

Original

Perceived employability trajectories: A Swedish cohort study

Kaisa Törnroos (née Kirves)¹, Claudia Bernhard-Oettel² and Constanze Leineweber²

¹Finnish Institute of Occupational Health, Finland and ²Stockholm University, Sweden

Abstract: Objectives: This study identified perceived employability trajectories and their associations with sleeping difficulties and depressive symptoms over time. **Methods:** The sample was part of the Swedish Longitudinal Survey on Health from 2008 to 2014 ($n=4,583$). **Results:** Two stable trajectories (high and low perceived employability over time) and three trajectories with changes (increasing, decreasing, and V-shaped perceived employability over time) were identified. Workers with stable low perceived employability reported more sleeping difficulties and depressive symptoms than those who perceived high or increasing employability. **Conclusion:** Perceived employability is a rather stable personal resource, which is associated with well-being over time. However, changes in perceived employability do not seem to be echoed in well-being, at least not as immediately as theoretically expected.

(J Occup Health 2017; 59: 336-344)

doi: 10.1539/joh.16-0295-OA

Key words: Depressive Symptoms, Factor Mixture Modeling, Perceived Employability, Sleeping Difficulties, Swedish Cohort Study

Introduction

In occupational psychology, perceived employability refers to individuals' perception of their possibilities of maintaining or obtaining a new job¹. This psychological approach views perceived employability as a personal resource, which helps individuals to manage potentially stressful events threatening an individual's job position or employment, such as organizational downsizing, outsourcing, or lay-offs^{2,3}. In previous studies, perceived employability has been found to be associated with many psychological work-related and context-free outcomes², such

as work engagement⁴ and mental well-being¹.

Although the associations between perceived employability and personality disposition (e.g., optimism and self-efficacy) are relatively high ($.35 < r < .45$)⁵⁻⁷, it is widely acknowledged that perceived employability is built upon both individual and situational characteristics^{2,8-10}. Situational factors refer to labor market structure, labor market opportunities, and organizational factors. Different individuals in the same situation are likely to interpret their experience in a different manner. The same is true for perceived employability: Irrespective of the actual work possibilities, individuals' knowledge and skills, social capital, abilities, demographics, and disposition are affecting their perception of the possibilities. Many of these antecedents of perceived employability are malleable to changes; thus, the level of perceived employability may change over time.

Previous studies have investigated the stability and changes of perceived employability in the Finnish university context^{11,12}. Mäkikangas et al.¹¹ found that 95% of the employees showed stable perceived employability over the time of one year. Kirves et al.¹² extended this work with an additional measurement wave for the same university employees. Then, 88% of the employees showed stable perceived employability over the entire study time of two years. Besides two groups of individuals with stable high and stable low perceived employability, in both studies, trajectories with decreased or increased perceived employability were also identified. Thus, it not only seems that perceived employability is largely stable over time but also that changes can take place. To the best of our knowledge, the stability of perceived employability has until now only been studied in the university context and more research in different contexts is warranted to understand how generalizable stability and change patterns of perceived employability are for different context and other time frames. Therefore, the first aim of this study was to investigate the stability and change in perceived employability over four measurement points covering six years altogether (2008-2014) in a representative sample of Swedish employees.

Conservation of resources theory (COR) assumes that

Received December 28, 2016; Accepted April 28, 2017

Published online in J-STAGE May 25, 2017

Correspondence to: K. Törnroos, Finnish Institute of Occupational Health, PL 18, FI-00391 Helsinki, Finland (e-mail: kaisa.tornroos@ttl.fi)

the change in personal resource (e.g., perceived employability) is echoed in well-being¹³). Applied to our study, this would mean that if perceived employability increases, then well-being should also increase. Such an assumption was partially supported in the Finnish study reported above, which was based on university employees. It found that vigor at work, the most important dimension of work engagement¹⁴, increased over a two-year period when perceived employability simultaneously showed at first a decrease and then an increase. No change in vigor was found in the other three trajectories (i.e., relatively high stable perceived employability, relatively low stable perceived employability, and increase and decrease in perceived employability)¹²). Thus, most of the results indicated only overall (over time) differences between trajectories: “Employees with higher stable levels of perceived employability reported more vigor at work and job satisfaction, and less job exhaustion than employees with a lower level of perceived employability”^{12, p. 54}). However, the Finnish study only covers a time period of over two years, and rather proximal, work-related well-being outcomes. To further explore how changes in perceived employability are paralleled by changes in well-being, studies covering longer time spans are needed. In addition, other measures of well-being have to be studied, such as depressive symptoms or sleeping difficulties, which are known to be early markers detectable long before the onset of more significant health problems. The second aim of this study was to investigate if and how the identified perceived employability trajectories are related to sleeping difficulties and depressive symptoms over the study time of six years in a representative sample of Swedish employees.

Methods

Participants

The study population consisted of participants of the Swedish Longitudinal Survey on Health (SLOSH), which focuses on the relationships among work organization, work environment, and health, and is approximately the representative of the Swedish working population^{15,16}). SLOSH started in 2006 with a first follow-up of respondents to the Swedish Work Environment Survey (SWES) 2003. Since then, follow-ups have been conducted every second year (i.e., 2008, 2010, 2012, 2014, and 2016). Over the years, the SLOSH sample was extended and consists today of all respondents to the SWES 2003-2011 resulting in a total cohort of 40,877 individuals. Informed consent was obtained by responding to the questionnaire. All labor market sectors and occupations are represented, and the number of males and females is approximately equal. Participants are followed by a postal questionnaire of which there are two versions: One for those who are currently in paid work and one for those who are cur-

rently not in paid work. The data analyzed here consists of SLOSH participants from the following four data waves: 2008 (T1), 2010 (T2), 2012 (T3), and 2014 (T4). Response rates were as follows: 61% in 2008 (n=11,441), 57% in 2010 (n=11,525), 57% in 2012 (n=9,880), and 51% in 2014 (n=20,316). The proportion of participants in paid work varies from 86% in 2006 to 76% in 2014. Participants in paid work who had responded to the perceived employability question at T1 and at least two times at T2 to T4 were selected in the sample (n=4,583). This restriction was made because it was assumed that the identified trajectories will be more valid and reliable when the first value is provided from everyone and the gap between two data point per person is a maximum of four years. Of the sample, 55.6% were females and the average age at T1 was 47 years (sd=9.3, range 21-69).

With regard to the attrition analysis, participants in the present study (n=4,583) were compared to those who had assessed their perceived employability at T1 but had more than one missing value in perceived employability in the subsequent measurement points (n=3,876). The analysis showed that participants in the final sample were younger, 47.3 years vs. 49.1 years; $t(8457)=7.98$, $p<.001$, and more often females, 55.6% vs. 51.5%; $\chi^2(1)=14.15$, $p<.001$, than those who dropped out. However, they did not differ in perceived employability, $\chi^2(3)=6.40$, $p=.094$, sleeping difficulties, $t(8385)=-.69$, $p=.488$, or depressive symptoms, $t(8381)=1.72$, $p=.085$.

Measures

All measures were assessed at T1 to T4.

Perceived employability was measured with one item: “How easy would it be for you to obtain another, similar job without having to change housing?”. The response scale was from 1 = very easy to 4 = very hard, and 5 = I do not know. For the analyses, the last response option was handled as missing data (n=814-1,204 during T1-T4) and the rest of the scale was reversed. This item has its origin in the Swedish Labour Force Survey and the same one-item measure of perceived employability has been earlier used by Berntson, Sverke, and Marklund¹⁷.

Two health indicators were used; that is, sleeping difficulties and depressive symptoms. Both are known to be early markers of ill-health detectable long before the onset of more significant health problems^{18,19}.

Sleeping difficulties were measured with six items from the Karolinska Sleep Questionnaire²⁰. Respondents evaluated how often during the last three months they have experienced difficulties to fall asleep, difficulties to wake up, repeated awakenings with difficulty falling back to sleep, not being refreshed on awaking, early awakening, and restless sleep (1 = never, 6 = all the time). Cronbach's alphas were .83 (T1), .82 (T2), .83 (T3), and .84 (T4).

Depressive symptoms were measured with six items²¹. Respondents assessed how often during the last week

Table 1. Factor Mixture Models (with MLR estimation) of perceived employability at T1-T4 (n=4,583)

Trajectories	Loglikeli- hood	aBIC	Entropy	VLMR	LMR	BLRT	Class counts and proportions based on the most likely latent class membership
1	-19420.50	38888.27					4583 (100%)
2	-19247.53	38568.59	.64	.000	.000	.000	2499 (54.5%), 2084 (45.5%)
3	-19086.62	38273.04	.71	.030	.032	.000	297 (6.5%), 2403 (52.4%), 1883 (41.1%)
4	-18877.50	37881.06	.78	.000	.000	.000	526 (11.5%), 2145 (46.8%), 629 (13.7%), 1283 (28.0%)
5	-18814.01	37780.35	.76	.033	.035	.000	342 (7.5%), 158 (3.4%), 2125 (46.4%), 1332 (29.1%), 626 (13.7%)
6	-18725.25	37629.09	.76	.170	.176	.000	316 (6.9%), 312 (6.8%), 2092 (45.6%), 371 (8.1%), 1337 (29.2%), 155 (3.4%)
7	Model did not converge						

they have experienced fatigue or loss of energy, depression, blaming yourself, too much concern for things, lack of interest, and feelings of exhaustion (1 = not at all, 5 = very much). Cronbach's alphas were .90 (*T1*), .91 (*T2*), .91 (*T3*), and .90 (*T4*).

Covariates were measured at *T1*. Those included the following three demographic factors: Age (continuous), gender (1 = male; 2 = female), and education (1 = low, i.e., maximum of 11 years of education; 2 = medium-high, i.e., more than 11 years of education). In addition, the following four work characteristics were included: Contract type (1 = permanent; 2 = other, i.e., project worker, substitute, hour-based contract, self-employed, and farmer); socioeconomic position (1 = blue-collar worker, i.e., workers in production and farmers; 2 = white-collar worker, i.e., workers in non-manual work); work schedule (1 = day time work; 2 = other, i.e., evening-, night-, or shift-work and unregulated work time); and income (1 = average or less than average yearly salary in Sweden in 2008, 2 = more than average yearly salary in Sweden in 2008).

Analyses

The stability and change in perceived employability were studied with Factor Mixture Modeling using Mplus 7.2. Because perceived employability items were ordinal, maximum likelihood estimation with robust standard errors (MLR) was applied. This method identifies unobserved subsamples, which differ in level in perceived employability across time (i.e., trajectories). Missing values were handled using full information maximum likelihood (FIML). The number of trajectories was selected based on various considerations: (a) the Bayesian Information Criterion (BIC), (b) the Vuong-Lo-Mendell-Rubin (VLMR) test, (c) the Lo-Mendell-Rubin test (LMR), (d) the Bootstrapped Likelihood Ratio Test (BLRT), (e) high entropy value, (f) successful convergence, (g) at least 1% of participants in a trajectory, and (h) meaningful trajectories. If VLMR, LMR, and BLRT <.05, then it implies that *k* tra-

jectories are enough as compared to *k* + 1 trajectories.

The identified trajectories were then compared with regard to gender (χ^2 -test) and age (*F*-test) using SPSS 22. Furthermore, we analyzed whether the trajectories differed in sleeping difficulties and depressive symptoms using Analysis of Covariance (ANCOVA) for repeated measures. The categorical variable of perceived employability trajectories was used as a between-group variable and time served as a repeated measure. Little's MCAR test confirmed that missing values in sleeping difficulties and in depressive symptoms were completely random (*p* = .301; *p* = .077, respectively). Thus, missing values were imputed with Expectation-Maximization (EM) estimation.

Results

From Table 1, it can be seen that entropy was highest in the four-trajectory solution, BIC and BLRT supported a six-trajectory solution, while VLMR and LMR indicated toward a five-trajectory solution. In each solution, all the trajectories have more than 1% of participants. The seven-trajectory solution did not converge. The final decision was to select the five-trajectory solution based on the interpretation of the trajectories. Namely, the five-trajectory solution identified a new trajectory (V-shaped), which was not evident in the four-trajectory solution. The six-trajectory solution, instead, split the increasing trajectory of the five-trajectory solution in half so that the additional, sixth trajectory showed a slightly steeper increase than the other one, but the difference was rather small.

The five-trajectory solution is presented in Fig. 1. Two stable trajectories were the largest ones: Stable low (46.4%) and stable high (29.1%) perceived employability. Three trajectories showed changes in perceived employability: Increasing (13.7%), decreasing (7.5%), and V-shaped (3.4%). The V-shaped was characterized first by a decrease in perceived employability from *T1* to *T2* and then by an increase in perceived employability from *T2* to

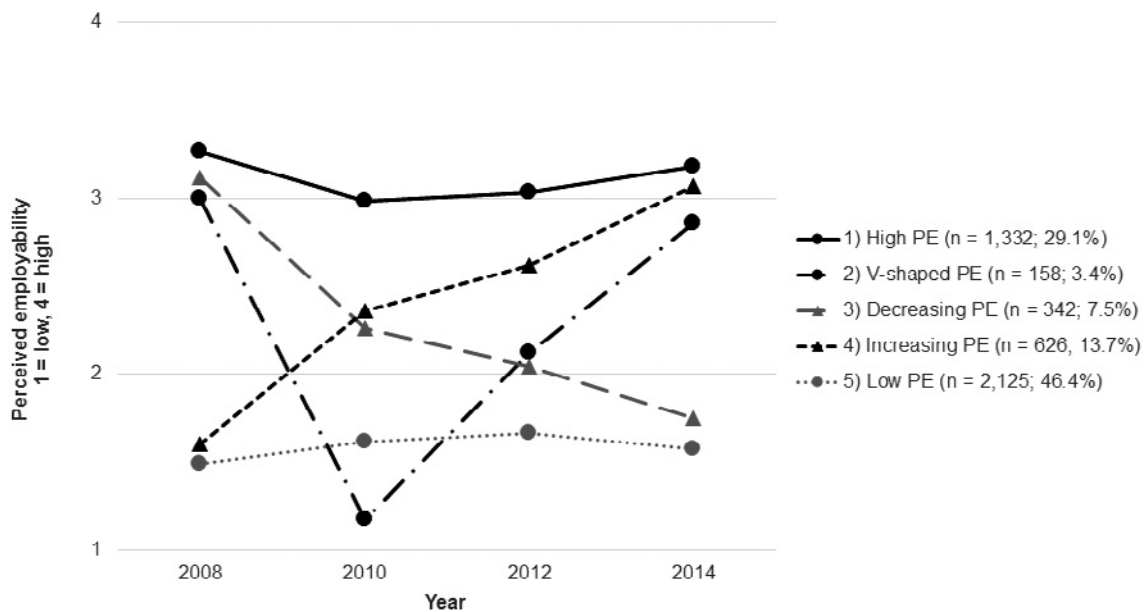


Fig. 1. Perceived employability trajectories from T1 to T4. PE=perceived employability

T4. Moreover, it seems that the changes were overall larger between T1 and T2 than between any other measurement points.

We compared the trajectories with regard to age, gender, education, contract type, socioeconomic position, working schedule, and income measured at T1 (see Table 2). Gender and income were not associated with the trajectories. However, the trajectories differed in all other characteristics. In the high perceived employability trajectory, participants were the oldest and highly educated workers with other than a permanent contract were over-represented. At the same time, blue-collar workers were over-represented in this trajectory. In the V-shaped perceived employability trajectory, workers with other than day-time work (i.e., those working at evenings, nights, or shifts) were over-represented. In the decreasing perceived employability trajectory, blue-collar workers and workers with other than day-time work were over-represented. In the increasing perceived employability trajectory, highly educated workers with other than a permanent contract and white-collar workers were over-represented. At last, in the low perceived employability trajectory, participants were the oldest and low educated, permanent white-collar workers with day-time work were over-represented.

The results of ANCOVA for repeated measures are represented in Tables 3 to 4. Age, gender, education, contract type, work schedule, and income were included as covariates. Socioeconomic position was excluded because of its rather high correlation ($r=.45$, $p<.001$) with education and its higher amount of missing values. The results showed that there were no interaction effects of time and trajectory neither in sleeping difficulties nor in depressive symptoms. Instead, the trajectories differed in the overall

level of sleeping difficulties and depressive symptoms with the same pattern: Workers with low perceived employability reported more sleeping difficulties and depressive symptoms than those with high or increasing perceived employability. In addition, workers with high perceived employability reported less depressive symptoms than those with decreasing perceived employability. Moreover, both sleeping difficulties and depressive symptoms showed an overall time effect: Sleeping difficulties were highest at T2 while depressive symptoms had their lowest point at T3. Of the covariates, age and gender were statistically significant: Younger workers and females reported more sleeping difficulties and depressive symptoms. Furthermore, income was related to depressive symptoms: Workers with higher income reported less depressive symptoms. The results remained the same when the original data with list-wise deletion was used. These results are not reported here but can be requested from the first author.

Discussion

This study investigated perceived employability—individual's own perception about how easy it would be to obtain a new job without moving—among a Swedish cohort from 2008 to 2014. We had the following two aims: 1) to identify trajectories of perceived employability over a six-year period with four measurement points, and 2) to compare the identified perceived employability trajectories in sleeping difficulties and depressive symptoms over time.

With regard to the first aim, two stable trajectories (i.e., stable low and stable high perceived employability) and

Table 2. Demographic and work characteristics in the trajectories.

	Total sample	Trajectory					Statistical test
		1 High PE n=1,332	2 V-shaped PE n=158	3 Decreasing PE n=342	4 Increasing PE n=626	5 Low PE n=2,125	
Age T1, M (SD)	47.27 (9.31)	44.80 (9.55)	47.47 (9.15)	46.75 (9.12)	46.42 (9.64)	49.14 (8.68)	$F(4, 4578)=48.38, p<.001$ 1<2, 3, 4, 5; 3, 4<5 $\chi^2(4, N=4583)=8.19, p=.085$
Gender T1, %							
Male	44.4	45.0	43.0	46.8	39.3	45.1	
Female	55.6	55.0	57.0	53.2	60.7	54.9	
Education T1, %							$\chi^2(4, N=4580)=29.79, p<.001$
Low	32.1	28.8	31.0	33.9	26.4	35.8 ^A	
High	67.9	71.2 ^A	69.0	66.1	73.6 ^A	64.2	
Contract T1, %							$\chi^2(4, N=4583)=16.83, p=.002$
Permanent	90.5	89.0	91.8	90.9	87.7	92.2 ^A	
Other	9.5	11.0 ^A	8.2	9.1	12.3 ^A	7.8	
Socioeconomic position T1, %							$\chi^2(4, N=4445)=27.83, p<.001$
Blue-collar	31.8	35.3 ^A	35.3	38.9 ^A	26.3	29.8	
White-collar	68.2	64.7	64.7	61.1	73.7 ^A	70.2 ^A	
Work schedule T1, %							$\chi^2(4, N=4510)=20.55, p<.001$
Day time work	78.9	80.2	72.4	71.1	77.6	80.2 ^A	
Other	21.1	19.8	27.6 ^A	28.9 ^A	22.4	19.8	
Income ^B T1, %							$\chi^2(4, N=4580)=5.90, p=.207$
≤ average salary	63.6	61.6	60.1	62.9	63.5	65.3	
> average salary	36.4	38.4	39.9	37.1	36.5	34.7	

Note. PE=perceived employability; M=mean; SD=standard deviation; ^A=this class is over-represented in this trajectory, i.e., adjusted standardized residual ≥ 2.0 . ^BThe average yearly salary in 2008 in Sweden was 328,289 SEK (OECD.stat)

Table 3. Results of ANCOVA for repeated measures to investigate how perceived employability trajectories are related to sleeping difficulties and depressive symptoms over time

	Sleeping difficulties (n=4,461)			Depressive symptoms (n=4,463)		
	F	p	η^2	F	p	η^2
<i>Covariates</i>						
Age	6.18	.013	.001	74.05	<.001	.016
Gender	99.49	<.001	.022	65.04	<.001	.014
Education	2.60	.107	.001	1.60	.205	.000
Contract type	0.27	.601	.000	1.69	.193	.000
Work schedule	0.72	.856	.000	1.26	.262	.000
Income	0.03	.856	.000	11.21	.001	.003
<i>Between-subjects</i>						
Trajectory	12.60	<.001	.011	20.96	<.001	.018
<i>Within-subjects</i>						
Time	29.26	<.001	.019	31.70	<.001	.021
<i>Interaction</i>						
Trajectory x Time	0.92	.524	.001	1.11	.344	.001

Table 4. Estimated marginal means of sleeping difficulties and depressive symptoms.

	Sleeping difficulties (1 low - 6 high) (n=4,461)					Depressive symptoms (1 low - 5 high) (n=4,466)				
	T1	T2	T3	T4	Overall	T1	T2	T3	T4	Overall
(1) High PE	2.39	2.53	2.51	2.50	2.48	1.79	1.78	1.68	1.73	1.74
(2) V-shaped PE	2.49	2.66	2.55	2.63	2.58	1.89	1.97	1.75	1.90	1.88
(3) Decreasing PE	2.49	2.66	2.59	2.58	2.58	1.91	1.89	1.75	1.87	1.86
(4) Increasing PE	2.46	2.58	2.57	2.55	2.54	1.88	1.82	1.73	1.77	1.80
(5) Low PE	2.61	2.74	2.70	2.66	2.68	2.02	1.99	1.85	1.94	1.95
Overall	2.49	2.63	2.59	2.58		1.90	1.89	1.75	1.84	
Pairwise comparisons ^a	Trajectories: 1, 4<5 Time: T2>T3, T4>T1					Trajectories: 1, 4<5; 1<3 Time: T1, T2>T3<T4				

Note. Estimated marginal means are calculated based on the following covariates: age, gender, education, contract type, work schedule, and income; PE=perceived employability; ^aPairwise comparison with Bonferroni's test with $p<.05$ using overall means.

three trajectories of changes were identified (i.e., increased perceived employability, decreased perceived employability, and V-shaped trajectory). Although the results were highly similar as compared with the results found in previous Finnish studies^{11,12}, the share of participants with stable perceived employability trajectories (75.7%) was smaller in the present study. Because perceived employability is closely tied to personal factors that change slowly^{5,6}, it seems obvious that perceived employability needs longer time to change. Thus, with the longer time-lag in this study (six years), more changes were evident. In addition, the largest trajectory in this study was the stable low trajectory in contrast to previous Finnish studies in which the stable high trajectory was the largest^{11,12}. This difference is probably not country-specific but caused by the content of the perceived employability measure as well as differences in the samples. The demand that the new job of equal value should be found without having to move may be somewhat restrictive. At the same time, this is an important finding since in a national context, such as Sweden, in which dual-earner couples are the norm, the possibilities or willingness to relocate may indeed be limited for many people. In fact, moving between municipalities within a county or over the county borders is not quite common in Sweden. Based on data from Statistics Sweden database, only 6 to 7% of people aged between 15 to 64 years had moved between municipalities between 2008 and 2014²². With a nationwide sample, and the fact that the majority of job opportunities is concentrated in the urban areas in the south of Sweden, the finding that more individuals than in the Finnish study of university employees in one area find their de facto employability low is quite plausible since indeed, for many, finding equal job opportunities would not be easy without moving. Furthermore, on comparing the samples in the Finnish studies and the present study, the higher employability perceptions in the Finnish study

may reflect the high academic education of university employees, whereas our study captures these perceptions as they exist and change for an approximately representative sample of the entire working population.

When viewing the identified two trajectories with linear changes in perceived employability in the light of work characteristics, it seems that a decrease in perceived employability over time may be a bigger challenge for blue-collar workers who do not work in a regular day work. On the other hand, an increase in perceived employability seems to be more likely among those white-collar workers who have a high education and possibility to work with a flexible contract (such as a temporary worker or a freelancer). The background characteristics did not offer any insight to the reasons behind the V-shaped trajectory. Nevertheless, this trajectory indicates that perceived employability can decrease dramatically in a short time (two years) and then increase back to the original level. The most plausible explanation for this dramatic change lies in the situational (and not personal) factors, such as, national economic crisis, which was evident in Sweden in 2008 (T1) and hit the hardest in the engineering and manufacturing industry²³. In such a crisis, those who feel that their job may be at stake, may start to investigate their labor market opportunities, and due to higher numbers of unemployed and hiring freeze at that time, they might discover that their employability is (temporarily) lower than initially expected. In reality, changes in all the trajectories were the largest between T1 and T2. Despite the dramatic change in the economic atmosphere, Sweden (and especially export in engineering and manufacturing industry) recovered rather quickly from the crisis, which may have diminished the effect of a situation on perceived employability; and thus, stabilized perceived employability. However, a more in-depth analysis of how perceptions of employability may change during recessions may be warranted to further substantiate such

claims, and preferably, these types of studies may need to be conducted in a context that has experienced more turbulence.

With regard to the second aim, perceived employability trajectories were related to sleeping difficulties and depressive symptoms, but the associations were not as expected. Perceived employability trajectories differed only in the overall level of well-being so that workers with low perceived employability reported more sleeping difficulties and depressive symptoms than those with high or increasing perceived employability. In addition, workers with decreasing perceived employability did report more depressive symptoms than those with high perceived employability. However, bearing in mind that those with constantly low levels of perceived employability were the largest group, which at the same time had most sleeping difficulties and depressive symptoms, this is an important finding. It furthermore adds to the cross-sectional evidence on the importance of feeling employable, since this study illustrates that for the majority of all employees, feeling employable or not is paralleled by statistically significant differences in well-being outcomes not only for a while but also for the entire time span followed up in this study. The fact that changes in perceived employability trajectories were not paralleled by changes in well-being resembles the findings from the Finnish university sample¹²⁾, which indicated that only vigor at work in one of the unstable trajectories showed a small change. However, in contrast to the Finnish studies, the present study assessed more general well-being. Moreover and interestingly, the trajectory of increasing perceived employability differed from the trajectory of low stable perceived employability in sleeping difficulties and depressive symptoms in a manner that those with higher perceived employability experienced less health problems. This may imply that actually well-being is a prerequisite (and not a consequence) for perceived employability or that one needs higher well-being to improve perceived employability. This idea is supported by one study that showed that ill-being at the baseline negatively affected perceived employability after a year (and not vice versa) among unemployed job seekers²⁴⁾. On the other hand, these might be parallel processes in which a sufficient amount of one resource needs to exist before the other one can begin to grow. Furthermore, here, long-term studies are needed to determine if there are delayed responses²⁵⁾. Another important avenue for future studies on the longitudinal relationship between changes in perceived employability and health may be to study newcomers in labor markets; for example, graduates to find out how perceived employability and health trajectories develop from the onset of a career and onward. It may be that employability is not as important for those with a stable position in the labor market as has been assumed earlier⁸⁾, but more of a concern for those who want to enter the labor market or

change jobs.

One of the limitations of the study could be attrition. However, attrition analyses revealed that drop-out was related only to gender and age and not to core variables of this study as they were missing completely at random. A second issue concerns the used measures. Only self-reported well-being indicators were employed. However, the phenomena that we studied are difficult to study otherwise, and since sleeping difficulties and depressive symptoms are early markers of depression, objective indicators, such as diagnoses or medication, may be warranted for future studies. Moreover, the measure of perceived employability was limited in its scope: It measured only perceptions about new and similar job, while perceptions about all types of jobs and keeping the present job might be important with regard to one's well-being¹⁷⁾. A third limitation concerns causality, even though there is a theoretical ground and an empirical evidence for a causal direction from employability to well-being, no causal conclusions can be drawn from this study. As has been discussed above, well-being may in part also influence perceived employability, as well as it is plausible that perceived employability and well-being have a bidirectional relationship. Here, a future study is needed, perhaps following samples in which perceived employability and well-being are subject to change; for example, graduates who enter the labor market, unemployed, job changers, and people re-entering the labor market after a long-term sick leave to better depict how perceived employability and well-being influence each other. A fourth limitation that deserves some discussion is the trajectories' small effect sizes on sleeping difficulties and depressive symptoms. Although the detected differences were statistically significant, their effect sizes were rather small. This indicates that there are several other issues in addition to perceived employability, which are related to sleeping difficulties and depressive symptoms. It also means that possible practical actions to increase perceived employability are only part of the actions that are needed to be taken to increase well-being.

Despite these limitations, the study has several practical implications. It becomes evident that perceiving low employability; that is, finding it difficult to obtain a new job without moving, is a matter of fact for many—and particularly for older—employees. Thus, attempts to increase perceived employability, for example, by offering job-related training or more general possibilities to update competence that is sought-after in the labor market may be warranted. At the same time, it is this group that has the least resources when it comes to general well-being. Thus, offering training that can be combined with daily tasks and work schedules seems important to make any type of program attractive for these employees to attend. The fact that changing perceived employability does not seem to be paralleled by changing well-being may also

have practical implications for evaluations of effects of any type of training or program to increase perceived employability: It may be important to monitor potential shorter cycles of changes in well-being or even long-term effects that need more time to unfold. This means that several measurements points with different time lags are needed. Last but not least, employability perceptions, despite the fact that they are an individual resource, may need to be seen in the life context of an individual, and here, perhaps older employees are more bound to family- or partner-related obligations, and thus, less free to relocate. Here, for example, technical solutions that allow for working over distance are important to consider.

To summarize, this study's findings among Swedish workers not only partly replicate the previous findings among Finnish university workers but also add important new insights. Perceived employability seems to be a rather stable personal resource, which is associated with general well-being (i.e., sleeping difficulties and depressive symptoms). However, in a population-based sample, the share of individuals with stable low employability was found to be much higher. Furthermore, despite the stability, perceived employability is also malleable to changes, such as steady increases or decreases over time, and perhaps reactive to situational factors (labor market, economic crisis), as was indicated in the V-profile. These changing trajectories of perceived employability, however, do not seem to be paralleled by immediate changes in self-reported well-being, but it cannot be disregarded that a longer follow-up may be needed to identify delayed responses.

Acknowledgments: This study was financially supported by the Swedish Research Council for Health, Working Life and Welfare (FORTE grant no. 2004-2021, 2005-0734, 2009-1077, 2012-0979), by the Swedish Research Council (VR, grant no. 2009-6192, 2013-1645), and by FORTE funding for the Stockholm Stress Center, a center of excellence.

Conflicts of interest: The authors declare that there are no conflicts of interest.

References

- 1) Berntson E, Marklund S. The relationship between perceived employability and subsequent health. *Work Stress* 2007; 21: 279-292.
- 2) Kirves K. Perceived employability: Antecedents, trajectories and well-being consequences. Doctoral thesis, University of Tampere (Finland); 2014.
- 3) Vanhercke D, De Cuyper N, Peeters E, De Witte H. Defining perceived employability: A psychological approach. *Pers Rev* 2014; 43: 592-605.
- 4) De Cuyper N, Bernhard-Oettel C, Berntson E, De Witte H, Alarco B. Employability and employees' well-being: Mediation by job insecurity. *J Appl Psychol* 2008; 57: 488-509.
- 5) Berntson E, Näswall K, Sverke M. Investigating the relationship between employability and self-efficacy: A cross-lagged analysis. *Eur J Work Organ Psy* 2008; 17: 413-425.
- 6) Kirves K, Kinnunen U, De Cuyper N. Contract type, perceived mobility and optimism as antecedents of perceived employability. *Econ Ind Democracy* 2013; 35: 435-453.
- 7) Fugate M, Kinicki AJ. A dispositional approach to employability: Development of a measure and test of implications for employee reactions to organizational change. *J Occup Organ Psych* 2008; 81: 503-527.
- 8) Berntson E. Employability perceptions: Nature, determinants, and implications for health and well-being. Doctoral thesis, Stockholm University (Sweden); 2008.
- 9) Forrier A, Sels L, Stynen D. Career mobility at the intersection between agent and structure: A conceptual model. *J Occup Organ Psych* 2009; 82: 739-759.
- 10) Mc Quaid RW, Lindsay C. The concept of employability. *Urban Stud* 2005; 42: 197-219.
- 11) Mäkikangas A, De Cuyper N, Mauno S, Kinnunen U. A longitudinal person-centred view on perceived employability: The role of job insecurity. *Eur J Work Organ Psy* 2013; 22: 490-503.
- 12) Kirves K, Kinnunen U, De Cuyper N, Mäkikangas A. Trajectories of perceived employability and their associations with well-being at work: A three-wave study. *J Pers Psychol* 2015; 13: 46-57.
- 13) Hobfoll SE, Johnson RJ, Ennis N, Jackson AP. Resource loss, resource gain, and emotional outcomes among inner city women. *J Pers Soc Psychol* 2003; 84: 632-643.
- 14) Schaufeli AB, Demerouti E. Towards a model of work engagement. *Career Dev Int* 2008; 13: 209-223.
- 15) Magnusson Hanson LL, Theorell T, Bech P, et al. Psychosocial working conditions and depressive symptoms among Swedish employees. *Int Arch Occ Env Hea* 2009; 82: 951-960.
- 16) Nyberg A, Westerlund H, Magnusson Hanson LL, Theorell T. Managerial leadership is associated with self-reported sickness absence and sickness presenteeism among Swedish men and women. *Scand J Public Health* 2008; 36: 803-811.
- 17) Berntson E, Sverke M, Marklund S. Predicting perceived employability: Human capital or labour market opportunities? *Econ Ind Democracy* 2006; 27: 223-244.
- 18) Horwath E, Johnson J, Klerman GL, Weissman MM. Depressive symptoms as relative and attributable risk factors for first-onset major depression. *Arch Gen Psychiat* 1992; 49: 817-823.
- 19) Salo P, Oksanen T, Sivertsen B, et al. Sleep disturbances as a predictor of cause-specific work disability and delayed return to work. *Sleep* 2010; 33: 1323-1331.
- 20) Nordin M, Åkerstedt T, Nordin S. Psychometric evaluation and normative data for the Karolinska Sleep Questionnaire. *Sleep Biol Rhythms* 2013; 11: 216-226.
- 21) Magnusson Hanson LL, Westerlund H, Leineweber C, et al. The Symptom Checklist-core depression (SCL-CD6) scale: Psychometric properties of a brief six item scale for the assess-

- ment of depression. *Scand J Public Health* 2014; 42: 82-88.
- 22) Statistics Sweden. Statistical database: "Population by age and sex. Year 1860-2015" and "Domestic migration by type, age and sex. Year 2000-2015". [Online]. Available from: URL: www.statistikdatabasen.scb.se/pxweb/en/ssd
- 23) Jochem S. Sweden Country report. In: Bertelsmann Stiftung, editor. *Managing the crisis: A comparative assessment of economic governance in 14 economies*. Gütersloh: Bertelsmann Stiftung; 2010.
- 24) Vanhercke D, Kirves K, De Cuyper N, et al. Perceived employability and psychological functioning framed by gain and loss cycles. *Career Dev Int* 2015; 20: 179-198.
- 25) Frese M, Zapf D. Methodological issues in the study of work stress: Objective vs. subjective measurement of work stress and the question of longitudinal studies. In: Cooper CL, Payne R, editors. *Causes, coping, and Consequences of stress at Work*. Chichester (England): Wiley; 1988. p. 375.

Journal of Occupational Health is an Open Access article distributed under the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. To view the details of this license, please visit (<https://creativecommons.org/licenses/by-nc-sa/4.0/>).