Psychometric validation of the Chinese version of job-seeking self-efficacy scale for people with disabilities: A preliminary study

Mike K.T. Cheung[a],* and Sam C.C. Chan[b]

[a]*Centre on Research and Advocacy, The Hong Kong Society for Rehabilitation, Hong Kong SAR, China*
[b]*Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, Hong Kong SAR, China*

Abstract.

BACKGROUND: Self-efficacy is a key psychosocial factor influencing the outcome of vocational rehabilitation programs. There is lack of a validated job-seeking self-efficacy measure for Chinese persons with disabilities.

OBJECTIVE: The aim of this study was to validate the Chinese version of the Job-Seeking Self-Efficacy Scale (C-JSS) developed by Barlow, Wright, and Cullen (2002) and to examine its psychometric properties using a Chinese sample of persons with disabilities.

METHODS: JSS was first translated into Chinese and reviewed by vocational rehabilitation practitioners and persons with disabilities. Ninety-seven Chinese participants with disabilities were recruited to fill in the questionnaire of JSS and other questions. The internal consistency, structural and coverage validities of C-JSS were evaluated.

RESULTS: C-JSS showed a high internal consistency (Cronbach's alpha = 0.95) and unidimensional factorial structure. For concurrent validity, there were significant correlations between C-JSS with the score of WHODAS 2.0 ($p = 0.001$), educational level ($p < 0.001$), job-seeking behavior ($p = 0.031$), and self-reported professional skills ($p = 0.008$).

CONCLUSION: The results of this study provide preliminary evidence that C-JSS is a reliable and valid instrument to measure the self-efficacy of job-seeking behavior among a Chinese sample of persons with disabilities.

Keywords: Job-seeking behavior, self-efficacy, disabilities, return to work, psychometric properties, scale validation

1. Introduction

The International Classification of Functioning, Health and Disabilities (ICF), a framework for measuring health and disability established by the World Health Organization (WHO) (2001), defines "work and employment" as a core element of major life areas in the activity and participation domain. Vocational Rehabilitation (VR) plays an important role for persons with disabilities to return to work following a period of illness or injury (Escorpizo et al., 2016). VR is defined as "a multi-professional evidence-based approach that is provided in different settings, services and activities to working age individuals with health-related impairment, limitations, or restrictions with working functioning, and whose primary aim is to optimize work participation" (Escorpizo et al., 2011, p. 130). The key strategy in the course of VR is to mediate various personal factors and promote self-efficacy to seek a job, an important psychosocial factor influencing the success of VR (Andersén

*Address for correspondence: Mike K.T. Cheung, Room A103, 1/F, HKSR Lam Tin Complex, 7 Rehab Path, Lam Tin, Kowloon, Hong Kong SAR, China. Tel.: +86 852 2534 3353; Fax: +86 852 2205 6166; E-mail: mike.cheung@rehabsociety.org.hk.

et al., 2018; Black et al., 2018). Thus, it is imperative to establish a validated instrument for measuring job-seeking self-efficacy.

Self-efficacy, an aspect of social cognitive theory, is defined as "belief in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997). In the context of VR, it has been described as "the workers' belief in their ability to behave/act in the ways needed to resume their occupational activities" (Corbière et al., 2017). Measures of self-efficacy are important for rehabilitation practitioners to understand clients' perceived capacity in various job-seeking tasks and motivational issues that affect their performance and persistence in job-seeking tasks (e.g. looking for a job, completing a job application, preparing a curriculum vitae, attending a job interview, acquiring job-related social skills). These measures help VR practitioners to design and implement interventions and service plans to help increase clients' self-efficacy as well as the motivation to execute job-seeking activities.

Previous studies have investigated various types of self-efficacy to perform VR-related activities in the return-to-work (RTW) process (Sheu et al., 2010), including career decision making (Ochs & Roessler, 2004), job-searching behaviors (Fort et al., 2011; LaHuis, 2005), and job interviews (Tay et al., 2006). Various studies have showed that self-efficacy is a significant predictor or a mediator of vocational outcomes (Black et al., 2018; Brouwer et al., 2010; Hirschi, 2012; Hou et al., 2012, 2016; Labriola et al., 2007) in the VR and RTW process. Self-efficacy is a common construct to target for intervention in the VR process, due to its high potential modifiability (Black et al., 2018). Job-seeking self-efficacy affected the participation in job-skills training and job-seeking activities as well as the likelihood of becoming successful and satisfied in securing employment among unemployed persons seeking employment (Hergenrather et al., 2008).

A few instruments have been developed for persons with disabilities and validated to assess job-seeking self-efficacy, including the Job-Seeking Self-Efficacy Scale (JSS) (Barlow et al., 2002), Job Seeking Self-efficacy Scale (JSS2) (Strauser & Berven, 2006), and the Self-efficacy of Job-Seeking Skills Scale (SJS) (Hergenrather et al., 2008). JSS was originally developed for people with physical disabilities (Barlow et al., 2002) and then applied in various types of disabilities, with good reliability (de Jong et al., 2013; O'Mally & Antonelli, 2016). JSS2 was validated for

several common types of disabilities, e.g. orthopedic disabilities and learning disabilities. SJS is a variant of JSS, which the authors modified to reflect American English. The dimensionalities of these three instruments were different: JSS contained one factor, JSS2 contained four (self-presentation, disability issues, handling barriers, and executing job search), and JSS2 contained two factors (independent skills and social skills). None of these instruments had been translated into Chinese and validated for use with Chinese people with disabilities. These instruments refer to the general activities of job-seeking, including requesting and completing a job application, preparing a curriculum vitae, and participating in a job interview. JSS and SJS contain more specific items about job interviews (e.g. interview skills, oral presentation, physical presentation) and work-related activities (e.g. work as a team, work independently, and career progression). Hence, JSS and SJS are able to provide more task-specific information for rehabilitation practitioners to design their service plans. In addition, there was an item in JSS2 which was country-specific and about the Americans with Disabilities Act; therefore, JSS2 may not be applicable in other countries. For these reasons, JSS was selected to be translated and validated in this study.

The aim of this study was to provide evidence for the validity and reliability of the Chinese version of JSS, called C-JSS (Barlow et al., 2002) by psychometric properties, including internal consistency, structural and coverage validities, in a Chinese population with disabilities. The clinical significance is that the validated C-JSS would be used as an outcome measure for VR programs involving Chinese people.

2. Methods

2.1. Participants

A total of 97 Hong Kong Chinese people with disabilities were recruited to this study from local non-government organizations which provide VR and retraining service for persons with disabilities. The majority of the participants were aged between 21 and 30 (32%) and between 51 and 60 (30%). The proportion of females (51%) was similar to that of males (49%). Most of them had secondary (71%) or post-secondary (21%) education. Only 14% were under internship programs, and 73% of participants had chronic diseases (e.g. rheumatoid arthritis, stroke, epilepsy, Parkinson's disease), 38% had mobility

Table 1
Participants' demographic information (N = 97)

	N	%
Age		
21–30	31	32%
31–40	10	10%
41–50	17	18%
51–60	29	30%
Over 60	10	10%
Sex		
Female	49	51%
Male	48	49%
Educational level		
Primary (Grades 1 to 6)	8	8%
Secondary (Grades 7 to 12)	67	71%
Post-secondary	20	21%
(Grade 13 or above)		
Employment status		
Unemployed	83	86%
Under internship	14	14%
program		
Type of disability		
Chronic disease	73	73%
Mobility impairment	37	38%
Mental illness	28	29%
Other (e.g. mild intellectual	18	19%
disability, visual		
disability, hearing		
disability, speech		
disability)		

impairment, and 29% had mental illnesses. Table 1 shows a summary of participants' demographic characteristics.

2.2. Instruments

2.2.1. Chinese version of job-seeking self-efficacy scale

The original English version of JSS for people with physical disabilities was developed and validated by Barlow, Wright, and Cullen (2002). It contains 12 items measuring a respondent's perceived ability to perform the skills involved in seeking employment: (1) requesting a job application form, (2) completing a job application form, (3) producing a curriculum vitae, (4) traveling to the interview, (5) working on your own, (6) general interview skills, (7) physical self-presentation at interview, (8) oral self-presentation at interview, (9) meeting new people, (10) contributing to a meeting or discussion, (10) working within a team, (11) working on your own, and (12) career progression. Each item is rated on a 7-point Likert scale (1 = no confidence, 7 = very confidence). A score on JSS is computed by averaging item scores. A JSS score can also be normalized to a standardized range (1 to 10).

Because the Chinese version of JSS (C-JSS) was being validated, a cultural adaption procedure (Epstein et al., 2015) was conducted to develop the new instrument. The processes of adaptation included:

1. Forward translation: the English version of JSS was translated into Chinese by the authors independently.
2. Synthesis of the translated versions: the two translators met and discussed the original JSS and their Chinese translation version according to content validity and readability (equivalence and fluency) to compose a new Chinese version of the instrument.
3. Expert review panel: a group of VR practitioners in Hong Kong including a social worker (over 20 years of working experience in community rehabilitation service), a vocational counselor (over 10 years of experience in RTW service), and an occupational therapist (5 years of experience in clinical rehabilitation) were invited to attend an expert review panel and discuss the content validity of the translated Chinese version of JSS in order to make necessary changes for the subsequent readability check.
4. Readability check: Two persons with disabilities (aged between 40 and 50, one with physical disabilities and one with chronic disease) were invited to review the readability and fluency of the translated C-JSS and pre-test the translated version. They showed good understanding of all questions of C-JSS, and no amendment was made after the readability check.

2.2.2. World health organization disability assessment schedule 2.0

The 12-item WHO Disability Assessment Schedule 2.0 (WHODAS2.0) was adopted to measure respondents' level of disability in the activity and participation domains (e.g. standing, walking, self-care, interacting with others), as previous studies found that lower disability was associated with higher job-seeking self-efficacy (Andersén, 2017; Joeng et al., 2019). WHODAS 2.0 was developed based on the framework of ICF established by the WHO in 2001. The Chinese traditional version of WHODAS 2.0 was developed and validated in the Chinese population of persons with disabilities and chronic illnesses by Cheung et al. (2014) and demonstrated a good internal consistency (Cronbach's alpha = 0.98). The score of WHODAS 2.0 ranges from 0 to 100. A higher score

indicates a higher level of disability. The Cronbach's alpha of WHODAS2.0 in the current study was 0.87.

2.2.3. Questionnaire on job-seeking behaviors

Participants' job-seeking behaviors were measured by a one-item question about the frequency of applying for a job in the past 6 months. The responses to this item were categorized into three groups (none, 1 to 10, and above 10). Another one-item question pertained to participants having any professional skills to earn a living (Yes or No). These two questions are widely used in the VR and RTW services in Hong Kong as indicators of applicants' motivation of RTW and their workability.

2.3. Statistical analysis

The mean and standard deviation (SD) were calculated for each test item and the overall score of C-JSS. The ceiling and floor effects were assessed by examining the percentage of subjects with the highest and the lowest scores. A ceiling or floor effect of 15% is considered the maximum acceptable level in health-related instruments (Terwee et al., 2007).

The internal consistency was measured by the Cronbach's α coefficient. The internal consistency is considered acceptable to excellent when the Cronbach's α coefficient is between 0.70 and 0.90 (Gliem & Gliem, 2003). The alpha if item deleted (AIID) was also calculated for each item to identify those that were not related to the other items.

The construct validity was assessed by the exploratory factor analysis (EFA) model. The number of factors to be extracted was determined by the visual inspection of the scree plot to find which eigenvalues of the item correlation matrix of C-JSS were plotted in descending order and the steep slope. A leveling off of the scree plot indicates the number of meaningful factors (D'agostino & Russell, 2005). If a number of factors of C-JSS were more than one, the varimax rotation would be applied. The factor loading of the EFA model was further examined. An item with a factor loading less than 0.6 indicates low correlation to the respective factor and would be considered for removal from the instrument (Matsunaga, 2010). The Kaiser-Meyer-Olkin Measure (KMO) of Sampling Adequacy and Bartlett's Test of Sphericity were used to evaluate the suitability for conducting the factor analysis before the factor analysis was conducted. A minimum KMO value of 0.6 and significant test results of the Bartlett's Test mean that the sample is adequate for the factor analysis.

The convergent validity of C-JSS was measured by the Pearson correlation coefficient between its overall score and the overall score of WHODAS2.0. The criterion validity of C-JSS was measured by the difference of the mean of the C-JSS score among various categories of educational attainment level, job-seeking behavior, and respondents' professional skills, by the one-way analysis of variance (ANOVA). A *post-hoc* test with Bonferroni's adjustment was conducted to test the significance within each pair of the above variables.

All analyses were performed by R-3.6.1 (https://cran.r-project.org/).

3. Results

3.1. Performance of C-JSS

The descriptive statistics of each item of C-JSS are shown in Table 2. The means of each item ranged between 4.1 and 4.9, and the SD ranged between 1.4 and 1.7. Responses of all items ranged between 1 and

Table 2
Descriptive statics, factor loadings of C-JSS items

Item	Mean	SD	Range	% of flooring	% of ceiling	Factor loading	Cronbach's α
1. Requesting a job application form	4.7	1.6	1–7	6%	18%	0.60	
2. Completing a job application form	4.8	1.6	1–7	5%	18%	0.73	
3. Producing a curriculum vitae (CV)	4.5	1.7	1–7	7%	14%	0.74	
4. Traveling to the interview	4.9	1.6	1–7	2%	21%	0.75	
5. In your interview skills generally	4.3	1.5	1–7	3%	9%	0.88	
6. In your physical self-presentation at interview	4.4	1.4	1–7	2%	8%	0.88	
7. In your oral self-presentation at interview	4.4	1.6	1–7	3%	11%	0.89	
8. Meeting new people	4.3	1.7	1–7	5%	12%	0.85	
9. Contributing to a meeting or discussion	4.1	1.5	1–7	5%	6%	0.87	
10. Working within a team	4.6	1.4	1–7	3%	8%	0.82	
11. Working on your own	4.7	1.4	1–7	4%	10%	0.80	
12 Career progression	4.1	1.6	1–7	7%	6%	0.72	
C-JSS	4.5	1.3	1–7	2%	2%		0.95

Table 3
Mean score of C-JSS of various types of disabilities

Type of disability	N	%	Mean	SD
Chronic disease	73	73%	4.6	1.1
Mobility impairment	37	38%	4.2	1.2
Mental illness	28	29%	4.3	1.4
Other (e.g. mild intellectual disability, visual disability, hearing disability, speech disability)	18	19%	4.6	1.4

Note: figure with a bracket was % of variance explained.

Fig. 1. Scree plot of item-correlation matrix of C-JSS.

7. No flooring effect (response = 1) was found. There were, however, some ceiling effects (response = 7) found on the first, second, and fourth items. The mean of the C-JSS score was 4.5 (SD 1.3). No floor (2%) or ceiling (2%) effect was found. The mean of the C-JSS score of various types of disabilities ranged from 4.2 to 4.6.

3.2. Structural validity

The KMO value of the sample was 0.90 and the Bartlett's Test was significant ($\chi^2 = 1207.33$, $p < 0.001$). This indicates that the sample was suitable for conducting the factor analysis. The correlation coefficients between each pair of items of C-JSS ranged between 0.30 and 0.90 and all were significant ($p < 0.001$). The scree plot showing the eigenvalue of the correlation matrix of JSS is shown in Fig. 1. An obvious drop in the eigenvalue in the second factor indicates a unidimensional structure of C-JSS. This single dimension explained 67% of the total variance. The result supports a one-factor structure of C-JSS similar to that of the English counterpart. Since it was a one-factor structure, no rotation was applied in the factor analysis.
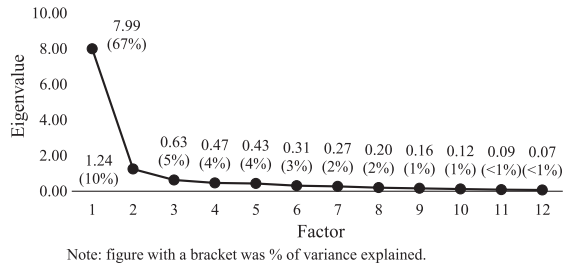
The result of EFA analysis revealed that the factor loading of each item ranged between 0.60 and 0.89, indicating that no items had to be removed. Items with the highest factor loading included general interview skills, physical self-presentation at interview, and oral self-presentation at interview.

3.3. Internal consistency

Cronbach's α for C-JSS was 0.95, indicating high reliability of C-JSS. The AIID of each item was also 0.95, which indicated no item should be removed.

3.4. Convergent validity and criterion validity

The Pearson correlation coefficient between the scores of C-JSS and WHODAS 2.0 was –0.36 ($p < 0.001$), which indicated a medium level of correlation between these two constructs. The ANOVA analysis indicated that the C-JSS score showed significant correlations with participants' educational level ($F(2,92) = 7.58$, $p < 0.001$), job-seeking behavior ($F(2,90) = 5.21$, $p = 0.031$), and self-reported professional skills ($F(1,89)=7.40$, $p = 0.008$). The

Table 4
Association between the score and C-JSS and other variables

	N	%	Mean	SD	F (df)	P-value of ANOVA	P-value of post-hoc test		
							(1)	(2)	(3)
Educational level					7.58 (2,92)	<0.001			
Primary (1)	8	8%	3.8	1.7			–	–	–
Secondary (2)	67	71%	4.3	1.2			0.659	–	–
Post-secondary (3)	20	21%	5.4	1.0			0.006	0.003	–
No. of jobs applied for in past 6 months					5.21 (2,90)	0.031			
None (1)	53	57%	4.2	1.2			–	–	–
1–10 (2)	34	37%	4.9	1.2			0.048	–	–
Above 10 (3)	6	6%	5.0	1.1			0.371	1.000	–
Professional skill					7.40 (1,89)	0.008			
No (1)	64	70%	4.3	1.2			–	–	–
Yes (2)	27	30%	5.0	1.0			–	–	–

Abbreviation: F = F test statistic, df = degree of freedom.

results of *post-hoc* tests indicate that people with post-secondary education had significantly lower self-efficacy than those with primary education ($p = 0.006$) and secondary education ($p = 0.003$). People who had not applied for any job in the past 6 months had significantly lower self-efficacy than those who had applied for between 1 and 10 jobs ($p = 0.048$).

4. Discussion

4.1. Internal consistency and validity of C-JSS

The aim of this study was to evaluate the psychometric properties of the newly established C-JSS for Chinese persons with disabilities, based on its internal consistency, structural validity, and convergent validity. The preliminary results revealed high internal consistency and sound validity of the new instrument measuring the job-seeking self-efficacy of Chinese people with disabilities.

For structural validity as indicated by the results of EFA, the factor loading of all items was found to surpass the critical value of 0.6, and all loaded on one single factor. This suggests the translated version of C-JSS maintained a similar overall factor loading to the original English version. There were some variations in factor loadings between the new C-JSS and the original JSS (Barlow et al., 2002). Items with the lowest factor loading in our study were "requesting a job application form" (0.60). The item with the lowest factor loading in the original JSS study was "travelling to the interview" (.61). Such a difference may be due to the differences in the characteristics of the participants in this study and their use of information communication technology (ICT). The participants in this study represented a wider range of persons with disabilities, such as chronic diseases and mental illness, whereas Barlow et al. (2002) recruited only the persons with physical disabilities for whom traveling is a major challenge in daily living (Var et al., 2011). Transportation is a major challenge going to job interviews for persons with physical disabilities; hence, "travelling to the interview" was more relevant to a sample of persons with physical disabilities but less influential in our study sample. Use of ICT (e.g. searching for a job on the internet, completing and submitting online job applications forms, sending job applications via email or instant messaging platforms) is already a major channel for job seeking in the twenty-first century, but it was not so common at the end of the twentieth century, when the orig-

inal JSS was validated in the earlier study (Barlow et al., 2002). Hence, there was less influence of "requesting a job application form" for our study sample. The effect could be also applicable to the second item of JSS, "Completing a job application form", which was the item with the most important factor in the JSS authors' study sample (Barlow et al., 2002) but the third lowest factor loading in our study sample. This helps to explain differences in the pattern of factor loadings of these three questions between our study and the original JSS study. In addition, the factor loadings of the items about social skills (general interview skills, physical self-presentation, oral self-presentation, meeting new people, contributing to a discussion, working within a team) were the highest in our study (ranging from 0.82 to 0.89) but relatively low in the original JSS study (ranging from 0.64 to 0.76). Such disparity may be due to the cultural differences between the Eastern and the Western culture. A previous study found that Eastern applicants presented with less self-promoting or assertive behaviors than Western applicants did and tended to be shy and modest in job interviews (Paulhus et al., 2013). This helps to explain such disparity in the pattern of factor loadings between our study and the original JSS study.

For internal consistency reliability, the high internal consistency of C-JSS (Cronbach's alpha = 0.95) indicated a good internal consistency of C-JSS. This finding was consistent with that of the original scale (Cronbach's $\alpha = 0.93$, Barlow et al., 2002) and other studies that have utilized this tool (Cronbach's $\alpha = 0.90$, de Jong et al., 2013).

Analyses were also conducted to show the item performance of C-JSS. There were three items—requesting a job application form, completing a job application form, traveling to the interview—showing an obvious ceiling effect (>15%) and hence indicating a potential missing lower end of these three items and limiting their responsiveness (Terwee et al., 2007). These three items were the same as the three items with relatively low factor loadings, probably due to the inclusion of various types of disabilities in the study sample and the popularization of using ICT in job seeking. The ceiling effect was not observed in the overall score of C-JSS. Hence, the responsiveness and interpretability of the whole scale was confirmed. Further studies should exam this scale in a larger sample to investigate the ceiling effect among participants with various types of disabilities. Modifications of these three items could be also considered to enhance the ability to differentiate the partici-

pants' self-efficacy in these three job-seeking tasks. Alternatively, the Tobit model could be used in the analysis, due to its capability of correcting inference when the ceiling effect is present (McBee, 2010), when practitioners wish to perform the item-level analysis of this scale.

The correlation analyses demonstrated satisfactory performance of C-JSS by convergent validity. The significant association between C-JSS and participants' level of disability was consistent with findings from other studies on VR that better health status was associated with higher self-efficacy (Andersén, 2018; Joeng et al., 2019). However, there were no significant associations found among people with no obvious disability and mild disability as well as people with mild disability and moderate disability or above. This result implies that the association between level of disability and job-seeking self-efficacy may be non-linear. The positive association between higher education level and higher self-efficacy (Ferrari et al., 2019) was also significant in the study, especially for those with post-secondary education. Similarly, people with self-reported professional skills had significantly higher self-efficacy than did those without. The significant association between C-JSS and participants' job-seeking behavior was also consistent with that of most studies (Fort et al., 2011; Kanfer et al., 2001), and people who applied for jobs in past 6 months showed higher self-efficacy than did those who did not.

4.2. Implications

The findings of this study provide evidence for the satisfactory psychometrics properties of the newly developed C-JSS. The preliminary results suggest one possible use of C-JSS is for researchers to utilize this instrument to further investigate the correlation among job-seeking self-efficacy, job-seeking behavior and performance, and employment outcome. A second possible use for practice is for various agencies or organizations that provide VR services to use this instrument to measure and subsequently enhance self-efficacy in job-seeking among recipients of RTW services. The self-efficacy measure could also be used as an outcome measure to indicate program efficacy. The items of this scale provide activity-specific information in the job-seeking process, so that the practitioners could design more personalized interventions to deal with users' needs in the RTW journey and thus increase their chance of being employed. This tool could also be an outcome mea-

sure to evaluate the effectiveness of interventions aiming to increase users' job-seeking skills and performance.

4.3. Limitations

Several potential limitations should be considered when interpreting the results of this study. First, the participants were recruited from Hong Kong; hence, the result may not be generalized to cities with different characteristics. Second, the participants with a wide range of disabilities were recruited through convenience sampling to lead to possible homogeneity in the data, and the results may not be generalized to specific types of disability. Hence, further studies are needed to test this scale in a larger Chinese sample of people with disabilities from different districts and utilize additional statistical analysis methods (e.g. item-response theory) to investigate the further performance of each item of C-JSS.

5. Conclusion

The results of this study preliminarily provide evidence that C-JSS is a valid instrument to measure the self-efficacy of job-seeking behavior among a Chinese sample of persons with disabilities. Utilization of this tool provides more accurate and specific information for VR practitioners, agencies, and organizations in Chinese contexts to design person-centered interventions for persons with disabilities in the RTW process.

Conflict of interest

The authors declare no conflict of interest.

References

Andersén, Å. (2017). *Self-efficacy, vocational rehabilitation and transition to work* (Unpublished doctoral dissertation). Acta Universitatis Upsaliensis, Uppsala, Sweden.

Andersén, Å., Larsson, K., Pingel, R., Kristiansson, P., & Anderzén, I. (2018). The relationship between self-efficacy and transition to work or studies in young adults with disabilities. *Scandinavian Journal of Public Health*, *46*(2), 272-278. https://doi.org/10.1177/1403494817717556

Bandura, A. (1997). *Self-efficacy: The exercise of control* (pp. 3-604). WH Freeman.

Barlow, J., Wright, C., & Cullen, L. (2002). A job-seeking self-efficacy scale for people with physical disabilities: Preliminary development and psychometric testing. *British*

Journal of Guidance and Counselling, *30*(1), 37-53. https://doi.org/10.1080/030698880220106500

Black, O., Keegel, T., Sim, M. R., Collie, A., & Smith, P. (2018). The effect of self-efficacy on return-to-work outcomes for workers with psychological or upper-body musculoskeletal injuries: A review of the literature. *Journal of Occupational Rehabilitation*, *28*(1), 16-27. https://doi.org/10.1007/s10926-017-9697-y

Brouwer, S., Reneman, M. F., Bültmann, U., Van der Klink, J. J., & Groothoff, J. W. (2010). A prospective study of return to work across health conditions: Perceived work attitude, self-efficacy and perceived social support. *Journal of Occupational Rehabilitation*, *20*(1), 104-112. https://doi.org/10.1007/s10926-009-9214-z

Cheung, M. K., Hung, A. T., Poon, P. K., Fong, D. Y., Li, L. S., Chow, E. S., Qiu, Z.-Y., & Liou, T. H. (2014). Validation of the World Health Organization Assessment Schedule II Chinese Traditional Version (WHODAS II CT) in persons with disabilities and chronic illnesses for Chinese population. *Disability and rehabilitation*, *37*(20), 1902-1907. https://doi.org/10.3109/09638288.2014.989336

Corbière, M., Negrini, A., Durand, M. J., St-Arnaud, L., Briand, C., Fassier, J. B., Loisel, P., & Lachance, J. P. (2017). Development of the return-to-work obstacles and self-efficacy scale (ROSES) and validation with workers suffering from a common mental disorder or musculoskeletal disorder. *Journal of Occupational Rehabilitation*, *27*(3), 329-341. https://doi.org/10.1007/s10926-016-9661-2

D'agostino Sr, R. B., & Russell, H. K. (2005). Scree test. In P. Armitage & T. Colton (Eds.), *Encyclopedia of Biostatistics.* Wiley. https://doi.org/10.1002/0470011815.b2a10082

de Jong, A., Hommes, M., Brouwers, A., & Tomic, W. (2013). Effects of mindfulness-based stress reduction course on stress, mindfulness, job self-efficacy and motivation among unemployed people. *Australian Journal of Career Development*, *22*(2), 51-62. https://doi.org/10.1177/1038416213486095

Epstein, J., Osborne, R. H., Elsworth, G. R., Beaton, D. E., & Guillemin, F. (2015). Cross-cultural adaptation of the Health Education Impact Questionnaire: Experimental study showed expert committee, not back-translation, added value. *Journal of Clinical Epidemiology*, *68*(4), 360-369. https://doi.org/10.1016/j.jclinepi.2013.07.013

Escorpizo, R., Brage, S., Homa, D., & Stucki, G. (2016). *Handbook of vocational rehabilitation and disability evaluation.* Springer International.

Escorpizo, R., Reneman, M. F., Ekholm, J., Fritz, J., Krupa, T., Marnetoft, S. U., Maroun, C. E., Guzman, J. R., Suzuki, Y., Stucki, G., & Chan, C. C. (2011). A conceptual definition of vocational rehabilitation based on the ICF: Building a shared global model. *Journal of Occupational Rehabilitation*, *21*(2), 126-133. https://doi.org/10.1007/s10926-011-9292-6

Ferrari, S., Vanti, C., Pellizzer, M., Dozza, L., Monticone, M., & Pillastrini, P. (2019). Is there a relationship between self-efficacy, disability, pain and sociodemographic characteristics in chronic low back pain? A multicenter retrospective analysis. *Archives of Physiotherapy*, *9*(1), 9. https://doi.org/10.1186/s40945-019-0061-8

Fort, I., Jacquet, F., & Leroy, N. (2011). Self-efficacy, goals, and job search behaviors. *Career Development International*, *16*(5), 469-481.

Gliem, J. A., & Gliem, R. R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. 2003 Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education, Columbus, 82-88.

Hergenrather, K. C., Rhodes, S. D., Turner, A. P., & Barlow, J. (2008). Persons with disabilities and employment: Application of the self-efficacy of job-seeking skills scale. *Journal of Rehabilitation*, *74*(3), 34.

Hirschi, A. (2012). Callings and work engagement: Moderated mediation model of work meaningfulness, occupational identity, and occupational self-efficacy. *Journal of Counseling Psychology*, *59*(3), 479-485. https://doi.org/10.1037/a0028949

Hou, W. H., Chuang, H. Y., & Lee, M. L. T. (2016). A threshold regression model to predict return to work after traumatic limb injury. *Injury*, *47*(2), 483-489. https://doi.org/10.1016/j.injury.2015.11.032

Hou, W. H., Sheu, C. F., Liang, H. W., Hsieh, C. L., Lee, Y., Chuang, H. Y., & Cheng, Y. T. (2012). Trajectories and predictors of return to work after traumatic limb injury—A 2-year follow-up study. *Scandinavian Journal of Work, Environment & Health*, 456-466. https://doi.org/10.5271/sjweh.3287

Jeong, I., Yoon, J. H., Roh, J., Rhie, J., & Won, J. U. (2019). Association between the return-to-work hierarchy and self-rated health, self-esteem, and self-efficacy. *International Archives of Occupational and Environmental Health*, 1-8.

Kanfer, R., Wanberg, C. R., & Kantrowitz, T. M. (2001). Job search and employment: A personality–motivational analysis and meta-analytic review. *Journal of Applied Psychology*, *86*(5), 837. https://doi.org/10.1037/0021-9010.86.5.837

Labriola, M., Lund, T., Christensen, K. B., Albertsen, K., Bültmann, U., Jensen, J. N., & Villadsen, E. (2007). Does self-efficacy predict return-to-work after sickness absence? A prospective study among 930 employees with sickness absence for three weeks or more. *Work*, *29*(3), 233-238.

LaHuis, D. M. (2005). Individual differences in applicant reactions: A job-search perspective. *International Journal of Selection and Assessment*, *13*(2), 150-159. https://doi.org/10.1111/j.0965-075X.2005.00309.x

Matsunaga, M. (2010). How to factor-analyze your data right: Do's, don'ts, and how-to's. *International Journal of Psychological Research*, *3*(1), 97-110. https://doi.org/10.21500/20112084.854

McBee, M. (2010). Modeling outcomes with floor or ceiling effects: An introduction to the Tobit model. *Gifted Child Quarterly*, *54*(4), 314-320. https://doi.org/10.1177/0016986210379095

Ochs, L. A., & Roessler, R. T. (2004). Predictors of career exploration intentions: A social cognitive career theory perspective. *Rehabilitation Counseling Bulletin*, *47*(4), 224-233. https://doi.org/10.1177/00343552040470040401

O'Mally, J., & Antonelli, K. (2016). The effect of career mentoring on employment outcomes for college students who are legally blind. *Journal of Visual Impairment & Blindness*, *110*(5), 295-307. https://doi.org/10.1177/0145482X1611000502

Paulhus, D. L., Westlake, B. G., Calvez, S. S., & Harms, P. D. (2013). Self-presentation style in job interviews: The role of personality and culture. *Journal of Applied Social Psychology*, *43*(10), 2042-2059. https://doi.org/10.1111/jasp.12157

Sheu, H. B., Lent, R. W., Brown, S. D., Miller, M. J., Hennessy, K. D., & Duffy, R. D. (2010). Testing the choice model of social cognitive career theory across Holland themes: A meta-analytic path analysis. *Journal of Vocational Behavior*, *76*(2), 252-264. https://doi.org/10.1016/j.jvb.2009.10.015

Strauser, D. R., & Berven, N. L. (2006). Construction and field testing of the Job Seeking Self-efficacy Scale. *Rehabilitation Counseling Bulletin*, *49*(4), 207-218. https://doi.org/10.1177/00343552060490040201

Tay, C., Ang, S., & Van Dyne, L. (2006). Personality, biographical characteristics, and job interview success: A longitudinal study of the mediating effects of interviewing self-efficacy and the moderating effects of internal locus of causality. *Journal of Applied Psychology*, *91*(2), 446-454. https://doi.org/10.1037/0021-9010.91.2.446

Terwee, C. B., Bot, S. D., de Boer, M. R., van der Windt, D. A., Knol, D. L., Dekker, J., Bouter, L.M., & de Vet, H. C. (2007).

Quality criteria were proposed for measurement properties of health status questionnaires. *Journal of Clinical Epidemiology*, *60*(1), 34-42. https://doi.org/10.1016/j.jclinepi.2006.03.012

Var, T., Yeşiltaş, M., Yaylı, A., & Öztürk, Y. (2011). A study on the travel patterns of physically disabled people. *Asia Pacific Journal of Tourism Research*, *16*(6), 599-618. https://doi.org/10.1080/10941665.2011.610143

World Health Organization. (2001). *International classification of functioning, disability and health: ICF*. Geneva: World Health Organization.