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Describing pathways for return to work following spinal cord injury

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Abstract.
BACKGROUND: Spinal cord injury (SCI) frequently occurs in working-aged adults. Following SCI, return to work (RTW) is complex.
OBJECTIVE: To describe RTW pathways for people with SCI in New Zealand.
METHOD: Data from interviews of people with SCI were analysed using conventional content analysis and themes were developed. These themes were used to develop a graphic that described RTW pathways.
RESULTS: Three groups of participants were identified: those who had returned to work, those who would work when they were ready and those where work seemed too far off. Among the first two groups, the themes of constantly recalibrating expectations, having a supportive employer, control/autonomy over work role, exploring options, maintaining hope and knowing work will be there when I am ready, were prevalent. For participants where work seemed too far off, two themes, I don't know if I can work and rehabilitation is my priority, were identified. The resulting model highlighted that RTW pathways following SCI are complex and non-linear.
CONCLUSION: While RTW may be reasonably straightforward for some, for others it can be more circuitous and difficult to navigate. Therefore, vocational rehabilitation programmes should consider where the individual is on the RTW pathway and provide appropriate individualised interventions.

Keywords: Spinal cord injury, return to work

1. Introduction

Spinal cord injury (SCI) most frequently occurs in working-aged adults. Physical impairments following SCI result in many using a wheelchair for mobility and requiring assistance from others for activities of daily living. This can have a major impact on mental health and well-being as well as complicating accessibility and availability for work (Dorsett & McLennan, 2019).

The reported worldwide employment rate following SCI is 38%, with a variation between countries between 10% and 61% (Post et al., 2020). In a small NZ-based survey, RTW rates were 54% (Snell et al., 2021). This rate is similar to previous NZ (Paul et al., 2013) and Australian studies (Borg et al., 2021) where post-injury employment rates of 49% and 50% respectively were reported. In a systematic review, Trenaman et al. (2015) found that education, vocational rehabilitation, functional independence, social

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support and financial disincentives were all modifiable factors associated with employment outcomes following SCI. Therefore, vocational rehabilitation is provided to people with SCI to assist with improving RTW outcomes, often within weeks following injury (Hilton et al., 2017; Middleton et al., 2015). Bloom (2020) has identified that an individual's willingness to engage with vocational rehabilitation services can be interpreted more fully when a framework such as the Stages for Change model (Prochaska et al., 1992) is used. The use of the Stages of Change model ensures that an individual's readiness to think about work is identified as a stage rather than a dichotomous outcome. The five stages within the Stages of Change model: pre-contemplation, contemplation, preparation, action and maintenance demonstrates how the health behavior changes to more action orientated and immediate with progression through the stages. For individuals with SCI, their readiness to engage in RTW discussions and goal setting may influence their RTW pathway as many vocational rehabilitation services are outcome-based and/or time limited.

Some work has focused on understanding pathways for RTW after SCI. Marti et al. (2017) identified four distinct employment pathways following SCI: pathway of no paid work, pathway of retraining, pathway of job adaptation and pathway of continuing work. They found that individuals on the pathway of no paid work had difficulties changing their employment identity and thus had no clear vocational options on discharge from initial rehabilitation. In comparison, individuals on the other pathways demonstrated high willingness and engagement in developing new vocational prospects/identities (pathway of retraining) and a high desire RTW either in an adapted role (pathway of job adaption) or previous role (pathway of continuing work) (Marti et al., 2017). Hilton (2014) described three pathways to employment following SCI: Stable Employment, Unstable Employment and Without Employment. Hilton described the need for some to re-think, re-create and/or retrain before RTW can be achieved, often making the RTW pathway less clear and more difficult to navigate. Similar to Marti et al. (2017) Hilton found that those who gained employment demonstrated motivation and a willingness to problem-solve and deal with adversity as it arose (Hilton, 2014). The pathways suggested by Marti and colleagues and Hilton infer that employment pathways are linear and progressive (Hilton, 2014; Marti et al., 2017), which may not always be the case. Neither studies identified how, why or when individual's moved from one pathway to another. While not describing pathways to RTW, Holmlund et al. (2018) conceptualizes the RTW process following SCI as dynamic and encompassing a series of events, transitions and phases, that can include interactions with others in the environment (Holmlund et al., 2018). Given this dynamic process, and previous research (Hilton, 2014; Holmlund et al., 2018; Marti et al., 2017) this study aimed to explore RTW pathways for people with SCI in NZ.

2. Methods

Interviews with people who had sustained a SCI were conducted in between April and June 2020. The methodology for the interviews is described fully elsewhere and summarized here (Martin et al., 2022). The interview study sits within a broader study called the Early Vocational Rehabilitation in Neurological Conditions (EVocS) study (Dunn et al., 2021). All participants gave their informed consent prior to participation in the study. The EVocS study has ethical approval from the University of Otago Human Ethics Committee (ref H19/170).

To ensure a representative sample, potential participants were identified from the NZ Spinal Trust Vocational Rehabilitation Services database were purposively selected to be invited to participate in the study. Inclusion criteria for the study were those who had sustained an SCI resulting in admission to a NZ spinal unit at least three months and no more than 4 years previously, were a NZ resident, were aged between 18 and 65 years at the time of SCI or wished to RTW after 65 years of age), were employed at the time of SCI, and were able to participate in interviews in the English language. Purposive sampling from this group of potential participants included both men and women with a range of ethnicities, SCI impairment levels and employment roles as well as those who had and had not returned to work.

Following recruitment, participants were interviewed by one researcher (RM) online via a video-conferencing system or for those who were still inpatients, in the respective spinal unit. Interviews were digitally recorded, transcribed verbatim and anonymised. Demographic information related to personal and health information and employment was also collected.

Data analysis for the interviews was performed using a conventional content analysis approach

initially described by Hseih and Shannon (2005). Following the method described by Erlingsson and Brysiewicz (2017) CB and JD read and re-read the first five interview transcripts and from this developed preliminary codes. The text was coded to describe the participant's current thoughts about RTW, RTW situations, and any steps already taken to RTW. The remaining transcripts were coded by CB using the agreed coding structure. New codes were added when data that did not fit into any existing code was encountered. To ensure rigour and trustworthiness, 30% of the remaining interviews were coded by both researchers (CB and JD) and reviewed and checked by both. There were no disagreements between reviewers for allocation of participants into their RTW groups, and while no formal quantification of disagreement of coding was performed, it is estimated that there was less than 20% divergence of coding which was resolved through clarification and discussion. Once all transcripts were coded, data within that code was examined. Some codes were combined, and others split into subcategories. The final codes were organized into RTW pathways and the graphic developed.

For analysis of the demographic information, participants were asked their SCI level and whether they were a complete or incomplete SCI. This was then classified into either tetraplegia (any SCI between C0 – C8), paraplegia (any SCI between T1 – L1) or cauda equina/sacral (any SCI between L2 – S5). The two categories tetraplegia and paraplegia were then further divided into complete and incomplete. They were asked to categorise their mobility status into four categories: 1) uses a wheelchair for all mobility or is able to stand/walk for exercise only; 2) household walker; 3) limited community walker; or 4) community walker who does not require a wheelchair. The participant's role prior to their SCI (and following SCI if they were back at work) was recorded and then classified by the research team according to the major group classification of the Australian and New Zealand Standard Classification of Occupations, 2021 (https://www.abs.gov.au/statistics/classifications/anzsco-australian-and-new-zealand-standard-classification-occupations/2021). In this classification there are eight major groups ordered by skill/qualification level. These are: 1) managers/executives, 2) professionals, 3) technicians and trades workers, 4) community and personal service workers, 5) clerical and administrative workers, 6) sales workers, 7) machinery operators and drivers and 8) labourers.

3. Results

3.1. Participant characteristics

The demographic and clinical characteristics are shown in Table 1. The mean age of the participants (52 years) is slightly younger than that reported for the wider NZ SCI population (55 years) (New Zealand Spinal Cord Injury Registry, 2020). The gender mix (67% male) is lower than that estimated in the wider NZ SCI population (72% male). Just under half the participants (43%) had RTW at the time of interview.

3.2. Analysis of interviews

The participants ($n = 30$) fell into three groups: 1) I am back at work ($n = 13$), 2) I will work when I am ready ($n = 12$), and 3) Work seems too far off ($n = 5$). The demographics of the participants in each of the three groups are shown in Table 2. The participants in the 'I am back at work' group were, on average, slightly older (54 years) compared to the participants in the 'I will work when I am ready (51 years) and 'work seems too far off (47 years). They were also slightly longer post-injury (mean 17 months) than participants in the other two groups (mean 8 months and 9 months respectively). When looking at neurological level over three quarters (77%) of those in the 'I am back at work' group were incomplete (tetraplegic incomplete 30%; paraplegic incomplete 46%) compared to the 'I will work when I am ready group' where 83% were paraplegic complete and the remainder were paraplegic incomplete. In the 'work seems too far off' 80% ($n = 4$) of the participants were tetraplegic (complete $n = 2$; incomplete $n = 2$), with the other participant in this group a complete paraplegic. Mobility status differed between the groups with just under 50% of the 'I am back at work group' ($n = 6$) describing themselves as independent community ambulators not requiring a wheelchair, compared to 16% ($n = 2$) of the 'I will work when I want to' group and none of the 'Work seems too far off' group. Conversely, 80% ($n = 4$) of the 'work seems too far off' group used a wheelchair for all their mobility, compared to 23% ($n = 3$) in the "I am back at work' group and 8% ($n = 1$) in the "I will work when I want to' group.

Participants in the 'I am back at work' group all had attained qualifications with nine participants (69%) having a tertiary qualification, two participants (15%)

Table 1
Demographic and clinical characteristics of the study population with reference to the wider New Zealand SCI population

	Interview study ($n = 30$) n (%)	NZ SCI population[1]
Demographic characteristics		
Age [(y), mean (SD), range]	52 (11), 21–67	55 years
Sex (male)	20 (67%)	72%
Ethnicity		
New Zealand European	18 (60%)	48%
New Zealand Māori	3 (10%)	22%
Other	9 (30%)	30%
Clinical characteristics		
SCI cause (traumatic)	26 (87%)	68%
SCI type		
Tetraplegia	18 (60%)	
Paraplegia	12 (40%)	
Mobility status		
Full-time wheelchair user	12 (40%)	
Mix of wheelchair and walking	5 (17%)	
Community walker	13 (43%)	
Returned to work following SCI (yes)	13 (43%)	

[1]New Zealand Spinal Cord Injury Registry 2020; SCI = Spinal Cord Impairment/injury.

having other post-secondary school qualifications, and one participant (8%) having secondary school qualifications. Whereas in the 'I will work when I am ready' group, seven participants (58%) had secondary school qualifications, three participants (25%) had other post-secondary school qualifications, and one participant (8%) had no qualifications. No participant in this group had attainted tertiary qualifications. In the 'work seems too far off' group three participants (60%) had secondary school qualifications, one participant (20%) had no qualifications, and one participant (20%) had tertiary qualifications. These qualifications are reflected in the pre-injury roles that individuals held with nearly half of the participants in the 'I am back at work' group holding executive/managerial ($n = 3$, 23%) or professional ($n = 3$, 23%) roles. Of the remaining participants in this group the roles held were technical/trades ($n = 2$, 15%), community/personal service ($n = 2$, 15%), clerical/administration ($n = 1$, 8%), sales ($n = 1$, 8%) and machinery operator/driver ($n = 1$, 8%). In comparison, those in the 'work seems too far off' group, held roles in technical/trades ($n = 5$, 42%), community/personal service ($n = 2$, 17%), machinery operators/drivers ($n = 2$, 17%), executive/managers ($n = 1$, 8%), clerical/administration ($n = 1$, 8%) and labourer ($n = 1$, 8%). Similarly, those in the "I will work when I am ready' group held a variety of roles including technical/trades ($n = 2$, 40%), executive/managerial ($n = 1$, 8%), community/personal service ($n = 1$, 8%) and machinery operators/drivers ($n = 1$, 8%). For those in the 'I am back at work' group, all had resumed work with their pre-injury employer, but some had changed roles.

For the participants in the 'I'm back at work' group the themes 'constantly recalibrating expectations', 'having a supportive employer' and 'control/autonomy over work role' applied. Most participants articulated that they had supportive employers and a large amount of autonomy or control over both their RTW process and roles they identified as possible for them to resume following SCI. However, all reinforced that their expectations regarding the time they thought it would take them to RTW following injury were often unrealistic, requiring constant recalibration.

Those participants in the 'I will work when I am ready' group all voiced positive expectations that they would be able to RTW when they felt they were ready/able to do so. For some, this was to their pre-injury employer, while others articulated other options that could be available to them. The themes 'exploring options', 'maintaining hope' and 'knowing work will be there when I am ready' were prevalent for this group. Finally, for those participants in the 'Work seems too far off' group, there were two main themes: 'don't know if I can work' and 'rehabilitation is my priority'. A number of these participants expressed that they were unable to see whether they would be able to work again or not. Participants in this group stated that RTW was not a priority, wanting to concentrate on their physical rehabilitation. Illustrative quotes from the interviews for each of the themes are shown in Table 3.

Table 2
Demographic and clinical data of return to work groups

Demographic	I am back at work ($n = 13$)		I will work when I am ready ($n = 12$)	Work seems too far off ($n = 5$)
Age (mean, range)	54 years (range 34 – 67 years)		51 years (range 22 – 63 years)	47 years (range 21–57)
Sex				
– Male	7		9	4
– Female	6		3	1
Months following SCI (mean, range)	17 months (range 4 – 41 months)		8 months (range 4 – 11 months)	9 months (range 7 – 15 months)
Neurological level				
– Paraplegia incomplete	6		2	0
– Paraplegia complete	2		10	1
– Tetraplegia incomplete	4		0	2
– Tetraplegia complete	0		0	2
– Unspecified	1		0	0
Current ambulation status				
– Wheelchair or able to stand/ walk for exercise only	3		1	4
– Household walker	1		4	1
– Limited community walker	3		5	0
– Community walker, no wheelchair	6		2	0
Highest educational qualification				
– No qualifications	0		1	1
– Secondary school	1		7	3
– Tertiary qualifications	9		0	0
– Other post-secondary school qualifications	2		3	1
– Unknown	1		1	0
Work status prior to injury				
– Worked full-time	13		12	4
– Worked part-time				1
Employment category	Prior	Current	Prior	Prior
– Executive/managerial	3	3	1	1
– Professional	3	3	0	0
– Technical/trades	2	1	5	2
– Community/personal service	2	1	2	1
– Clerical/administration	1	4	1	0
– Sales	1	1	0	0
– Machinery operators/drivers	1	0	2	1
– Labourers	0	0	1	0
Work status after injury				
– Working full-time	5			
– Working part-time	8			

3.3. Describing the pathways of return to work following SCI

When articulating the pathways for RTW following SCI, data from the interviews illustrated that the journey from injury to RTW was often not linear, and the stages within the process progressed at different rates for each individual. Many participants described facilitators and barriers within their RTW pathway irrespective of what RTW group they were in. To help conceptualise how the various themes operated to influence RTW pathways following SCI, we developed a pictorial diagram modelled off a snakes and ladders board (Fig. 1). However, instead of snakes and ladders, we have used elevators (can go directly between levels without having to stop), escalators (slower movement between levels stopping at each level) and travellators (movement within levels) to show that an individual's pathway can involve upward progression (both within and across different levels), horizontal progression (or forward momentum) through a level, or in some cases it may involve moving down or backwards.

Importantly, the model shows that the direction and speed of an individual's progression through the three groups ('I am back at work', 'I will work when I am ready', 'work seems too far off') can change depending on a variety of factors influencing the individual

Table 3
Themes with examples

Themes	Example quote
"I am back at work" group ($n = 13$)	
Constantly recalibrating expectations. Having a supportive employer. Control/autonomy over work role.	"… my expectations, when I first had the accident, was 'I'm gonna be back at work in three months,' and **I guess I had to reframe that** and say, 'Oh, it's probably thirteen months,' so." [SCI 30, executive, incomplete paraplegia] "Our offices are up a set of stairs and so the Chairperson of the Board identified immediately that I might struggle with that, … she was immediately, 'You'll work from home until you're satisfactory to get up there,' so once again, **really responsive to my issues**, yeah." [SCI 25, executive, incomplete paraplegia] "I'm very lucky with my previous experience and my skills beforehand and knowing so many people. See, if it had of happened to me when I was an apprentice, it would be a completely different story, if you know what I mean, because I wouldn't have had that time, a lot younger, wouldn't have had experience, wouldn't have had any of the qualifications or anything like that, so it would have been a lot different and a lot harder." [SCI 19, machine operator, complete paraplegia]
"I will work when I am ready" group	
Exploring options. Maintaining hope. Knowing work will be there for me when I am ready.	"… to have [Vocational Consultant] come in and show me that there [are] **possibilities of, of work, and possibilities of things I can do**, was good." [SCI 28, driver, incomplete tetraplegia] "… that initial contact was always good because it sowed a positive seed, you know, that this will be a plan, you know, 'You will do this." [SCI 23, sales, incomplete paraplegia] "My board have been really supportive. They said, 'Take your time.' You know, so there's been no expectation on me getting back to work at any given time. So that's, yeah, allowed me to just focus on my rehab. But because I like my job, and I'm really interested in the work we do, I've sort of just been checking in, now and then. So it's felt good to not have to worry about it." [SCI 33, male, executive, incomplete tetraplegia]
"Work seems too far off" group	
Don't know if I can work. Rehabilitation is my priority.	"I'm **not in that category to sort of go back and do work**. … . Might be a couple of years down the track, or a year down the track, but nah, not now." [SCI 29, service, incomplete tetraplegia] "… every day I'll go to rehab, come back … so yeah … feels like it's still far out, too far out." [SCI31, trades/technicial, incomplete tetraplegia] "I couldn't go back to work at the moment because I don't want, I'm still not completely like what I need to be fully recover[ed], so I can walk by myself instead of using a wheelchair or the gutter frame. If I can, something like that, that's what happening to me at the moment. I really want to go back to work when I fully recover." [SCI 11, service, incomplete tetrapleiga]

at a particular point in time. Participants in the 'work seems too far off' group appeared to remain in this group while coming to terms with their new reality. They were often more focused on their rehabilitation and regaining as much independence as possible or on managing impacts of their injury such as fatigue or other medical complications rather than looking at RTW.

> "*I couldn't go back to work at the moment because I don't want, I'm still not completely like what I need to be fully recovered … I really want to go back to work when I fully recover.*" *(SCI 11)*

Movement to the next group "I will work when I am ready" was facilitated by an individual's positive outlook about the possibility of work or if they were able to obtain some certainty about work options.

> "*I have made my mind up that never mind what will happen, I will go to work one day.*" *(SCI 01)*

In the figure we have depicted the movement between the groups as either an escalator (positive outlook) or elevator (certainty about work options) to illustrate that movement may be expedited in the elevator. Individuals in the "I will work when I am ready' group exploring options for RTW is depicted with a travellator in which the individual can go either forwards or backwards as they explore different options.

> "*I've been looking at other avenues, you know, I used to be a truck driver, I used to be a builder, those sort of things are gonna take a lot to get back. So I've sort of been looking at other avenues and studying … .. there is a couple of things that I'm interested in studying.*" *(SCI 09)*

Forward progression from this level occurred if goal setting around RTW was prioritized and/or there was some control or autonomy over the work situation (escalator).

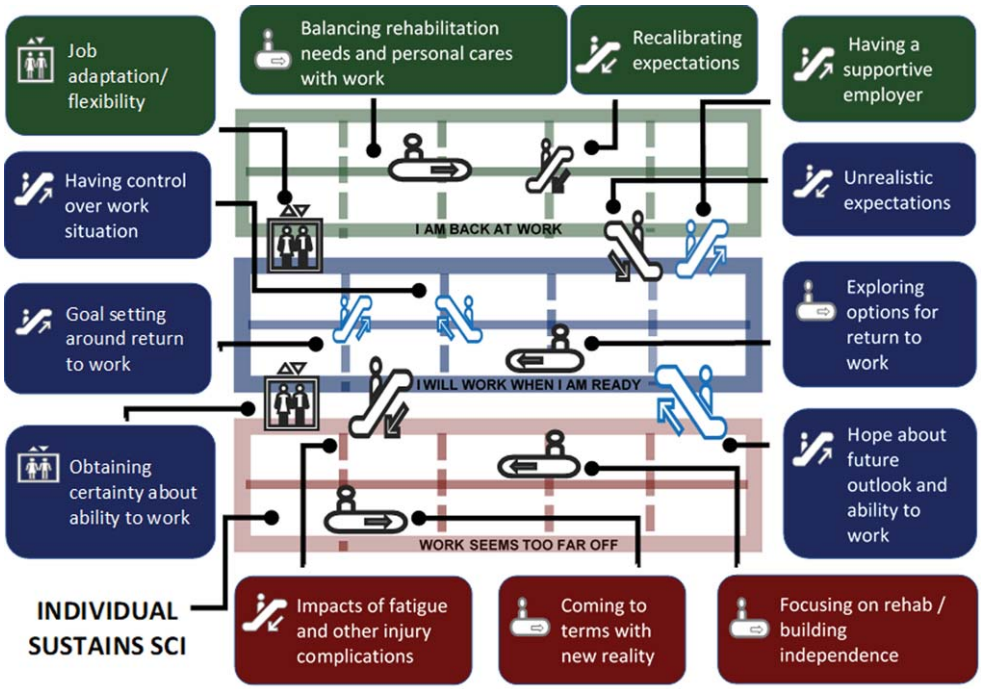

Fig. 1. Pathway of return to work after spinal cord injury.

> "*I do limited [work] from home. I can still pay the wages and some things, but my daughter . . . she's gone in and taken over the majority of my role there doing the, you know, getting things sorted that you need to be on the premises for.*" *(SCI 12)*

Faster forward momentum (elevator) to the 'I am back at work' group was seen when job adaptation/flexibility was available.

> "*My journey to go back to work has been strange 'cos when I was in spinal unit, I already have work . . . but that's unpaid work because obviously I'm not, I shouldn't work but as I said, I was involved in a few projects so unfortunately I had to be involved . . . ..then after I discharged from [the] spinal unit, then I starting with, starting with, I think 16 hours, or 20 hours and then slowly building up.*" *(SCI 26)*

Finally, for the 'I am back at work' group, issues such as balancing rehabilitation needs and personal cares often resulted in movement (either forward or backwards) as illustrated by the travellator.

> "*So I'm [working] now, five days, four days a week, basically, and then afternoon's dedicated to rehab, so whether it's a physio session, a pool session or going, ...to acupuncture once a week and stuff like that. So, and 'cos in the afternoons I'm fatigued, so it's better, I can't concentrate if I'm physically tired, so I do the physical stuff in the afternoon.*" *(SCI 13)*

For some participants, unrealistic work expectations were realized once they were back at work, resulting in recalibrating of expectations and changes to work patterns (downward escalators).

> "*After talking to [EIVS provider] when she was setting this up, she said, 'I think it's remarkable you're working 20 hours,' whereas I thought I would have been up to my 40/50 that I was prior to this, and I was, 'cos I keep thinking, you know, 'Why aren't I back to full-time work yet?' And I think I've put a lot of pressure on myself and then I think I actually just need to sit where I am for a while.*" *(SCI 13)*

4. Discussion

We have developed a visual graphic that illustrates that RTW pathways following SCI are complex and non-linear. While RTW may be reasonably straightforward for some, it can be more circuitous and challenging to navigate for others. The pathways are

influenced by various personal and environmental factors, and may involve a process of re-thinking, adaptation and/or retraining for a work role.

Findings from our study support previous work by Bloom (2020) who linked early intervention vocational rehabilitation to support RTW following SCI to the Stages of Change model (Prochaska et al., 1992). Linking the five stages of the Stages of Change model to our pathways, individuals in the 'work seems too far off' group fall within the pre-contemplation stage. In this stage, the advantages of RTW are outweighed by the disadvantages, resulting in low motivation for RTW (Franche & Krause, 2002). Similar to findings from Bloom (2020) participants in this group were focused on physical recovery and adjustment following SCI and did not prioritise RTW. In our study, participants in the 'I will work when I am ready' group fall into the contemplation stage of the Stages of Change model. In this stage, the individual is entertaining the idea of work but mostly exploring the pros and cons being less engaged in barriers and logistics but presenting with confidence and optimism (Bloom, 2020; Prochaska et al., 1992). This directly aligns with the themes of exploring options, maintaining hope and work will be there when I am ready. Finally, those in the 'I am back at work now' group represent the preparation and/or action stages with an attitudinal shift away from optimism towards realism. Individuals are able to express strategies or plans to mitigate obstacles to RTW.

Findings from our study demonstrate that participants who were in more autonomous roles and had higher educational qualifications, such as senior management or professional positions, were more likely to return to their pre-injury employment and return sooner than those in less autonomous roles. This is consistent with previous research showing that having more education and a professional role before SCI can fast-track RTW post-injury (Krause et al., 1999). Previous studies have also noted that higher and faster rates of RTW post-injury are evident in those able to return to their pre-injury employer and role underscoring the importance of connectedness to the pre-injury employment context (Middleton et al., 2015; Yasuda et al., 2002). This was reiterated by Hilton (2014) who described those with stable employment options following SCI as being more likely to be focused on achieving or maintaining work, actively pursuing opportunities that lead to employment outcomes and open and effective communication with their employer. In addition, participants in our study who had returned to work also had more functional independence, with nearly half of this group identifying as independent community ambulators (not requiring a wheelchair) compared to participants in the other two groups. This may indicate that they were less likely to require modifications to transportation, equipment or the workplace, thus decreasing the time taken to RTW.

In comparison, in our study participants in the "I will work when I am ready' group had, in general, less qualifications, less autonomy in their role and held more physically orientated roles such as technical/trades, machinery operators and labourers. Participants within this group were all paraplegic with the majority requiring a wheelchair for community mobility. Thus it could be postulated that these participants were more likely to require additional support such as modified transportation, equipment, work roles or physical work environment in order to be able to RTW. As such, the themes of 'exploring options', 'maintaining hope' and 'knowing work will be there when I am ready' resonated with this group. Some participants in this group identified the need to return to study and other identified the need for job adaptation prior to considering a RTW. These findings were also shown in the study by Hilton (2014) who described participants within the unstable employment group as having a strong motivation or desire to work, but pathways to work are less clear due to competing life demands and/or the need to recreate the worker identity.

In addition, Hilton (2014) found that participants without employment identified an ongoing struggle with grieving, a sense of loss and a lack of hope for future possibilities which impacted their RTW. This appears similar to the experiences described by participants in our 'work seems too far off' group. In our study, participants in this group all required a wheelchair for mobility (both in the home and the community), had less qualifications than participants in the other groups and were mostly in the physically orientated roles.

4.1. Limitations

This is a small study that used secondary analysis of interviews of people with SCI to describe their pathways to RTW. While we have been able to develop a model to illustrate RTW pathways, a limitation of this study is that it has not been proved that this model could be generalized to the general SCI population due to the purposive sample method combined with the small sample size. Further research

prospectively exploring thoughts and experiences on RTW would assist in further explaining the findings of this study. It is acknowledged that RTW processes not only include the individual with SCI (employee) but also the employer. This study has only explored the RTW pathways for the employee therefore further work, based on the employers' perspective may provide additional information affecting RTW pathways following SCI.

5. Conclusions

Findings from our study demonstrate that the pathways to RTW following SCI are complex, non-linear and multidirectional. While RTW may be reasonably straightforward for some, it can be more circuitous and difficult to navigate for others. Pathways are influenced by various personal and environmental factors, and may involve a process of re-thinking, adaptation and/or retraining for a work role. Vocational rehabilitation programmes should work with the individual to identify priorities and mitigate the impact of SCI on employment by provision of individualised interventions.

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Conflict of interest

The authors declare that they have no conflict of interest.

Ethics statement

The study was approved by the University of Otago Human Ethics Committee (H19/170).

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Informed consent

All participants provided informed consent for this study. To protect their anonymity, a numerical code was used for participants throughout data analysis and write-up.

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