Withdrawal from Employment Gained Post-SCI: Precipitating Factors

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Despite the high prevalence of withdrawal from employment gained post-traumatic spinal cord injury (*t*SCI), relatively few studies have examined the factors that precipitate job withdrawal. Within the context of general systems theory, the aim of the present study was to identify and classify the factors that led to job withdrawal post-*t*SCI. Using purposive sampling and a structured proforma, 30 participants completed an in-depth telephone interview. Job withdrawal was precipitated more frequently by micro-system (*person-centred*) factors or meso-system (*job-related*) factors than macro-system (*socio-economic*) factors. Micro-system factors fell into five groups (SCI-related, psychological/psychosocial, mobility, general health and knowledge/skills/abilities) as did meso-system factors (job design, psychosocial climate, ergonomics, human resources and work cycles). Two groups of macro-system factors were identified (proximal and distal). Classifying job withdrawal factors within the context of general systems theory provides an integrated framework for intervention development and furnishes decision-makers with guidance as to whether a top-down or bottom-up approach would be more feasible/beneficial to address preventable job withdrawal post-*t*SCI.

Keywords: traumatic spinal cord injury (SCI), job withdrawal, job acquisition, job retention, general systems theory

Vocational rehabilitation research has emphasised job acquisition post-*t*SCI but has somewhat overlooked job retention (Roessler, 2001). However, withdrawal from employment gained post-*t*SCI represents a substantial — albeit less-visible — employment outcome. In Australia, for example, 47% of people living with *t*SCI reported being currently employed; however, 63% also reported that they had worked at some time post-injury (see Young & Murphy, 2009). These figures imply a relatively high incidence of job loss following the initial return-to-work. A similar pattern has been reported in the United States: 27%–48% were currently employed; however, 44%–75% stated that they had worked at some time post-injury (Ghatit & Hanson, 1978; Krause, 1992a; Krause & Broderick, 2006; Krause, Sternberg, Maides, & Lottes, 1998). Unfortunately, many of the intrinsic and extrinsic benefits derived from employment are lost when individuals transition to unemployment (Krause, 1992b, 1996). While re-employment reversed the negative effects of unemployment (Kessler, Turner, & House, 1988; Morrell, Taylor, Quine, Kerr, & Western, 1994), the recovery period increased with longer unemployment duration (Liem & Liem, 1988).

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A considerable body of research has identified core demographic and injury-related factors associated with job acquisition post-*t*SCI (Krause & Anson, 1996; Krause & Terza, 2006; Murphy, Middleton, Quirk, De Wolf, & Cameron, 2011). More recently, an expanded battery of psychological, secondary health, social and environmental factors have been examined (Escorpizo, Miller, Trenaman, & Smith, 2014; Krause & Pickelsimer, 2008; Krause & Terza, 2006; Lidal, Huynh, & Biering-Sørensen, 2007; Murphy, Young, Brown, & King, 2003), which have contributed additional explained variance to the prediction of job acquisition post-*t*SCI (Murphy et al., 2011). However, considerably fewer studies have comprehensively — or exclusively — examined the factors associated with *sustained* employment. Some studies have compared the factors that predicted 'ever worked post-injury' with those that predicted 'current employment' and reported few differences between the two groups (Krause et al., 1998; Meade, Forchheimer, Krause, & Charlifue, 2011). These results may be partly methodological as the 'currently employed' subsample may variously contain people who have recently acquired a job, been continuously employed, or withdrew from employment but subsequently re-entered the workforce. Therefore, it is important to separate these two employment outcomes (Krause & Reed, 2009).

Implicit in studies that assess the influence of an extended range of factors on employment outcomes is the notion that the person and the environment 'exist only as part of nested inseparability or connectedness' (Bloch, 2005, p. 198). This notion is fully consistent with general systems theory. General systems theory posits that behaviour (or phenomena) is best viewed in its environment and, thus, focuses attention on the whole system (or entity or organisation) (Laszlo & Krippner, 1998). In contrast, specialisation has eroded communication among disciplines and obscured understanding of the whole (Boulding, 1956), which is frequently greater than the sum of its parts (Mele, Pels, & Polese, 2010). However, a general systems theory approach — which also includes interactions within systems and between systems — 'implies a dialogue between holism and reductionism' (Mele et al., 2010, p. 127). Thus, general systems theory provides a coherent framework for unifying the 'empirical universe' (Boulding, 1956) and, as such, offers both a conceptual and operational framework for better identifying and classifying the factors that precipitate withdrawal from employment gained post-*t*SCI.

Despite the acknowledged importance of the environment in labour force participation post-*t*SCI (Chan & Man, 2005; Jongbloed, Backman, Forwell, & Carpenter, 2007; Whiteneck, Harrison-Felix, Mellick, Brooks, Charlifue & Gerhart, 2004), few studies have applied general systems theory to *t*SCI vocational rehabilitation research. One notable exception segmented the work/social environment into three separate systems: (i) immediate physical and social work environment (e.g., workstation), (ii) wider physical and social work environment (e.g., factory) and (iii) socio-economic environment (e.g., labour market/legislation) (Fougeyrollas, Noreau, & Boschen, 2002). However, due to its complexity, the work environment may be best viewed as a complete system to more effectively capture the 'complex interrelationships among its constituent parts'. (Laszlo & Krippner, 1998, p. 11). Therefore, the present study proposed a classification system-based upon three hierarchical, interconnected and reciprocal systems: micro-system (*person-centred*) factors; meso-system (*job-related*) factors and macro-level (*socio-economic*) factors. Thus, within the

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context of general systems theory, the aim of the present research was to identify and classify the factors that precipitated withdrawal from employment gained post-*t*SCI.

Method

Purposive sampling was used to recruit participants. The Australian Quadriplegic Association (AQA) Victoria *e*-mailed its members with a brief overview of the study and its aims. Interested participants completed an online pre-screening survey accessed through the AQA website to gather general demographic, injury and employment data and to establish study-eligibility. To be eligible for the study, participants had to have (1) sustained a *t*SCI, (2) obtained employment post-*t*SCI and (3) subsequently withdrawn from that job. Eligible participants then completed an in-depth telephone survey. Participation was voluntary, confidential and independent of AQA membership and access to its services. Participants could also elect to go into a draw for one of three nano ipods, to be drawn at the completion of the study. This project was approved by the La Trobe Human Ethics Committee.

Sample

The sample comprised 30 participants with *t*SCI who had obtained employment post-*t*SCI but had subsequently withdrawn from that job. The majority of the sample was male (80%), aged from 20–29 years when injured (50%) and received some form of compensation (60%). Quadriplegias were more prevalent than paraplegias (58% vs. 42%) (see Table 1). Thus, the sample was broadly representative of the Australian SCI population in terms of gender, injury age and injury level (Cripps, 2008).

Measures

Employment cessation survey. Participants completed an in-depth, structured telephone survey about their post-injury job withdrawal experiences. The survey included both coded and free response items on three broad groups of factors hypothesised as critical to job withdrawal: person-centred, job-related and socio-economic. Detailed demographic and employment history information was also collected. The survey took approximately 60 minutes to complete.

Employment history. Participants provided information on their employment at three time-points: pre-injury, post-injury and current. Two indices of employment were collected: (i) work intensity (full-time, part-time etc.) and (ii) occupational status. Occupations were classified according to the Australian Standard Classification of Occupations (ASCO) (Australian Bureau of Statistics, 2013). ASCO is a skills-based classification system designed to capture all occupations in the Australian workforce. According to ASCO, 'an occupation is a set of jobs with similar sets of tasks' (McLennan, 1997, p. 5), with the proviso that 'jobs' are performed for a wage or salary. Based on skill level and skill specialisation, occupations are classified into eight major groups: (1) manager, (2) professional, (3) technicians and trade-workers, (4) community and personal service workers, (5) clerical and admin workers, (6) sales workers, (7) machinery operators and (8) drivers and labourers. Using the hierarchical groupings of Najman and Bampton (1991), ASCO categories were then classified into upper, middle and lower status jobs. Upper status jobs encompassed ASCO categories 1–3,

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TABLE 1
Sample Demographics and SCI Injury Variables

Variables		Frequency	Percent*
Gender			
Male		24	80.0
Female		6	20.0
	Total	**30**	**100.0**
Injury age			
<20 years		6	20.0
20–29 years		15	50.0
30–39 years		3	10.0
40–49 years		4	13.3
50+ years		1	3.3
Missing		1	3.3
Injury duration			
Short-term injury *(2 years to less than 5 years since injury)*		2	6.7
Medium-term injury *(5 years to less than 10 years since injury)*		3	10.0
Long-term injury *(10 years to less than 20 years since injury)*		11	36.7
Life-long injury *(20 or more years since injury)*		14	46.7
Injury type			
Complete quadriplegia		9	30.0
Incomplete quadriplegia		8	26.7
Incomplete Paraplegia		8	26.7
Complete paraplegia		5	16.7
Compensation entitlement			
No compensation		12	40.0
Motor Accident Compensation		7	23.3
Other compensation		7	23.3
Worker Compensation		4	13.3
Residence			
Suburban		15	50.0
Semi-rural		8	26.7
Urban (CBD)		4	13.3
Rural		3	10.0
Education/qualifications**			
High school only		12	40.0
Trade/apprentice/certification/licensed		12	40.0
University		7	23.3
Other/missing		2	3.3

*calculated as % of n = 30 for each option (i.e. as a % of the total sample).
**This category does not equal 100% as some participants hold multiple qualifications.

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TABLE 2

Work Intensity (Pre-Injury, Post-Injury and Current Employment)

Employment/study	Pre-injury	Post-injury[1]	Current
Employed full-time	63.3% (19)	26.7% (8)	23.3% (7)
Employed part-time[2]	6.7% (2)	43.3% (13)	33.3% (10)
Self-employed	16.7% (5)	20.0% (6)	20.0% (6)
Voluntary work[3]	0.0% (0)	3.3% (1)	6.7% (2)
Study full-time	10.0% (3)	3.3% (1)	0.0% (0)
Study part-time	0.0% (0)	3.3% (1)	0.0% (0)
Other[4]	3.3% (1)	0.0% (0)	3.3% (1)
Retired	0.0% (0)	0.0% (0)	3.3% (1)
Unemployed	0.0% (0)	0.0% (0)	10.0 (3)
Total	100.0% (30)	100.0% (30)	100.0% (30)

Notes: [1]Many participants undertook multiple jobs post-injury, however, the job listed in the post-injury category is the first one they secured following their SCI injury.
[2]Part-time work varied from 2 to 4 days per week.
[3]Many participants were involved in voluntary work but few listed it as their main occupation.
[4]Other category included GAP year and homemaker.

middle status jobs were defined as ASCO category 4 and lower status jobs comprised ASCO categories 5–8.

Statistical Analyses

For the quantitative data, simple proportions were calculated to identify (i) the proportion of the total sample that reported individual job withdrawal factors and (ii) the relative contribution made by each of the broad categories of factors within each of the three systems. For the qualitative data, content analyses techniques were used to identify job withdrawal factors and to provide relevant background information.

Results

Employment — Participants' Career Trajectory

Work intensity. Work intensity declined abruptly post-*t*SCI (see Table 2). Participants' career trajectory was characterised by a continual decrease in full-time employment (63% pre-injury; 27% post-injury; 23% currently) and an upsurge in part-time employment (7% pre-injury; 43% post-injury; 33% currently). In contrast, self-employed levels remained comparatively stable at all three measurement points (17–20%).

Occupational status. There was a continual decline in engagement in the majority (5/8) of ASCO's occupational categories over the three measurement points (see Table 3). However, there was a striking increase in professional occupations (ASCO category 2) which jumped from 13% pre-injury to 37% post-injury and remained at this level for current employment. Engagement in upper status jobs was the highest at all

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TABLE 3

ASCO Groupings of Pre-Injury, Post-Injury and Current Employment

	Occupational categories	Pre-injury	Post-injury	Current
1	Managers	20.0% (6)	16.7% (5)	13.3% (4)
2	Professionals	13.3% (4)	36.7% (11)	36.7% (11)
3	Technicians and trade-workers	16.7% (5)	6.7% (2)	0.0% (0)
4	Community and personal service workers	3.3% (1)	6.7% (2)	6.7% (2)
5	Clerical and admin workers	10.0% (3)	16.7% (5)	10.0% (3)
6	Sales workers	13.3% (4)	6.7% (2)	0.0% (0)
7	Machinery operators and drivers	3.3% (1)	0.0% (0)	0.0% (0)
8	Labourers	6.7% (2)	0.0% (0)	0.0% (0)
	Other*	10.0% (3)	3.3% (1)	16.7% (6)
	Unemployed	0.0% (0)	0.0% (0)	10.0% (3)
	Not specified/missing	3.3% (1)	6.7% (2)	3.3% (1)
	Total	30	30	30

Notes. Three extra categories were included for the present study. The 'other' category includes unpaid jobs (e.g., homemaker, voluntary work), GAP year job, study, retired.

TABLE 4

Occupational Status* (Pre-Injury, Post-Injury and Current)

Employment status	Pre-injury	Post-injury	Current
Upper	50.0% (15)	60.0% (18)	50.0% (15)
Middle	3.3% (1)	6.7% (2)	6.7% (2)
Lower	33.3% (10)	23.3% (7)	0.0% (0)

Note. *Occupational status was determined using the hierarchical classification system of Najman and Bampton (1991).

three measurement points (50%–60% of participants) whereas engagement in lower status occupations declined steadily (30%–0%) (see Table 4). These results argue for a process-oriented versus state-based approach to employment post-*t*SCI (Chapin & Kewman, 2001; Wasiak, Young, Roessler, McPherson, van Poppel, & Anema, 2007).

Person-Centred (Micro-Level) Factors

Person-centred job withdrawal factors encompassed physical, psychological and cognitive functioning. In descending order of frequency, five groups of person-centred job withdrawal factors were identified: (i) SCI-related (33%), (ii) psychological and psychosocial (27%), (iii) mobility (16%), (iv) general health (15%) and (v) knowledge/skills/abilities (9%) (see Table 5). Among the individual job withdrawal factors, qualitative analyses revealed that a critical sequelae of 'inadequate functional ability' — a key SCI-related factor cited by 30% of the sample — was perceived slowness in the execution of tasks, which often necessitated working extra (unpaid) hours.

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TABLE 5

Person-Centred (Micro-System) Factors that Precipitated Job Withdrawal

Factors	Frequency*	Percent**
SCI-related	**66**	**33.2**†
Bowel/bladder management	13	43.3
Pain management	12	40.0
Level of disability	12	40.0
Inadequate functional ability	9	30.0
Pressure sore management	4	13.3
Urinary tract infections	4	13.3
Scheduled for re-admission	4	13.3
Other self-care issues	4	13.3
Required excessive sick-leave	2	6.7
Respiratory problems	2	6.7
Psychological & psychosocial	**53**	**26.6**
Others' expectations	12	40.0
Afraid to let others down	5	16.7
Fearful of re-injury	5	16.7
Self-esteem/confidence issues	4	13.3
Lack of coping skills	4	13.3
Embarrassment	4	13.3
Frustration	4	13.3
Disillusionment	3	10.0
Lack of emotional support	3	10.0
Depression	6	20.0
Anxiety	3	10.0
Mobility	**32**	**16.1**
Wheelchair bound	16	53.3
Travel distance	12	40.0
Public transport	4	13.3
General health	**30**	**15.1**
Prone to fatigue	11	36.7
Medical complications	10	33.3
Sleep problems	6	20.0
Risk of work injury	3	10.0
Knowledge, skills and abilities	**18**	**9.0**
Required re-training	8	26.7

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TABLE 5
Continued

Factors	Frequency*	Percent**
Inadequate educational level	6	20.0
Lack of relevant skills	2	6.7
Inexperience in new role	2	6.7
Total	199	100.0

*The frequency with which the item was cited. ** Calculated as a % of the total sample (n = 30) to indicate the proportion of the sample that cited each factor. † Subtotals (bolded) are calculated as a % of the total number of items (199) to indicate the relative contribution of each broad group of factors to micro-level factors.

'I had a hard time trying to keep jobs because someone would rock up who was younger and faster and I would lose the job'

'I used to arrive at the right time but worked an extra hour to compensate for perceived speed'.

Being 'wheelchair bound' was the most frequently cited individual factor (53% of the sample). Predominant issues were impeded mobility (e.g., rugged pavements surrounding the workplace, carpeted floors), accessibility (e.g., stairs from car parks, inaccessible hotel rooms) and heightened risk of injury (e.g., tipping over) in some occupations such as, primary school teaching and journalism.

Job-Related (Meso-Level) Factors

The range and type of job-related withdrawal factors demonstrated the importance of viewing the workplace as a fully-integrated and functioning system. In descending order of frequency, five groups of job-related factors were found to precipitate job withdrawal: (i) job design (29%), (ii) psyhosocial climate (25%), (iii) ergonomics (22%), (iv) human resources (14%) and (v) work cycles (10%) (see Table 6). Qualitative analyses revealed that the psychosocial climate acted as a negative stimulus for job withdrawal whereas job design sometimes also acted as a positive stimulus for job withdrawal. Specifically, *exploitation* figured in employees' decision to withdraw from employment and was related to (a) inadequate salary, (b) lack of recognition or undervaluation of work roles, responsibilities and knowledge/skills/abilities and (3) younger age.

'I was cheap labour'

Amongst the self-employed, *discrimination* — which emanated from clients and staff — resulted in a loss of business, a lack of stable work and lower income. Similarly, exploitation by business partners (e.g., the partner took all of the clients and/or lucrative clients) and staff (who took advantage of the disability) substantially altered post-injury workplace dynamics.

'Discrimination is a daily thing — it's a constant thing that interferes with business'

'Being in a wheelchair affects the ability to get clients'

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TABLE 6

Job-Related (Meso-System) Factors that Precipitated Job Withdrawal

Factors	Frequency*	Percent**
Job design	**60**	**29.3**†
Lack of career progression/path/opportunity	14	46.7
Unsatisfying work	9	30.0
Better job offer	7	23.3
Overly boring, repetitive	6	20.0
Inadequate occupational level	6	20.0
Excessive workplace stressors	6	20.0
Physical intensity of job	5	16.7
Lack of suitable autonomy	3	10.0
Poor job design	2	6.7
Inferior to previous job	2	6.7
Psychosocial climate	**52**	**25.4**
Lack of workplace social support	18	60.0
Organisational climate	11	36.7
Local supervisors' discrimination	9	30.0
Local co-workers' discrimination	9	30.0
Target of negative workplace gossip	5	16.7
Ergonomics	**45**	**22.0**
Architecture/floor layout	12	40.0
Miscellaneous ergonomic issues	11	36.7
Distance of bathroom facilities	7	23.3
Distance of tearoom facilities	6	21.4
Facilities need modification	5	16.7
Work station unsuited to wheelchairs	4	13.3
Human resources	**28**	**13.7**
Bureaucracy of employing organisation	8	26.7
Employer hiring practices	6	20.0
Inflexible HR policies	5	16.7
Inadequate post-injury salary	5	16.7
Company lay-offs/redundancies	4	13.3
Work cycles	**20**	**9.8**
Work pace/deadlines	5	16.7
Tight work schedules interfered with self-care habits/schedules	5	16.7

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TABLE 6
Continued

Factors	Frequency*	Percent**
Work breaks too brief	3	10.0
Impossible start times	3	10.7
Inflexible work schedules	2	6.7
Not enough work breaks	2	6.7
Total	205	100.0

*The frequency with which the item was cited. ** Calculated as a % of the total sample ($n = 30$) to indicate the proportion of the sample that cited each factor. † Subtotals (bolded) are calculated as a % of the total number of items (202) to indicate the relative contribution of each broad group of factors to meso-level factors.

In contrast, accepting another position that promised *greater job satisfaction/responsibilities/challenges* as well as *job security/stable income* prompted the decision to withdraw from a (comparatively lesser) job.

Socio-Economic (Macro-Level) Factors

Two groups of macro-level factors were identified: distal (49%) and proximal (51%) (see Table 7). Distal factors focused on the wider socio-economic environment (e.g., economy, societal attitudes and government policies) while proximal factors focused on the immediate socio-economic environment (e.g., financial and interpersonal). Qualitative analyses revealed that macro-level factors (i.e., government policy) directly impacted meso-level factors (i.e., workplace hiring practices) via an implicit relationship with micro-level factors (i.e., SCI-related issues). Specifically, *government-level policies* and issues were viewed as exerting a negative influence on employment durability post-SCI due to 'new public management' in recent years which resulted in a shift to employment-based on merit and, unfortunately, the definition of merit clashes with diversity policy.

Discussion

Within the context of general systems theory, the aim of the present study was to identify and classify the factors that precipitated withdrawal from employment gained post-*t*SCI. Job withdrawal factors fit into three hierarchical, interconnected and reciprocal systems: micro-system (*person-centred*) factors, meso-system (*job-related*) factors and macro-system (*socio-economic*) factors. At the micro-system level, physical factors precipitated job withdrawal much more frequently than psychological variables (25% of factors) or cognitive functioning variables (~10%). At the meso-system level, five groups of job withdrawal factors were identified: job design, psychosocial climate, ergonomics, human resources and work cycles. Although the macro-system provides the overarching environment within which other systems operate, these factors were the least cited. No participant cited only one factor or, indeed, one system of factors as precipitating job withdrawal — typically a constellation of factors were involved. However, some factors were critical catalysts while others were only mildly influential.

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TABLE 7

Socio-Economic (Macro-System) Factors that Precipitated Job Withdrawal

Factors	Frequency*	Percent**
Proximal factors	**30**	**50.8**†
Interpersonal (*family priorities/relationship problems*)	14	46.7
Financial (*finances/travel costs/ significant reduction or loss of compensation or benefit*)[1]	12	40.0
Lack of home help	4	13.3
Distal factors	**29**	**49.2**
Inadequate rehabilitation/vocational counselling programs[2]	10	33.3
Negative societal attitudes	8	26.7
Economy (*job market/unemployment level/recession*)	7	23.3
Government policy	4	13.3
Total	59	100.0

*The frequency with which the item was cited. **Calculated as a % of the total sample ($n = 30$) to indicate the proportion of the sample that cited each factor. †Subtotals (bolded) are calculated as a % of the total number of items (61) to indicate the relative contribution of each broad group of factors to macro-level factors. [1]The compensation/benefit factor was cited twice. [2]Rehabilitation and vocational counselling programs are included in the distal factors as they are community-based programs.

Overall, environmental factors (i.e., meso- and macro-level factors) were cited more frequently than personal factors (i.e., micro-level factors).

Micro-System (Person-Centred) Factors

Micro-system factors are among the most studied influences on employment outcomes post-*t*SCI (e.g., injury and training/education). Nevertheless, when focusing on job withdrawal post-*t*SCI, the range of micro-system (*person-centred*) factors identified in the present study — physical, psychological and cognitive — argues for a whole-person approach. As reported elsewhere (Engel, Murphy, Athanasou, & Hickey, 1998), the most frequently cited job withdrawal reason in the present study was health-related. Participant-identified SCI-related factors primarily focused on the secondary complications of SCI (e.g., bowel/bladder management, pressure sores) versus the primary SCI lesion (i.e., level/completeness of injury), which may more accurately reflect participants' perspectives and lived experience. As found in job retention studies that have included secondary complications Ghatit & Hanson, 1978; Meade et al., 2011), pressure ulcers and hospitalisations were associated with job withdrawal post-*t*SCI. Although bowel and bladder management was the most frequently cited SCI-related job withdrawal factor (identified by 43% of the sample) — and is associated with job acquisition — evidence for its role in job retention is conflicting (Chan & Man,

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2005; Ghatit & Hanson, 1978). Among the psychological/psychosocial job withdrawal factors, which collectively accounted for approximately 25% of micro-system factors, 'others' expectations' were the most frequently cited (40% of the sample). This variable may reflect an external locus of control, which has been associated with poor return-to-work outcomes (Murphy et al., 2003, 2011). However, the multiple variables identified in the present study argue for the inclusion of an extended range of psychological/psychosocial factors (Murphy et al., 2003). Consistent with other research that found employment was terminated partly due to a perceived lack of skills to adequately complete the job (Conroy & McKenna, 1999), approximately 10% of micro-system job withdrawal factors were related to knowledge/skills/abilities. Skill acquisition may also reduce or buffer the detrimental impact of meso-system (*job-related*) factors, such as low occupational level.

Meso-System (Job-Related) Factors

Job design factors were the most frequently cited reason for job withdrawal and point to the reduced satisfactoriness of work attained post-*t*SCI (e.g., 'overly boring and repetitive', 'lack of suitable autonomy'). Decrements in job satisfactoriness decrease job satisfaction, and decreased job satisfaction is negatively related to job tenure (see Roessler, 2001). In fact, role dissatisfaction has been ranked among the five top most stressful situations faced by employees post-SCI (see Chan & Man, 2005). The prominence of job design factors may also reflect employers' 'archetypal' beliefs that people with disabilities were 'unable to do the work or were somehow less qualified' (Fraser, Johnson, Hebert, Azjen, Copeland, Brown, & Chan,. 2010, p. 420). Nevertheless, 23% of the sample reported a positive separation as they left to take up a better job offer. Psychosocial issues were the second most frequently reported cluster of job withdrawal factors: discrimination drove employees out of jobs and resulted in a loss of business among the self-employed. Similarly, other research has reported that workplace discrimination impeded sustained employment (Conroy & McKenna, 1999) while workplace gossip, which was identified as very stressful, also led to job withdrawal (Chan & Man, 2005). Likewise, employers in medium-sized companies were cognizant of co-worker resentment towards (qualified) workers with disabilities — particularly in relation to workplace accommodations — which adversely influenced their hiring decisions (Fraser et al., 2010). Managers' resistance to diversity was also a significant predictor of hiring decisions in medium and larger-sized companies (Fraser, Azjen, Johnson, Hebert, & Chan, 2011). Among small companies, financial concerns (e.g., decreased profit margins due to slower work pace and cost of accommodations) and risk aversion (e.g., avoidance of litigation) were identified as barriers to hiring qualified people with disabilities (Fraser et al., 2010). Although 'lack of workplace social support' was the most cited individual psychosocial factor in the present study, it has not been widely researched (Murphy & O'Hare, 2011).

Macro-System (Socio-Economic) *Factors*

Although macro-system factors shape the overarching cultural and socio-economic context within which other systems operate (Brofenbrenner, 1994), they were the least cited influence on job withdrawal. Consistent with research that closer referent groups exert a stronger influence on behaviour than do distant referent groups (Levin,

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1999), *proximal* social factors (i.e., interpersonal) were cited almost twice as frequently as *distal* social factors (i.e., negative societal attitudes). Similarly, *proximal* economic factors (finances) were cited more frequently than *distal* economic factors (economy) — 40% of the sample reported that finances precipitated job withdrawal. Although less studied than the intrinsic benefits of employment (Krause & Terza, 2006; Krause, Terza & Dismuke, 2008), earnings determine standard of living (Lachowska & Woodbury, 2012), aid independent living (Lidal et al., 2007), predict extended longevity (Strauss, De Vivo, Shavelle, Brooks, & Paculdo, 2008) and also influence the intrinsic benefits of employment (i.e., subjective well-being, quality of life and satisfaction) (Hampton, 2004, see also Krause & Terza, 2006). The primacy of 'inadequate rehabilitation and vocational programs' among the distal factors may be partly historical as the majority of the sample (83%) was injured more than 10 years ago when rehabilitation programs and vocational expectations were narrower in focus (O'Hare & Murphy, 2012). As 40% of the sample did not receive any form of compensation, it is also likely that they had to rely on a 'patchwork' of services which may have fallen short of their needs (Mpofu, Craig, Millington, Murphy, & Dorstyn, 2015). As 28% of job-related (meso-system) factors were job design issues (e.g., unsatisfying work, lack of career progression, inadequate occupational level), specialised vocational programs that include skill acquisition and development may facilitate job retention (Conroy & McKenna, 1999). Unlike a Canadian study that identified legislation as one of three critical factors that impacted employment post-SCI (Jongbloed et al., 2007), only 13% of the present sample cited government policies as contributing to job withdrawal. Although this disparity may reflect jurisdictional differences between Canada and Australia (Mpofu et al., 2015), it may be partly related to the stronger influence of discrimination by local supervisors and co-workers on job withdrawal decisions (each of these meso-level factors was cited by 30% of the sample). Similarly, normative influences within a company (e.g., beliefs held by managers/HR personnel) were stronger predictors of hiring qualified workers with disabilities than the influence of State/federal agencies (Fraser et al., 2011).

System-Level Interactions

General systems theory posits interactions and inter-relationships between systems (Laszlo & Krippner, 1998; Mele et al., 2010). Interaction between systems is implicit in much of the research into workplace accommodations. For example, the aim of assistive technology is to reduce the level of workplace disability (Fougeyrollas et al., 2002) which implies an interaction between micro-level (*person-centred*) factors and meso-level (*job-related*) factors. Similarly, the job withdrawal factors identified in the present research also suggest multiple reciprocal interactions between and among systems. For example, 'functional ability' (micro-level factor) and 'work cycles' (meso-level factor); job design issues (meso-level factor) and knowledge/skills/abilities (micro-level factor); government policy (macro-level factor) and hiring practices (meso-level factor). Due to its focus on interconnectedness (Laszlo & Krippner, 1998), general system theory also provides an integrated framework for intervention development as it endorses interventions at different levels of the system — not just those directed at the individual — to produce change (Patton & McMahon, 2006). Specifically, a systems approach can provide decision-makers with guidance as to whether a top-down or

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bottom-up approach would be more feasible or beneficial when implementing interventions. For example, policy-level interventions could address transport-related job withdrawal factors (e.g., legislating a fully accessible transport system) or home care reliability issues (e.g., direct funding to SCI survivors to manage attendant care themselves). Conversely, individual-directed interventions could usefully address the job design issue, 'a lack of career progression and opportunities' (e.g., workshops on interview techniques and accessing the hidden job market).

Strengths and Limitations

Two major strengths of the present study are that it identified a broad range of factors that precipitated job withdrawal following the initial return-to-work post-*t*SCI and applied general systems theory as a conceptual framework to identify, classify and interpret the job withdrawal factors. This approach contributes to an understanding of the factors that hinder job retention (vs. job acquisition) and assists with the identification of potential interventions. Two limitations of the present study are that it reported the frequency of job withdrawal factors, not the salience of each job withdrawal factor. As employment post-*t*SCI depends on a balance among multiple factors (Fougeyrollas et al., 2002), this aspect could be usefully addressed in future research because some factors were critical determinants of job withdrawal while others were only mildly influential. Although broadly representative of the Australian SCI population across gender, injury age and injury level (Cripps, 2008), the sample size was comparatively small.

Conclusion

The foregoing analysis indicates that job withdrawal results from a complex reciprocal interaction between the person — an 'active, evolving bio-psychological' system — and the job-related environment (meso-system), all of which operate within the overarching socio-economic and political context of the macro-system (a.k.a Brofenbrenner, 1994, p. 38). Furthermore, inclusion of micro-system *(person-centred)* factors, meso-system *(job-related)* and macro-system *(socio-economic)* factors encompasses the medical, economic and (the less-studied) socio-political models of disability (Jongbloed et al., 2007). Thus, general systems theory provides a coherent and integrated framework for classifying and interpreting job withdrawal factors, identifying potential interventions and unifying theoretical and empirical research.

References

Australian Bureau of Statistics. (2013). ANZSCO — Australia and New Zealand Standard Classification of Occupations. Catalogue No. 1220.0 (version 1.2). Canberra, Australia: Author. Available at: www.abs.gov/ausstats/abs@nsf/Latestproducts/1220.0Search

Bloch, D.P. (2005). Complexity, chaos, and nonlinear dynamics: A new perspective on career development theory. *The Career Development Quarterly*, *53*, 194–207.

Boulding, K.E. (1956). General systems theory — the skeleton of science. *Management Science*, *2*, 197–208.

Brofenbrenner, U. (1994). Ecological models of human development. In *International Encyclopedia of Education*, Vol. 3 (2nd ed). Oxford: Elsevier. Reprinted in: M. Gauvain & M. Cole (Eds), *Readings on the development of children*, 2nd ed. (1993, pp. 37–43). NY: Freeman.

https://doi.org/10.1017/jrc.2015.14 Published online by Cambridge University Press

Chan, S.K.K., & Man, D.W.K. (2005). Barriers to returning to work for people with spinal cord injuries: A focus group study. *Work*, *25*, 325–332.

Chapin, H.M., & Kewman, D.G. (2001). Factors affecting employment following spinal cord injury: A qualitative study. *Rehabilitation Psychology*, *46*, 400–416.

Conroy, L., & McKenna, K. (1999). Vocational outcome following spinal cord injury. *Spinal Cord*, *37*, 624–633.

Cripps, R.A. (2008). *Spinal cord injury, Australia 2006–07*. Injury Research and Statistics Series Number 48 (Cat. No. INJCAT 119). Adelaide, Australia: Australian Institute of Health and Welfare.

Engel, S., Murphy, G., Athanasou, J., & Hickey, L. (1998). Employment outcomes following spinal cord injury. *International Journal of Rehabilitation Research*, *2*, 223–229.

Escorpizo, R., Miller, W.C., Trenaman, L.M., & Smith, E.M. (2014). Work and employment following spinal cord injury. In J.J. Eng, R.W. Teasell, W.C. Miller, D.L. Wolfe, A.F. Townson, J.T.C. Hsieh, S.J. Connolly, V.K. Noonan, E. Loh & A. McIntyre (Eds.), *Spinal Cord Injury Rehabilitation Evidence*, (version 5.0, pp 1–22). Vancouver: SCIRE.

Fougeyrollas, P., Noreau, L., & Boschen, K.A. (2002). Interaction of environment with individual characteristics and social participation: Theoretical perspectives and applications in persons with spinal cord injury. *Topics in Spinal Cord Injury Rehabilitation*, *7*, 1–16.

Fraser, R., Azjen, I., Johnson, K., Hebert, J., & Chan, F. (2011). Understanding employers' hiring intention in relation to qualified workers with disabilities. *Journal of Vocational Rehabilitation*, *35*, 1–11.

Fraser, R.T., Johnson, K., Hebert, J., Azjen, I., Copeland, J., Brown, P., & Chan, F. (2010). Understanding employers' hiring intentions in relation to qualified workers with disabilities: Preliminary findings. *Journal of Vocational Rehabilitation*, *20*, 420–426.

Ghatit, A.Z., & Hanson, R.W. (1978). Variables associated with obtaining and sustaining employment among spinal cord injured males: A follow-up of 760 veterans. *Journal of Chronic Disabilities*, *31*, 363–369.

Hampton, N.Z. (2004). Subjective well-being among people with spinal cord injuries: The role of self-efficacy, perceived social support, and perceived health. *Rehabilitation Counseling Bulletin*, *48*, 31–37.

Jongbloed, L., Backman, C., Forwell, S.J., & Carpenter, C. (2007). Employment after spinal cord injury: The impact of government policies in Canada. *Work*, *29*, 145–154.

Kessler, R.C., Turner, J.B., & House, J.S. (1988). Effects of unemployment in a community survey: Main, modifying and mediating effects. *Journal of Social Issues*, *44*, 69–85.

Krause, J.S. (1992a). Employment after spinal cord injury. *Archives of Physical and Medical Rehabilitation*, *73*, 163–169.

Krause, J.S. (1992b). Adjustment to life after spinal cord injury: A comparison among three participant groups based on employment status. *Rehabilitation Counseling Bulletin*, *35*, 218–229.

Krause, J.S. (1996). Employment after spinal cord injury: Transition and life adjustment. *Rehabilitation Counseling Bulletin*, *39*, 244–255.

Krause, J.S., & Anson, C.A. (1996). Employment after spinal cord injury: Relation to selected participant characteristics. *Archives of Physical and Medical Rehabilitation*, *77*, 737–743.

Krause, J.S., & Broderick, L. (2006). Relationship of personality and locus of control with employment outcomes among participants with spinal cord injury. *Rehabilitation Counseling Bulletin*, *49*, 111–114.

Krause, J.S., & Pickelsimer, E. (2008). Relationship of perceived barriers to employment and return to work five years later: A pilot study among 343 participants with spinal cord injury. *Rehabilitation Counseling Bulletin*, *51*, 118–121.

https://doi.org/10.1017/jrc.2015.14 Published online by Cambridge University Press

Krause, J.S., & Reed, K.S. (2009). Obtaining employment after spinal cord injury: Relationship with pre-and postinjury education. *Rehabilitation Counseling Bulletin*, *53*, 27–33.

Krause, J.S., Sternberg, M., Maides, J., & Lottes, S. (1998). Employment after spinal cord injury: Differences related to geographic region, gender and race. *Archives of Physical Medicine Rehabilitation*, *79*, 615–24.

Krause, J.S., & Terza, V. (2006). Injury and demographic factors predictive of disparities in earnings after spinal cord injury. *Archives of Physical Medicine Rehabilitation*, *87*, 1318–1326.

Krause, J.S., Terza, V., & Dismuke, C. (2008). Earnings among people with spinal cord injury. *Archives of Physical Medicine Rehabilitation*, *89*, 1474–1481.

Krause, J.S., Terza, V., & Dismuke, C. (2010). Factors associated with labor force participation after spinal cord injury. *Journal of Vocational Rehabilitation*, *33*, 89–99.

Lachowska, M., & Woodbury, S.A. (2012). Labor force participation in Mississippi and other Southern states. Upjohn Institute Technical Report, No. 12-026. Kalamazoo, MI: W.E. Upjohn Institute.

Laszlo, A., & Krippner, S. (1998). Systems theories: Their origins, foundations, and development. In J.S. Jordan (Ed.), *Systems theories and a priori aspects of perception* (pp. 47–74). Amsterdam: Elsevier Science.

Levin, P.F. (1999). Test of the Fishbein and Ajzen models as predictors of health care workers' glove use. *Research in Nursing and Health*, *22*, 295–307.

Lidal, I.B., Huynh, T.K., & Biering-Sørensen, F. (2007). Return to work following spinal cord injury: A review. *Disability and Rehabilitation*, *29*, 1341–1375.

Liem, R., & Liem, J.H. (1988). Psychological effects of unemployment on workers and their families. *Journal of Social Issues*, *44*, 87–105.

McLennan, W. (1997). *Australian standard classification of occupations* (2nd ed). ABS Catalogue No. 1220.0. ISBN 0 642 23200 8. Canberra, Australia: Australian Bureau of Statistics.

Meade, M.A., Forchheimer, M.B., Krause, J.S., & Charlifue, S. (2011). The influence of secondary conditions on job acquisition and retention in adults with spinal cord injury. *Archives of Physical and Medical Rehabilitation*, *92*, 425–432.

Mele, C., Pels, J., & Polese, F. (2010). A Brief review of systems theories and their managerial applications. *Service Science*, *2*, 126–135. http://dx.doi.org/10.1287/serv.2.1_2.126.

Morrell, S., Taylor, R., Quine, S., & Western, J. (1994). A cohort study of unemployment as a cause of psychological disturbance in Australian youth. *Social Science and Medicine*, *36*, 1553–1564.

Mpofu, E., Craig, A., Millington, M., Murphy, G., & Dorstyn, D. (2015). Return to work practices and research with spinal cord injury: An Australian perspective. *Australian Journal of Rehabilitation Counselling*, *21*, 65–76. doi 10.1017/jrc.2015.1.

Murphy, G., & O'Hare, M. (2011). The role of workplace social support in disability management. In T. Giessen & H. Harder (Eds.), *Disability management and workplace integration* (pp. 23–32). Farnham, Surrey, UK: Gower.

Murphy, G.C., Middleton, J., Quirk, R., De Wolf, A., & Cameron, I.D. (2011). Predicting employment status at 2 years' postdischarge from spinal cord injury rehabilitation. *Rehabilitation Psychology*, *56*, 251–256.

Murphy, G.C., Young, A.E., Brown, D.J., & King, N.J. (2003). Explaining labor force status following spinal cord injury: The contribution of psychological variables. *Journal of Rehabilitation Medicine*, *35*, 276–283.

Najman, J.M., & Bampton, M. (1991). An ASCO based occupational status hierarchy for Australia: A research note. *Journal of Sociology*, *27*, 218–231.

O'Hare, M.A., & Murphy, G.C. (2012). *Enhancement of employment retention following return to work post-traumatic spinal cord injury*. Melbourne, Australia: La Trobe University.

https://doi.org/10.1017/jrc.2015.14 Published online by Cambridge University Press

Patton, W., & McMahon, M. (2006). The systems theory framework of career development and counseling: Connecting theory and practice. *International Journal for the Advancement of Counselling*, *28*, 153–166.

Roessler, R.T. (2001). Job retention services for employees with spinal cord injuries: A critical need in vocational rehabilitation. *Journal of Applied Rehabilitation Counseling*, *32*, 3–9.

Strauss, D., De Vivo, M., Shavelle, R., Brooks, J., & Paculdo, D. (2008). Economic factors and longevity in spinal cord injury: A reappraisal. *Archives of Physical and Medical Rehabilitation*, *89*, 572–574.

Wasiak, R., Young, A., Roessler, R.T., McPherson, K.M., van Poppel, M.N.M., & Anema, J.R. (2007). Measuring return to work. *Journal of Occupational Rehabilitation*, *17*, 766–781. DOI 10.1007/s10926-007-9101-4.

Whiteneck, G.G., Harrison-Felix, C.L., Mellick, D.C., Brooks, C.A., Charlifue, S.B., & Gerhart, K.A. (2004). Quantifying environmental factors: A measure of physical, attitudinal, service, productivity, and policy barriers. *Archives of Physical and Medical Rehabilitation*, *85*, 1324–1335.

Young, A.E., & Murphy, G.C. (2009). Employment status after spinal cord injury (1992–2005): A review with implications for interpretation, evaluation, further research, and clinical practice. *International Journal of Rehabilitation Research*, *32*, 1–11. doi: 10.1097/MRR.0b013e32831c8b19.

https://doi.org/10.1017/jrc.2015.14 Published online by Cambridge University Press