

# Job-search preparedness as a mediator of the effects of the Työhön Job Search Intervention on re-employment and mental health

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## Summary

Previous studies that have demonstrated the beneficial effects of the Työhön Job Search Intervention for job seekers on re-employment and mental health have not revealed the specific mediators of these effects. The present study examined two specific mediators that were targeted by the intervention, job-search self-efficacy and inoculation against setbacks, as components of a global construct referred to as job-search preparedness. The hypothesis that job-search preparedness is the main mediator of the effects of the intervention on the outcomes was then tested using data from the 1261 participants of the Finnish Työhön Job Search Intervention study. ANOVA demonstrated that the Työhön intervention produced a significant increase in both job-search self-efficacy and inoculation against setbacks (both  $p < 0.001$ ). Further structural equation modelling demonstrated that the intervention increased job-search preparedness ( $\beta = 0.21$ ,  $p < 0.001$ ) which had statistically significant mediating effects on increasing re-employment ( $\beta = 0.12, 0.10$ ,  $p < 0.01, 0.05$ , respectively), and decreasing financial strain and depressive symptoms ( $\beta =$  from  $-0.09$  to  $-0.14$ ,  $p < 0.01$  to  $0.001$ ). Future studies should expand the conceptualization of job-search preparedness with assessment of job-search skills as an additional component. Copyright © 2005 John Wiley & Sons, Ltd.

## Introduction

A wide range of research shows that job loss and unemployment produce significant deterioration in mental health (see review by Fryer & Payne, 1986). The most common outcomes of unemployment are increases in anxiety, somatic symptoms, and symptoms of depression (Dooley, Catalano, & Wilson, 1994; Hamilton et al., 1990; Kessler et al., 1987; Warr et al., 1988). Moreover, there is some evidence that unemployment increases by over twofold the risk of onset of clinical depression (Dooley et al., 1994). In addition to the adverse effects of unemployment on mental health, there is research implicating unemployment as a contributor to other harmful outcomes (see review by Catalano, 1991). These outcomes include: suicide (Brenner, 1976), separation and divorce (Stack, 1981; Liem & Liem, 1988), child neglect and abuse (Steinberg, Catalano, & Dooley, 1981), alcohol abuse (Dooley, Catalano, &

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Hough, 1992; Catalano, Dooley, Wilson, & Hough, 1993), violence in the workplace (Catalano, Dooley, Novaco, Wilson, & Hough, 1993), criminal behavior (Allan & Steffensmeier, 1989), and highway fatalities (Leigh & Waldon, 1991). Finally, there is some evidence, based primarily on self-report, that unemployment contributes to physical illness (Kessler et al., 1987).

There are various intervention programs which aim at reducing the negative social and psychological impact of unemployment on displaced workers. Overwhelming evidence shows that re-employment reduces financial distress and depression symptoms and restores psycho-social functioning to pre-unemployment levels (Kessler, Turner, & House, 1989; Vinokur, Caplan, & Williams, 1987). Therefore, programs for unemployed workers should be aimed primarily at promoting and facilitating their new entry into the labor force. A variety of programs with that aim have been tried successfully. Examples of these programs are intervention programs for creating new ventures that in turn generate job opportunities (e.g., Last, Peterson, Rappaport, & Webb, 1995), and others that focus on retraining (e.g., Wolf, Pufahl, Casey, & London, 1995).

Of the various programs attempting to promote re-employment, the most common are job-search programs organized as job clubs aiming at intensifying job-search efforts (Azrin & Beasalel, 1982), or workshops that focus more broadly on enhancing job-search skills and facilitating transition into re-employment in high-quality jobs (e.g., Caplan, Vinokur, Price, & van Ryn, 1989). The Jobs Club intervention developed by Azrin and his colleagues in the 1970s to promote the re-entry of laid-off workers into the labor force was the predecessor to other job-search-focused interventions (Azrin, Flores, & Kaplan, 1975). Since then, researchers and practitioners have developed many types of interventions with the same goal of promoting re-employment by enhancing job-search skills, motivation, and job-search intensity. Indeed, various longitudinal studies have shown that reliable predictors of re-employment are job-search intensity and motivation (Vinokur & Schul, 2002; Wanberg, Hough, & Song, 2002; Wanberg, Kanfer, & Rotundo, 1999). However, conclusions based on longitudinal designs such as found in Wanberg et al.'s (1999, 2002) studies are limited because their observational nature leaves unresolved questions regarding causal relationships. In contrast, the research reported in our paper is based on a randomized experiment, a design that is more suited to test and draw more definitive conclusions about causal effects.

Among the types of intervention that focused on job-search as the main route to re-employment was the Michigan Prevention Research Center's (MPRC) job-search program (originally called JOBS). This program was developed in the late 1980s at the University of Michigan and was designed as a group workshop to promote re-employment and prevent the negative mental health consequences of job loss among recently unemployed workers (Caplan, Vinokur, & Price, 1997). The intervention focused on implementing theoretical principles for motivating and empowering participants to apply effective job-search strategies and practices to searching and finding a desirable job. This theory-driven job-search intervention showed significant beneficial effects on re-employment and mental health outcomes in two randomized field experimental studies in the United States (Caplan et al., 1989; Vinokur, Price, & Schul, 1995; Vinokur, Schul, Vuori, & Price, 2000). Below we provide a brief description of the theory of the intervention. A more systematic presentation of the conceptual framework of the intervention and its design is available in Price and Vinokur (1995).

In contrast to other programs that include didactic passive teaching approaches, the delivery of the intervention was designed to maximize active learning processes through active engagement in group problem solving, discussions, and role plays. The active learning processes were also designed to increase participants' job-search self-efficacy and their inoculation against setbacks. Job-search self-efficacy refers to the degree of confidence in one's ability to perform successfully essential job-search activities such as getting job leads and interviewing. Bandura and his colleagues have shown that specific self-efficacy is a motivational component that increases the likelihood of behavior (see, for example, Bandura, 1986). Similarly, Ajzen and his colleagues demonstrated that self-efficacy, or

perceived control of a specific behavior, is a determinant of behavioral intention and a predictor of future behavior (Ajzen, 1991; Ajzen, 2002).

Finally, providing participants with the ability to anticipate setbacks and with the skill to cope with them is the fundamental process leading to inoculation against setbacks. Meichenbaum (1985) sees the concept of inoculation against setbacks as analogous to the concepts of medical inoculation against biological diseases and attitude-change immunization. He suggests that the inoculation process is about developing 'learned resourcefulness' by the exposure to manageable levels of stress and building prospective defense composed of skills and positive expectations to deal effectively with stressful situations including setbacks. Successful inoculation is required to maintain participants' motivation to perform difficult behaviors in the face of setbacks and prevent relapse (Brownell, Marlatt, Lichtenstein, & Wilson, 1986; Meichenbaum, 1985). In conclusion, job-search self-efficacy and inoculation against setbacks are conceived of as the two most critical active ingredients and proximal mediators of the intervention. In contrast, job-search intensity is a more distal mediator of the effects of the intervention. Job-search effects on re-employment are usually found to be weak because re-employment also depends on marketable assets and the quality of the search besides its intensity. Furthermore, the intensity of the search changes through the unemployment period with the exhaustion of benefits (Wanberg et al., 2002) and other factors. It is for these reasons that this study focuses on more proximal mediators or stable predictors of re-employment such as the job-search self-efficacy and inoculation against setbacks.

In contrast to the United States, where the rate of unemployment is low, and the benefits are relatively small and limited in most states to 6 months, the unemployment rate in the European Union is higher, with more generous unemployment benefits that are provided over a longer period of even two or more years (European Commission, 2000; OECD, 2000). Furthermore, the higher unemployment rates in many European countries coupled with prolonged unemployment benefits may have contributed to the increase in the number of long-term unemployed persons who feel discouraged and less motivated to regain employment. Consequently, as the financial situation of unemployed persons in Europe is more secured for a longer time period compared to the United States, an MPRC type intervention program for unemployed workers in the European Union context could be hypothesized to have less positive effects on re-employment and mental health, especially among recently unemployed workers.

However, a randomized field study test of the Finnish version of the MPRC program, the Työhön Job Search Program, demonstrated that the program produced a significant increase in re-employment and also improved mental health (Vuori, Silvonen, Vinokur, & Price, 2002; Vuori, & Silvonen, 2005). At the half-year follow-up, the program increased re-employment to stable jobs and decreased psychological distress (Vuori et al., 2002). The 2-year follow-up results showed a sustained beneficial impact of the Työhön group intervention on re-employment and mental health over time. While few participants had any more higher-level unemployment benefits, the intervention had significantly decreased symptoms of depression and increased self-esteem of the participants. Moreover, significantly more participants of the experimental group were re-employed, in subsidized work or in vocational training, compared to the members of the control group (Vuori, & Silvonen, 2005). Moreover, while the original MPRC job-search intervention was designed for, tested, and demonstrated its benefits for recently unemployed job seekers, the Työhön Job Search Intervention showed that the method is also beneficial to longer-term unemployed workers. The positive effects of the program in Finland suggest that with an appropriate program such as the Työhön Job Search Intervention, the motivation for work and for return to work can be heightened, harnessed, and channeled to actions that result in re-employment even for the longer-term unemployed (Jahoda, 1981).

The empirical studies that documented the beneficial effects of these two job-search interventions have not demonstrated the direct role of self-efficacy and inoculation against setbacks as the specific active ingredients or mediating mechanisms that were hypothesized to produce the positive outcomes. For

example, a study by Vinokur and Schul (1997) provided evidence that the intervention increased the sense of personal mastery that served as a central mediator in that it increased re-employment and reduced depressive symptoms. However, mastery was a composite construct that included internal control, self-esteem, and job-search self-efficacy; and of these three constructs, only the latter, self-efficacy, was directly targeted by the intervention. Evidence in support of the role of the second key mediator that was targeted by the intervention, inoculation against setbacks, was not included in the analyses of the model but was provided in a separate analysis. And this analysis lacked a direct measure of inoculation against setbacks and therefore provided only indirect and inconclusive evidence. As a result, there is a need to provide a more focused and integrative analysis that includes both job-search self-efficacy and inoculation against setback in the same model with direct measures of both constructs.

The purpose of this study is to fill the gap left by the earlier studies regarding the mediation process that produced the effects of the MPRC and Työhön group interventions on re-employment and mental health. Identifying the precise role of mediators is crucial for designing more effective interventions. We therefore examine the effects of the two key mediators that were specifically targeted by the intervention: self-efficacy and inoculation against setbacks. Whereas each of the two mediators may have an independent effect on re-employment, we hypothesize that both self-efficacy and inoculation against setbacks are intertwined ingredients of a cognitive-motivational construct referred to as job-search preparedness. A more fully prepared and motivationally ready job seeker is the one who has both the confidence in his or her job-search skills and the knowledge and emotional readiness to deal with setbacks that are frequently part of the search process. Thus, both ingredients of the mediation process were conceived of and tested as indicators of the overall degree of preparedness to engage in successful job-search. In conclusion, according to our hypothesis, job-search preparedness represents the core concept of the target of our job-search group intervention and the key mediator of its effects on re-employment and mental health.

Using data from the earlier study on the Työhön Job Search Intervention Program in Finland (Vuori et al., 2002), we focused in this study on the mediation process that accounts for the effects on re-employment and mental health outcomes shown earlier. Thus, in this study we focus on the testing of a mediation model that includes job-search preparedness with its efficacy and inoculation components as a key mediator of the effects of the intervention on re-employment and mental health. The mediation variables that define the job preparedness construct have not been used in our earlier study. The model allows us to examine the separate effects of efficacy and inoculation against setbacks and includes financial strain as an additional mediator between unemployment and poor mental health (Kessler, Turner, & House, 1988; Vuori & Vesalainen, 1999). Re-employment in our model is hypothesized to decrease financial strain, which in turn decreases symptoms of depression.

## Organizational Context

### Unemployment in Finland

During the early 1990s, the wide economic recession in Europe and the collapse of the Soviet Union, one of the major trading partners of Finland, led to high rates of unemployment in Finland, reaching up to 18.2 per cent in 1994. This unemployment rate has decreased since then, yet it has remained relatively high. While it is now 7.2 per cent for the unemployed job seekers, it reaches 10.3 per cent for all unemployed persons, including those who do not actively search for a job. At the time of the study, 1996 through 1997, the median duration of unemployment in Finland was 5 months and the mean was 10.7 months (SD = 17.3).

### **Unemployment Benefit System**

Finland is a north European welfare state with relatively generous social benefits and well-organized social and labor service systems. It has a dual unemployment benefit structure: the earnings-related unemployment benefit and the lower flat-rate benefit. Earnings-related unemployment benefit is around 60 percent of previous income from work and is paid for about 23 months to workers who have been members of a trade union or contributed to an unemployment fund for more than 10 months before unemployment. After the 23 months the unemployed workers receive a much lower flat-rate benefit. The flat-rate benefit per workday amounts to €23–32 (\$30–42), depending on the number of small children. The flat rate is also paid to unemployed workers who do not meet the criteria of the earnings-related unemployment benefit. Recently, due to the growing proportion of long-term unemployed workers, the number of unemployed persons qualifying for an earnings-related unemployment benefit is decreasing. Those unemployed workers receiving a flat-rate benefit may also receive social assistance benefit as an additional income if they do not have a working spouse. The amount of the social assistance benefit depends on the judgment of the social worker.

### **Labor Administration and Programs for the Unemployed**

The labor administration in Finland provides services and interventions for the unemployed through its national network. The labor administration has nearly 200 local employment offices, with about 3000 employees nationwide. Nearly every office offers the services of psychologists, social workers, or other labor specialists. Offices that do not have the resources for carrying out the needed educational or other interventions buy these services from private educational institutions or other firms. For the unemployed, these services are free of charge and include job-search training, other short-term vocational training, subsidized employment, and other types of employment related help. There are no strict eligibility criteria for enrolling in unemployment programs in Finland. Typically, the employment offices enroll to the programs those who are unemployed for 3 months or longer because they are considered to be at risk for turning to officially long-term unemployed when remaining unemployed for 12 months.

## **Method**

### *Participants and procedures of recruitment*

A total of 1261 (89 percent) individuals who were unemployed ( $N = 1164$ ) or received termination notice ( $N = 97$ ) between September 1996 and June 1997 participated in a field experimental study. To become participants respondents had to agree to the randomization procedure of the study and to turn in the baseline assessment questionnaire (T1).

To meet the goal of the recruitment of obtaining a heterogeneous sample of the Finnish unemployed population we used several sources and recruitment methods. Most of the respondents were recruited based on invitations by mail and phone and by direct contacts in four employment offices in southwestern Finland.

The age of the respondents varied from 18 to 61 years. The median age was 36 years ( $M = 37.0$ ;  $SD = 8.6$ ). Of the total sample, 981 (77.8 percent) were women and 280 (22.2 percent) were men. At the time of recruitment, the median duration of unemployment was 5 months ( $M = 10.7$ ,

SD = 17.3). Those who volunteered for our study were better educated and more often women than the average unemployed workers in the study area. A more detailed description of the recruitment, the sample, the design, and procedures is available in Vuori et al. (2002).

### *Data collection procedures*

Time 1 (T1) baseline data collection was conducted with a self-administered questionnaire that was completed at home or at an employment office 2–3 weeks before the initiation of the intervention and control procedures. Time 2 (T2) data collection was conducted 2 weeks after the intervention with the respondents of the experimental group and their counterparts who were randomized to the control group. A mailed self-administered questionnaire was used for this data collection from all study participants, as well as for all subsequent follow-ups 6 months (T3) and 2 years (T4) after the intervention. For returning T1 and all subsequent questionnaires participants were offered a choice of free tickets to cultural or sports events or to a physical exercise program.

The T2, T3, and T4 questionnaires were returned by 1111 (88.1 per cent), 1225 (97.1 per cent), and 1144 (90.6 per cent) respondents, respectively. The higher response rates of T3 and T4 were the result of a shorter second reminder questionnaire and a short phone interview questionnaire without the psychological measures. Consequently, 115 (13 per cent) of the respondents at T3 and 92 (8 per cent) of the respondents at T4 did not answer to psychological measures, e.g. job-search self-efficacy, inoculation against setbacks, or depressive symptoms. The experimental and the control group did not differ in response rates during the follow-ups.

### *Randomization procedure and experimental design*

The 1261 respondents who completed the pre-test questionnaire (T1) were randomized into an experimental ( $N = 629$ ) and control condition ( $N = 632$ ). Those randomized into the experimental condition were invited to participate in the Työhön workshop. Those in the control condition received printed information that covered the intervention content. A total of 43 workshops were conducted, with groups varying in size from 6 to 17 participants. The median group size was 11 ( $M = 10.3$ ,  $SD = 2.4$ ). Of the 629 participants in the experimental group, 443 (70.4 per cent) participated in the Työhön group intervention.

### *Experimental condition*

Respondents in the experimental condition were contacted by trainers and invited to participate in a job-search group workshop for a week. The Työhön program, as well as the MPRC program, are based on theories of active learning process, social modelling, gradual exposure to acquiring skills with increasing difficulty, practice through role playing, and inoculation against setbacks. The program aims at facilitating the role change of participants from passive unemployed individuals to active job seekers. During the group activities of the Työhön Program the participants identified their own skills and opportunities while learning job-search skills. This approach aimed at promoting self-efficacy and self-confidence and strengthening the participants' abilities to use the learned job-search skills as well as preventing detrimental mental health effects of the stressful job-seeking process. The active learning process of the program aimed at strengthening and retaining problem-solving skills, providing social support, and promoting self-efficacy and performance in the job-search. The

program also included a process of an inoculation against setbacks. Participants learn to anticipate setbacks and plan ways to deal with and overcome possible setbacks in their job-search. Detailed documentation of the intervention process is available in manuals authored by Curran and the MPRC Job Search Program project staff (Curran, Wishart, & Gingrich, 1999) and by Mäkitalo, Tervahartiala, and Saarinen (1997) and the Työhön project staff. A systematic presentation of the conceptual framework of the intervention and its design is available in Price and Vinokur (1995) and in Caplan et al. (1997).

The trainers for the delivery of the intervention were selected from unemployed job seekers with the help of the labor administration. A training supervisor provided a 2-month training program. Three male–female co-trainer teams delivered the program. Each team delivered the workshop to a group of unemployed individuals during five half-day sessions that focused on the enhancement of job-search skills. The trainers changed teams throughout the project. Trainers' performance was evaluated at least once during each 5-day workshop by a trainer supervisor or an observer from the research group.

### *Control condition*

Study participants in the control group were given a literature package which corresponded to the basic themes in job-search training and included four guides: a guide to the services of the employment agency, a guide to managing one's life situation while unemployed, an ABC guide for the job seeker and a handout of job-seeking advice. The literature package as an alternative treatment for the control group was chosen because it is a simple alternative for the more extensive intervention treatment and it also provides a clearer comparison between an interactive intervention program and a more passive course of action involved in reading material. Ethical responsibility in providing the controls with an alternative treatment also builds goodwill and helps to reduce attrition in the follow-up data collections.

### *Measures*

The questionnaires included measures of the demographic characteristics of the respondents, their work and unemployment history, and their re-employment and mental health.

*Demographic characteristics and duration of unemployment* were assessed using standard survey questions for reporting age, gender, marital status, education, occupation, and employment.

*Re-employment* was a composite variable with coded values based on the answer to the question 'What is your employment status now?' Respondents who were unemployed were assigned '0.' Respondents who were employed in subsidized jobs or were in a vocational training program were assigned '1,' and those who were re-employed or ran their own business were assigned the value '2.' Those respondents who were employed in a subsidized job or were in vocational training represent both an official and a psychological transition phase from unemployment to re-employment. Both vocational training and subsidized employment have been demonstrated to increase probability of employment into free market jobs during normal labor market conditions (Aho, Halme, & Nätti, 1999). Officially, in Finland and in many other European countries, those who are in subsidized or vocational labor market training are not classified and do not consider themselves as unemployed job-seekers. Furthermore, while not placed in a regular job as the re-employed workers, workers in subsidized jobs and training programs do engage in actual work or active participation in the labor markets fulfilling important latent psychological functions, such as time structure (Feather, 1990; Jahoda, 1981).

The *job-search self-efficacy* measure consisted of five items that are considered by experts to be the most important ones for a successful job-search (Vinokur et al., 1995). Respondents were asked about their confidence in performing the following tasks successfully: (1) recognizing that their own strengths would increase the chances of getting a job, (2) asking friends and other acquaintances about employers who could have a suitable job for the respondent, (3) completing a good job application, (4) contacting and persuading employers to consider them for the job, and (5) giving the best impression of themselves in a job interview. The rating scale ranged from *very poorly* to *very well*. The reliability of the scale was 0.81 both at T1 and at T2.

The *inoculation against setbacks* was measured with three items (Vinokur et al., 1995). Respondents were asked: (1) 'Do you anticipate difficulties and setbacks during your job-search?' (2) 'Do you have ideas and plans in case of possible setbacks?' (3) 'Do you believe that you will be able to concentrate on the next job-search effort after possible difficulties and setbacks?' The scale ranged from 1 (*very few or very poorly*) to 5 (*very much or very well*). The reliability of the scale was 0.48 at T1 and 0.51 at T2.<sup>1</sup>

*Financial strain* was assessed by a single item: 'What is the financial situation of your family/household in your opinion?' The item was rated on a 5-point scale ranging from 1 (*very good*) to 5 (*very poor*).

Mental health was assessed at T1, T3 and T4 using a measure of *depressive symptoms*. The measure of depressive symptoms was the DEPS scale (Salokangas, Stengård, & Poutanen, 1994), validated in Finland and based on the Hopkins Checklist (Derogatis et al., 1974). The respondents indicated how often in the last month they experienced each of the following 10 symptoms: had sleeping disorders, felt blue, had the feeling that everything required extra effort, felt lacking energy, had the feeling of being alone, had the feeling of a hopeless future, not enjoying life, felt worthless, had the feeling that all pleasure has disappeared from life, felt that apathy did not disappear even with the help of family or friends. Respondents indicated their answers on a scale ranging from 0 (*not at all*) to 3 (*very much*). Cronbach's alpha coefficients were 0.92 at T1, 0.90 at T3, and 0.92 at T4 for the whole measure.

*The integrity of the intervention delivery* was assessed using the reports of the Työhön group participants 2 weeks after the intervention. These reports are important to establish that participants were indeed exposed to the treatment and perceived the treatment in the way that it was designed. Participants were asked to provide information on the perceived relevance of the training, on trainers' behavior and the support of the group. To assess *relevancy of training* the participants rated the extent to which (1) '... material and discussion was relevant to my situation,' (2) '... trainers said or did something, which made me feel that they understand my problems in the job-search,' and (3) '... trainers said or did something, which made me think that this Työhön group will promote my chances to get a job.' The three items had 5-point scales ranging from 1 (*not at all*) to 5 (*very much*) and the reliability of the composite scale at T2 was 0.73. *Trainer behavior and support* was measured with a composite scale of nine items, which asked how much the trainers were supportive, empathic, enthusiastic, knowledgeable, warm, helpful, sincere, communicating clearly, and approving. *Group support* was measured with a composite scale of five items, which asked the respondents to rate how much the group was supportive, warm, sincere, approving, and comfortable. Both trainer support and group support measures consisted of items which were measured with a 7-point scale ranging from 1 (*most negative rating*) to 7 (*most positive rating*). The reliabilities of the measures were 0.96 and 0.94, respectively.

<sup>1</sup>While the reliability of the inoculation against setbacks scale was low, the measure was fairly strongly correlated in a consistent way with job-search self-efficacy at both time 1 ( $r = 0.56$ ) and time 2 ( $r = 0.57$ ). This suggests that, despite the low reliability, the measure captures a significant proportion of variance of inoculation against setbacks that is meaningfully related to other theoretically predictable constructs.



### *Effectiveness of randomization and attrition*

Comparisons between the control and the experimental group did not reveal any statistically significant differences in gender, age, education, or salary level before the job loss or depressive symptoms at pre-test (T1).

Compared to respondents who provided data for the T2 follow-up, drop-outs were more often men (29 per cent versus 21 per cent,  $p < 0.05$ ) and had higher salary (7839 FIM per month versus 7233 FIM per month,  $p < 0.05$ ). No other significant differences in the study variables were found.

In T3, the drop-outs were more often men (44.5 per cent versus 21.5 per cent,  $p < 0.001$ ), non-married (58.3 per cent versus 35.9 per cent,  $p < 0.01$ ), with higher mean levels of job-search intensity (14.3 versus 12.6,  $p < 0.01$ ), job-search self-efficacy (19.7 versus 17.3,  $p < 0.001$ ) and inoculation against setbacks (9.8 versus 8.6,  $p < 0.01$ ) than others.

At T4 there were 117 drop-outs, who were more often men (32.5 per cent versus 21.2 per cent,  $p < 0.01$ ), less educated (3.3 versus 3.6,  $p < 0.05$ ), and unemployed for a longer time at T1 (13.4 months versus 9.8 months,  $p < 0.05$ ). Moreover, drop-outs were more depressed (9.0 versus 7.6,  $p < 0.05$ ) and their self-esteem was lower (29.9 versus 31.7,  $p < 0.01$ ).

Of the 629 persons in the experimental condition, 186 (29.6 per cent) did not show up to participate in the Työhön group and are referred to as 'no-shows.' No-shows were younger than the participants (34.8 years of age versus 37.6, respectively) but were not statistically different on any of the other demographic variables. However, to preserve the integrity of the randomization design and prevent selection bias we followed the guidelines of Cook and Campbell (1979) and conducted all our analyses based on the complete randomized experimental group, which included both the intervention participants and the non-participants (i.e., the no-shows). Consequently, the results give lower-bound conservative estimates of the effects of the intervention.

## **Results**

### *Integrity of the intervention and its proximal impact on the hypothesized mediators*

Participants perceived the intervention very positively. The mean ratings of their responses on the 5-point scales regarding the group process, other participants, material, and discussions varied between 3.4 and 4.7 (SD varied between 0.41 and 0.93). For example, the participants found that they could actively participate in the group discussions ( $M = 4.6$ ,  $SD = 0.57$ ) and that the other participants listened to them ( $M = 4.4$ ,  $SD = 0.66$ ). They felt that the trainers understood their job-search problems ( $M = 4.0$ ,  $SD = 0.89$ ) and they thought that the Työhön group would increase their chances of finding a job ( $M = 4.0$ ,  $SD = 0.88$ ). The ratings about the trainers and their fellow group members on warmth, expertise, and helpfulness indicated very positive evaluations. The mean scores for trainers on the 7-point scales varied between 6.4 and 6.7 (SD varied between 0.78 and 0.87) and for fellow group members between 6.2 and 6.5 (SD varied between 0.79 and 0.86).

As already noted, the intervention was designed with the objective of raising job-search self-efficacy and the level of inoculation against setbacks as mediators in the process leading to re-employment. To assess the impact of the intervention on these two variables, a Groups (Experimental and Control) by Time (T1 and T2) ANOVA analysis was performed on each variable. For both the job-search self-efficacy and inoculation against setback variables, the results demonstrated a statistically significant Groups by Time interaction effect ( $F(1, 1097) = 39.75$ ; and  $F(1, 1098) = 12.38$ ; both  $p < 0.001$ ). In

both cases the intervention increased the dependent measure significantly more among the respondents in the experimental condition than among their counterparts in the control condition. The mean values of job-search self-efficacy in the experimental group increased from 3.44 to 3.76 (difference of 0.32) compared to the increase in the control group from 3.51 to 3.6 (difference of 0.09). The mean values of inoculation against setbacks in the experimental group increased from 2.86 to 3.15 (difference of 0.29) compared to the increase in the control group from 2.84 to 3.00 (difference of 0.16).

### *A structural equation model to test the mediating role of job-search preparedness*

Earlier we hypothesized that both job-search self-efficacy and inoculation against setbacks were indicators of the overall degree of preparedness to engage in a successful job-search. Thus, according to our hypothesis, job-search preparedness represents the core concept of the target of our job-search group intervention and the key mediator of its effects on re-employment and mental health. Using the eight self-efficacy and inoculation items, we first tested whether they form a unidimensional factor. Estimating a one-factor measurement model of job preparedness provided results that fit the model exceedingly well<sup>2</sup> with  $\chi^2(20, N = 1261) = 100, p < 0.001$ ; NFI = 1.00, NNFI = 1.00, CFI = 1.00, and RMSEA = 0.06. Having demonstrated the unidimensionality of the core concept allowed us to use the self-efficacy and inoculation measures as indicators of the global construct (Bandalos, 2002).

Thus, we proceeded to construct a modified version of Vinokur and Schul's (1997) structural equation model, replacing the general construct of mastery with the more specific construct job-search preparedness, which is indicated by job-search self-efficacy and inoculation against setbacks (both variables standardized). In our model, both re-employment and financial strain were each indicated by one observed measure. For all time waves, we used a high value of 0.85 for the reliability estimate of re-employment because it represent a highly visible behavior that is easy to recall correctly. For financial strain we used the value of 0.8 for an estimate of reliability given that 3-item scale of this construct in other studies demonstrated reliability of 0.87 (Vinokur et al., 2000), which for one item would be estimated to be 0.80. Depressive symptoms were indicated by three sub-indices created from the 10 questions on depressive symptoms. The means, standard errors and intercorrelations of the variables in the model are presented in Table 1.

The model also included correlations of errors of repeated indicators across all waves of data collection, and the factor loadings of the depressive symptoms and job preparedness indicators were constrained to equality to ensure identical measurement structure across time. The model with the results is presented in Figure 1.

To test this model we used the AMOS 4 program with full information maximum likelihood (FIML) estimates for the parameters (Anderson, 1957). The model estimation adjusts for the unreliability of the measures and provides unattenuated correlations and standardized regression coefficients. Before testing the model we tested its underlying measurement model, which provided very good fit to the data, with  $\chi^2(96, N = 1261) = 142, p < 0.001$ ; NFI = 1.00, NNFI = 1.00, CFI = 1.00, RMSEA = 0.02. We then proceeded to test the structural model. It too provided a good fit to the data with  $\chi^2(126, N = 1261) = 295, p < 0.001$ ; NFI = 0.99, NNFI = 0.99, CFI = 0.99, RMSEA = 0.03. Finally, we tested non-mediated models by removing the paths from job-search preparedness to each of the outcomes and then to all the outcomes. All of these alternative models had a statistically significantly greater chi-square ( $p < 0.01$  to 0.001) and consequently poorer fit than our mediation model.

Although the experimental condition had no direct effect on re-employment, it did demonstrate a statistically significant impact on job-search preparedness ( $\beta = 0.21, p < 0.001$ ). In turn, job-search

<sup>2</sup>An exploratory factor analysis of the eight items also provided a one-factor solution with loadings ranging from 0.44 to 0.81.

Table 1. Matrix of intercorrelations among observed variables of the structural model

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1. Intervention	—																			
2. Reemployment T3	0.03	—																		
3. Reemployment T4	0.06*	0.24**	—																	
4. Job-search self-efficacy T1 <sup>a</sup>	-0.04	0.06	0.05	—																
5. Job-search self-efficacy T2 <sup>a</sup>	0.12**	0.08**	0.03	<b>0.81</b>	—															
6. Inoculation T1 <sup>a</sup>	0.00	0.02	0.04	0.43**	<b>0.81</b>	—														
7. Inoculation T2 <sup>a</sup>	0.14**	0.07*	0.06*	0.30**	0.42**	<b>0.48</b>	—													
8. Financial strain T1	0.02	-0.03	-0.09**	0.03	-0.04	-0.03	<b>0.51</b>	—												
9. Financial strain T3	-0.00	-0.24**	-0.15**	-0.07*	-0.11**	-0.01	-0.13**	0.64**	—											
10. Financial strain T4	-0.04	-0.11**	-0.33**	-0.11**	-0.17**	-0.07*	-0.11**	0.49**	0.53**	—										
11. Depressive symptoms1 T1	-0.05	0.01	-0.05	-0.20**	-0.23**	-0.17**	-0.19**	0.24**	0.22**	<b>0.76</b>	—									
12. Depressive symptoms2 T1	-0.03	0.01	-0.07*	-0.24**	-0.25**	-0.18**	-0.19**	0.24**	0.20**	0.21**	<b>0.79</b>	—								
13. Depressive symptoms3 T1	-0.01	0.00	-0.08*	-0.20**	-0.22**	-0.19**	-0.20**	0.26**	0.23**	0.20**	0.82**	<b>0.79</b>	—							
14. Depressive symptoms1 T3	-0.05	-0.18**	-0.15**	-0.19**	-0.26**	-0.13**	-0.19**	0.24**	0.34**	0.31**	0.53**	0.45**	<b>0.76</b>	—						
15. Depressive symptoms2 T3	-0.03	-0.16**	-0.11**	-0.19**	-0.25**	-0.12**	-0.18**	0.24**	0.31**	0.25**	0.48**	0.55**	0.50**	<b>0.80</b>	—					
16. Depressive symptoms3 T3	-0.06	-0.17**	-0.14**	-0.18**	-0.25**	-0.13**	-0.21**	0.26**	0.37**	0.30**	0.49**	0.49**	0.54**	0.79**	<b>0.79</b>	—				
17. Depressive symptoms1 T4	-0.06*	-0.08*	-0.14**	-0.21**	-0.25**	-0.09**	-0.18**	0.22**	0.26**	0.34**	0.48**	0.37**	0.40**	0.52**	0.42**	<b>0.77</b>	—			
18. Depressive symptoms2 T4	-0.06	-0.06*	-0.15**	-0.21**	-0.25**	-0.10**	-0.17**	0.21**	0.24**	0.32**	0.43**	0.45**	0.40**	0.45**	0.43**	0.78**	<b>0.81</b>	—		
19. Depressive symptoms3 T4	-0.06	-0.11**	-0.18**	-0.20**	-0.25**	-0.10**	-0.15**	0.20**	0.27**	0.36**	0.46**	0.41**	0.44**	0.49**	0.45**	0.48**	0.80**	<b>0.78</b>	—	
M	0.50	0.89	1.19	3.48 <sup>b</sup>	3.68 <sup>b</sup>	2.87 <sup>b</sup>	3.07 <sup>b</sup>	3.38	3.06	2.84	0.73	0.80	0.79	0.58	0.63	0.62	0.59	0.60	0.57	
SD	0.50	0.85	0.90	0.75 <sup>b</sup>	0.67 <sup>b</sup>	0.56 <sup>b</sup>	0.60 <sup>b</sup>	0.91	0.89	0.93	0.62	0.71	0.72	0.57	0.66	0.68	0.58	0.65	0.65	

Note: Bold figures in the diagonal give Cronbach's alpha coefficients of the measures. For each time-wave (T1, T3, and T4), depressive symptoms were indicated by three subindices (1, 2, and 3) created from the 10 questions on depressive symptoms. A dash indicates a one-item measure.

<sup>a</sup>Job-search self-efficacy and inoculation variables are standardized ( $M = 0$ ,  $SD = 1$ ) for the model and correlations are based on these standardized variables.

<sup>b</sup>Presented means and standard deviations are based on non-standardized variables.  $N$  varied between 1028 and 1261.

\* $p < 0.05$ ; \*\* $p < 0.01$ , two-tailed test.

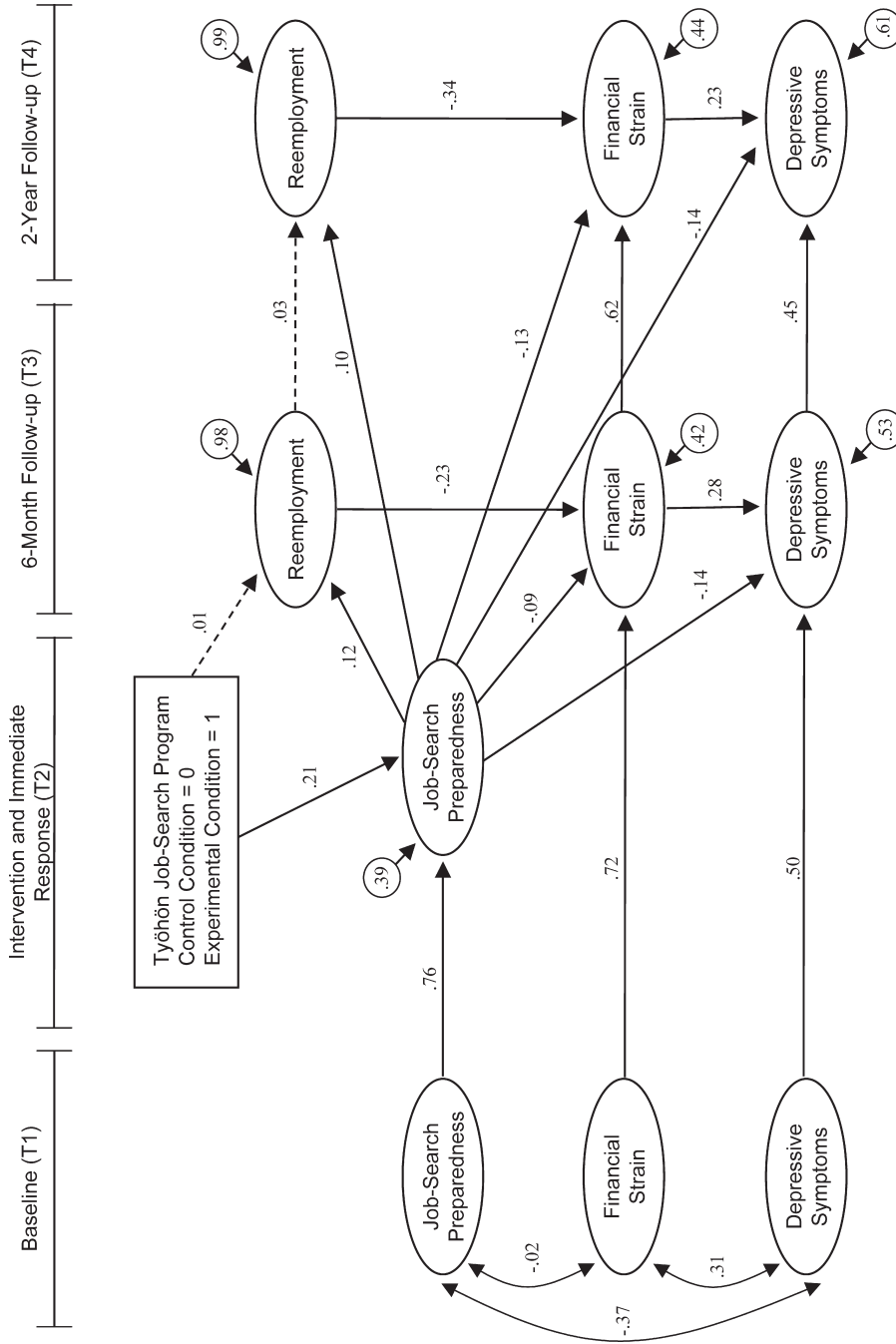


Figure 1. The direct and mediation effects (standardized regression path coefficients) of the Työhön Job Search Program. All paths with solid lines are significant at 0.05 or above. Paths with broken lines are not significant. Numbers in small circles are residual variances.  $\chi^2(126, N = 1261) = 295; p < 0.001, NFI = 0.99, NNFI = 0.99, CFI = 0.99, RMSEA = 0.03$

preparedness had statistically significant effects at both follow-ups on increasing re-employment ( $\beta = 0.12$ ,  $p < 0.01$ ;  $\beta = 0.10$ ,  $p < 0.05$ , respectively), decreasing financial strain ( $\beta = -0.09$ ,  $p < 0.01$ ;  $\beta = -0.13$ ,  $p < 0.001$ ) and decreasing depressive symptoms ( $\beta = -0.14$ ,  $p < 0.001$ ;  $\beta = -0.14$ ,  $p < 0.001$ ). In each case, these effects were produced while controlling for the previous level of the respective construct. Furthermore, we conducted two additional tests of the model where we also included additional paths once from the self-efficacy measure and then from the inoculation measure to the outcomes (i.e., to employment, financial strain and symptoms of depression). The two tests failed to produce a statistically significant improvement in the model fit in terms of reduction in chi-square. It thus becomes apparent that the specific measures do not have independent effects beyond their combined contribution as job-search preparedness as a general construct. This set of results provided strong support for our hypothesis that job-search preparedness mediates the effects of the intervention on re-employment and mental health. Another mediation effect in our model included the effect of re-employment on decreasing financial strain at T3 and T4 ( $\beta = -0.23$ ,  $-0.34$ , respectively; both  $p < 0.001$ ). And finally, both at the 6-month and the 2-year follow-up, lower financial strain reduced depressive symptoms ( $\beta$ s were 0.28 and 0.23, both  $p < 0.001$ ).

## Discussion

In many European countries, labor market interventions have been seen as a means of promoting the active labor market status of the unemployed and preventing discouragement in the labor markets (OECD, 1996). The Työhön Job Search Intervention for job seekers in Finland is an example of such an effort to promote re-employment and prevent discouragement and poor mental health. Previous studies demonstrated the various effects of the Työhön Job Search Intervention for job seekers on re-employment and mental health (Vuori et al., 2002; Vuori & Silvonen, 2005). In contrast, the present study focused on the examination of what mediates these effects on the re-employment and mental health outcomes in terms of key hypothesized mediators that were directly targeted by the intervention. The theory and implementation of the U.S. JOBS and the Finnish Työhön Job-Search Intervention were based on the targeting of job-search self-efficacy and inoculation against setbacks as key active ingredients of a process leading to re-employment (Price & Vinokur, 1995). However, the evidence from the JOBS studies in the United States was partly indirect and largely incomplete because the studies did not include a direct measure of inoculation against setbacks.

To provide more direct evidence regarding mediation effects, the present study used direct and specific measures of job-search self-efficacy and inoculation against setbacks. At the same time, it conceptualized these variables as components or indicators of the broader construct of job-search preparedness in the context of a confirmatory structural equation analysis. Furthermore, while this study applied the basic analytical mediation model from the Vinokur and Schul's (1997) study, it used assessments of the mediators within 2 weeks rather than 2 months following the end of the intervention. The results of our analyses confirmed the role of a broad job-search preparedness construct, rather than any of its specific ingredients, as a significant mediator of the effects of the intervention on re-employment, financial strain, and depressive symptoms at both the 6-month and the 2-year follow-ups.

However, there is also a need for a more elaborate model going beyond the data reported in the current study. A more elaborate model for future studies needs to include the other aspects of being prepared for job search that make the job seeker more likely to be successful. In addition to job-search self-efficacy and inoculation against setbacks, an expanded model should therefore include actual job search skill. A more advanced job search skill is likely to result in a more effective search process

leading to a successful outcome. Furthermore, we hypothesize that job-search preparedness also increases the motivation to engage in intense job-search behavior, which is the likely proximal cause of re-employment. In other words, establishing the causal chain of mediation from the intervention to re-employment must include a more complete model with expanded measurement of all the components of job-search preparedness (e.g., skill, job-search self-efficacy, and inoculation), the effects of preparedness on job-search motivation as well as on job-search intensity, and the latter impact on re-employment. That is, our mediating construct, job-search preparedness, needs to be expanded and include the other aspect of being prepared for job-search that makes the job seeker more motivated and thus more likely to persist in intensive job-search behavior.

The limitations of our mediation model are then the absences of measures of job-search skill, job-search motivation, and job-search intensity. Available studies that incorporated measures of job-search intensity demonstrated only weak effects on re-employment (e.g., Vinokur & Schul, 2002; Wanberg et al., 1999, 2002). One of the reasons for the weak effects is the changing level of search intensity throughout the search process. Often researchers assess job-search intensity at the beginning of the process within a month or so after the lay-off. There is, however, evidence suggesting that the level of search intensity changes as job seekers exhaust unemployment benefits (Wanberg et al., 2002). Another possible reason for the weak effects of job-search intensity on re-employment may have to do with the importance of the skill with which the search is conducted. A comprehensive assessment of job-search intensity through the unemployment period as well as job-search skill remains an important challenge for future research.

Finally, additional information is needed to identify more specifically why or how job-search preparedness has a direct influence on reducing financial strain and depression. We speculate that the increase in job-search preparedness produces a more optimistic expectation regarding one's ability to get and hold on to a job and consequently to cope more easily with the future financial needs. The optimistic expectation that results from enhanced job-search preparedness is hypothesized also to decrease depressive symptoms (Seligman, 1998). Whether these mediation effects are due to some general increase in self-confidence or optimistic expectations generated by job-search preparedness or to other processes is yet to be determined.

In conclusion, the present study highlights the key mediation role of a general construct of job-search preparedness with its two components—job-search self-efficacy and inoculation against setbacks—in two ways. First, the study extends the generality of the findings regarding the importance of the components of job preparedness, that is, job-search self-efficacy and inoculation against setbacks, in a European setting where the financial situation of unemployed persons is more secured for a longer time period compared to the United States. It therefore underscores the importance of targeting these mediators in job-search interventions for unemployed persons that take place in different settings. Second, the study provides a significant improvement and addition to earlier literature that either does not address inoculation against setbacks (e.g., Wanberg and colleagues) or does not have a much-needed direct measure of inoculation despite the fact that the JOBS intervention targeted the construct (i.e., Vinokur & Schul, 1997). We think that highlighting the role of inoculation against setbacks is very important given the evidence for its effectiveness in improving the job-search process and its outcomes as shown directly in this study, and indirectly in a previous one (Vinokur & Schul, 1997). The addition of inoculation against setback to future studies on the job-search process is important theoretically and practically. The JOBS and the Työhön Program interventions are the only ones to our knowledge that targeted this important construct. Future interventions could be more effective if they include components to enhance inoculation against setbacks in their design.

Thus, job-search preparedness was demonstrated to be a key mediator of the effects of an intervention that specifically targeted the self-efficacy and inoculation against setback components in order to promote the re-employment of unemployed job seekers. The findings of this study have clear implications

for the design of future interventions in other domains of organizational life whose goal is to introduce behavioral changes or to enact new or complex behaviors. Such interventions need to be focused on providing the skill and self-efficacy of enacting the behaviors as well as the anticipation, plans, and means to address setbacks. It behooves us to remember that setbacks are inherent outcomes in struggling through the difficulties of conquering new behavioral domains. Last but not least, research that evaluates such interventions needs to develop and include improved designs to measure across time the intensity and quality of the targeted behaviors as the more proximal mediators to final outcomes. Better measures and evaluation design for the target behaviors across time will contribute to development of more comprehensive models and to their explanatory and predictive power.

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