

## RESEARCH PAPER

# Exploring factors facilitating adults with spinal cord injury rejoining the workforce: a pilot study

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### Abstract

**Background:** Return-to-work (RTW) rates after spinal cord injury (SCI) in the USA are very low and are continuing to decline. Previous research has attempted to identify factors facilitating RTW; however, the phenomenon of RTW involves many personal factors and predicting RTW success remains difficult. **Purpose:** The purpose of this pilot study was to explore the factors facilitating adults with SCI rejoining the workforce in an urban area in order to identify items that may be emphasized in the rehabilitation process. **Methods:** The study was completed using qualitative methods. Four adults who had acquired a traumatic SCI in adulthood and were currently employed participated. Their experiences in RTW after injury were collected via semi-structured interviews and photography of assistive devices. **Results:** The most common facilitating factor was motivation, with family and rehabilitation professionals serving as extrinsic motivators. Other facilitators were resources and perceived benefits. **Conclusions:** Motivation and resources were important facilitators, including rehabilitation professional's personal influence and therapies, and resource assistance from state agencies. The results indicate that practitioners can play an important role in influencing RTW, and resources from state agencies are helpful when individuals know how to access and utilize them.

### Keywords

Assistive technology, motivation, return to work, spinal cord injury

### History

Received 29 October 2013

Revised 6 May 2014

Accepted 20 June 2014

Published online 8 July 2014

### ► Implications for Rehabilitation

- Assistive technology supports successful return to work after SCI.
- Motivation strongly influences return to work after SCI and can be influenced by rehabilitation professionals, family and community members.
- Patients should be well informed about how to access assistance programs such as vocational rehabilitation.

### Introduction

According to the most recent US census analysis, there are ~40 million adults with a severe limitation in physical function who are considered “work disabled” [1]. Of these, only 19 000 of these adults have obtained employment [1]. Since the 1970s, return-to-work (RTW) rates after acquiring a disability such as spinal cord injury (SCI) have declined, despite the availability of social services and legislation supporting successful RTW [2]. In adults with SCI, international RTW rates range from 11.5 to 74% [3]. Low RTW rates are problematic because vocational success after injury correlates with quality of life and overall longevity [4] while preventing economic impact from loss of human capital [5].

People with disabilities in the USA are protected by the Americans with Disabilities Act (ADA), which outlines the necessary environmental requirements for businesses and public areas such as curb cuts and ramps, and prevents discrimination from employment based on disability. In the USA, people with disabilities also have access to state-run programs such as vocational rehabilitation that are designed to assist in achievement of higher education and job placement/maintenance. Despite legislation and programming, RTW rates continue to decline.

A limited number of qualitative inquiries from around the world have been made into RTW after SCI. Previous quantitative survey-based research has identified that both function factors, such as level of injury, and personal factors, such as personality, are related to successful RTW after SCI. The most frequently identified factors from these survey-based studies have been education level, previous employment type, persistence of medical problems, usability of adaptive equipment, social support, environmental factors and age [3,6,7]. Qualitative research in RTW after SCI points to personal expectations, psychological

factors and access to resources as important influences for RTW [8–10].

Despite the knowledge gained from these studies, further research is warranted to improve our understanding of what motivates adults with SCI to return to work after injury. RTW after SCI is a complex phenomenon involving injury severity, social and demographic factors, work conditions, individual skills and motivation [11]. Due to individual complexity of RTW after SCI and thus the difficulty of measuring those factors, predicting RTW is challenging [11]. In addition, drawing reliable and consistent conclusions from current qualitative and quantitative research is difficult. Studies were conducted in multiple countries, whose basic governmental and economic structures, such as socialized medicine, differ and can hinder generalizability of results of this survey-based research. Current knowledge concerning RTW after acquiring a SCI lacks narrative description of personal experience of RTW from the population of interest, particularly understanding the interplay between those variables that have been identified through quantitative research.

The current qualitative study adds to the existing knowledge about RTW after SCI by providing an account of first-hand experiences with RTW and identifying factors encouraging RTW after SCI. Knowledge gained from the study will help rehabilitation professionals by outlining some of the factors that may improve RTW after rehabilitation. Additionally, knowing about positive experiences with RTW may inform individuals with SCI and their families about potential facilitators for joining the workforce.

Thus, the purpose of this qualitative study was to explore the factors facilitating four adults with traumatic SCI rejoining the workforce in an urban area of the southern USA. The study specifically focused on understanding the role of individual functional, personal, institutional, and other identified factors and the interplay of these factors in facilitating adults with traumatic SCI rejoining the workforce. The central question of the study is “what factors facilitate adults with acquired physical disability rejoining the workforce?” Sub-questions included: “how do individual functional factors influence rejoining the workforce?”, “how do individual personal factors influence rejoining the workforce?”, “how does the availability of assistive services influence rejoining the workforce?”, “what are other factors that may facilitate adults with acquired physical disabilities rejoining the workforce?” and “how do the identified factors that facilitate adults with acquired physical disabilities rejoining the workforce relate to each other?”.

## Methods

### Qualitative research

Because the primary focus of the study was on the lived experiences of the participants, the study was designed within a qualitative research paradigm. Qualitative methods are often used when the research question addresses human experiences of a phenomenon [12]. The phenomenon of interest in our study was the human experience of returning to work with a SCI, so a phenomenological qualitative approach to collecting and analyzing the data was warranted. Phenomenology seeks to understand and describe the commonality of the experience for a small group of people [13,14]; thus, studies are typically smaller and frequently focus on a rich description of the experience of the small group rather than large-group data collection [12].

### Site and study sample

The study was conducted in an urban area of the southern USA. The city where the study participants resided had a population of

over 1 million in the greater metropolitan area. The area had a large university hospital, rehabilitation center and adapted recreation center. The city was not readily accessible to people with disabilities due to the large number of historic structures, some disrepair in the downtown area and lack of reliable public transportation. People in the community were typically familiar with at least one of the three locations from which our population was drawn: the university hospital, rehabilitation center or adapted recreation center.

We purposefully selected individuals with traumatic SCI sustained in adulthood who were employed at the time of the study. This method of purposeful sampling is frequently used in phenomenology and is often referred to as “criterion sampling” [15]. In criterion sampling, participants are selected because they possess the characteristics of interest pertinent to the research question and understanding of the studied phenomenon [15]. We chose to use purposeful criterion sampling because we were specifically interested in the lived experiences of adults with SCI who had returned to work after injury. Participants were recruited through the contacts of one of the researchers who has a relationship with the university hospital, rehabilitation center and adaptive recreation center. E-mails with a brief study description were sent to six potential participants, followed by an official recruitment letter. Three of the contacted six potential participants agreed to participate. One study participant identified an additional person who had returned to work after SCI. This person was contacted by the research staff and was subsequently enrolled in the study after verifying that he met the study inclusion criteria. Therefore, a total of four individuals participated in our study.

### Procedure

In qualitative research, researchers choose the mode of data collection based upon the question of interest. Available methods include observations, interviews, focus groups and examination of artifacts [16]. We were specifically interested in the participants’ description of their lived experience. Therefore, we selected personal interviews as the primary data collection method. Additionally, we used photographs of participant-identified assistive technology items for triangulation purposes and to help establish credibility of the data [17]. These photographs helped us better understand how assistive technology helped with the adaptation process when returning to work after SCI.

Two researchers conducted face-to-face interviews with the study participants. Each interview lasted ~40–60 min. The interviews were guided by the interview script developed by the researchers based on the previous literature in RTW [3,6,11] (Appendix 1). The interview questions encouraged the participants to speak about the reasons for returning to work, to recall what was helpful or challenging in returning to work, to describe their experience and give advice to others who are in the process of returning to work with SCI. All questions were open-ended with specific prompts, for example, “what do you think influenced you to return to work after your injury?” (prompts: people, benefits). The script was reviewed by a group of researchers unassociated with the project before the interviews were conducted to ensure that the questions were clear and were worded appropriately in order to solicit the information needed for answering the posed research questions. The interviews were recorded with permission from the participants and transcribed verbatim. Adaptive equipment was identified by the participants and photographed by the researcher with the participant’s permission.

### Data analysis

The researchers conducted data analysis using the methods and techniques for initial coding described by Morse and Richards

[18] and then organized those codes into themes and sub-themes reflecting participants' textural (what was experienced) and structural (how it was experienced in terms of conditions, situations and context) experiences with the phenomenon [14,19]. Personal interviews were transcribed verbatim and distributed to the research team. Each interview was coded independently. The researchers met on multiple occasions to discuss the findings including codes, themes, sub-themes and important quotes. Coded transcripts were discussed until the agreement was reached that all evident codes and emerging themes had been identified, indicating the point of saturation in data analysis [12]. Photographs of the adaptive equipment were then compared to the emerging themes in order to triangulate them with the information that the participants provided in their interviews.

### Ethical considerations

For this research study, we applied the APA ethical standards for conducting research [20]. Approval was granted by the University's Institutional Review Board. Participants were informed that they were volunteering for this study and that they did not have to participate. Participants were also informed that their privacy and identity would be protected. Additionally, participants were allowed to choose a pseudonym they would like to be referred by for study reporting purposes. Within quotes, identifying information was removed by the first author and replaced with non-identifiers in brackets [example].

### Role of the researcher

Disclosing personal experiences with the studied phenomenon, referred to as *epoche*, is the first step in phenomenological data analysis [14]. Researchers on our team all had experience in the health care setting, which was a driving force for topic selection. The first author (SW) has knowledge of the population of adults with physical disabilities due to her training at the university, adapted recreation center and rehabilitation center. She interviewed participants whom she did not know personally in order to prevent potential bias. She believes that the value of the person is non-negotiable, no matter the person's level of ability. She finds herself immersed in the culture of disability, not because she has a disability, but because she has forged relationships within the group, has a basic understanding of their challenges and frustrations and has been an advocate for the group. The first author also recognizes her bias that working is generally good for the person and that RTW after injury is desirable.

The second author (NI) is a qualitative researcher who teaches research methods and is actively involved in research. She supervised and guided the design and conduct of this study. At the time of research, she had limited knowledge and experience of RTW for individuals with SCI. This helped her maintain a fresh perspective on the emergent study findings and interpret the participants' lived experiences in an unbiased manner.

## Results

### Participants

Participants were three males and one female who had sustained a traumatic SCI in early adulthood and were employed at the time of the study (Table 1). Participants ranged in age from 42 to 57 years. All of the participants had been with their current employer for at least 2 years and were full-time employees. Three participants had cervical level SCI and one had a thoracic SCI. Three of four participants used manual wheelchairs for mobility and one used a power chair. All of the participants were living independently in the community at the time of the research. Narrative descriptions of participants are provided in Boxes 1–4. Our participants are representative of the general population of adults with SCI, with the majority being male and having cervical SCI [21].

#### Box 1. G-man.

##### G-man

Dressed in a sharp suit, tie and well-shined shoes, G-man works as an attorney. He was hit by a drunk driver when he was 18, causing paralysis from the waist down. He is obviously passionate about his work and enjoys having an extensive social network.

#### Box 2. Sally.

##### Sally

Sally has silver-blond hair and a warm smile. She was injured in a car accident at age 20, causing paralysis from the chest down. She works for the State Department of Rehabilitation Service. Sally was a Paralympic athlete and has traveled the world. She is outgoing, well-spoken and has a positive, yet realistic outlook.

#### Box 3. Phil.

##### Phil

Phil has a warm personality and thin gray hair. He was injured in a car accident at age 18, causing paralysis from the chest down. Phil has an easy-going personality and is passionate about his job disseminating information to patients. His life goal is to publish something in print, TV and film.

#### Box 4. Sulli.

##### Sulli

Sulli comes across as shy at first, but warms up quickly. He was injured in a wrestling accident at age 18, causing paralysis from the chest down. He has been a wheelchair athlete and is passionate about promoting wheelchair sports.

Table 1. Participant descriptions.

Pseudonym	Age	Gender	Level of injury	AIS	Time since injury (years)	Employment	Education level
Sally	57	Female	C 6/7	A	37	College Prep Coordinator	BS
G-man	48	Male	T-6	A	30	Attorney	JD
Phil	48	Male	C5	B	30	Information Specialist	MA
Sulli	42	Male	C5	A	24	Bank Fraud Analyst	High School Diploma

## Themes

Four major themes emerged from the interviews with participants reflecting their experiences with RTW after SCI: resources, motivation, challenges and benefits. Themes, related sub-themes, corresponding codes and illustrative quotes are presented in Table 2.

### *Resources for rejoining the workforce*

Participants described several items including assistive services that they felt were beneficial resources in the process of rejoining the workforce after their injury. Resources were categorized into early-training resources, long-term support and assistive technology. Early-training resources primarily addressed state-related services and medical care. Long-term support resources were centered on the adaptability and fit of the work environment, along with other supportive programs and medical care.

### *Early-training resources*

State-related services for obtaining employment were frequently mentioned as being helpful resources. In particular, Vocational Rehabilitation Services was identified as being an important resource for financial needs such as adapting vehicles. For example, Sulli stated “when I showed an interest in working, if I provided a vehicle [vocational rehabilitation] would cover the cost to equip the vehicle so that I could drive. So that’s always been a very positive thing with vocational rehab”. Vocational rehabilitation also provides financial support for durable medical equipment and extended medical care. This was an important resource for G-man, who stated, “. . . vocational rehab was very helpful in preparing me for work. They paid for my physical restoration, my wheelchairs, cushions, and they provided some counseling, so they were very helpful”.

One item identified by participants as being a resource for obtaining work was having excellent medical care and extended time in rehabilitation. This was noted as different from current practice for adults with SCI because the study participants had all been injured for >20 years. Sally pointed out, “I was at [rehabilitation center] from October until the middle of January, so I left there with some really good PT and OT skills . . . my understanding is that now they’re not in rehab very long and so you go home and it’s up to you to do outpatient”. Sally and G-man both described their experience at inpatient rehab as a time to improve strength and skills. G-man recalled, “. . . at that time, they’d have a little cart with weights on it and you had to pull that around, and then when that became too easy then the physical therapist sat on the weights and you pulled THEM around”.

Excellence in medical care was mentioned as an early-training resource and long-term support. One physician in particular was mentioned by three of the four participants. G-man described the physician in the following way, “. . . she’s a great doctor, I mean, she’s really helped me out a lot during the years, because you need somebody that’s specialized in rehab medicine”. Participants identified secondary health conditions as an issue and having access to health care was viewed as a positive influence on finding and maintaining employment.

Vocational rehabilitation was also involved in medical care in Sally’s case when she was hospitalized several years ago. After being hospitalized, she wanted to return to work and was able to receive assistance from a division of the department for rehabilitation services that provides assistance for adults with disabilities to continue living independently. Sally, “This round I lost so much strength and everything when I was in the hospital . . . so I was wiped out . . . for the first time since being

injured I have a caregiver that helps me sometimes . . . vocational rehab and the doctor at [rehabilitation center] that I continue to work with were all a big help”.

Vocational rehabilitation provides people with disabilities with counselors who assist adults with disabilities in finding employment and receiving necessary accommodations. These rehabilitation counselors were identified as being helpful for finding employment. During the job hunting process, Sulli recalled, “vocational rehab was very helpful, far as getting me leads. They are working with companies that work with people with disabilities so there are no surprises when you come in for the interview in a wheelchair. They help with gas money, or if you need adaptation they help with that”.

### *Long-term support*

Several participants identified understanding employers and a supportive work environment as beneficial resources for maintaining their employment.

Having a supportive work environment was focused around the physical workspace and interactions with co-workers. Sally identified being in a supportive work environment as especially helpful for her being able to have adaptations and assistance. “. . . if I have a problem here it’s like I can speak up and say, ‘hey, that doesn’t work for me, I can’t reach that microwave’ or ‘that copier’s not working’ and it’s ok”. G-man also pointed out that his workspace is fit to him so that his office functions optimally. “This desk in my office was specially made for me . . . I had it made higher and narrower so I could have more room in my office . . . your typical desk I can’t get under because my legs are too tall”.

Accessibility was important for all participants because they all used wheelchairs for mobility. They all had a unique perspective on this issue because they were injured in the 1980s, around the time the ADA was signed into law. Before the ADA, it was not against the law for employers to discriminate based on disability and they were not required to provide any resources or adaptations to employees with disabilities. Sally recalled intentionally looking for a job that had an accessible environment. “I was looking for a job where I knew things were accessible. This was the early 80s, it was kinda scary looking for a job back then with accessibility issues . . . you need to find a job that fits you. Even now we still have problems a lot of times going to places where the bathroom’s not accessible, just assuming that everything’s gonna be accessible, that’s not true a lot of times”.

All four participants mentioned having understanding employers as being important facilitators for maintaining employment. Three of the four participants were employed by either state agencies for rehabilitation or a rehabilitation center, which they identified as being beneficial for working with a disability. Phil stated, “one of the benefits of coming to a rehab facility [for work] is that they understand some of the issues so I didn’t really have a problem coming to work, especially here, so I had it easy”. Sally also mentioned her employer being understanding of her recent secondary health issues. She recalled humorously, “thank goodness they appreciate me around here (laughs) they’ll hold my job for me, let me come back!” Sulli was the only participant employed in a “standard” office environment, working for a bank. Sulli mentioned that his employer also understood his needs. “I have always had bosses that understood . . . as long as you have people who are willing to work with you it’s not that bad”.

Phil identified state rehabilitation resources as being the most important resource for him to maintain his employment. In particular, he identified having a home health aide as part of the homebound program as being very helpful. “I’ve been a client

of theirs since I've been out . . . they help pay for an attendant each week, 20-25 hours . . . so I've been using that since I was first injured. That's probably been the one thing that's been most helpful in allowing me to maintain my work''.

#### *Assistive technology*

Technology was also an important resource for maintaining employment. Technology related both to computers, computer accessories and dictation software, as well as technology in transportation such as lifts and hand controls. Phil simplified his technology to relate mostly to his wheelchair (Figure 1) in order to make working and living easier. "I ended up living close by at an apartment here so I could get to work in my chair. Not much other than that except for the track ball that I use for the computer" (Figure 2). Sally also used two computer adaptations, dictation software and a roller-bar on her keyboard in place of a mouse (Figure 3). G-man had a specialized lift in his truck for himself and his chair (Figure 4). Sulli was the odd-man out for using technology in his banking job. He chose to find ways to do his daily activities without specialized equipment other than finding a desk that he could fit his knees underneath. He explained,

When I first got hurt, they brought all these different things, stuff I was going to need to write with, brush my teeth . . . and I just basically messed around with my fingers trying to figure out ways to eat and hold a pencil . . . I taught myself to type with one finger, my fingers do not work but I type with my index finger extended out and can type about 15–20 words a minute.

Although he did not use adapted equipment, Sulli identified that computers have been important in helping him work, "Computers have really opened up the doorway for me, manual labor is not going to be a fit for me".



Figure 2. Phil's trackball mouse.



Figure 3. Sally's keyboard.



Figure 1. Phil's wheelchair controls.



Figure 4. G-man's truck.

#### *Motivation for working*

Motivation is an important part of any behavior and it emerged as the most important theme in the study. Both extrinsic and intrinsic motivators for rejoining the workforce were discussed. Extrinsic motivating factors included social support, role models and

financial incentives. Intrinsic factors were largely centered on being normal, desiring to work and independence.

#### *Extrinsic motivators for rejoining the workforce*

Extrinsic motivating factors were typically people, in particular rehabilitation professionals and other role models. Rehabilitation professionals were important influences because they were part of the process of regaining strength and stamina in order to increase independence. Participants spent an extended period of time in inpatient rehabilitation, which allowed for opportunities to build relationships with rehabilitation professionals. Phil recalled, “my rehab experience consisted of falling in love with my therapist, [name] (laughing) so I still know her, still friends with her, she is now semi-retired. She works in outpatient now, but yes, she was fabulous. Still is fabulous”. Rehabilitation professionals who Sally worked with had a great influence on her career path, too. She had a change of plans for her career when she began interacting with rehabilitation professionals after her injury. “I wanted to be a teacher, and then I met people in the rehab program and I liked them so much that it made me want to go into their program and get a degree”.

Participants also described having role models as an important influence on their return to work. Two participants were athletes. Sally was a swimmer and played wheelchair rugby, and Sulli played wheelchair rugby. Sally recalled that her teammates served as excellent role models. “I got involved at [adapted recreation center] and I think that’s one of the best things I could have done because it helped me graduate from things like a van with a lift to a car...I had role models to show me how to transfer into cars...all of that strengthened me so much, really helped me go beyond where I thought I would be”. Sulli recalled similarly that he had teammates who worked, which influenced him to work as well, but his coach was the most influential. “My coach at that time [name], he really pushed going out and doing something with your life, getting off disability, not relying on the government, really going out and doing something productive”.

The extrinsic factors also included financial benefits and health insurance. G-man described that there is a myth that people with disabilities can live on government support alone, but this amount is typically ~\$600 per month, which participants stated was not sufficient to live. Health insurance was also a motivating factor because losing or not having a job also meant losing health insurance, without the possibility of private coverage because of a pre-existing condition. Sulli recalled applying for insurance, “I applied for Blue Cross and they sent me a letter that said, ‘you are a quadriplegic and you do not qualify’. So I didn’t have insurance for about a year. So that was a big influence to go back to work”.

Family members were also extrinsic motivating factors. In particular, Phil remembered his mother being a positive role model for hard work and determination. “If there is any one person who is inspiring to me it would be my mom. When we were very young my dad left. She didn’t give up anything...she was a very hard working single mom...she wasn’t one to give up and still isn’t one to give up so...that’s the role model that I had”.

#### *Intrinsic motivators for rejoining the workforce*

When asked why they decided to return to work after their injuries, participants frequently mentioned intrinsic motivation using words like “ambition” and “work ethic”. Phil explained, “I didn’t really think of an alternative. I just figured that was what I was supposed to do...I’m not sure I had to make a conscious effort to do it”. Sally stated that she didn’t want to give up and

that she wanted to work. G-man described his motivation as being what he always planned to do. Intrinsic motivation also had a strong theme of wanting to be normal and to fit in with the rest of society. G-man said, “I was very ambitious...I never thought about not working, the first thing somebody asks you is, ‘what do you do?’ and you don’t want to say, ‘I’m a bum, I live off the government’. so I always planned to work”.

Sally and G-man also mentioned that they wanted to challenge the stigma that people with disabilities do not or cannot work. Sally specifically recalled a story from many years ago.

I had a fender bender down on the other side of [the mall], it wasn’t really even a fender bender, but I touched that woman’s brand new Lexus SUV...she was merging onto [the highway] and I was right behind her and I thought she had merged...anyway I touched her Lexus so she wanted a police report and I can remember her walkin’ back [to me] and I was in this old Thunderbird that I was drivin’...she walked back to look at the tag because I didn’t get out...I’ll never forget, this was probably 12, 11 years ago, she called...the sheriff’s office...so he came and did a report on her car...he walks up to me after he does her report and...looked at my paperwork and then he says, ‘so you don’t work or anything do you?’ and I just thought...there’s still a stigma out there that a lot of people with disabilities don’t work and aren’t expected to work and I wanted to say... ‘of course I work!’ but there’s still people out there who assume people with disabilities just sit around and draw a check...

This stigma was also reflected during G-man’s job-hunting process and in being underestimated by co-workers because he had a disability.

Participants also mentioned that they were motivated by their desire to have an impact on the world and to be a contributing member of society. G-man in particular felt that having an impact was very motivating for him. “I love what I do and I think I’m having an impact...I like being part of the world and I would’ve been the same had I not been injured, I just took a different path.”

#### *Challenges of working*

Participants were motivated to work and identified a variety of resources that were helpful in finding and maintaining employment. All four participants were successfully employed at the time of the interview and were satisfied with their employment; however, all participants identified some challenges to working related to their disability. Three main challenges became obvious: challenges related to stamina and scheduling, physical challenges and overcoming myths and prejudices of other people in the workforce.

Most participants identified stamina and scheduling as challenges. This challenge was thought to be a universal challenge for anyone beginning their first “adult” job. Sally remembered needing to be on a set schedule and perform the same tasks daily. “Just that gettin’ up every day, Monday through Friday...and then on Saturday and Sunday you’re gettin’ ready to go back to work on Monday!” G-man recalled similarly, “the hardest thing for me, and this is probably non-disability related, was having to be on a set schedule...having to get up at the same time every day and having to stay at the same place all day every day”.

Scheduling was also seen to be challenging. Along with what able-bodied people must do to prepare for the day, people with spinal cord injuries have other tasks to perform related to self-care, wheelchair maintenance and transportation which can make scheduling a day more difficult. G-man identified scheduling as a

Table 2. Themes, sub-themes, codes and illustrative quotes.

Theme	Sub-theme	Codes	Illustrative quotes	
Resources	<i>Early Training</i>	Good OT and PT skills	“I was at [rehabilitation center] from October until the middle of January, so I left there with some really good PT and OT skills . . . my understanding is that now they’re not in rehab very long and . . . its up to you to do outpatient.” (Sally)	
		Extended time in rehab	“ . . . it’s like life was PT, everyday get up and just had to build a lot of stamina, a lot of strength and left there to come home and start the job looking process . . . ” (Sally)	
		Good medical care	“ . . . she’s a great doctor, I mean, she’s really helped me out a lot during the years, because you need somebody that’s specialized in rehab medicine.” (G-man)	
		State programs	“ . . . vocational rehab was very helpful in preparing me for work. They paid for my physical restoration, my wheelchairs, cushions, and they provided some counseling, so they were very helpful.” (G-man)	
	<i>Long-term Support</i>	Vocational rehab/State Programs	“When I showed an interest in working, if I provided a vehicle, vocational rehabilitation would cover the cost to equip the vehicle so that I could drive.” (Sulli)	
		Good medical care	“of course the doctor at [rehab center] that I continue to work with. I was on the phone with them a lot.” (Sally)	
		Personal contacts	“I’ve been in a chair for 31 years but I can still learn something from somebody that may have been newly injured because they’re teaching new things and there are new products that I might not be aware of.” (G-man)	
		Understanding employer	“I have always had bosses that understood. as long as you have people who are willing to work with you its not that bad.” (Sulli)	
	<i>Assistive Technology</i>	Computers	“Computers have really opened up the doorway for me, manual labor is not going to be a fit for me.” (Sulli)	
		Supportive work environment	“ . . . if I have a problem here its like I can speak up and say, ‘hey, that doesn’t work for me’ . . . and its ok.” (Sally)	
		Transportation	“I ended up living close by at an apartment here so I could get to work in my chair.” (Phil)	
		Accessibility of environment	“I’ve just gotta have a desk I can get my knees under.” (Sulli)	
	Motivation	<i>Extrinsic</i>	Encouragement from others	“I wanted to be a teacher, and then I met people in the rehab program and I liked them so much that it made me want to go into their program and get a degree.” (Sally)
			Role models	
			Health insurance	“I applied for Blue Cross and they sent me a letter that said, ‘you are a quadriplegic and you do not qualify.’ So I didn’t have insurance for about a year. So that was a big influence to go back to work.” (Sulli)
			Financial benefit	“You can’t survive on \$600 a month from the government” (Phil)
		<i>Intrinsic</i>	Wanting to be independent/normal	“ . . . the first thing somebody asks you is, ‘what do you do?’ and you don’t want to say, ‘I’m a bum, I live off the government.’” (G-man)
			Wanting to work	“I didn’t really think of an alternative. I just figured that was what I was supposed to do . . . I’m not sure I had to make a conscious effort to do it.” (Phil)
			Strong work ethic	“I was motivated to do it. If someone is . . . particularly motivated to do something, things may occur that can prevent that, but most likely I’ll do what I can to get there.” (Phil)
Challenge the stigma that people with disabilities do not work			“ . . . there’s still a stigma out there that a lot of people with disabilities don’t work and aren’t expected to work and I wanted to say . . . ‘of course I work!’ but there’s still people out there who assume people with disabilities just sit around and draw a check . . . (Sally)	
Contributing to society			“I love what I do and I think I’m having an impact . . . I like being part of the world and I would’ve been the same had I not been injured, I just took a different path.” (G-man)	
Ambition			“I was very ambitious. I never thought about not working.” (G-man)	
Enjoyment			“I like being productive, plus it keeps you from sitting around and getting fat.” (Sulli)	
Not wanting to give up			“If I hadn’t come back to work? That’s a good question, I don’t know. Who knows if I would even be alive . . . ” (Phil)	

(continued)

Table 2. Continued

Theme	Sub-theme	Codes	Illustrative quotes
Challenges	Stamina		“I have to do all the stuff everybody else has to do to get ready for work, plus stuff related to my disability so you do that every day and you get tired . . .” (G-man)
	Body gets worn out		
	Scheduling		“Just that gettin’ up every day, Monday through Friday . . . and then on Saturday and Sunday you’re gettin’ ready to go back to work on Monday!” (Sally)
	Other health conditions		“I’m having shoulder problems from all the driving and transferring and I’ve got more pain. It wears out your body too . . .” (G-man)
	Bladder and bowel control		“You gotta work to get to a place where you have endurance, stamina, bowel and bladder, that’s a big part of it.” (Sally)
Benefits	Being underestimated		“people would underestimate me because I had a disability. some people think because you have a physical disability that you have a mental disability too . . .” (G-man)
	Take pride in work/Self-esteem		“I’m proud that I’ve worked and maintained a job just like other people.” (Sally)
	Have a social network		“ . . . The advantage of working is the network of people that you have around . . . if you’re without work you’re socially isolated . . . if you sat at home the world would be much smaller . . .” (G-man)
	See different perspectives		“ . . . work allows you to see a different perspective than if you were just at home.” (G-man)
	Keep mind active		The positive is it keeps your attitude right, keeps you focused, keeps you sharp.” (G-man)
	Keep body active		I think its helped me health-wise because I’m pushing [my wheelchair] every day . . . I’m constantly moving, I think its healthier than just sitting around all day watching TV.” (Sulli)
	Not being bored		“You get bored during the day . . . so why not do something and get paid?” (Sulli)
	Positive outlook		“I’ve got at least six or seven friends that have passed away, and a large part of those were people who <b>gave up on life</b> and stayed home after they were injured. They <b>never got a job</b> , they tried to live off the government and <b>so they just withered away</b> . . . they did not maintain themselves . . . I think the good part of work is what keeps you going.” (G-man)

challenge because he travels and is not always working in an office. “I have to do all the stuff everybody else has to do to get ready for work, plus stuff related to my disability so you do that every day and you get tired, so that’s why I drink diet Mountain Dew (laughs)”.

Participants also identified some physical challenges that they had to overcome in order to work successfully. Two participants identified bladder and bowel control as a challenge for working. Most people with spinal cord injuries have a scheduled program for their bowel and bladder evacuations. Learning what schedule works best for them is a process of trial and error, but it is an essential component for being able to work with a SCI, as participants identified. Sally described the skill set needed to return to work by saying, “You gotta work to get to a place where you have endurance, stamina, bowel and bladder, that’s a big part of it”. Sulli also stated, “You always have that fear of the bowel . . . you learn to control it but there is always going to be that time when something happens . . .”.

Participants also mentioned their body wearing out by working as a physical challenge. Some described this as a trade-off because working was beneficial, but also caused some wear and tear. In G-man’s case, his shoulders were problematic. “I’m having shoulder problems from all the driving and transferring and I’ve got more pain . . . it wears out your body too, so it’s kind of a give and take”.

Apart from physical challenges related to working with a disability, participants also mentioned some prejudices that they encountered in their work about people with disabilities. G-man frequently felt that his co-workers were underestimating him.

He would constantly over-prepare in order to prove himself. He believed that this was related to a myth that people with physical disabilities also have cognitive impairments. “People would underestimate me because I had a disability . . . some people think because you have a physical disability that you have a mental disability too . . . in the court room it worked to my advantage because I was always prepared . . .”. During the job seeking process, G-man also encountered challenges from employers because there is a myth that people with disabilities can live on government support alone. “. . . by the time I got to the management partner I’d had good interviews with all the other lawyers in the firm and he asked me, ‘why do you need to work, you can live off the government?’ I knew I didn’t get the job after he said that . . .”.

#### *Benefits of working*

When approaching this project we held the assumption that working is good and has benefits to the person who is working. Recognizing this bias we asked participants what they believed the benefits were, if any, to working with SCI. Participants’ stories confirmed that our biases were correct as participants named a number of positive benefits of working. Benefits that were identified by multiple participants fell into two categories: physical wellbeing and mental wellbeing. Despite their identification of finances as a motivating factor, only one participant identified money as a benefit of working. Some participants stated that they had never considered not working and it was evident based on facial expression and tone that work was overwhelmingly good and not working was almost unimaginable.

G-man, who has a large network of friends and acquaintances with disabilities, gave the best explanation of overall benefits of working with a physical disability.

I've got at least six or seven friends that have passed away, and a large part of those were people that gave up on life and stayed home after they were injured. They never got a job, they tried to live off the government and so they just withered away . . . they did not maintain themselves . . . I think the good part of work is what keeps you going.

Physical wellbeing was frequently mentioned as a benefit of working. G-man mentioned that it keeps your body and mind active and keeps your attitude in check. Sulli commented that physical wellbeing was a benefit. "I like being productive, plus it keeps you from sitting around and getting fat . . . I think it's helped me health-wise because I'm pushing [my wheelchair] every day . . . I'm constantly moving, I think it's healthier than just sitting around all day watching TV".

Benefits of working that fell into the category of mental wellbeing included self-esteem, having a positive outlook and being able to take pride in your work. Phil added that without working he couldn't imagine what his life would be like. "If I hadn't come back to work? That's a good question, I don't know. Who knows if I would even be alive . . ." Participants also mentioned not being bored as a positive effect of working. Sulli remembered his thought process, "You get bored during the day . . . so why not do something and get paid?" Sally in particular mentioned pride and self-esteem as benefits of working. "I'm proud that I've worked and maintained a job just like other people".

In addition to his opinion that working keeps your body and mind active, G-man identified having an expanded social circle as a beneficial aspect of working. The benefits of this social circle fell into two components, seeing different perspectives and learning opportunities.

. . . The advantage of working is the network of people that you have around . . . if you're without work you're socially isolated . . . if you sat at home the world would be much smaller . . . work allows you to see a different perspective than if you were just at home.

G-man also mentioned that there are benefits to having peers with disabilities because you can learn from them. "I've been in a chair for 31 years but I can still learn something from somebody that may have been newly injured because they're teaching new things and there are new products that I might not be aware of".

## Discussion

The aim of this study was to explore the factors facilitating four adults with traumatic SCI rejoining the workforce in an urban area of the southern USA. The study specifically focused on understanding the role of individual functional, personal, institutional, and other identified factors and the interplay of these factors in facilitating adults with traumatic SCI rejoining the workforce. It was clear through the interviews with participants and identification of assistive devices there are clear facilitators for RTW after SCI, including extrinsic and intrinsic motivation, assistive services and perceived benefits.

Thus, the participants in this study identified four main factors associated with RTW after SCI: resources, motivation, challenges and benefits. Some of these factors were similar to those identified by previous research: the challenge of medical problems, usability of adaptive equipment, and the role of social

support and environmental factors [6–8]. Interestingly, the participants in this study did not mention some of the factors most strongly correlated with RTW as revealed in previous survey-based research. For instance, functional level, education level and age were identified as very important factors in RTW [6,11]. However, participants in this study were more focused on the benefits of RTW and their positive experiences with RTW than the influence of education, functional level or age. In particular, participants emphasized the belief that work prevents social isolation, which is important for individuals with SCI. They also discussed how that helped them see themselves as being able to continue contributing to society. Of note, being a contributing member of society was not identified in our review of literature as a facilitator for RTW, though previous qualitative inquiry from New Zealand identified "potential benefits of working" as an important theme from both the positive and negative perspective of RTW [10].

Results of this study indicate that the experience of RTW with SCI, while unique for each person, has some similarities across the participants. It became obvious that the available resources for RTW assistance such as state-funded assistance programs and vocational rehabilitation in particular were valuable in RTW and maintaining employment for these individuals. Previous qualitative research in this area has identified early access to supportive services as an important predictor in successful RTW; however, the economic structure and available resources of different countries may influence the application of these findings [8]. Challenges concerning the physical environment, health problems and attitudes of employers were also important influences. Impact of the physical environment is in agreement with previous USA-based qualitative research, which is important to note because of the potential impact of legislation on accessibility which may vary by country [9].

The most unique finding of this study is the role and the degree of motivation that the participants had for RTW. Participants identified both intrinsic and extrinsic motivating factors for RTW after SCI. These factors are not easily identified through survey-based research, but appear to be important factors in the RTW process after SCI. Results from our cohort were similar in this manner to previous USA-based research which showed that intrinsic motivation, optimism and self-esteem were important factors influencing RTW for individuals with SCI [9]. While it is difficult to determine how a person becomes intrinsically motivated, we observed that participants received extrinsic motivation from family members as well as rehabilitation professionals and community members, such as athletic coaches. Identification of rehabilitation professionals as a potential influence for RTW success after SCI is important, as this role is not well-defined in the allied health field.

Results of this study have implications for rehabilitation strategies and access to support services. Given the major influence of motivation, it may be beneficial for people who have sustained SCI to receive early and consistent counseling about their potential for future employment. This population may also benefit from techniques such as motivational interviewing to identify potential access points for increasing motivation. Participants identified state-funded programs in both early treatment and long-term support resources, which was in agreement with the qualitative studies conducted in the US and other countries. Based on these findings, it is important to ensure that patients are made aware of these available resources and are guided through the process of obtaining and maintaining them.

There are a few potential limitations of this study that may make the results not transferable to all adults with SCI. The sample for this study was small and included individuals who successfully returned to work. Our participants were residents of a

larger metropolitan area with an active job market and level of commerce, they had all sustained their injuries >20 years ago and may have a significantly different experience in their recovery than individuals who sustain a SCI present-day. Therefore, the results of this study should be viewed as providing exploratory grounds for more substantive investigations of RTW after SCI for adults.

We also asked participants to self-identify their assistive devices. When we analyzed the photographs later, we found that there were other assistive devices in the photographs that had not been identified by the participants. However, these devices may not have been perceived as important for RTW after SCI for these individuals. It may be useful to observe this population at work in order to identify more assistive devices, as well as reveal other factors that support their work that may not have been self-identified by the participants.

Future research is necessary to obtain a more complete set of information concerning RTW after SCI. In particular, it would be beneficial to gain a better understanding of the factors affecting the high level of internal motivation observed in our group. Participants also identified external motivation from therapists, family and community members. Further research may benefit from identifying how these external motivators view themselves as a potential influential factor. This information can inform rehabilitation professionals, family members and friends about their potential role in facilitating RTW after SCI.

It may be useful to also study adults with SCI who have not successfully returned to work. This was beyond the scope of the current study; however, this information may help explore the issue from the negative perspective. Additionally, expanding the focus to adults with other types of disabilities, including congenital disabilities or injuries sustained in childhood, may be beneficial in order to more fully describe the experience of RTW when a person has had a very long-term disability.

## Conclusion

This qualitative study identified four main factors related to RTW after SCI: resources for finding and maintaining employment, motivation for returning to work, challenges to returning to work and benefits of working. This information is beneficial for several reasons. First, it supports the existence of state-funded programs to assist people with disabilities. Second, it identifies potential avenues for influencing motivation for RTW. Third, it exposes some of the challenges to working with adults with SCI, many of which may be modifiable, in particular assistive devices, technology and environmental changes. Finally, it identifies the role of the rehabilitation professional as an influence for RTW. These factors should be kept in mind during the rehabilitation process and should be evaluated for individual patients in the RTW process.

## Acknowledgements

We would like to sincerely thank Heather Hathorne for her contribution in conducting and coding interviews.

## Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article. Funding for this project was provided, in part by the National Institute on Disability and Rehabilitation Research (NIDRR No. H113E120005).

## References

1. Brault M. Americans with disability: 2005, current population reports. Washington, DC: US Census Bureau; 2008:70–117.
2. Hunt H, Habeck RV, Owens P, Vandergoot D. Disability and work: lessons from the private sector. In: Mashaw JL, Reno V, Burkhauser RV, eds. Disability, work and cash benefits. Kalamazoo (MI): Upjohn Institute for Employment Research; 1996:245–72.
3. Lidal IB, Huynh TK, Biering-Sorensen F. Return to work following spinal cord injury: a review. *Disabil Rehabil* 2007;29:1341–75.
4. Ottomanelli L, Lind L. Review of critical factors related to employment after spinal cord injury: implication for research and vocational services. *J Spinal Cord Med* 2009;32:503–31.
5. Potts B. Disability and employment: considering the importance of social capital. *J Rehabil* 2005;7:20–5.
6. Tomassen P, Post M, van Asbeck F. Return to work after spinal cord injury. *Spinal Cord* 2000;38:51–5.
7. Valtonen K, Karlsson AK, Alaranta H, Viikari-Juntura E. Work participation among persons with traumatic spinal cord injury and meningomyelocoele. *J Rehabil Med* 2006;38:192–200.
8. Bergmark L, Westgren N, Asaba E. Returning to work after spinal cord injury: exploring young adults' early expectations and experience. *Disabil Rehabil* 2011;33:2553–8.
9. Chapin MH, Kewman DG. Factors affecting employment following spinal cord injury: a qualitative study. *Rehabil Psychol* 2001;46:400–16.
10. Fadyl JK, McPherson KM. Understanding decisions about work after spinal cord injury. *J Occup Rehabil* 2010;20:69–80.
11. Yasuda S, Wehman P, Targett P, et al. Return to work after spinal cord injury: a review of recent research. *NeuroRehabilitation* 2002;17:177–86.
12. Stake RE. Qualitative research: studying how things work. New York (NY): Guilford Publications, Inc.; 2010.
13. Creswell JW. Qualitative inquiry and research design: choosing among five approaches. 3rd ed. Thousand Oaks (CA): Sage; 2013.
14. Moustakas C. Phenomenological research methods. Thousand Oaks (CA): Sage; 1994.
15. Given LM. The sage encyclopedia of qualitative research methods, vol. 2. Thousand Oaks (CA): Sage; 2008.
16. Hatch JA. Doing qualitative research in education settings. Albany (NY): State University of New York Press; 2002.
17. Creswell JW. Research design: qualitative, quantitative, and mixed-methods approaches. Thousand Oaks (CA): Sage Publications; 2009.
18. Morse J, Richards L. README FIRST: for a user's guide to qualitative methods. Thousand Oaks (CA): Sage Publications; 2002.
19. Giorgi A. Phenomenology and psychological research. Pittsburgh (PA): Duquesne University Press; 1985.
20. American Psychological Association. Ethical principles of psychologists and code of conduct: including 2010 amendments, cited 24 August 2013. Available from: <http://www.apa.org/ethics/code/index.aspx> [last accessed 24 Aug 2013].
21. National Spinal Cord Injury Statistical Center (NSCISC). Spinal cord injury facts and figures at a glance, February 2011, Birmingham, Alabama. Available from: <https://www.nscisc.uab.edu/>.

**Appendix 1**

Topic question	Probing items
Please describe your injury	Age at onset Severity Rehabilitation experience
Why did you decide to return to work?	Previous employment Education Enjoyment Community
What influenced you to return to work?	People Benefits
What do you use to help you work?	Mobility Computer Assistive technology
Describe experience finding work after injury	Duration Number of interviews Emotions Reactions from hiring personnel
What resources were helpful in the process?	Financial Vocational rehabilitation Location Education
Describe challenges when returning to work	Attitudes Mobility Transportation Health problems Financial
How will returning to work affect you long-term?	Physical Mental Spiritual Financial
What advice would you give people in a similar situation as yourself?	Resources Employment type Education