportunity to solve a problem, it is difficult to develop confidence in one's ability to do so. It may be that SE is mediated through coping strategies, as higher SE tends to be associated with problem-focused coping

efforts, whereas lower SE may be related to emotion focused coping strategies (Chwalisz, Altmaier, & Russell, 1992).

De Jonge, Rodger, & Fitzgibbon (2001) found that one of the aspects of AT use in the WP that was problematic for the high tech AT users in their study was the perception by supervisors and co-workers that the IW is an “expert in the area.” While this will eventually prove true if all goes well, it is a process that takes time, and in the earlier stages of RTW most IWs have not had time to acquire this knowledge.

The optimal end result from most perspectives is the “expert” AT user. The expert is able to access whatever resources are required to obtain/design/fabricate the necessary AT. They have a sense that they have control, and can meet their personal needs. They understand their environment, and have confidence in their ability to effect change if it is needed. This is essentially a description of an empowered person (Dempsey, I., Foreman, P., 1997), specifically with respect to AT in this instance.

This perspective entails a shift from that of abandonment and compliance to one of empowerment of the individual. It would appear from the accounts of IWs in this research that this empowerment is multifaceted, and that SE specifically with respect to AT is subsumed by the much larger issues of efficacy in dealing with the negotiations involved in establishing one’s place as an IW in the WP, as well as by more general issues around living with an injury. It would appear that if the IW is situated as someone with latent competence (i.e. someone who can be empowered) then the approach taken in the provision of AT is likely to be more successful than if the perspective is one of compliance, with its implicit devaluation of the person who is (or is not) compliant. The numerous studies (e.g. Scherer, 2001; Mueller, 1998; Franche, 2002) which have found

evidence supporting the involvement of the worker in the choice of AT coincide with this interpretation. Collaboration and participation are integral to many conceptions of empowerment, and conceptualising RTW as an empowering process appears to be of benefit to the IW. Because RTW is really a process of negotiation, however, it is important to empower the IW without a simultaneous disempowerment of the supervisor or peers.

Limitations of the research

This sample of IWs represent examples of successful RTW, to a greater or lesser extent. They are all working or have returned and decided to return to school, and all have or had at least some AT. I could hear, in some of their stories, the places where others might have failed to RTW. Some of these people may yet fail. This study contains no data generated through interviews with IW with who have not managed to return to work at all. Although some of these workers were occasionally mentioned in interviews with professionals, their voice is essentially missing from this analysis. This is the story of some of those who have returned.

While this must be accepted as a limitation of this particular study, it is a significant one. Because of this, some issues relating to of lack of knowledge about AT or lack of ability to source AT are likely missing from this discussion. Even over the course of this study, such problems were evident. One union employee emailed me that, while she thought my research interesting, their basic problem was that no one actually was accommodated with AT at all. It seems probable that many people with needs for hard-to-source AT have a difficult time returning to work.

This group of IWs did not include anyone who was an employee in a small, privately owned business. This is not surprising, as this group of IW frequently finds it very difficult to RTW (Eakin et al., 2002). Many small businesses simply do not have the resources to cope with RTW or AT. As one professional put it: “I used to have a romanticised version of the Ma and Pa employer, the family business in Victoria and they will go out of their way to accommodate so and so back. Well, the family will screw you over - time and time again.”

There are many stakeholders involved in the RTW process, only some of whose voices are represented here. Notable among the missing are: supervisors, co-workers, friends, families and insurers.

Summary

Although a strong generalised SE may be of value in RTW, this sense of confidence is first useful in helping an IW to arrive at the point at which problem solving for AT becomes possible. Once an IW is at the point where working to solve a problem of accommodation is possible, much of the battle has already been won. In many instances it is simply not true that even if an IW has great confidence that they can effectively use their AT that this significantly affects the success of their use of AT upon RTW, because there may be a number of organisational, social or psychological factors which can overpower this. Once an IW acquires AT, it is in the process of trialling it that confidence develops. Over time, the process of problem solving and trialling becomes second nature to many IWs. It is apparent that many of the issues around AT in the WP

are particular to the WP environment, and great care must be taken when extrapolating from the AT literature in general.

It was evident in this research that IWs' needs are frequently unrecognised in the WP, and they are frequently not valued highly in the WP. There is a lack of readily available information available with respect to AT. As well, trialling, which may be central to IWs' ability to acquire suitable AT, appears to be underutilised as a strategy. The result of this research may be used to inform RTW practice.

Implications for further research

- *Awareness of AT:* There is little research about levels of knowledge of accommodations and AT within the WP, or how the knowledge enters the WP, although preliminary research suggests that awareness is generally low.
- *The reactions to IWs by others in the WP are not well characterised:* Since these are important in shaping an IW's RTW experience, these responses warrant closer scrutiny.
- *Evaluation of models for efficient provision of AT for trialling:* Trialling is essential to much successful AT use. There are different models of how to do this: for example, through retailers or by having an in house or central collection of commonly used AT. The effectiveness of these models has not been properly researched.
- *Follow-up research on IWs who did not receive AT and have not returned to work:* From the difficulty that some of these participants had in getting

AT, I would expect that many IWs never get any AT. How significant this is as a factor in not being able to RTW is presently not known.

- *The hard-to-work with IWs:* Most, though not all, professionals mentioned that there was a very small percentage of individuals who were extremely difficult to work with, who took up an inordinate amount of their time, and who were resistant to their efforts. Although it would be an extremely difficult group to research, qualitative research directed at developing an understanding of the particular characteristics of the experiences or characteristics of this group (or groups) could elucidate some of the origins of their resistance to RTW. Directly investigating others' reports of malingering and reluctance might serve to illuminate the outside perspective.

Recommendations

- *Increase awareness of the costs and benefits of AT:* Throughout this research, I was struck with how often money was discussed in reference to providing assistive technology. Although it is commonly understood in the field of AT that many interventions are extremely inexpensive, this does not appear to be the general perception either among IWs or management.
- *Design RTW with AT to include some trialling:* It is often essential that IWs have some opportunity to try various ways of solving their RTW issues. Although there is a need to verify whether or not some proposed

solution works, it is also important to encourage a problem solving attitude, especially in instances where it is likely an IW will need to change some aspect of their AT at a later date. Purchasing AT which proves to be unsuitable may increase the cost of a RTW and perhaps engender resentment from an employer or insurer who purchases it.

- *Create a climate of support and responsiveness within the WP:* Many IW felt their WP was not responsive to their needs. In places where workers felt supported, RTW went much more smoothly.
- *Ensure that assessment, purchase or design of AT is timely:* The initial return to work is often the hardest period for an IW, and being able to use AT immediately reduces the difficulty.
- *Improve levels of AT awareness in the WP:* Raising awareness of AT suitable for a given WP could serve to establish a more widespread problem solving attitude and to facilitate and improve accommodations, in conjunction with rehabilitation professionals when needed. This has been done preventatively in some industries, through distribution of preventative ergonomic information, but could also be done to especially target IWs who have not disclosed their injury, but could benefit from simple AT.

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Appendices

Appendix A: Recruitment letter

Mary Heppner, graduate student
Tel (250) 360-2648 Fax (250) 360-2693
E-mail mheppner@telus.net

December 4, 2003

Dear Return to Work Professional:

My thanks for your attention. I am writing to see if you might be interested in participating in some research I am conducting (or if you could suggest someone more suitable). My name is Mary Heppner, and I am a graduate student at the University of Victoria. For my masters research, I am planning to examine accommodated work, and in particular, the use of assistive technology in the work place and the reasons for its non use or its inefficient/ineffective use. I am interested in a broad range of assistive technology, from simple to complex, and from mass produced to custom fabricated

I am writing to you to see if you might be interested in participating in a small focus group meeting, as part of this study. I am interested in your experience with assistive technology and would like to hear your opinion on what approaches seem to produce the best results and what approaches are best suited to specific types of individuals. I am interested in hearing about failures as well as successes. I am particularly interested in your perspective on ways to develop a sense of competence and confidence in assistive technology users. I would like to determine how important this factor is or is not to workers' eventual success with assistive technology.

I anticipate that participation in the focus group will take approximately an hour and a half. Focus group meetings will be held at the University of Victoria, at a time convenient to you. A \$25 honorarium will be given to each participant in the focus group, and I will be happy to cover any incidental parking fees or bus fares incurred. After I have analysed all of the input from the meetings, I will invite you to read over my conclusions and comment on my analysis if you would like to.

I will also be conducting small focus groups comprised of injured workers who have returned to work within the past 5 months, and who were given some form of assistive technology for their work. I am interested in individuals who *do not* use their assistive technology, for whatever reason, as well as those who do use it. As you have direct connections to injured workers, would you agree to direct a letter of invitation to participate in this research to any member that you think would qualify for inclusion in this study? They would be invited to take part in a focus group and to express their experiences and views on their particular assistive technology. Discussion in the groups will be completely confidential. I will be using pseudonyms and changing circumstances to protect identities in any written material produced, and will not bring any particular case discussion to the groups.

I am hoping that the focus groups will be enjoyable experiences, allowing an interesting exchange of ideas among individuals with different backgrounds. I will call you shortly to answer any questions you may have, to see if you might be interested in participating in the focus group and to discuss with you the invitation to your clients to participate in this research. . If you do not wish to be called, please phone (360-2648), or send me an email to that effect (mheppner@telus.net). Many thanks for your time and attention.

Yours truly,

Mary Heppner

Appendix C: Questions for injured workers

Can you give me some idea of what your injury was and how it happened?

What's it been like, recovering from your injury?

How did you return to work? How's it been?

Think of your first day back full time – were you comfortable going back? Did you feel confident that you'd be able to do your job? What sort of standards did you set for yourself, going back?

Are there things you can't do, or have to be careful doing?

What's your sense of how your recovery will be - what's likely to happen over time?

Are you worried you'll make your injury worse by working?

What was your employer been like through this process? (if not self employed)

What has your union been like through this process? (if unionised)

How did you choose which tools/modifications to use? Did anyone help you?

How about activities around home, or activities of daily life? Did anyone have suggestions about how to do things around the house.?

What reactions have you gotten from employers? Co-workers?

How confident were you that you would be able to go back to work and do the job? What role did the tools play in your confidence (or lack of confidence)?

Do you feel that you were listened to in the process of finding how to plan your return to work and get AT?

Some people seem to think "you can do almost anything if you just have confidence you can do it". Did you encounter this attitude in your return to work?

Can you name any people who were really helpful in terms of getting you back to working? Unhelpful? What about in helping you get or use AT?

Can you think of anything we've missed?

Appendix D: Questions for human resource professionals

Introductory round table - which clients you work with, in what settings

I'd like to get some sense of how often AT is used in return to work-is it something you often recommend?

Could you give me some examples of some assistive technologies that you pretty much know will work?

Can you give me some examples of AT that you've been less sure would work or that have taken a lot of fine tuning?

How do you work with a person to use some AT that you know will require some perseverance to learn? (say, for example, using voice recognition technology)

So now someone's back at work, new AT in place. When they initially start back to work, how confident do you think most of your clients are that they can perform their job using the AT?

Do most of your clients return to work successfully? How many of your clients can successfully return to their previous work, or something close to it?

How important do you think that client's confidence in their ability to successfully use their AT is to their eventual success with the AT?

Do you see a difference between increasing clients' ability to use their AT and increasing their confidence-or is it much the same thing? Does the confidence just flow naturally out of their ability?

One rehab professional I spoke with commented that he worked with OTs, physios and voc rehab consultants and for many of them their work was "90% counselling" Any comments on this?

What about the role of assertiveness in the client's in return to work-their need to say they can't do something or they need to do something or have some AT. Do you find you need to foster this in clients or are you more often in the position of telling them they can do something-they can work through the pain etc.

One of the original seeds for this project came from someone in the field of RTW saying something to the effect that "the most important thing in order to be able to return to work is the confidence that they can do it." And then I saw very similar phrases on brochures published by the WCB. What is your feeling about this statement? Does it relate to people using or not using their AT?

Anything else you'd like to add?

Appendix E: Questions for rehabilitation professionals

How often do you often recommend some type of work-related assistive technology to clients ?

When you do recommend using some AT, how important is it generally to the success of the return to work? Could you give me some examples of a situation in which AT was very important to providing accommodated work to someone?

Have you had experiences with clients who didn't use the technology provided to them? Why did they not use it, and what were the results of not using it?

Can you speak a bit about the process of arriving at a solution?

What personal characteristics do you think are most important for users when using assistive technology (if any)?

What would your ideal AT providing scenario look like?

What would you say are the most important things that contribute to the success of an accommodation that uses some form of site modification or assistive technology?

With respect to their ability to perform their job using AT- how confident are your clients that they can perform the job using the AT? How does this confidence or lack of confidence manifest?

How important do you think that client's confidence in their ability to successfully use their AT is to their eventual success?

Do you work to foster high SE? If you do try, what are some of your more successful techniques? Any specific techniques? General attitudes?

How confident are you that you can work with most of your clients to create a successful accommodation, using AT? Are you confident that you have sufficient understanding and knowledge of the issues involved? Resources? Time?

Is there anything you'd like to add? Anything we've missed?

Appendix J: Questionnaire results

Because of the small sample size, quantitative analysis of questionnaire data is of limited use, and certainly not of any statistical significance. However, a tendency for SE to increase with time and practice can be noted. There are no instances in which SE decreases. Qualitative examination reveals that the instances in which SE remains constant are instances in which the individual concerned had previous experience with the AT at home, or had experienced similar working conditions elsewhere. In these instances, there is little change in their SE with respect to AT, as they have intentionally brought the AT to the WP because they already know it will work for their needs.

Most participant IWs who have AT are confident that they have the “right” AT, that is, that there is no better option available to them. The two exceptions to this are IWs who are using (or tried to use) improvised AT. With two notable exceptions, AT is seen to be very important to the performance of IWs’ jobs.

From the questionnaire data, there is no explanation for the two outliers, the people for whom the AT is evidently not working. However, interview data explains that in one instance, the IW’s AT was taken from him. In the other, an IW in an extremely uncaring WP was given an unstable steno chair to move boxes around the office, to supposedly accommodate her inability to carry heavy weight. In both of these instances, the issue of AT is only comprehensible when placed in the larger context of their RTW.

Table A1

Results from the QUEST questionnaire and the self efficacy assistive technology questionnaire

Participant	AT	Satisfaction 1-5	Condition	Freq. of use	Initial SE	Current SE (*)	Importance	Right tool?
Man	VR	3	Stable	8	6	8	9	9
Woman	Dog		Stable	9	5	9	8	9
Woman	Office	4	Improv	9	7	9	8	8
Woman	Pruners	5	Stable	8	6	10 (8)	10	8
Man	Headset	5	Stable	10	4	7 (8)	10	9
Woman	Crusher	3-4	Stable	10	2	9 (6-9)	9	3
Woman	Scooter	2-4	Degen	9	8	8	9	9
Woman	Sitstand	5	Stable	10	10	10 (9-10)	10	10
Man	Sander	4-5	Improv	7	6	10 (7)	10	10
Woman	Chair	2	Degen	3	3	3	5	2
Woman	extensive							
Man	extensive							
Woman	Table	4-5	Improv	7	8	9	8	9
Man	Phone	1	Stable	1	1	1	5	1

*- SE under stressful conditions, if different from more globally assessed SE

Although this data certainly lends support to the idea that SE with respect to AT increases with experience, it does not provide evidence that a lack of SE contributes to the abandonment or rejection of AT. Qualitative data would seem to support the idea that

IWs generally reject or abandon AT on functional grounds (and sometimes on grounds related to self image), rather than for reasons relating to SE. The qualitative data also supports the hypothesis that trialling (which equates to achieving enactive mastery in the SE model) is very important in arriving at the correct AT solution. However, there appear to be many distal factors which are essential to making trialling even possible.



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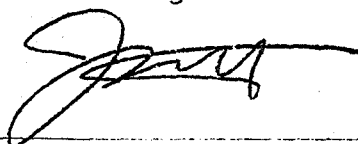
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Human Research Ethics Committee Certificate of Approval

<u>Principal Investigator</u> Mary Heppner Graduate Student <u>Co-Investigator(s):</u>	<u>Department/School</u> INST	<u>Supervisor</u> Dr. D. van Gyn	
<u>Project Title: A Multi-stakeholder Examination of the role of self efficacy in the Use or Non-use of Assistive Technology in the Workplace</u>			
<u>Protocol No.</u> 079-04	<u>Approval Date</u> 30-Mar-04	<u>Start Date</u> 24-Jul-03	<u>End Date</u> 29-Mar-05

Certification

This certifies that the UVic Human Research Ethics Committee has examined this research protocol and concludes that, in all respects, the proposed research meets appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Subjects.



Dr. J. Howard Brunt
Associate Vice-President, Research

This Certificate of Approval is valid for the above term provided there is no change in the procedures. Extensions or minor amendments may be granted upon receipt of "Request for Continuing Review or Amendment of an Approved Project" form.

079-04 Heppner, Mary



University of Victoria

University of Victoria - Human Research Ethics Committee

Certificate of Approval

<u>Principal Investigator</u> Mary K. Heppner Graduate Student	<u>Department/School</u> PHED	<u>Supervisor</u> Dr. G. van Gyn	
<u>Co-Investigator(s):</u>			
Title: A multi-stakeholder examination of the role of self efficacy in the use or non-use of assistive technology in the workplace			
<u>Project No.</u> 278-03	<u>Approval Date</u> 24-Jul-03	<u>Start Date</u> 24-Jul-03	<u>End Date</u> 23-Jul-04

Certification

This is to certify that the University of Victoria Ethics Review Committee on Research and other Activities Involving Human Subjects has examined the research proposal and concludes that, in all respects, the proposed research meets appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Subjects.

J. Howard Brunt
Associate Vice-President, Research

This Certificate of Approval is valid for the above term provided there is no change in the procedures. Extensions/minor amendments may be granted upon receipt of "Request for Continuing Review or Amendment of an Approved Project" form.

278-03 Heppner, Mary K.