

Vocational Interventions for Unemployed: Effects on Work Participation and Mental Distress. A Systematic Review

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Abstract *Introduction* Unemployment is a growing problem worldwide. Unemployment or job loss is one of the most stressful of life events and can lead to diminished social status, disturbed social role patterns, financial debt, reduced self-esteem and feelings of guilt. The purpose of this review was to determine the effectiveness of vocational interventions on work participation and mental distress for unemployed adults and to provide an overview of the characteristics of these interventions. *Methods* Medline, EMBASE and PsycINFO were systematically searched for studies published between 1990 and August 2008. Intervention studies aimed at work participation and helping with mental distress for the unemployed were included. Methodological quality of the included studies was assessed. *Results* Six articles based on five intervention studies, of which two randomized controlled trials, fulfilled all inclusion criteria. The methodological quality of the studies ranged from good to poor. All five interventions applied group training techniques aimed at promoting re-employment and/or improving mental health. The duration of the interventions varied from 1 week to 6 months. The interventions focused on acquiring job-search skills, maintaining paid work, personal development and preparedness against setbacks during the job-search process. Only one

intervention study (randomized controlled trial) reported a significant effect on re-employment. *Conclusions* Based on our review, we conclude that there is weak evidence to support the use of vocational interventions to improve work participation and limited evidence to reduce mental distress for the unemployed. We recommend further development and evaluation of return to work intervention strategies for unemployed individuals.

Keywords Unemployment · Participation · Mental distress · Re-employment · Intervention · Vocational rehabilitation

Introduction

Unemployment is a growing social problem worldwide with serious financial consequences for the impacted individuals. Unemployment or job loss is one of the most stressful of life events and can lead to diminished social status, disturbed social role patterns, financial debt, reduced self-esteem and feelings of guilt [1]. Furthermore, authors report poorer mental health among the unemployed compared with employed persons [2–5]. A substantial proportion of individuals who become unemployed will experience or develop stress-related disorders or “mental distress” [1, 6–8]. This may increase the distance to the labor market and begin a cycle leading to further health deterioration and longer time out of work. Likewise mental distress can also lead to job loss, so the mental distress of unemployed is an important factor to consider. In this review we focused on vocational intervention for the unemployed and the effect of these interventions on work participation and mental distress.

There is no uniform or agreed-upon definition for mental distress in the literature. Here, we classify minor

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psychological problems with emotional or psychological distress as mental distress. Psychological problems related to occupational stress are also reported in the literature as emotional distress or stress-related disorders [9].

It would be interesting to evaluate which components or intervention strategies are used in re-employment programs targeting unemployed workers, and whether any vocational counseling or mental health component is part of these programs. If there were effective interventions aimed at work participation and mental distress for unemployed persons, it would be possible to reintegrate them into the workforce and to counteract negative mental health consequences of unemployment. However, there is little known about the effectiveness of work participation interventions used for unemployed individuals or what the effect of these interventions is on mental distress.

Studies concerning work-related mental distress have been published, but research in the field of re-integration in relation to unemployment and mental distress is lacking. The purpose of this literature study was to answer the following questions: (1) what is the effect of vocational interventions on work participation and mental distress for unemployed; and (2) what are the characteristics of those interventions?

Methods

Identification of Studies

We systematically searched the literature of biomedical and psychological databases (Medline, EMBASE and PsycINFO) from 1990 to August 2008. Combinations of search terms on unemployment, mental distress and sick leave were used to identify potentially relevant articles. When available, subject headings such as MeSH terms in Medline were used, in addition to free text (see “[Appendix](#)” for Medline, EMBASE and PsycINFO search terms).

Selection of Studies

One reviewer (SA) selected studies on the basis of title and abstract, among those published in English, German, Dutch or French. Potentially relevant studies were included if they described intervention studies with respect to return to work for unemployed subjects with mental distress or minor psychological problems. The selection was repeated by a second reviewer on a random sample of 100 studies. The definitive selection of articles was made on the basis of review of full text articles by two independent reviewers using the following inclusion criteria: (1) participants were unemployed and between 18 and 65 years old; (2) presence

of mental distress complaints or distress was measured pre- and post-intervention; (3) the study design used was a randomized controlled trial (RCT), controlled clinical trial, pre-post study (longitudinal follow up) or case series; (4) the intervention was aimed at return to work, work resumption, job application and/or improved functioning (excluding drug trials as primary intervention). References of selected articles were screened for additional relevant publications. After selection, reviewers met to decide on definitive selection of articles; in the case of disagreement, a third reviewer (JS) made the decision.

Assessment of Methodological Quality and Analysis

Methodological quality was independently evaluated by two reviewers (SA and JH or JS or MF) using the validated Downs and Black instrument [10], a 27-question checklist for assessing the methodological quality of both randomized controlled trials (RCTs) and nonrandomized studies (Table 1). Disagreement was resolved by consensus between two reviewers. The highest possible score is 28 for RCTs and 25 for nonrandomized studies. Downs and Black score ranges (range 1–28) were grouped into the following four quality levels: excellent (26–28), good (20–25), fair (15–19), and poor (14 or less). Using these methodological quality scores, the corresponding level of evidence was scored as described by Foley et al. [11] (Table 2): level 1a (very strong), level 1b (strong), level 2a (moderate), level 2b (limited), level 2c (weak), level 3 (consensus) and level 4 (conflicting). For the best evidence synthesis we used the following rules adapted from van Tulder et al. [12] and de Croon et al. [13]: (1) if there are four or more studies, the statistically significant findings of 75% or more of the studies in the same direction were taken into account; (2) if there are three studies, the statistically significant findings of at least two studies in the same direction were taken into account; (3) if there are two studies, the statistically significant findings of both studies in the same direction were taken into account; (4) if there is one study, the statistically significant findings were taken into account.

Data Extraction

Data were abstracted from the included articles by one reviewer (SA) and checked for accuracy by the other authors. Disagreement in data extraction between authors was resolved by consensus. Relevant information was extracted into a summary table (Table 3). The extracted data included first author, year and country of study, design, participants, description of intervention(s), follow-up, outcomes and effect of the intervention.

Table 1 Checklist for assessment of methodological quality

Reporting	Score
1. Is hypothesis clearly described?	1
2. Is main outcome clearly described?	1
3. Are patient characteristics clearly described?	1
4. Are interventions clearly described?	1
5. Are distributions of co-founders clearly described?	2
6. Are main findings clearly described?	1
7. Estimates of random variability in data for main outcome?	1
8. Have important adverse events been reported?	1
9. Have characteristics of patients lost to follow-up been described?	1
10. Have actual probabilities been reported?	1
<i>External validity</i>	
11. Subjects asked to participate representative of population?	1
12. Subjects prepared to participate representative of population?	1
13. Were facilities representative of treatment of majority?	1
<i>Internal validity—bias</i>	
14. Was attempt made to blind subjects to intervention?	1
15. Was attempt made to blind assessors to main outcome?	1
16. If results were based on data dredging, this was made clear	1
17. Analyses adjust for length of follow-up	1
18. Appropriate statistical tests were used	1
19. Was compliance to intervention reliable?	1
20. Were main outcome measures accurate?	1
<i>Internal validity—confounding</i>	
21. Were patients recruited from the same population?	1
22. Were patients recruited over same period?	1
23. Were subjects randomised into treatment groups?	1
24. Was randomization concealed until recruitment was complete?	1
25. Were there adequate adjustments for confounding factors?	1
26. Were losses to follow-up taken into account?	1
<i>Power</i>	
27. Were there power calculations?	1
Total	28

Table 2 Strength of evidence levels

Level	Supporting evidence
1a (Very strong)	2 ≥ Study of excellent quality
1b (Strong)	1 ≥ Study of excellent quality
2a (Moderate)	2 ≥ Studies of good quality
2b (Limited)	1 ≥ Study of good quality
2c (Weak)	1 ≥ Study of fair or poor quality
3 (Consensus)	In the absence of evidence, agreement by a group of experts on the appropriate course of treatment
4 (Conflicting)	Disagreement between findings of studies ^a

^a Disagreement between the findings of at least 2 RCTs, or where RCTs are not available between 2 nonrandomized trials. Where there were 4 or more RCTs and the results of only 1 were conflicting, the conclusion was based on the results of most of the studies, unless the study with conflicting results was of higher quality

Results

Retrieved Studies

The electronic search resulted in 4,736 citations, of which 29 articles were considered to be potentially eligible based on title and abstract. Most of the other publications were excluded because they were not related to unemployment and mental distress or minor psychological problems. Reviewing the 29 selected articles in full identified six articles that fulfilled all inclusion criteria. The six articles were based on five intervention studies, as two publications included the same data [14, 15]. The five intervention studies included two RCTs [14, 16], one non-randomized controlled trial [17], and two longitudinal studies with pre- and post-test measurement [18, 19].

Table 3 Summary of studies included in this review

Author	Design/ quality score	Sample size	Participants	Intervention	Control	Outcome/measurements	Results
Creed (1998) Australia	Non-randomized controlled trial Score 19 Quality: fair	$N = 133$ at T1 E (exp) = 62 at T1 C (contr.) = 71 at T1	The 133 participants represent a broad sample of metropolitan-based unemployed people who were registered for work with the national employment agency in Australia and were continuously unemployed for at least 6 months. Experimental and control participants met all course criteria Experimental group were participants who attended four training courses in metropolitan Brisbane Controls were waiting- list unemployed individuals who were eligible for training programs, and were recruited from course information sessions given at the employment agency (in the same area where the training occurred) Unemployed: at least 6 months, mean not mentioned Mean age: E : 33 years; C : 33 years Male: E : 52%; C : 56% Duration previous job: not mentioned Psychological distress GHQ- 12 mean score: T1: E 13.85 C 17.27 Distress higher in control group, difference significant ($P = .01$), however means for both are in the pathological range	“Skillshare” work- preparation program (combination of occupational skills training and personal development) aimed to provide unemployed participants necessary skills to obtain and maintain paid work Duration: 4 to 7 weeks full-time Training: provided by Skillshare centre (in Australia). Background trainers not mentioned Group training	Controls were waiting- list unemployed individuals who were eligible for training programs	<i>Primary outcome</i> Employment status (not specified) <i>Secondary outcome</i> Psychological distress Psychological distress symptoms were measured with the 12-item version of the General Health Questionnaire (GHQ-12) Score range 0–36 T1 = first day of the course; controls got the 1st questionnaire personally T2 = last day of the course; controls got the 2nd questionnaire by mail T3 = 3 months after the course; controls got the 3rd questionnaire by mail (response exp. group 63% of T1, control group 73% of T1)	<i>Primary results</i> Employment status T3: E 62% unemployed; C 67% unemployed; Difference not significant ($P > .05$) <i>Secondary results</i> Psychological distress T2: E 10.47 (mean score); C 15.80 Difference remains significant ($P < .01$) Exp. group improve between T1 and T2 ($P < .05$) T3: E 12.9 (mean score); C 15.3 Difference not significant (P not mentioned)

Table 3 continued

Author	Design/ quality score	Sample size	Participants	Intervention	Control	Outcome/measurements	Results
Vinokur (1995) USA	RCT Score 18 Quality: fair	N = 1,801 at T1 E (exp) = 1,249 at T1 C (contr.) = 552 at T1 High risk respondents (N = 715): 32% in E, 68% in C Low risk respondents (N = 1,086): 70% in E 30% in C Risk score index = score for poor mental health (low risk and high risk) High risk depends on: 1. Higher depression (symptoms) score 2. Higher financial strain 3. Lower assertiveness score	Participants screened from 4 offices of Michigan Employment Security Commission, were <13 weeks unemployed and has no significant depression (Hopkins symptom checklist) Unemployed: mean = 4.11 weeks (SD = 3.8) Mean age: 36.2 years (SD = 10.38) Male: 45% Duration previous job: 3.85 years (SD = 5.01) Psychological distress T1: results not presented ^a	JOBS II intervention focused on enhancing the sense of mastery through acquisition of job search and problem- solving skills and decision- making group processes, and on preparedness against setbacks. JOBS II was intended to prevent poor mental health and promote high quality reemployment Of the 1,249 (T1) study participants who returned the pre-test questionnaire only 54% showed up for intervention Duration: five 4-h group sessions during the morning of a 1-week period Training: 3 pairs of male and female cotrainers (social workers, educational counselors, unemployed high school teachers); trainers got a training for 240 h Group training (12–22 participants), M = 15.6	Controls received a booklet briefly by mail describing jobsearch methods and tips equivalent to three single spaced pages of text. Useful, but extremely brief in comparison, for example, to self-help books available on job search	Primary outcome 1. Employment status. (reemployment defined as working at least 20 h a week) 2. Functioning (role and emotional functioning) Role and emotional functioning was measured with a 15-item index (instrument and measurements were not specified) Secondary outcome Psychological distress Distress symptoms were measured with an 18-item index (instrument and measurements were not specified) T0 = randomization (computer) T1 = returning pretest questionnaire T2 = 2-month posttest (response 80% of T1) T3 = 6-month posttest (response 87% of T1)	Primary results 1 Employment status T2: E low risk 40% reemployed C low risk 35% reemployed T2: E high risk 44% reemployed C high risk 35% reemployed Reemployment significantly higher in experimental (both low- and high risk) vs. control group ($P < .05$) T3: E high risk 62% reemployed C high risk 54% reemployed Difference significant ($P < .05$) T3: E low risk 63% reemployed C low risk 67% reemployed Difference not significant ($P = 0.44$) Primary results 2 Role and emotional functioning Results not presented ^a T3: levels of functioning higher in high risk experimental group vs. control group ($P < .01$) T3: mean levels of functioning low risks experimental group vs. control group; no data available Secondary results Psychological distress Results not presented ^a T3: distress symptoms lower in high risk experimental group vs. control group ($P < .01$) T3: mean severity of distress symptoms low risks experimental group vs. control group; no data available

Table 3 continued

Author	Design/ quality score	Sample size	Participants	Intervention	Controle	Outcome/measurements	Results
Vinokur (2000) USA	Follow up of Vinokur (1995) with a Questionnaire	See Vinokur (1995) $N = 1,801$ enrolled in the study on T1 In this study there is no distinction between low and high risk participants, despite the fact that same study objects are used as in Vinokur (1995)				<i>Primary outcome</i> 1. Employment status (see Vinokur 1995) 2. Functioning (role and emotional functioning) See Vinokur (1995) T4 = 2 years posttest (response 79% van T1)	<i>Primary results 1</i> Employment status Results not presented ^a T4: employment status significantly higher in experimental vs. control group ($P < .01$) Experimental group working significantly more hours per week ($P < .01$) and more months in the last year ($P < .05$) compared with control group <i>Primary results 2</i> Role and emotional functioning Results not presented ^a T4: levels of functioning higher in experimental vs. control group ($P < .05$)
Vuori (2002) Finland	RCT Score 20 Quality: good	$N = 1,261$ at T1 E (exp) = 629 at T1 C (contr.) = 632 at T1	Heterogeneous sample of Finnish unemployed population Unemployed: mean = 10.7 months (SD = 17.3) Mean age: 37 years (SD = 8.6) Male: 22.2% Duration previous job: not mentioned Psychological distress T1: results not presented ^a Distress experimental vs. control group not significantly different (P not mentioned)	Työhön job-search training workshop, based on theories of active learning process, social modeling, gradual exposure to acquiring skills, practice through role playing and preparedness against setbacks (Finnish version of Jobs II, see Vinokur 1995) Of the 629 (T1) study participants who returned the pre-test questionnaire 70.4% showed up for intervention Duration: five 4-h morning sessions during a week Training: 3 cotrainer teams (one male and one female). Trainers selected from Finnish unemployed job seekers and trained (protocol) by training supervisors for 2 months Group training (6–17 participants) ($M = 10.3$, $SD = 2.4$)	Controls received a literature package, which corresponded to the basic themes in job-search training and included four guides	<i>Primary outcome</i> Employment status (reemployment defined as “being reemployed without subsidy from the state” or “running their own business”) <i>Secondary outcome</i> Psychological distress Psychological distress symptoms were measured with the 12-item version of the General Health Questionnaire (GHQ-12) at T1 and T3 (measurements were not specified) T1 = completed pretest questionnaire; T2 = 2 month posttest (response 88% of T1); T3 = 6-month posttest (response 97% of T1)	<i>Primary results</i> Employment status T3: E 34% reemployed; C 31.9% reemployed; Difference not significant (P not mentioned) (Reemployed in stable jobs, $P < .05$) <i>Secondary results</i> Psychological distress Results not presented ^a T3: lower in experimental group vs. control group ($P < .05$)

Table 3 continued

Author	Design/ quality score	Sample size	Participants	Intervention	Controle	Outcome/measurements	Results
Vuori (2005) Finland	Pre-post intervention trial Score 9 Quality; poor	$N = 278$ study participants at T1 Non study participants ($N ?$)	Representative sample of unemployed workers (278 study participants) of 71 job-search groups in 19 employment offices throughout Finland, recruited both personally during visit employment office and by mail. The 71 job-search groups also included participants who were other customers of the employment offices and were not participating in these study	Diversity of group-based job training methods were studied to examine effects of group training techniques on later reemployment and mental health 11% used Työhön, 31% used Työhön added with some other elements, 8% used Työhön, without some elements, 17% used Työhön elements selectively, 12% used some other training method 21% no specific training method reported Duration: mean 30 h ($SD = 13.5$), average of 5.2 h per day ($SD = 1.1$) Training: 52 trainers trained the 71 groups (64% trainers university degree, the others vocational qualifications). 58% attended training specially for job-search trainers		<i>Primary outcome</i> Employment status (reemployment defined as "being reemployed without subsidy from the state" or "running their own business") Reemployment in stable jobs defined as not <i>Secondary outcome</i> Psychological distress Psychological distress symptoms were measured with the 12-item version of the General Health Questionnaire (GHQ-12) at T1 and T3 T1 = pretest baseline questionnaire; T2 = 2 weeks after initial group session; T3 = 6-months after entering study (response study participants 92% of T1)	<i>Primary results individual level</i> Employment status T3: reemployment; results not presented ^a T3: 20 of 278 respondents (7%) reemployed in stable jobs (permanent jobs) <i>Primary results group level effect</i> Employment status T3: No aggregated group level indicator of training technique found which predicted significantly improve of reemployment <i>Secondary results individual level</i> Psychological distress T3: Mean 24.35 ($SD = 6.81$) (P not mentioned) <i>Secondary results group level effect</i> Psychological distress T3: Preparation and inoculation against setbacks as an aggregated group level indicator of training technique predicted significant decrease in symptoms of distress ($P < .01$)

Table 3 continued

Author	Design/ quality score	Sample size	Participants	Intervention	Controle	Outcome/measurements	Results
Vuori (1999) Finland	Pre-post intervention trial Score 13 Quality: poor	T1: $N = 553$ at T1 T2: $N = 401$ at T2 84.3% of 401 ($N = 338$) took part in labour market interventions between T1 and T2 15.7% of 401 ($N = 63$) got no intervention	Job-seekers who had been unemployed for less than 1 year, but were considered to be at risk of becoming long-term unemployed (over 1 year) were recruited by officers in five employment offices in Finland T1: Unemployed: less than 1 year but were about to become unemployed for more than 1 year Mean not mentioned Mean age: 35.6 years ($SD = 9.4$) Male: 36.2% Duration previous job: not mentioned Psychological distress GHQ-20 mean score: T1: 43.81 ($SD = 10.58$) T2: Unemployed: mean = 7.2 months ($SD = 9.4$) Mean age: 35.8 years ($SD = 9.2$), range 18–54 years Male: 33.2% Duration previous job: not mentioned	Different labor market interventions (guidance course, vocational training or subsidized employment or combinations of 2 or 3 types) were examined Guidance course $N = 182$ (45% of 401) Duration: 6–7 h a day for 10–15 days, total between 60–100 h The content of the training varied somewhat between different regions, but focused on the participants own skills, job-search process and labor market knowledge. The aim of the guidance was to activate the participants and to promote their reemployment Training: courses arranged by public training centers or private training firms and financed by the employment authorities (background trainers not mentioned) Vocational training $N = 183$ (45.6% of 401); 35 (19.1%) were still in training at T2 Duration: about half a year Training: arranged by vocational schools or public centers Subsidized employment $N = 180$ (44.9% of 401); 43 (23.9%) were still working at T2 Duration: 6 months in public or private sector, mainly financed by government 305 participants of the 401 had finished the intervention at T2	Primary outcome (reemployment defined as “being employed without subsidized employment benefit” or “running their own business”) Secondary outcome Psychological distress Psychological distress symptoms were measured with the 20-item version of the General Health Questionnaire (GHQ-20) at T1 and T2 T1 = pretest baseline questionnaire; T2 = 1 year follow up (response 72.5% of T1)	Primary results Employment status T2: 87 of 377 respondents (23.1%) reemployed (other respondents didn't mentioned reemployment), (P not mentioned) Group comparison: 34.6% of participants in guidance course were reemployed at T2 vs. 23.2% of the rest of the groups who had finished the intervention ($t(302) = 2.19, P < .05$) (Conclusion: participation in guidance courses predicted reemployment of those who had finished their interventions at T2, vocational training and subsidized work did not have any effect on reemployment at T2) Groups with only one intervention: Guidance course 29.8% ($N = 50$) reemployed Vocational training 22% ($N = 54$) reemployed Subsidized job 17.5% ($N = 55$) reemployed These 3 groups did not differ statistically significant ($F(2,125) = .94, NS$) Secondary results Psychological distress T2: $M = 42.72$ ($SD = 11.94$) (P not mentioned)	

^a In these study intervention results could not be identified in the original article

Description of the Interventions

All five studies applied group training techniques aimed at promoting re-employment and/or improving mental health. Three out of five studies [14–16, 18] were directly or indirectly based on the principles of the JOBS II intervention. One study was based on the “Skillshare” work preparation program [17] and the final study [19] was based on different labor market interventions.

The United States JOBS II intervention program [14] and the Finnish version of JOBS II, the Työhön job-search training workshop [16] are almost identical and based on the same principles, with the exception of minor procedural differences. Both interventions were intended for unemployed job seekers to facilitate their return to the labor market and prevent possible negative mental health consequences of unemployment. Both programs are based on theories of active learning process, social modeling, gradual exposure to acquiring skills, practice through role playing and providing preparedness against setbacks during the job-search process. The interventions consisted of five half-day sessions during a 1-week period and were designed to achieve goals through the creation of a socially supportive environment that facilitates positive interactions and relationships between trainers and participants and among participants. The training is designed to increase job-search self-efficacy, increase motivation, and to enhance the following job-search skills: (a) recognizing and communicating marketable skills, (b) identifying and using social networks to find job openings, (c) contacting promising employers, (d) drawing up a job application and résumé, and (e) preparing for successful job interviews. The intervention seminars were delivered by three pairs of male and female co-trainers to groups. The Jobs II seminars were given at community colleges, community centers and rented conference rooms at local hotels; Työhön workshops were organized in classrooms or similar sites in the home region of participants. The Jobs II seminar trainers included social workers, educational counselors, and high school teachers who themselves were unemployed and looking for work. The trainers received approximately 240 h of instruction. The Työhön co-trainers were selected from Finnish unemployed job seekers and trained by supervisors for 2 months. While JOBS II was tested only among recently unemployed workers (fewer than 13 weeks unemployed) in the United States, the Työhön study examined outcomes of the intervention in the context of the European labor market for participants who had been unemployed for a longer period ($M = 10.7$ months, $SD = 17.39$). Vinokur et al. [15] followed up with a questionnaire of participants 2 years after the JOBS II study and therefore describes the longer-term impact of the JOBS II program on re-employment and mental health.

The third intervention study is from Vuori et al. [18]. They investigated a variety of group instruction techniques in job-search training on re-employment and mental health. Two thirds of the training techniques were based on the Työhön job-search training (and therefore based on JOBS II) or a modification of that training. The rest of the training techniques were a method called local career counseling (12%), or no specific reported training method (21%). Nearly two thirds (64%) of the trainers had a university degree, and the others had vocational qualifications.

The fourth intervention study was based on the “Skillshare” work preparation program as described by Creed et al. [17]. The Skillshare work preparation program is a combination of occupational skills training (e.g., computer awareness, typing, trade assisting) and personal development (grooming, communication, preparing for interviews) aimed at providing unemployed participants the skills necessary to obtain and maintain paid work. JOBS II lasted five half-days over 1 week and was tested among the recently unemployed (fewer than 13 weeks), and the Skillshare courses ran full-time for 4 to 7 weeks and tested participants who were unemployed for at least 6 months. Training was classroom-based and included lectures, participant exercises, group discussion, role-playing and videotape input. The courses consisted of a minimum of 60 percent occupational skills training. The training was delivered at community-based centers in Australia, primarily Skillshare centers. Skillshare is a national network of community-based organizations in Australia providing employment training for long-term unemployed people, primarily through federal government funding [20]. The background of the trainers is not mentioned.

The fifth intervention study [19] examined the effect of different labor market interventions (guidance course, vocational training or subsidized employment, or combinations of two or all interventions) on re-employment, job-seeking activity, and psychological distress of the unemployed. The guidance course focused on the participants’ skills, job-search process and labor market knowledge. The course lasts 6–7 h a day for 10–15 days, for a total of 60 to 100 h; courses were arranged by public training centers or private training firms and financed by public employment agencies. The aim of the guidance course was to activate participants and to promote re-employment. The vocational training was arranged by vocational schools or public centers, and the duration of the training was about a half year. The training was either general skills (e.g., language) or basic or advanced vocational training. Subsidized employment lasted for 6 months in either the public or private sector and was financed primarily by the government.

Methodological Quality Assessment

The methodology quality assessment score of the included studies is listed in Table 3. The methodological quality score ranges from 9–20 points. Of these five studies, one RCT was of good quality [16], two studies including one RCT were of fair quality [14, 17] and two other intervention studies were of poor quality [18, 19].

Effectiveness of the Interventions

Of the five intervention studies, only Jobs II reported a significant effect on re-employment; Jobs II and Työhön reported a significant effect on decreasing psychological distress. The other intervention studies mentioned did not report a significant effect on re-employment or psychological distress. Jobs II was also the only intervention study with a post-test measurement after 2 years, in addition to the measurement after 6 months. The post-test measurements of the other four studies varied between 3 months and 1 year post-intervention.

The interventions of the RCTs, JOBS II [14] and Työhön job-search training workshop (Finnish version of JOBS II) [16] were almost identical, as described earlier. In the short term (6 months post-intervention) the fair quality JOBS II RCT [14] had a significant effect in high risk respondents regarding re-employment ($P < .05$), role and emotional functioning ($P < .01$), and psychological distress ($P < .01$). High risk respondents were defined as having poorer mental health at the beginning of the study (a combination of more depressive symptoms, higher financial strain and lower assertiveness score). The difference in employment rates in JOBS II 6 months post intervention was 8% (high risk experimental 62% vs. high risk control 54%). In the long term (2 years post-intervention) JOBS II [15] showed a significant effect on re-employment ($P < .01$) and role and emotional functioning ($P < .05$) in all respondents compared to the control group. The employment rate results in JOBS II 2 years post-intervention were not presented, nor were psychological distress results. The re-employment results of JOBS II were not replicated in the good quality RCT reporting the Työhön job-search training workshop [16]. The difference in employment rates in Työhön 6 months post-intervention was 2% (experimental 34% vs. control 32%). The Työhön training showed a significant decrease ($P < .05$) 6 months post-intervention in psychological distress compared to the control group. The study of Vuori et al. [18] in which two thirds of the training techniques were based on the Työhön job-search training, did not report employment rate results or the significance of the effect on psychological distress. In the study of the different labor market interventions [19], the statistical significance of re-employment and

decrease of psychological distress was also not reported. The Skillshare work preparation program [17] did not show a significant effect on re-employment (experimental 62% vs. control 67%, $P > .05$) or psychological distress compared to the control group.

Discussion

The purpose of this literature review was to determine the effectiveness of vocational interventions on work participation and mental distress for the unemployed and to provide an overview of the characteristics of these interventions. Our review indicates that there is weak evidence to support the use of vocational interventions to improve work participation and limited evidence to reduce mental distress for the unemployed. Intervention programs were characterized by group training techniques focusing on acquiring job-search skills, maintaining paid work, personal development and preparedness against setbacks during the job-search process.

Five intervention studies were identified. One intervention study (Jobs II) conducted a post-test measurement after 6 months and after 2 years, while the post-test measurements of the other four intervention studies varied between 3 months and 1 year. Only one effective intervention study for re-employment, the JOBS II intervention program, was found [14, 15]. However, in the short term (6 months post-intervention) the positive effect of this program was only reported in the subgroup of high risk participants [14]. This implies that in the short term, JOBS II is only effective for those with poor mental health. In the long term (after 2 years) the positive effect on re-employment was found in all respondents compared to the control group, but the employment rates were not verifiable [15]. It is important to note that although two other intervention studies [16, 18], including one good quality study (RCT) [16], were based on the principles of JOBS II, positive results with regard to re-employment were not replicated.

Improvement in mental status was reported in two intervention studies, the Jobs II intervention program and the Työhön job-search training workshop. However, Jobs II reported a positive effect only for the subgroup with poor mental health [14, 16]. This implies that there is limited evidence for an effective intervention aimed at mental distress for the unemployed.

Although the re-employment results of the interventions in this review were poor for unemployed, interventions in the occupational health field show promising results as provided by evidence in several RCTs for different diseases. These include person-directed interventions based on cognitive-behavioral therapy (CBT) or psychological

interventions for return to work in various diseases, such as myocardial infarction [21], somatisation [22], adjustment disorders [9] and non-specific low back pain [23]. All of these trials showed significant effects in reducing time to return to work or sick leave duration in workers with jobs. Mainly the CBT component of the interventions seems to be responsible for the positive effect. In the five re-employment intervention studies of this review it was not clear whether specific CBT elements were used. Considering the positive results of studies with cognitive-behavioral elements for other populations with sickness absence, CBT also might have a positive effect for the unemployed. The importance of behavior components in return to work interventions was also reported by Nieuwenhuijsen et al. [24] because predictors of long-term sickness absence in the occupational health care are among other factors behavior-related. A study of cardiac rehabilitation programs that did not focus on psychological treatment showed no effect on return to work [25] in contrast with the study of myocardial infarction in which psychological interventions were added [21]. The positive results of these person-directed intervention studies on return to work suggest potential for vocational interventions on improving work participation for the unemployed. Since psychosocial problems have shown to be significant in unemployed [1] it would be interesting to evaluate whether more attention to mental health concerns would boost the effects of re-employment programs for the unemployed.

Conclusion

Given the absence of verifiable results in the only study (RCT) with positive significant results for re-employment of participants and the non-significant results regarding re-employment of the other four studies including another RCT of good quality, we conclude that there is weak evidence to support the use of these vocational interventions for the unemployed to achieve re-employment. Considering the growing worldwide problem of unemployment and its health-related consequences, far too little has been done to develop effective interventions aimed at work participation and mental distress for the unemployed. We recommend further development and evaluation of return to work intervention strategies e.g., with behavioral components for unemployed adults.

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Appendix: Search Strategy

Medline

Limitations: Publication date: 1 January 1990 to 15 August 2008; Language: English, German, French and Dutch

("unemployment"[MeSH]) OR ("unemployment") OR ("unemployed") OR ("job loss") OR (unemploy*)

AND

("psychological ill health") OR ("adaptation, psychological"[MeSH]) OR ("adaptation, psychological") OR ("psychological problem*") OR ("psychological factor*") OR ("stress, psychological"[MeSH]) OR ("stress, psychological") OR ("coping behavior") OR (coping) OR ("well being") OR ("psychological symptom*") OR ("psychosocial problem*") OR ("psychosocial factor*") OR ("psychosocial aspect*") OR ("psychosocial complaint*") OR ("mental ill health") OR ("mental problem*") OR ("social problems"[MeSH]) OR ("social problems") OR ("mental aspect*") OR ("emotional problems") OR ("emotional aspects") OR ("emotional depression") OR ("depression"[MeSH]) OR ("depression") OR ("emotional stress") OR ("minor psychiatric morbidity") OR ("minor psychiatric problems") OR ("stress related disorders") OR ("mental distress") OR ("emotional distress") OR ("emotional difficulties") OR ("adjustment disorders"[MeSH]) OR ("adjustment disorders") OR ("depressive disorder"[MeSH]) OR ("depressive disorder") OR ("minor depression")

AND

("sickness absence") OR ("sick leave"[MeSH]) OR ("sick leave") OR ("sickness leave") OR ("sickness duration") OR ("sickness leave duration") OR ("average number of days of sick leave") OR ("return to work") OR ("time to return to work") OR ("partial and full return to work") OR ("reemployment") OR ("work ability") OR ("work participation") OR ("functional performance") OR ("functioning") OR ("absenteeism"[MeSH]) OR ("absenteeism") OR ("work disability") OR ("disability leave") OR ("job resume") OR ("job application"[MeSH]) OR ("job application") OR (unemploy*) OR ("Unemployment"[Mesh]) OR ("Unemployment") OR ("Employment"[Mesh]) OR ((Employment) OR ("work resumption") OR ("Rehabilitation, Vocational"[Mesh]) OR ("vocational rehabilitation") OR ("job seeking") OR ("Activities of Daily Living"[Mesh]) OR ("Activities of Daily Living") OR ("Activity, Daily Living") OR ("Human Activities") OR

(“level of functioning”) OR (“Quality of Life”[Mesh]) OR (“quality of life”)

EMBASE

Limitations: Publication date: 1 January 1990 to 18 August 2008; Language: English, German, French and Dutch
exp UNEMPLOYMENT/OR unemployed.mp. OR unemployment.mp. OR (job adj loss).mp. OR unemploy*.mp.

AND

exp Psychological Aspect/OR (psychological adj aspect).mp. OR exp Mental Health/OR (mental adj health).mp. OR (psychic adj health).mp. OR (mental adj tension).mp. OR (nervous adj stress).mp. OR (psychic adj stress).mp. OR (psychic adj tension).mp. OR (psychological adj stress).mp. OR (psychologic adj stress).mp. OR stress, psychologic.mp. OR stress, psychological.mp. OR tension, mental.mp. OR tension, psychic.mp. OR exp Mental Load/OR (mental adj load).mp. OR (psychological adj ill adj health).mp. OR (psychological adj problems).mp. OR (psychological adj symptoms).mp. OR (psychosocial adj problems).mp. OR exp MALADJUSTMENT/co, di, dm, rh, th OR maladjustment.mp. OR maladaptation.mp. OR maladaptation.mp. OR (psychosocial adj complaints).mp. OR exp DEPRESSION/OR depression.mp. OR exp Mood Disorder/OR (mood adj disorder).mp. OR (mental adj ill adj health).mp. OR (mental adj problems).mp. OR (emotional adj problems).mp. OR exp Adjustment Disorder/OR (adjustment adj disorder).mp. OR (adjustment adj reaction).mp. OR (transient adj situational adj disorder).mp. OR exp Emotional Stress/OR (emotional adj stress).mp. OR stress, emotional.mp. OR (emotional adj distress).mp. OR (emotional adj tension).mp. OR (minor adj psychiatric adj morbidity).mp. OR (minor adj psychiatric adj problems).mp. OR stress related disorders.mp. OR mental distress.mp. OR emotional difficulties.mp. OR minor depression.mp.

AND

exp ABSENTEEISM/OR absenteeism.mp. OR (sickness adj absence).mp. OR (sickness adj absenteeism).mp. OR (work adj absence).mp. OR (work adj absenteeism).mp. OR (work adj day adj loss).mp. OR (work adj time adj loss).mp. OR long term sickness absence.mp. OR (sick adj leave).mp. OR (sickness adj leave).mp. OR (sickness adj duration).mp. OR (sickness adj leave adj duration).mp. OR average number of days of sick leave.mp. OR return to work.mp. OR time to return to work.mp. OR (partial and full return to work).mp. OR reemployment.mp. OR workability.mp. OR (work adj participation).mp. OR (functional adj performance).mp. OR daily life activity.mp. OR

activities of daily living.mp. OR activity, daily living.mp. OR daily living activity.mp. OR (human adj activities).mp. OR (work adj performance).mp. OR functioning.mp. OR unemploy*.mp. OR exp UNEMPLOYMENT/OR unemployment.mp. OR exp EMPLOYMENT/OR employment.mp. OR exp Work Resumption/OR (work adj resumption).mp. OR exp Vocational Rehabilitation/OR (Vocational adj Rehabilitation).mp. OR exp Job Finding/OR (job adj seeking).mp.

PsycINFO

Limitations: Publication date: 1 January 1990 to 22 August 2008; Language: English, German, French and Dutch
(unemployment) OR (“Unemployment-” in MJ,MN) OR (unemployed) OR (unemploy*) OR (employment status) OR (“Employment-Status” in MJ,MN) or (job loss) OR (personnel termination) OR (“Personnel-Termination” in MJ,MN)

AND

(coping behavior) OR (“Coping-Behavior” in MJ,MN) OR (psychological ill health) OR (mental health) OR (“Mental-Health” in MJ,MN) OR (distress) OR (“Distress-” in MJ,MN) OR (depression) OR (psychological adjustment) OR (emotional adjustment) OR (“Emotional-Adjustment” in MJ,MN) OR (psychological problems) OR (psychosocial problems) OR (psychosocial factors) OR (“Psychosocial-Factors” in MJ,MN) OR (psychosocial complaints) OR (mental ill health) OR (mental load) OR (“Human-Channel-Capacity” in MJ,MN) OR (mental problems) OR (adjustment) OR (“Adjustment-” in MJ,MN) OR (emotional problems) OR (emotional control) OR (“Emotional-Control” in MJ,MN) OR (emotional maladjustment) OR (“Emotional-Adjustment” in MJ,MN) OR (emotional responses) OR (minor psychiatric morbidity) OR (psychiatric symptoms) OR (“Psychiatric-Symptoms” in MJ,MN) OR (minor psychiatric symptoms) OR (stress related disorders) OR (psychological stress) OR (“Psychological-Stress” in MJ,MN) OR (social stress) OR (“Social-Stress” in MJ,MN) OR (“Emotional-Responses” in MJ,MN) OR (stress management) OR (“Stress-Management” in MJ,MN) OR (well being) OR (“Well-Being” in MJ,MN) OR (mental distress) OR (emotional distress) OR (emotional difficulties) OR (adjustment disorders) OR (“Adjustment-Disorders” in MJ,MN) OR (personal adjustment) OR (emotional adjustment) OR (minor depression) OR (reactive depression) OR (“Reactive-Depression” in MJ,MN) OR (depressive reaction) OR (“Major-Depression” in MJ,MN)

AND

(sickness absence) OR (absenteeism) OR (“Employee-Absenteeism” in MJ,MN) OR (long term sickness absence) OR (sick leave) OR (sickness leave) OR (employment status) OR (“Employment-Status” in MJ,MN) OR (sickness duration) OR (sickness leave duration) OR (average number of days of sick leave) OR (return to work) OR (time to return to work) OR (partial and full return to work) OR (job search) OR (“Job-Search” in MJ,MN) OR (job reentry) OR (job applicant attitudes) OR (“Job-Applicant-Attitudes” in MJ,MN) OR (reemployment) OR (“Reemployment-” in MJ,MN) OR (quality of life) OR (“Quality-of-Life” in MJ,MN) OR (ability level) OR (“Ability-Level” in MJ,MN) OR (work ability) OR (work disability) OR (work participation) OR (functional performance) OR (activities of daily living) OR (“Activities-of-Daily-Living” in MJ,MN) OR (functional status) OR (level of functioning) OR (functioning) OR (ability level) OR (disabilities) OR (“Disabilities-” in MJ,MN) OR (unemploy*) OR (unemployment) OR (“Unemployment-” in MJ,MN) OR (employment) OR (employment-status) OR (“Employment-Status” in MJ,MN) OR (vocational-rehabilitation) OR (“Vocational-Rehabilitation” in MJ,MN) OR (job-seeking)

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