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Factors that Promote or Hinder Young Disabled People in Work Participation: A Systematic Review

T. J. Achterberg · H. Wind · A. G. E. M. de Boer · M. H. W. Frings-Dresen

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Abstract Introduction The aim of this systematic review was to study factors which promote or hinder young disabled people entering the labor market. Methods We systematically searched PubMed (by means of MESH and text words), EMBASE, PsycINFO, Web of Science and CINAHL for studies regarding (1) disabled patients diagnosed before the age of 18 years and (2) factors of work participation. Results Out of 1,268 retrieved studies and 28 extended studies from references and four from experts, ten articles were included. Promoting factors are male gender, high educational level, age at survey, low depression scores, high dispositional optimism and high psychosocial functioning. Female and low educational level gives high odds of unemployment just like low IQ, inpatient treatment during follow up, epilepsy, motor impairment, wheelchair dependency, functional limitations, co-morbidity, physical disability and chronic health conditions combined with mental retardation. High dose cranial radiotherapy, type of cancer, and age of diagnosis also interfered with employment. Conclusions Of the promoting factors, education appeared to be important, and several physical obstructions were found to be hindering factors. The last mentioned factors can be influenced in contrast to for instance age and gender. However, to optimize work participation of this group of young disabled it is important to know the promoting or hindering influence for employment.

Keywords Young people · Disabled · Work participation · Factors

Introduction

The World Health Organization (WHO) estimates that about 10% of the world population experiences some form of physical or mental disability. Of these approximately 650 million disabled people, 200 million are children. The number of disabled children is increasing due to population growth, increases in chronic diseases and medical advances that preserve and prolong life [1].

Disabled children experience barriers when they enter the labor market due to their physical or mental limitations, and many more of these starters are unemployed compared to non-disabled starters [2, 3]. A survey study in the USA found that 32% of people with disabilities were working, versus 81% of people without disabilities [4]. This, in turn, leads to a variety of economic, social and quality of life problems [5–8].

Although some of the disabled starters are unable to work in any way because of their limitations, others can and are willing to work. However, to gain employment when they reach working age, they need to be prepared for the labor market. If we can determine factors that help or hinder young disabled people in finding employment, we may be able to better assess their abilities, and thereby help them to prepare for the labor market.

Factors that influence work participation can be disease-related but also external and personal as notified by the WHO’s international classification of functioning, disability and health (ICF) framework [9, 10]. This framework states that the functioning of an individual is not only influenced by factors related to a disease or disorder, and
that external and personal factors can also have positive,
promoting, or negative, hindering, influences [9].

Although there are studies on disability-causing diseases
and return-to-work factors among adults [11], young dis-
abled starters at the beginning of their vocational career
may face other barriers. The factors found for disabled
employed adults may not be the same as those for disabled
starters. To find out if there are factors reported in the
literature specific to young disabled at the beginning of
their vocational career, we systematically reviewed the
literature. We searched for factors that generally influence
work participation and, therefore, we did not limit our
search to specific diseases or disorders. We included all
studies among disabled young people who had not yet
entered the labor market when diagnosed, and those that
explain the differences in work participation among them.
In this review we addressed the question: what factors are
reported that promote or hinder work participation of
young disabled people?

Method

Search Strategy

For this review we extensively searched biomedical and
psychological databases (PubMed, EMBASE, PsycINFO,
Web of Science and CINAHL) through May 2008. We
included studies that described factors influencing the work
participation of young disabled people, using the keywords
young disabled, work/employment and factors and their
synonyms. No constraints on disease types were made. In
appendix, the synonyms and search strategy are listed.
Inclusion criteria were:
1. Written in English, German or Dutch;
2. Abstract and full article available;
3. Description of young disabled persons;
   a. Young disabled was defined as diagnosed with a
disability before the age of 18 years.
   b. Disabled was defined as persons with physical or
mental disabilities that affect or limit their activ-
ities of daily living, and that may require special
accommodations (Mesh PubMed).
4. Description of work or employment as outcome
   measure; and
5. Including factors predicting or associated with either
employment or unemployment.

The reference lists of selected articles were hand-searched
for additional references and experts were asked for
relevant articles.

Study Selection

At first, two authors (TA en HW) independently reviewed
the title and the abstracts of the studies that were selected
on the basis of the inclusion criteria. If the abstracts met the
inclusion criteria we included these for full text selection.
If there was any doubt about inclusion of the abstract by
one of the authors, the study was included for full text
selection. We reviewed the full text articles again, inde-
dependently. In the case of disagreement on the inclusion of
an article, a third reviewer (MF) was consulted.

Data Extraction

From the included articles the following items were
extracted: cause of disability; number participants in the
study; age at diagnosis; gender; time since diagnosis or age
at study; outcome measure; factors that had a significant
influence on work participation; instruments used to mea-
ure these factors; and whether the factors had a positive or
negative influence on work participation.

Results

Our search resulted in 1,458 publications: 721 from Pub-
Med, 243 from EMBASE, 338 from PsycINFO, 111 from
Web of Science and 45 from CINAHL (see flowchart;
Fig. 1). After removal of duplications, we reviewed 1,268
studies based on the abstract and inclusion criteria. Work as
an outcome measurement, factors and study design was not
always clearly described in the abstract (Table 1). There-
fore, we first reviewed the abstracts on the criteria language,
young, disabled and work. If the abstract met these criteria,
we reviewed the full article. Using the criteria, we reviewed
66 full articles. The reference lists of these 66 articles led to
an extension of 28 studies for which full texts were
reviewed and four selected articles from experts [2, 12–14].

From these 98 articles, we excluded 19 studies in which
the population was not diagnosed before the age of 18. Inive studies it was not clear whether the population was
disabled. In thirty-six studies work was not the outcome
measure. In eleven studies there were no factors that
explained the differences in outcome for employment. The
seventeen studies with a case control design or descriptive
design were excluded; the employment status of disabled
young people was compared with healthy controls or sib-
lings or the general population.

Factors

We included ten studies. We found that gender was a
promoting factor: males have a higher chance for
employment [12, 13, 15, 16]. Educational level was a predictive factor for employment: not only a higher educational level reached by the young disabled was positively associated with employment [13, 15, 17, 18] but also a higher parental educational level [2]. A higher level of psychosocial functioning at treatment entry and after follow up was a positive predicting factor for employment [19] among young adults with a mental disorder. A lower age at time of survey was positively associated with employment [16] among survivors of cancer. Lower scores on a depression scale and higher level of dispositional optimism were promoting factors associated with employment in a study among adults with cystic fibrosis [13].

We found also hindering factors. Educational level and gender were found as hindering factors: primary or lower educational level was associated with lower odds of employment compared with higher secondary or tertiary level [17, 18] and females had a lower chance for being employed compared with males. Inpatient treatment during follow up was a negative predicting factor for employment in the study among mental disordered young adults [19]. An IQ lower than 80 and epilepsy were hindering factors in a study among survivors of brain tumors [20]. Motor impairment, wheelchair use, functional limitations, comorbidity, physical disability and chronic health conditions combined with mental retardation or physical disabilities were hampering factors [2, 14, 17, 20]. The type of cancer, and cranial radiotherapy with more than 30 GY interfered with employment just as age under 3 years at diagnosis among survivors of cancer. Low mental health perception, denial coping strategy and dependent coping strategy were also found as impeding factors for employment [14, 18].
<table>
<thead>
<tr>
<th>Author year of publication (reference number)</th>
<th>Disability/disease</th>
<th>Population</th>
<th>Study design</th>
<th>Outcome</th>
<th>Instrument</th>
<th>Factors</th>
<th>Prediction OR: (95% CI)</th>
<th>Association OR: (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pelkonen et al. [19]</td>
<td>Mental disorder</td>
<td>n: 55</td>
<td>Follow up</td>
<td>Being on a disability pension versus being employed</td>
<td>At beginning and end of treatment, and at 7 years of follow up: level of psychosocial functioning: GAS 1–10.</td>
<td>Inpatient treatment at follow up GAS score at treatment entry and 7 years follow up</td>
<td>Negative: inpatient treatment during follow up: OR 15 (2.8–80)</td>
<td>Positive: higher GAS at treatment entry: GAS 3.2 versus 2.5 $P = 0.001$ (2.64–3.18) higher GAS score at 7 years follow up: GAS 7.3 versus 4.1; $P &lt; 0.001$ 4.86–6.16)</td>
</tr>
<tr>
<td>Macedoni et al. [20]</td>
<td>Brain tumor</td>
<td>n: 61</td>
<td>Follow up</td>
<td>Employment: n: 46, only those finished school</td>
<td>IQ: Wechsler Bellevue Intelligence Test: Score &lt;80 = subnormal intelligence -Motor impairment: physical and neurological examination: non = normal neurological status or mild dysfunction of brains mild = mild hemiparesis or ataxia, palsy or brain nerves moderate = moderate hemiparesis or ataxia. severe = inability to walk due to severe truncal ataxia or severe hemipare. -Epilepsy: ongoing seizures and/or anticonvulsant therapy</td>
<td>IQ motor impairment epilepsy</td>
<td>Negative: IQ &lt; 80 ($P = 0.005$) motor impairment: mild to severe ($P = 0.024$) epilepsy ($P = 0.029$)</td>
<td></td>
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</tbody>
</table>
Table 1 continued

<table>
<thead>
<tr>
<th>Author year of publication (reference number)</th>
<th>Disability/disease</th>
<th>Population</th>
<th>Study design</th>
<th>Outcome</th>
<th>Instrument</th>
<th>Factors</th>
<th>Prediction OR: (95% CI)</th>
<th>Association OR: (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nagarajan et al. [15]</td>
<td>Lower extremity bone tumors</td>
<td>$n$: 694</td>
<td>Follow up</td>
<td>Employment: worked last year</td>
<td>Questionnaire</td>
<td>Gender, educational status: high school versus no high school college versus no college</td>
<td>Positive: male: OR: 2.1 (1.39–3.26) $P &lt; 0.001$ high school OR: 5.2 (95% CI 2.57–0.58) $P &lt; 0.005$ college graduate OR: 3.9 (2.30–6.55) $P &lt; 0.005$</td>
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<td></td>
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<td>$a$: 13.5 (3–20)</td>
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<td>$g$: $f = 341$ (49%)</td>
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<td>$t &gt; 5$ years (client at least 18 years)</td>
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<tr>
<td>Valtonen et al. [17]</td>
<td>Meningomyelocele</td>
<td>$n$: 48</td>
<td>Cross sectional</td>
<td>Current employment (including wage supplements from government and studying), or unemployed (including sheltered work)</td>
<td>Questionnaire, self reported functional measure (SRFM)</td>
<td>Use of wheelchair, SRFM, education level reached</td>
<td>Negative: wheelchair $n = 30$ (63%) versus non-wheelchair $n = 18$ (37%) OR: 9.14 (1.01–82.44) SFRM $\leq 46$ $n = 21$ (46%) versus, SRFM $&gt; 46$ $n = 25$ (54%) OR: 10.50 (2.58–42.68) education level: primary level $n = 6$ (13%) versus secondary level $n = 32$ (68%) or tertiary level $n = 9$ (19%) OR: 40 (2.01–749.27)</td>
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<tr>
<td>Author year of publication (reference number)</td>
<td>Disability/ disease</td>
<td>Population</td>
<td>Study design</td>
<td>Outcome</td>
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<td>Factors</td>
<td>Prediction OR: (95% CI)</td>
<td>Association OR: (95% CI)</td>
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<tr>
<td>Pang et al. [16]</td>
<td>Childhood cancer</td>
<td>n: 10,399</td>
<td>Cross sectional</td>
<td>Employed within the previous 12 months, having been employed ever or never having been employed</td>
<td>Self reported questionnaires, medical records</td>
<td>Age, gender, age at diagnosis, cranial radiotherapy dose, type of cancer</td>
<td>Never been employed versus employed positive: age at survey OR: 0.89/year (0.87–0.91) negative: female gender OR: 1.4 (1.1–1.7), age at diagnosis 0–3 years versus ≥4 years OR: 1.4 (1.1–1.8) type of cancer: CNS versus all others: OR: 1.5 (1.1–2.1), bone versus all others: OR: 1.5 (1.0–2.1), cranial radiotherapy doses ≥ 30 Gy versus 0–29 Gy. cranial radiotherapy OR: 4.0 (2.9–4.5)</td>
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<tr>
<td>Groothoff et al. [14]</td>
<td>End-stage renal disease</td>
<td>n: 144</td>
<td>Cross sectional</td>
<td>Unemployment: &lt;20% of time spending on paid work and not attending a full scholarship; homemaking defined as employment</td>
<td>Medical charts RAND-36 survey, questionnaire</td>
<td>Co-morbidity, mental health perception</td>
<td>Negative; co-morbidity: OR: 2.3 (1.0–5.3) low mental health perception OR: 4.1 (1.5–11.1)</td>
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</tr>
<tr>
<td>Broyer et al. [12]</td>
<td>Kidney transplantation in childhood</td>
<td>n: 233</td>
<td>Cross sectional</td>
<td>Present activity: fulltime employed, part time employed, pensioned or other</td>
<td>Questionnaire height</td>
<td>Gender, height (mean height male = 156 ± 9.4 cm (=−3 SD) female = 147.7 ± 8.7 cm (=−2.5 SD) compared with height of the national population)</td>
<td>Full time versus part time employed: negative: female n = 89 versus male n = 144 less full time activity: P = 0.04 height: −2.5 SD compared with mean population. P = 0.02</td>
<td></td>
</tr>
<tr>
<td>Author year of publication (reference number)</td>
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<tr>
<td>Burker et al. [13]</td>
<td>Adults with cystic fibrosis</td>
<td>n: 183</td>
<td>Cross sectional</td>
<td>Currently work, work in- or outside home, Hours worked per week</td>
<td>Questionnaires, Spielbergs state trait anxiety Inventory (STAI): higher scores = higher levels of anxiety, Beck depression inventory (BDI): higher scores = more depressive symptoms, Life orientation test (LOT) measuring dispositional optimism: higher scores = higher dispositional optimism</td>
<td>Working versus not working: BDI, education level, Hours worked per week: BDI, educational level, gender</td>
<td>Currently working versus not working: positive: lower BDI, $P &lt; 0.001$, higher educational level, $P &lt; 0.03$, positive: higher level dispositional optimism, $P = 0.009$, higher educational level, $P = 0.0099$, gender: male (20.65 hours per week) versus female (10.9 hours per week), $P = 0.002$</td>
<td></td>
</tr>
<tr>
<td>Packham et al. [18]</td>
<td>Juvenile arthritis</td>
<td>n: 246</td>
<td>Cross sectional</td>
<td>Employment</td>
<td>Interview, health assessment questionnaire (HAQ), London coping with rheumatoid arthritis scale</td>
<td>Educational level, physical ability, denial coping strategy, dependent denial coping strategy</td>
<td>Negative: lower educational level, $P &lt; 0.001$, physical disability, $P &lt; 0.001$, denial coping strategy $P &lt; 0.001$, dependent coping strategy $P &lt; 0.001$</td>
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</tbody>
</table>

\(n\): number of participants, \(g\): gender, \(a\): age, \(a^2\): attrition rate.
<table>
<thead>
<tr>
<th>Author year of publication</th>
<th>Disability/disease</th>
<th>Population</th>
<th>Study design</th>
<th>Outcome</th>
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<th>Factors</th>
<th>Prediction OR: (95% CI)</th>
<th>Association OR: (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ireys et al. [2]</td>
<td>Youth with chronic diseases learning disability, physical disability, and mental retardation.</td>
<td>n: 421</td>
<td>Cross sectional</td>
<td>Employment, idleness: not being at school, not employed, not married, not living in a household with family members &lt;6 years</td>
<td>Telephone interview</td>
<td>Parental educational level, chronic health condition and mental retardation, chronic health condition and physical disabilities</td>
<td>Employment: positive: parental educational level; high school level n = 195 versus higher or lower level n = 202 OR: 2.04, P ≤ 0.05, negative: chronic health condition and mental retardation n = 75, versus chronic health condition alone n = 257 OR: 0.26, P ≤ 0.001, chronic health condition and physical disabilities n = 89 versus chronic health condition alone n = 257: OR: 0.18, P ≤ 0.001</td>
<td>Idleness: negative: chronic health condition and mental retardation n = 75 versus chronic health condition alone n = 257, OR: 4.23, P ≤ 0.001, chronic health condition and physical disabilities n = 89 versus chronic health conditions alone n = 257 OR: 3.28, P ≤ 0.001</td>
</tr>
</tbody>
</table>

**n** number of patients under study  
*a* mean age at diagnose/onset (range)  
*g* gender, *m* male, *f* female (% female)  
*t* time of follow up in years (range)  
*a* age at time of study (range)  
GAS global assessment scale  
*a* Is incorrect reproduced in the original article
Discussion

Our extensive literature study shows that there is little written about factors influencing the work participation of young disabled starters entering the labor market. We found that gender, education, high psychosocial level of functioning, low depression and high dispositional optimism were promoting factors in relation to employment. Some of these factors, like gender, education and psychosocial functioning have more impact since they were found in longitudinal studies. On the other hand, we also found several hindering factors in relation to employment among this group of young disabled. For instance, motor impairment, physical ability, co-morbidity, epilepsy, IQ lower than 80, inpatient treatment during follow up, depending and denial coping strategy and age at diagnosis and radiation grade in cancer survivors appeared to be related to negative employment outcome. Of these factors motor impairment, epilepsy, low IQ and inpatient treatment during follow up were found in longitudinal studies and therefore deserve more attention.

Although we performed a broad-based search, the number of included studies was limited. Our search, however, was performed with a lot of synonyms and without constraints on type of disease. From the abstracts found, it was often not clear whether the study had work participation as outcome measure and/or the study design was not clear. Therefore, a great number of full articles were reviewed. However, even with this broad-based search, we only found a few articles that met all of our inclusion criteria.

There are a number of explanations that could be responsible for the low number of found studies. In clinical studies among young people work was not included as outcome measure. More often, the focus of research was on the results of medical treatment, tests to diagnose a disease, mortality or morbidity. Studies beyond treatment focused more on physical impairment, rehabilitation or educational achievement [21–23]. The fact that the patients have often not yet entered the labor market could be responsible for this lack of studies with work as a measurement outcome. However, these starters are at the very beginning of their vocational career, and if they do not enter the labor market at this point, their entire working lives could be lost. By identifying the factors that influence their work participation, a better match between work ability and work demand can be found and, if necessary, supporting interventions can be developed.

Another reason for the scarcity of included studies could be that in some studies, which used work participation as an outcome, factors were lacking that explained the differences in outcome among disabled young people [22, 23]. These studies concluded that there was more unemployment among disabled compared with healthy controls or general population without further elucidation. However, such a conclusion does only partly contribute to a better insight on what factors among young disabled people determine work participation.

In a number of studies [7, 23], there were discussions about whether or not disability was still present. In these studies, there had been a serious disease during childhood but the patients survived and recovered, and were declared physically fit/healthy. The focus of our search was on factors among disabled young people, and survivors in these studies were excluded if there was no description of disability anymore. Therefore, the survivors could not be seen as disabled in the way that we defined disabled: persons with physical or mental disabilities that affect or limit the activities of daily living and that may require special accommodations. Still, it seems that having a serious disease during childhood leads to a greater risk of unemployment, compared to healthy young people [7, 22, 23]. In other studies the focus was more on the disease instead of the limitations in work participation as result of the disease although work participation was an outcome measure. These studies were not found with our search but via references and experts.

Because we found only a few studies with prognostic factors, we did not apply quality criteria. The predicting factors found in our review were also found in other studies focussing on the predicting factors of work participation of patient groups, not specially diagnosed before the age of 18. For instance, use of hospital cure during follow-up as well as gender and education were found to be predicting employment in studies among adults [24, 25]. Also several cross-sectional studies among adults showed similar results as we found in studies among young disabled influencing work participation, like psychosocial factors such as passive coping style [11, 26, 27], severe mental illness [27] and disabilities in general [11]. It is an indication that these factors might be negatively influencing employment not only among young disabled, but also among adults. Whether there is a causal relation between these factors and employment would be interesting to know. The results show personal factors and disease related factors that decrease activities and that impair and restrict the young disabled in work participation such as age, gender, education and coping style as personal and treatment, physical ability and co-morbidity as disease related factors. In our study among young disabled we did not find external factors, such as support of management and colleagues and adequate work conditions that were found in studies among adult employees [28]. However, it can be imagined that these factors are of great importance in keeping the young disabled employed.

Some of the factors found in this study are not changeable, such as age or IQ, but other factors can be influenced. When for instance education is found to be an
important promoting factor for employment, attention can be given to the opportunities for education for disabled young persons. On the other hand, by knowing what hindering factors exist for employment of young disabled effort can be put in avoiding these factors. Adapting workplaces might be a solution to overcome obstacles for employment due to motor impairments, wheelchair use, and other physical disabilities. Knowing the promoting and hindering factors can lead to appropriate support or intervention for the disabled starter, which could result in higher work participation and lower the barriers they experience. It is worthwhile to create adequate work places for young people with disabilities in order to give them a fulfilling life and this starts by knowing what the promoting and/or hindering factors are in relation to work participation for this population.

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Appendix

See Table 2.

Table 2 Search history

<table>
<thead>
<tr>
<th>Search history PubMed</th>
<th>Search history EMBASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. “Young adult”</td>
<td>1. Adolescent</td>
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<tr>
<td>2. Student</td>
<td>2. Young</td>
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<tr>
<td>3. Adolescent</td>
<td>3. “Young person”</td>
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<td>4. “Young person”</td>
<td>4. “Young people”</td>
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<td>5. “Young people”</td>
<td>5. Youngs$</td>
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<tr>
<td>6. Youngs$</td>
<td>6. “Young person”</td>
</tr>
<tr>
<td>7. 1 or 2 or 3 or 4 or 5 or 6</td>
<td>7. “Young persons”</td>
</tr>
<tr>
<td>8. Disabled</td>
<td>8. 1 or 2 or 3 or 4 or 5 or 6</td>
</tr>
<tr>
<td>10. Impair*</td>
<td>10. Handicap$</td>
</tr>
<tr>
<td>11. Retard*</td>
<td>11. Impair$</td>
</tr>
<tr>
<td>12. Pervasive</td>
<td>12. Retard$</td>
</tr>
<tr>
<td>14. 8 or 9 or 10 or 11 or 12 or 13</td>
<td>14. 9 or 10 or 11 or 12 or 13</td>
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<tr>
<td>15. 7 and 14</td>
<td>15. 8 and 16</td>
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<tr>
<td>17. Employ*</td>
<td>17. Employ*</td>
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<tr>
<td>18. Unemploy*</td>
<td>18. Unemploy*</td>
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<tr>
<td>19. Participation</td>
<td>19. Participation</td>
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<td>20. Work</td>
<td>20. Work</td>
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<td>21. Occupation*</td>
<td>21. Occupation*</td>
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<td>22. “Return to work”</td>
<td>22. “Return to work”</td>
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<tr>
<td>23. “School to work”</td>
<td>24. Vocation*</td>
</tr>
<tr>
<td>27. Profession*</td>
<td>28. Labor or labour</td>
</tr>
<tr>
<td>29. Job</td>
<td>30. 16 or 17 or 18 or usual or 26 or 27 or 29</td>
</tr>
<tr>
<td>31. 30 and 15</td>
<td>32. Factor</td>
</tr>
<tr>
<td>33. Factors</td>
<td>34. Hinder*</td>
</tr>
<tr>
<td>35. Imped*</td>
<td>36. Hamper*</td>
</tr>
<tr>
<td>37. Promot*</td>
<td>38. Stimula*</td>
</tr>
<tr>
<td>39. Encourag*</td>
<td>40. Motivation*</td>
</tr>
<tr>
<td>41. Prognos*</td>
<td>42. 32 or 33</td>
</tr>
<tr>
<td>43. 34 or 35 or 36 or usual or 39 or 40 or 41</td>
<td></td>
</tr>
<tr>
<td>44. 42 and 43</td>
<td>45. 44 and 31</td>
</tr>
</tbody>
</table>

Search history EMBASE

1. Adolescent
2. Young
3. “Young person”
4. “Young people”
5. Youngs$
6. “Young person”
7. “Young persons”
8. 1 or 2 or 3 or 4 or 5 or 6
9. Disabled
10. Disab$
11. Handicap$
12. Impair$
13. Retard$
14. Pervasive$
15. Disorder
16. 9 or 10 or 11 or 12 or 13
17. 8 and 16
18. Employ$
19. Unemployment
20. Participation
21. Work
22. Occupation$
23. “Return to work”
Table 2 continued

27. Career
28. Trade
29. Profession
30. Labor
31. Labour
32. Job
33. 19 or 20 or 21 or………or 30 or 31 or 32
34. 33 and 18
35. Factor
36. Hinder
37. Imped
38. Hamper
39. Promot
40. Stimula
41. Encourage
42. Motivation
43. Prognostic
44. 36 or 37 or 38 or………or 41 or 42 or 43
45. 44 and 35
46. 45 and 34

Search history CINAHL
Limits: keywords in title and abstract.
1. Student
2. Adolescent
3. Young person
4. “Young people”
5. Youngs
6. “Young person”
7. 1 or 2 or 3 or 4 or 5 or 6
8. Disabled
9. Handicap
10. Disab
11. Impair
12. Retard
13. Pervasive
14. Disorder
15. 8 or 9 or 10 or………or 12 or 13 or 14
16. 7 and 15
17. Employ
18. Unemploy
19. Participation
20. Work
21. Occupation
22. “Return to work”
23. “School to work”
24. Vocation
25. Career
26. Trade
27. Profession

Table 2 continued

24. “School to work”
25. Vocation
26. Career
27. Trade
28. Profession
29. Labor
30. Labour
31. Job
32. 18 or 19 or 20 or………or 29 or 30 or 31
33. 32 and 17
34. Factor
35. Hinder
36. Imped
37. Hamper
38. Promot
39. Stimula
40. Encourage
41. Motivation
42. Prognostic
43. 36 or 37 or 38 or………or 41 or 42 or 43
44. 44 and 35
45. 45 and 34

Search history PsycINFO
Limits: keywords in title and abstract.
1. Student
2. Adolescent
3. Young person
4. “Young people”
5. Youngs
6. “Young person”
7. 1 or 2 or 3 or 4 or 5 or 6
8. Disabled
9. Handicap
10. Disab
11. Impair
12. Retard
13. Pervasive
14. Disorder
15. 8 or 9 or 10 or………or 12 or 13 or 14
16. 7 and 15
17. Employ
18. Unemploy
19. Participation
20. Work
21. Occupation
22. “Return to work”
23. “School to work”
24. Vocation


