Report B2017:4

An intensive prospective study of newly registered nurses' experiences of entering the profession during 2016

Elin Frögéli
Jon Aurell
Nadja Högman
Ann Rudman
Anna Dahlgren
Petter Gustavsson

Karolinska Institutet

Contents

1 Introduction

This report summarize a data collection performed during January to April 2016 as part of a research project on organizational socialization for new nurses supported by a grant (no 140007) from AFA Insurance. Chapter 2 describes recruitment, study design, data collection and the study variables. In Chapter 3, descriptive data are presented for the study variables.

Elin Frögéli (EF), Ann Rudman (AR) and Petter Gustavsson (PG) have designed the study and planned the data collection. Study variables have been defined by EF, AR and PG with contributions from Anna Dahlberg (AD), Jon Aurell (JA) and Nadja Högman (NH). EF have programmed the web survey, coordinated, performed and monitored the data collection. EF, PG and JA have written syntax for preparing the data sets. JA have computed the study variables and performed data analyses for this report. EF, PG and JA have drafted the report.

2 Method

2.1 Recruitment

This intensive prospective study was conducted in Sweden during the spring of 2016. The eligible study sample consisted of higher education nursing students who were to take their degree during the winter of 2016.

In December 2015, the Deans of the 25 nursing higher education programs in Sweden were informed about the study and asked to forward the recruitment information to their graduating students. All but one university agreed to support the recruitment procedure. The declining university were conducting a study on the same sample and thus did not want to risk losing participants due to a collision with the present study. Of the 24 universities who consented to forward the information to their students, 21 followed through on the agreement and provided information confirming that the information was sent out during the month of December. In January 2016, the Deans of the 24 universities were contacted once more and asked to forward a reminder of the study. Eight of the universities returned information confirming that the information was sent out. In sum, a short message informing about the study was forwarded to 1741 students university e-mail accounts or through other messenger services. The short message included a URL to a webpage with full information about the study and the opportunity to register interest to participate. The short message and URL was also presented on the research projects Facebook-page. Students who registered to participate were sent questionnaires of the study as private messages addressed to their registered e-mail account.

The recruitment process for this spring edition of the study differed in a number of respects from the recruitment process of the summer of 2015. Specifically, the information about the study was sent out approximately two weeks earlier in this version as compared to the prior. This was mainly due to the fact that the date for the spreading of the information would otherwise fall during holidays for Christmas and new years' eve.

In addition, the survey for registering in the study contained eight questions that were included in the baseline questionnaire in the summer edition of the study. These questions concerned satisfaction with one's education and choice of profession, as well as expectation about the upcoming profession. Furthermore, in the spring version of the study it was not a criterion to start one's employment during the first month following one's graduation. It was however a requirement to start one's employment during the spring of 2016. In Figure 1 the recruitment process is presented.

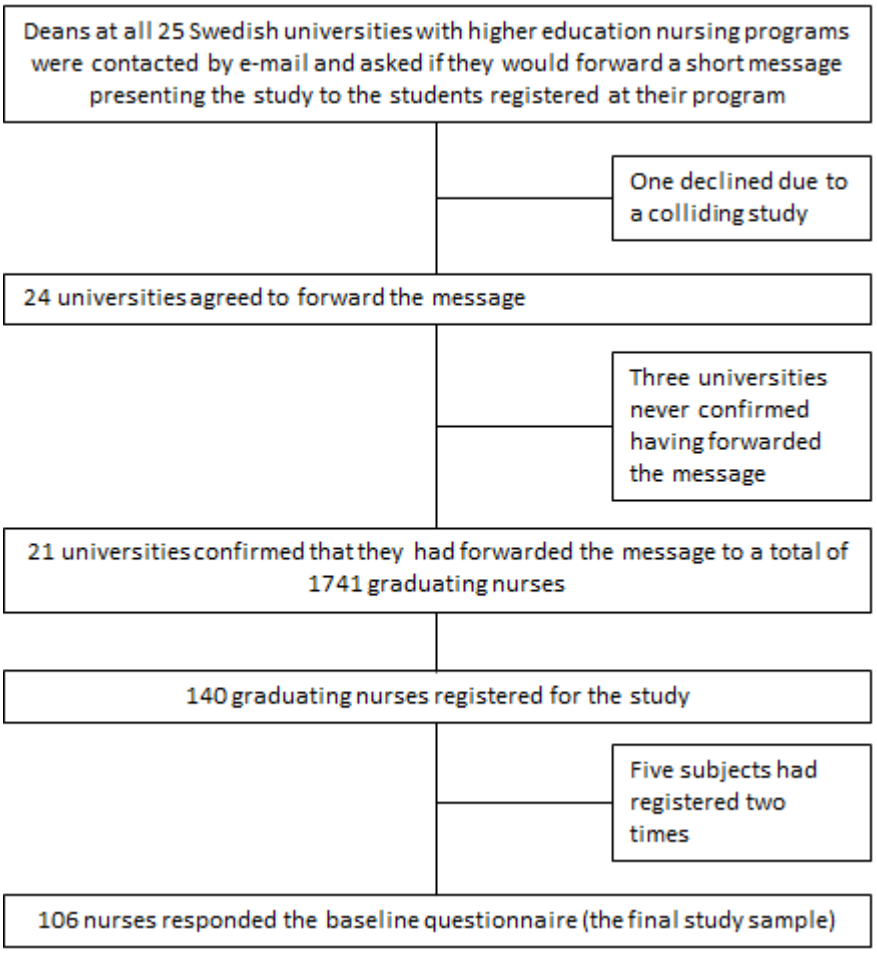

Figure 1. Recruitment.

2.2 Study sample

The study sample demographics are presented in Table 1.

Table 1. Demographics
Age mean (SD) 28.41 (6.35)
Gender female/male (N) 88/17 (106)
Previous experience of the workplace from clinical training (%) 35.8
Previous experience of the workplace from employment alongside nursing education (%) 19.8
Previous experience of the workplace from employment prior nursing education (%) 6.6
No previous experience of the workplace (%) 50.0

Note: SD = standard deviation

2.3 Data collection

Using a digital survey-tool (Artologik) data was collected at a total of 14 points in time (baseline, 12 weekly measures and one final summary measure). Surveys were sent to participants' registered e-mail weekly on Thursdays at 11.00 GMT. A

reminder was sent to non-responders the following Monday at 11.00 GMT. Each survey was active for one week until the next survey was sent out. In Table 2 the time of each survey, its purpose for the study, and response rates are presented. The number of the surveys (Week 1 etc.) refer to the comparative survey during the summer 2015 edition of the study.

Table 2. Time, purpose and response rates of study surveys.

Time of survey (week)	Survey	Purpose of survey	No of responses (% of 106)	Comments
4	Baseline (Week 1)	Baseline measurement of variables at presumed first week of employment	106 (100)	
5	Week 2	Baseline measurement of process variables at second week of employment	97 (91.5)	
6	Week 3	Process evaluation	97 (91.5)	One participant actively withdrew from the study due to illness preventing the participant from starting her employment.
7	Week 4	Process evaluation	99 (93.4)	One participant actively withdrew from the study.
8	Week 5	Process evaluation	95 (89.6)	One participant actively withdrew from the study.
9	Week 6	Process evaluation	98 (92.5)	
10	Week 7	Process evaluation	94 (88.7)	One participant actively withdrew from the study.
11	Week 8	Process evaluation	91 (85.8)	
12	Week 9	Process evaluation	86 (81.1)	
13	Week 10	Process evaluation	83 (78.3)	
14	Week 11	Process evaluation	88 (83.0)	
15	Week 12	Process evaluation	81 (76.4)	
16	Week 13	Process evaluation	82 (77.4)	
17	Exit (Week 14)	Outcome evaluation	88 (83.0)	

Method

Following the experiences of the summer edition of the study, some changes were made in the questionnaires. In Table 3 below, the changes made in each survey is presented in detail. The weeks

Table 3. Changes in the surveys as compared to the edition during the summer of 2015.

Survey	Changes made as compared to the version included in the study during the summer of 2015
Baseline (Week 1) **Note! In the spring edition of the survey the baseline questionnaire was sent out during the third week following the subjects' graduation from the nursing education. During the summer the same survey was sent out during the last week before the graduation.**	Questions about satisfaction with one's education and choice of occupation moved to recruitment survey. The phrasing of the questions concerning the upcoming professions were adjusted as some subjects would have already started their employment. The questions concerning subjects' theory of intelligence were changed to questions concerning theory of personality. Questions about expectations on the new profession moved to recruitment survey.
Week 2	In the question concerning mentorship, an additional response alternative was added ("I have no mentor"). This alternative was added a few weeks into the summer edition of the study. A question asking if one was expected to be responsible for a reduced number of patients as compared to one's experienced colleagues was removed as this was not found meaningful to include based on the summer edition. A question concerning the length of work shifts was changed in format from requesting the number of hours worked to requesting the starting and stopping time of each shift (this was changed during the course of the summer edition). A question concerning the number of patients each subject was responsible for at work was removed as this was not found meaningful to include based on the summer edition. Three adjectives (curious, interested, inspired) were added to the Stress and Energy questionnaire (SEQ). Two questions asking about spill-over between work and private life were added.
Week 3	A question asking if one was expected to be responsible for a reduced number of patients as

	compared to one's experienced colleagues was removed as this was not found meaningful to include based on the summer edition. A response alternative was removed from the Learning climate questionnaire ("I have only worked independently) as this was found to confound the data in the summer edition. In the question concerning mentorship, an additional response alternative was added ("I have no mentor"). This alternative was added a few weeks into the summer edition of the study. A question concerning the number of patients each subject was responsible for at work was removed as this was not found meaningful to include based on the summer edition. Two questions concerning avoidance of engagement in proactive behaviors were included. Three adjectives (curious, interested, inspired) were added to the Stress and Energy questionnaire (SEQ). One adjective (happy) was added to the emotions questionnaire. A Somatic symptom scale (SSS8) with eight questions was added to the survey.
Week 4	Same as Week 2
Week 5	Same as Week 3. In addition, the questions concerning emotion regulation were removed with the exception of the initial question investigating whether or not the subjects had been afraid of not being able to live up to the expectations placed on them.
Week 6	Same as Week 2. In addition, the Nurse self-efficacy questionnaire was included in the survey (included only in the Exit survey of the summer edition).
Week 7	Same as Week 3. In addition, the questions concerning mastery and learned helplessness were removed.
Week 8	Same as Week 2. In addition, an open-ended question concerning the value of having a mentor was added, and so was a question concerning whether or not one was in an transition-to-practice program or similar.
Week 9	Same as Week 3.
Week 10	Same as Week 6.

Week 11	Same as Week 3.
Week 12	Same as Week 2.
Week 13	Same as Week 3 (with the exception of questions concerning agentic engagement).
Exit (Week 14)	Two questions concerning avoidance of engagement in proactive behaviors were included. An unintentionally omitted question about patient safety was added to the battery used during the summer of 2015. The question concerning theory of intelligence were removed. The Swedish Implicit Theory of organizational world scale was included.

2.4 Study variables

Based on the model of professional socialization proposed by Saks and Gruman (2012) a set of scales and single items was put together. To minimize the risk of study attrition due to too many questions asked too often, the variables included in the surveys were balanced over time.

In Table 4A the scales and single items included in each survey is presented. Socialization practices and newcomer adjustment variables were included weekly in the process evaluation measures to measure development over time. The variables referred to as socialization outcomes were measured in the Exit measurement only. In Table 4B the full structure of the study with data collections form both the summer 2015 and spring 2016 edition are included.

The baseline questionnaire was administered at the last week of education and included some items that were not included in the rest of the study. Baseline variables with descriptive data are presented in Table A in Appendix (Swedish phrasing).

Table 4A. Study variables at all time-points.

		Survey													
		Baseline (W1)	**W2**	**W3**	**W4**	**W5**	**W6**	**W7**	**W8**	**W9**	**W10**	**W11**	**W12**	**W13**	**Exit (W14)**
Socialization variables	**Index**														
Socialization practices															
Socialization tactics	Formal introduction activities	x	x	x	x	x	x	x	x	x	x	x	x	x	
Socialization agents	Learning climate			x		x		x		x		x		x	
	Contextual factors		x	x	x	x	x	x	x	x	x	x	x	x	
Socialization processes															
Task mastery	NSFS (competence)		x		x		x		x		x		x		x
Social acceptance	NSFS (relatedness)		x		x		x		x		x		x		x
Self-efficacy	NSFS (competence)		x		x		x		x		x		x		x
Learning	NSFS (competence)		x		x		x		x		x		x		x
	Agentic engagement			x				x				x			x
Role clarity	QPS-Nordic role clarity		x		x		x		x		x		x		x
Fit perceptions	Fit perceptions		x		x		x		x		x		x		x
Anxiety	SEQ	x	x	x	x	x	x	x	x	x	x	x	x	x	
	Emotions			x		x		x		x		x		x	
	SWEBO concentration			x		x		x		x		x		x	
	Health behaviors	x				x				x				x	
	Sleep	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Somatic symptoms			x		x		x		x		x		x	

Table 4A (continued). Study variables at all time-points.

		Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Socialization variables	**Index**														
Socialization outcomes															
Job satisfaction	Job satisfaction														x
Organizational commitment	Organizational commitment														x
Intention to quit	Intention to quit														x
Turnover	Turnover														x
Job performance	NSE	x													x
Role orientation	Professional expectations														x
Stress	Sick leave														x
	OLBI														x
	SRH	x													x
Additional variables															
Work characteristics		x													
Previous work experiences		x													
Expectations of work		x													
Development possibilities		x													x
Care quality												x			x
Work environment															x
Mindset		x													x

Note: W = week; NSFS = Need satisfaction; QPS-N = General Nordic Questionnaire for psychological and social factors at work;
SEQ = Stress-energy questionnaire; SWEBO = Scale of work engagement and burnout; NSE = Nurse self-efficacy;
OLBI = Oldenburg burnout inventory; SRH = Self rated health

Table 4B. Study variables at all time-points of both waves of the study

			Survey														
			W-1	**W1**	**W2**	**W3**	**W4**	**W5**	**W6**	**W7**	**W8**	**W9**	**W10**	**W11**	**W12**	**W13**	**W14**
			(BS15)	**(BS16)**												**(ES15)**	**(ES16)**
Socialization variables	**Index**																
Socialization practices																	
Socialization tactics	Formal introduction activities	S15	x	x	x	x	x	x	x	x	x	x	x	x	x		
		S16		x	x	x	x	x	x	x	x	x	x	x	x	x	
Socialization agents	Learning climate	S15			x		x		x		x		x		x		
		S16				x		x		x		x		x		x	
	Contextual factors	S15		x	x	x	x	x	x	x	x	x	x	x	x		
		S16			x	x	x	x	x	x	x	x	x	x	x	x	
Socialization processes																	
Task mastery	NSFS (competence)	S15		x		x		x		x		x		x		x	
		S16			x		x		x		x		x		x		x
Social acceptance	NSFS (relatedness)	S15		x		x		x		x		x		x		x	
		S16			x		x		x		x		x		x		x
Self-efficacy	NSFS (competence)	S15		x		x		x		x		x		x		x	
		S16			x		x		x		x		x		x		x
Learning	NSFS (competence)	S15		x		x		x		x		x		x		x	
		S16			x		x		x		x		x		x		x
	Agentic engagement	S15			x				x				x			x	
		S16				x				x				x			x

Table 4B (continued). Study variables at all time-points of both waves of the study

			Survey													
			W-1	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
			(BS15)	(BS16)												(ES15)	(ES16)
Socialization variables	**Index**																
Socialization processes																	
Role clarity	QPS-Nordic role clarity	S15		x		x		x		x		x		x		x	
		S16			x		x		x		x		x		x		x
Fit perceptions	Fit perceptions	S15		x		x		x		x		x		x		x	
		S16			x		x		x		x		x		x		x
Anxiety	SEQ	S15	x	x	x	x	x	x	x	x	x	x	x	x	x		
		S16		x	x	x	x	x	x	x	x	x	x	x	x	x	
	Emotions	S15			x		x		x		x		x		x		
		S16				x		x		x		x		x		x	
	SWEBO concentration	S15			x		x		x		x		x		x		
		S16				x		x		x		x		x		x	
	Health behaviors	S15	x				x				x				x		
		S16		x				x				x				x	
	Sleep	S15	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
		S16		x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Somatic symptoms	S15															
		S16				x		x		x		x		x		x	

Table 4B (continued). Study variables at all time-points of both waves of the study

			Survey													
			W-1	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
			(BS15)	(BS16)												(ES15)	(ES16)
Socialization variables	**Index**																
Socialization outcomes																	
Job satisfaction	Job satisfaction	S15														x	
		S16															x
Organizational commitment	Organizational commitment	S15														x	
		S16															x
Intention to quit	Intention to quit	S15														x	
		S16															x
Turnover	Turnover	S15														x	
		S16															x
Job performance	NSE	S15	x													x	
		S16		x													x
Role orientation	Professional expectations	S15														x	
		S16															x
Stress	Sick leave	S15														x	
		S16															x
	OLBI	S15														x	
		S16															x
	SRH	S15	x													x	
		S16		x													x

Table 4B (continued). Study variables at all time-points of both waves of the study

			Survey														
			W-1	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14
			(BS15)	(BS16)												(ES15)	(ES16)
Socialization variables	**Index**																
Additional variables																	
Work characteristics	Work characteristics	S15	x														
		S16		x													
Previous work experiences	Previous work experiences	S15	x														
		S16		x													
Expectations of work	Expectations of work	S15	x														
		S16		x													
Development possibilities	Development possibilities	S15	x													x	
		S16		x													x
Care quality	Care quality	S15											x			x	
		S16												x			x
Work environment	Work environment	S15														x	
		S16															x
Mindset	Mindset	S15	x													x	
		S16		x													x

Note: W = week; S15 = summer 2015; S16 = spring 2016; BS15 = baseline summer 2015; BS16 = baseline spring 2016; ES15 = exit summer 2015; ES16 = exit spring 2015; NSFS = Need satisfaction; QPS-N = General Nordic Questionnaire for psychological and social factors at work; SEQ = Stress-energy questionnaire; SWEBO = Scale of work engagement and burnout; NSE = Nurse self-efficacy; OLBI = Oldenburg burnout inventory; SRH = Self rated health

3 Data

Below is a detailed presentation of the scales and items included in the study following the structure of Table 4A and 4B.

3.1 Socialization practices

Saks & Gruman (2012) define socialization practices as "organization-initiated activities, programs, events, and experiences that are specifically designed to facilitate newcomers' learning, adjustment, and socialization into a job, role, work group, and organization so that they can become effective members of the organization" (p 28-29). Thus, in the context of this study, socialization practices concern the formal and informal activities of the health care facilities in which the study participants start their career that facilitate the process of transferring from a nursing student to a nursing professional.

In this study, socialization practices were assessed in terms of formal introduction activities and the learning climate. In addition to these socialization practices, this study also sought to evaluate the context in which the new nurses operated as this can also be considered as informal socialization tactics. For this purpose, variables such as workload, work hours, and breaks during work shifts were also included.

3.1.1 Formal introduction activities

Formal introduction activities were evaluated using single items covering typical introductory activities. In Table 5 items and response formats are presented.

Table 5. Formal introduction activities.

Item content Swedish	Item content English	Response format
Har du gått dina arbetspass med en mer erfaren sjuksköterska ("bredvidgång") denna vecka?	Have you worked alongside a more experienced nurse this week?	Yes; No; I don't know
Har du en mentor?	Have you got a mentor?	Yes; No; I don't know
Har du träffat din mentor denna vecka?	Have you had a meeting with your mentor this week?	Yes; No; I don't know
Har du deltagit i en utbildningsdag denna vecka?	Have you participated in a formal educational activity this week?	Yes; No; I don't know
Har du haft ett reducerat antal patienter som du varit huvudansvarig för?	Have you had a reduced number of patients that you were responsible for this week?	Yes; No; I don't know

3.1.2 Learning climate

Learning climate was evaluated using a three item scale. Following is a presentation of the use of the scale in the study together with some descriptive data. First, some bullet points highlighting the most important points are presented.

- Representation: 6/12 weeks (odd)
- Note: Two versions representing learning climate with supervisor (S) and management (M)
- Response rates: Internal drop out is moderate (13 - 59%)
- Reliability α: .69 - .79
- Test-retest *r*: Supervisor .75; Management .45
- Mean: max = 3.57 (week 3) min = 2.19 (week 13)
- Longitudinal data:
    - Between individual variation: S 72 %; M 47 %
    - General de/increases: S n.s; M -.05
- Future comments: No comments.

Williams, G. C., Wiener, M. W., Markakis, K. M., Reeve, J., & Deci, E. L. (1994). Medical students' motivation for internal medicine. *Journal of General Internal Medicine, 9*(6), 327-333.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in Table 6 and 7, followed by the response format in English (and Swedish).

Table 6. Representation in the surveys.

	Baseline (W1)	**W2**	**W3**	**W4**	**W5**	**W6**	**W7**	**W8**	**W9**	**W10**	**W11**	**W12**	**W13**	**Exit (W14)**
Supervisor			x		x									
Management							x		x		x		x	

Note: x = marks the presence of the variable in the survey.

Table 7. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Subscale	Variable name
	Under den senaste veckan, hur ofta har din handledare/den sjuksköterska som du gått bredvid…	During the past week, how often has your supervisor/the nurse you have been working along side with…	Supervisor	
	Under den senaste veckan, hur ofta har din närmaste chef…	During the past week, how often has your closest chief…	Management	
1	uppmuntrat dig att ställa frågor?	encouraged you to ask questions?		learnclim4
2	gett dig bra återkoppling om hur din kompetens har utvecklats?	provided useful feedback on the development of your competence?		learnclim5
3	varit lyhörd för dina behov?	been responsive to your needs?		learnclim6

Response format (Swedish phrasing used in the study):
1 = Very often or always (Mycket ofta eller alltid)
2 = Fairly often (Ganska ofta)
3 = Sometimes (Ibland)
4 = Fairly seldom (Ganska sällan)
5 = Very seldom or never (Mycket sällan eller aldrig)

Comments about representation in the surveys (e.g. change in phrasing or response format): No comments.

In Table 8 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 8. Response rates through full study period.

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
Learning climate			72		44		93		83		88		78	

Reliability estimates Cronbach's alpha, mean-inter-item correlations, item-total correlations and test-retest correlations are presented in Table 9 and 10.

Table 9. Cronbach's α, MIIC, ITC max and min of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Alpha			.69		.80		.72		.83		.80		.79	
MIIC			.43		.58		.46		.63		.58		.58	
ITC min			.50		.63		.449		.60		.63		.59	
ITC max			.51		.66		.63		.76		.68		.68	

Table 10. Test-retest (correlation) for supervisor between week 3 and 5 (n=35) and for management between week 11 and 13 (n=76).

Subscale	*r*	*p*
Supervisor	.750	.001
Management	..448	.001

Mean values and standard deviations (SD) are presented in Table 11. Values are indicated separately for each time the scale is included in the study.

Table 11. Mean value and SD of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Mean			3.57		3.37		2.53		2.34		2.25		2.19	
SD			.91		1.09		1.03		1.16		1.03		1.09	

For longitudinal data, intra class correlations are presented together with slope estimates in Table 12. Adding to this, individual regression lines are presented in Figure 2 and 3, and the estimated mean level development is presented in Figure 4 and 5.

Table 12. {longtext}

Subscale	ICC	slope	slope p
Supervisor	.715	-.025	.682
Management	.472	-.050	.016

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

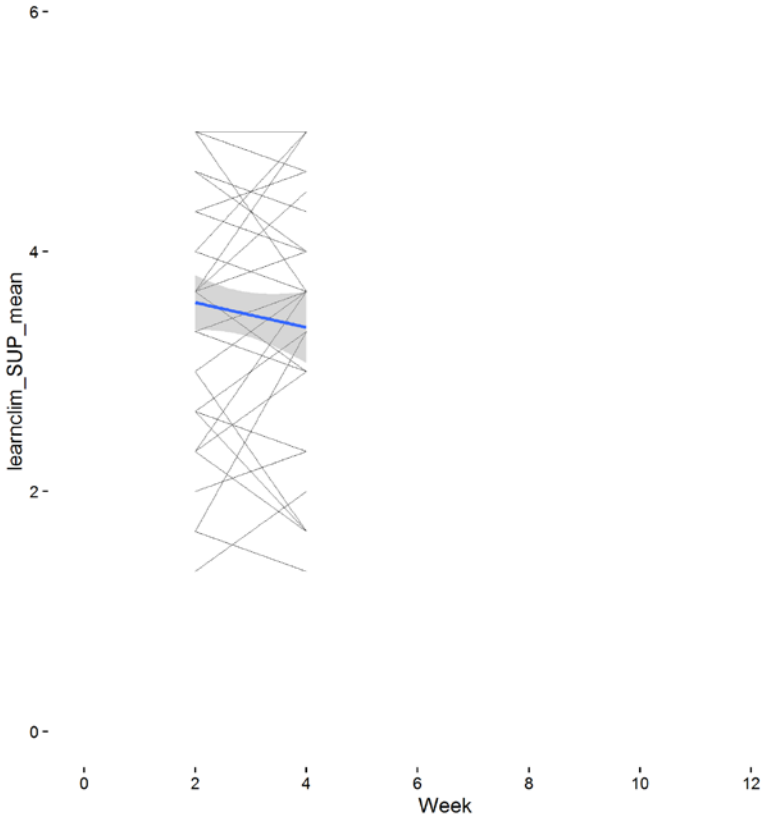

Figure 2. Individual regression lines for Supervisor.

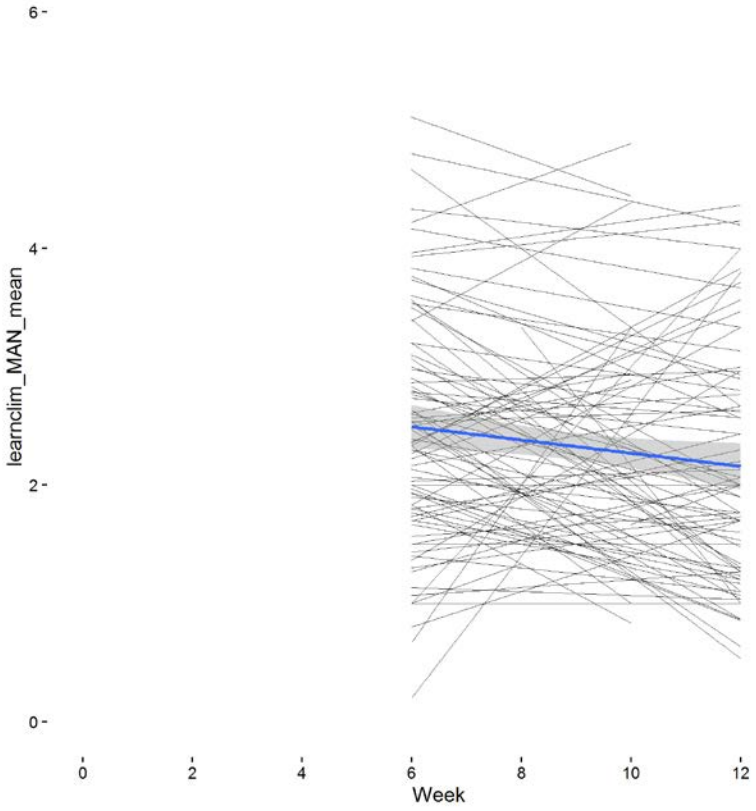

Figure 3. Individual regression lines for Management.

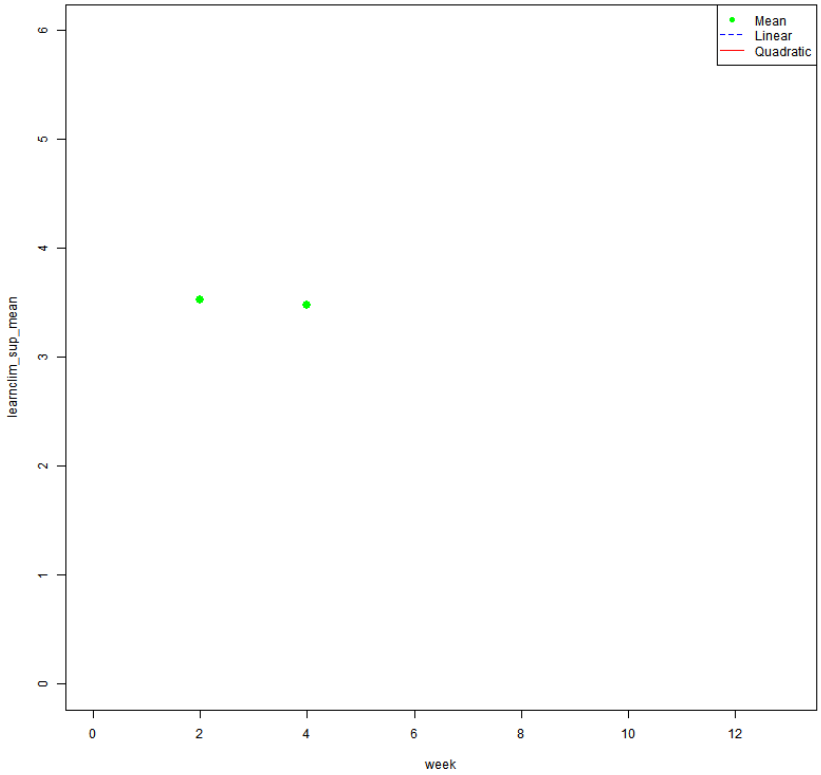

Figure 4. Estimated mean level development (from a Fitzmaurice mean profile mixed model) for Supervisor.

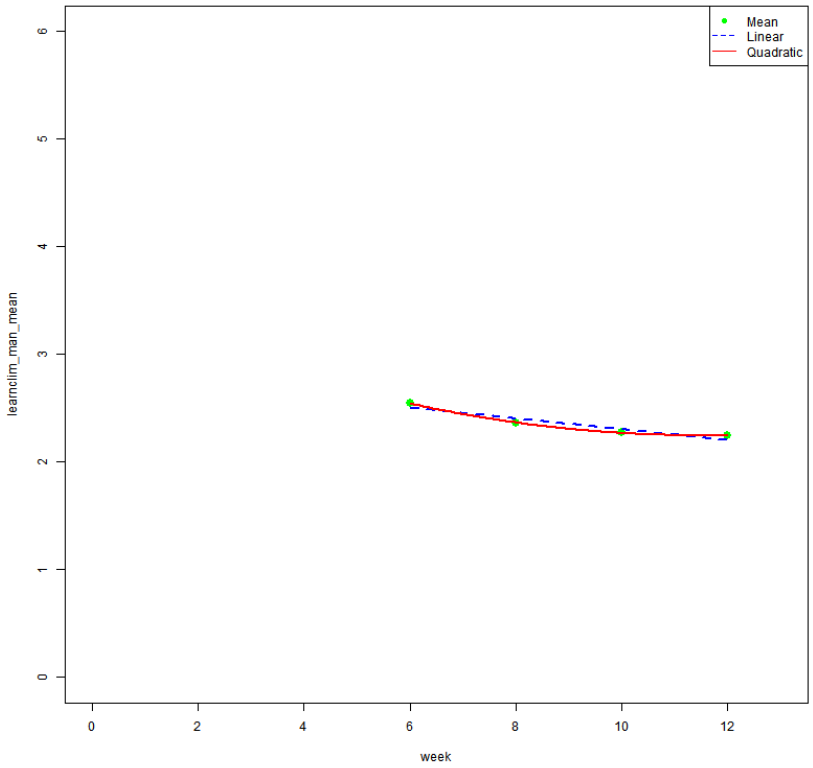

Figure 5. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for Management.

3.1.3 Contextual factors

Contextual factors were evaluated using single items. In Table 13 items and response formats are presented.

Table 13. Contextual factors.

Item content Swedish	Item content English	Response format English (Swedish)
Hur många timmar arbetade du under ditt senaste arbetspass?	How many hours did you work during your last shift?	Numeric
Arbetade du övertid/mertid under ditt senaste arbetspass?	Did you work overtime during your last shift?	Yes; No; I don't know (Ja; Nej; Vet inte)
Hur många patienter hade du huvudansvar för under ditt senaste arbetspass?	How many patients were you responsible for during your last shift?	Numeric
Hur var arbetsbelastningen under ditt senaste arbetspass?	How was the workload during your last shift?	Much too high (Alldeles för hög) Somewhat too high (Något för hög) Fairly (Lagom) Somewhat too low (Något för låg) Much too low (Alldeles för låg)
Hur ofta har du haft rast för måltid under den senaste veckan?	How often have you hade a break for lunch during the last week?	Every work shift (Varje pass) Most work shifts (De flesta passen) A few work shifts (Ett fåtal av passen) Some occasional work shift (Något enstaka pass) No work shift (Inget pass)
Hur ofta har du haft rast (utöver rast för måltid) under den senaste veckan?	How often have you hade a break (other than break for lunch) during the last week?	Every work shift (Varje pass) Most work shifts (De flesta passen) A few work shifts (Ett fåtal av passen) Some occasional work shift (Något enstaka pass) No work shift (Inget pass)

3.2 Socialization processes

Data concerning the socialization processes investigated in the study are presented below. The full list of processes including representation throughout the study is summarized in Table 4.

3.2.1 Need Satisfaction and Frustration Scale

Need satisfaction and frustration was evaluated using a six item scale. Following is a presentation of the use of the scale in the study together with some descriptive data. First, some bullet points highlighting the most important points are presented.

- Representation: 6/12 weeks (even) + exit
- Note: Three subscales with two items each: Autonomy (A); Relatedness (R); and Competence (C)
- Response rates: Internal dropout is moderate (12 – 26 %)
- Reliability α: A .51 - .80 ; R .64 -.87; C .56-.75
- Test-retest *r*: A .63; R .71; C .57
- Mean: A max = 3.90 (exit) min = 3.64 (week 4); R max = 4.12 (week 2) min = 3.72 (9); C max = 3.72 (exit) min = 3.47 (week 4)
- Longitudinal data:
    - Between individual variation: A 49 %; R 58 %; C 57 %
    - General de/increases: A .03; R -.02; C .01

Aurell, J., Wilsson, L., Bergström, A., Ohlsson, J., Martinsson, J., & Gustavsson, P. (2015) Utprövning av den svenska versionen av The Need Satisfaction and Frustration Scale (NSFS). Göteborgs Universitet [SOM-rapport nr 2015:29].

Longo, Y., Gunz, A., Curtis, G. J., & Farsides, T. (2014). Measuring Need Satisfaction and Frustration in Educational and Work Contexts: The Need Satisfaction and Frustration Scale (NSFS). *Journal of Happiness Studies*, 1-23.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in Table 14 and 15, followed by the response format in English (and Swedish).

Table 14. Representation in the surveys.

Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
	x		x		x		x		x		x		x

Note: x = marks the presence of the variable in the survey.

Table 15. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Subscales	Variable name
	Om du tänker på ditt arbete, hur ofta har du under den senaste veckan känt följande?	When thinking about your job, how often during the past week have you felt the following?		
1	Jag har känt press på mig att utföra mitt arbete på ett annat sätt än hur jag tycker att det ska utföras.	I have felt under pressure to carry out tasks in other ways than I think they should be done.	A	nsfs1
2	Jag har känt mig fri att själv prioritera vad jag ska göra.*	I have felt free to prioritize what I do.	A	nsfs2
3	Jag har känt mig ensam när jag har jobbat med vissa i personalen.	I have felt alone when I've been working with some people in the staff.	R	nsfs3
4	Jag har känt att de jag jobbat med verkligen har brytt sig om mig.*	I have felt that the people I've worked work with really care about me.	R	nsfs4
5	Jag har känt att jag inte har lyckats med mina arbetsuppgifter.	I have felt incapable of succeeding in my work tasks.	C	nsfs5
6	Jag har känt att jag har kunnat genomföra även de mest krävande uppgifterna.*	I feel I can accomplish even the most difficult tasks.	C	nsfs6

* Items are reverse coded before calculating subscale mean scores.

Response format (Swedish phrasing used in the study):
1 = Very often or always (Mycket ofta eller alltid)
2 = Fairly often (Ganska ofta)
3 = Sometimes (Ibland)
4 = Fairly seldom (Ganska sällan)
5 = Very seldom or never (Mycket sällan eller aldrig)

Comments about representation in the surveys (e.g. change in phrasing or response format): No comments.

In Table 16 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 16. Response rates of items through full study period (number of responses).

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
Subscales														
A		82		88		93		89		78		78		87
R		82		88		93		89		78		78		87
C		82		88		93		89		78		78		87
Total		82		88		93		89		78		78		87

Reliability estimates Cronbach's alpha, mean-inter-item correlations, item-total correlations and test-retest correlations are presented in Table 17 and 18.

Table 17. Cronbach's *α*, MIIC, ITC max and min of index through full study period.

Sub-scale	Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
A	**Alpha**		.60		.54		.57		.51		.68		.75		.80
	MIIC		.43		.38		.40		.34		.53		.60		.66
R	**Alpha**		.78		.64		.77		.78		.82		.80		.87
	MIIC		.64		.47		.64		.65		.70		.68		.78
C	**Alpha**		.61		.56		.71		.69		.68		.59		.75
	MIIC		.44		.39		.56		.53		.52		.41		.61

Table 18. Test-retest (correlation) between week 10 and 12 (n = 73).

Subscale	*r*	*p*
A	.625	.001
R	.713	.001
C	.573	.001

Mean values and standard deviations (SD) are presented in Table 19. Values are indicated separately for each time the scale is included in the study.

Table 19. Mean value and SD of index through full study period.

Sub-scale	Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
A	**M**		3.59		3.64		3.77		3.89		3.82		3.84		3.9
	SD		.92		.87		.91		.83		.86		.86		.93
R	**M**		4.12		3.96		3.8		3.76		3.72		3.77		3.79
	SD		.97		.98		.96		.90		.98		.96		1.04
C	**M**		3.63		3.47		3.55		3.49		3.50		3.52		3.72
	SD		.83		.93		.94		.89		.89		.84		.84

For longitudinal data, intra class correlations are presented together with slope estimates in Table 20. Adding to this, individual regression lines are presented in Figure 6, 7 and 8, and the estimated mean level development is presented in Figure 9. 10 and 11.

Tabel 20. Longitudinal development.

Subscale	ICC	slope	slope p
Autonomy	.492	.032	.001
Relatedness	.580	-.021	.022
Competence	.573	.006	.398

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

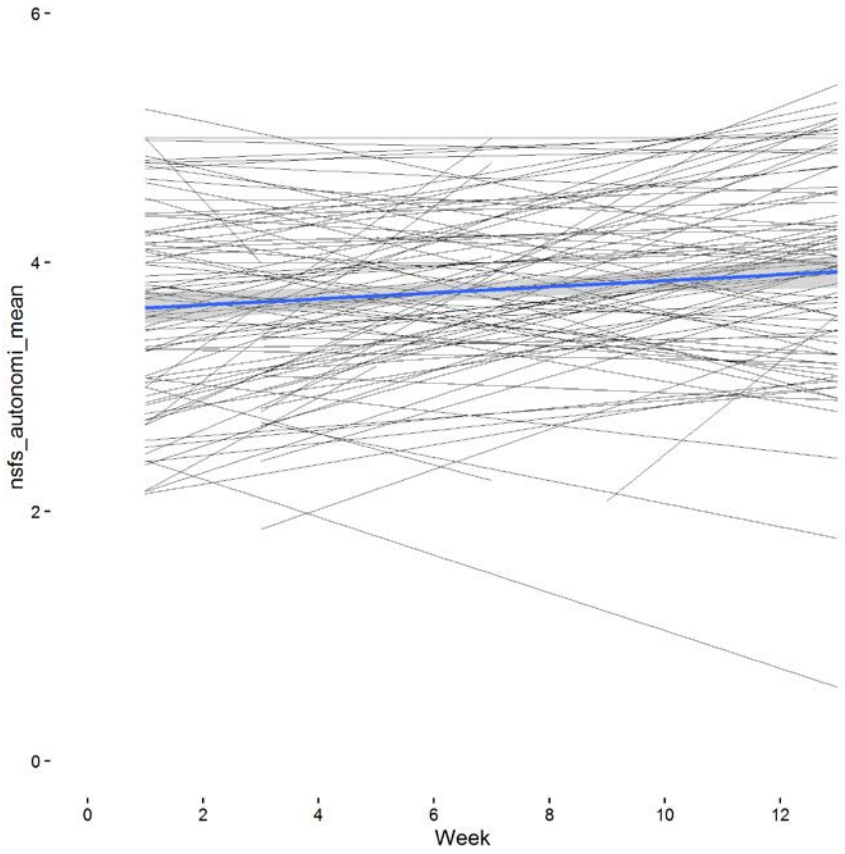

Figure 6. Individual regression lines for Autonomy.

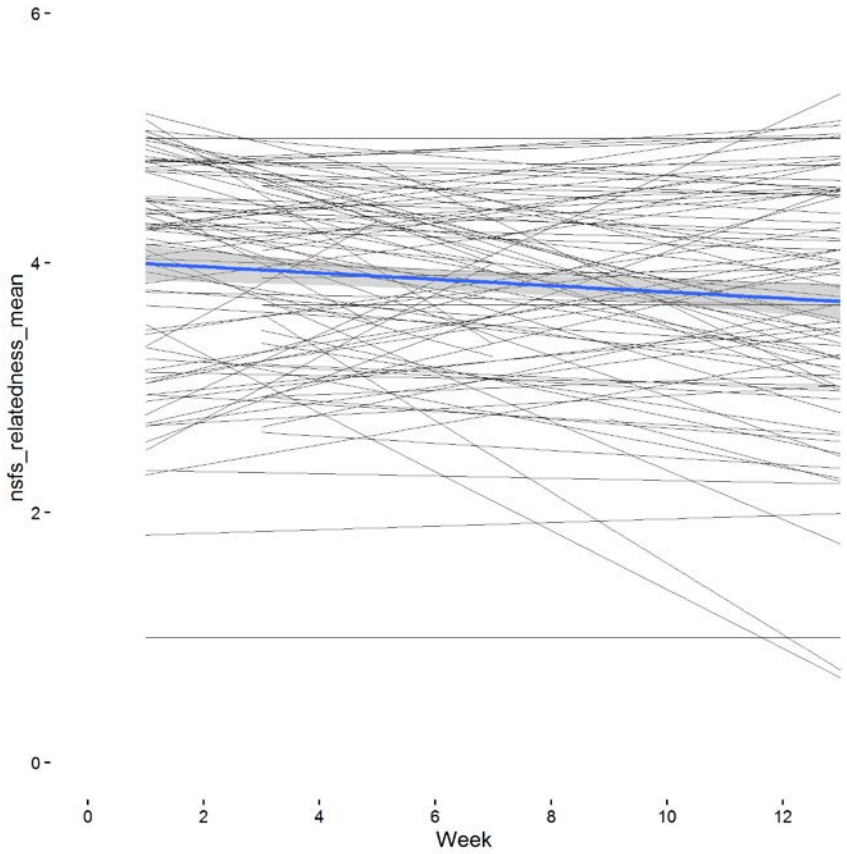

Figure 7. Individual regression lines for Relatedness.

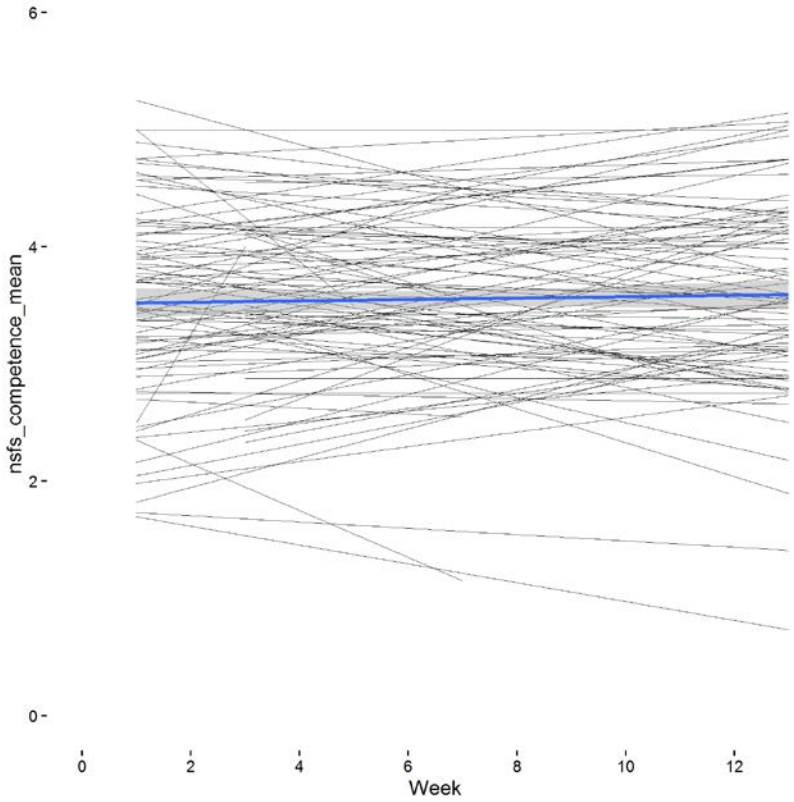

Figure 8. Individual regression lines for Competence.

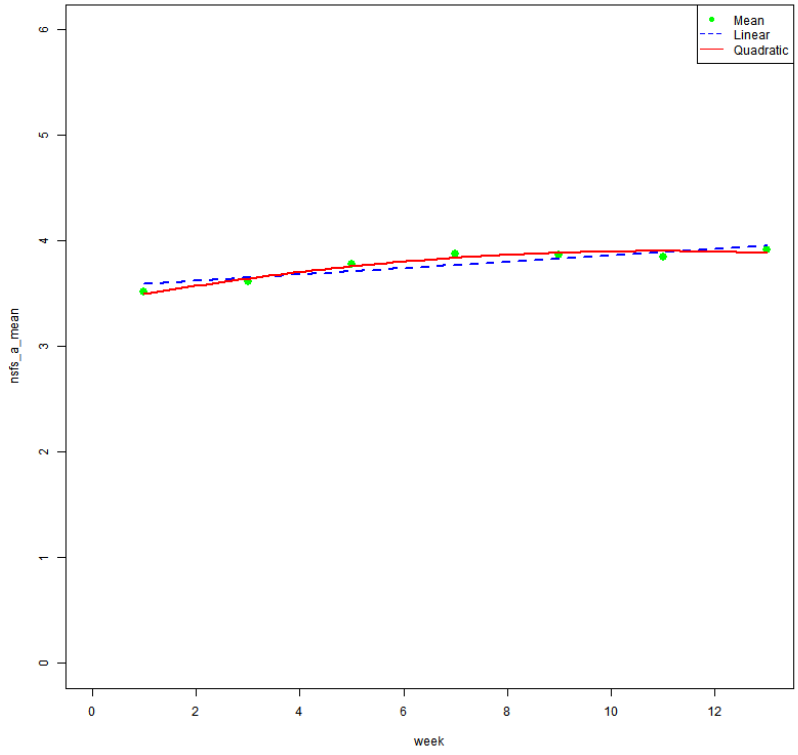

Figure 9. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for autonomy.

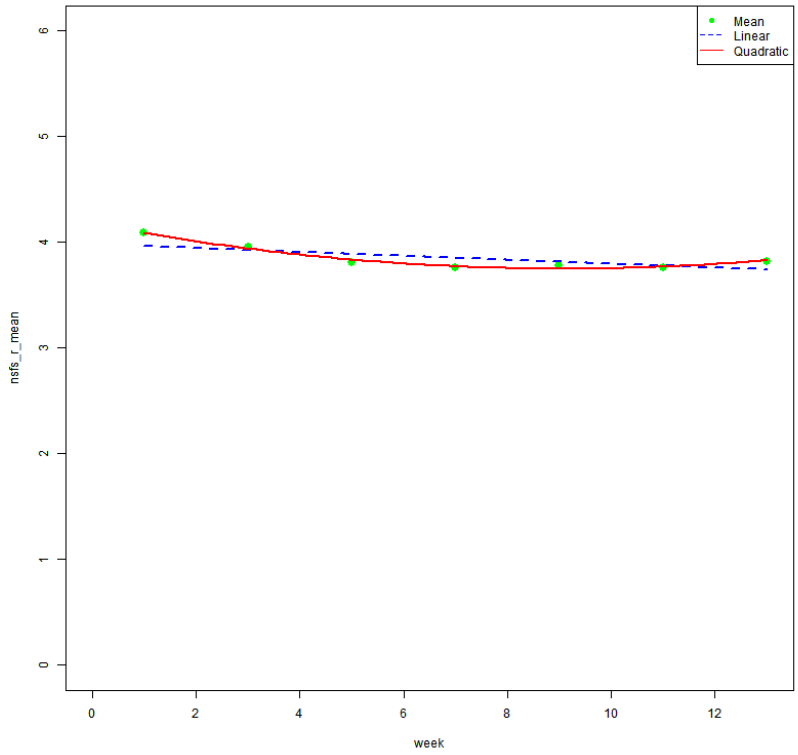

Figure 10. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for relatedness.

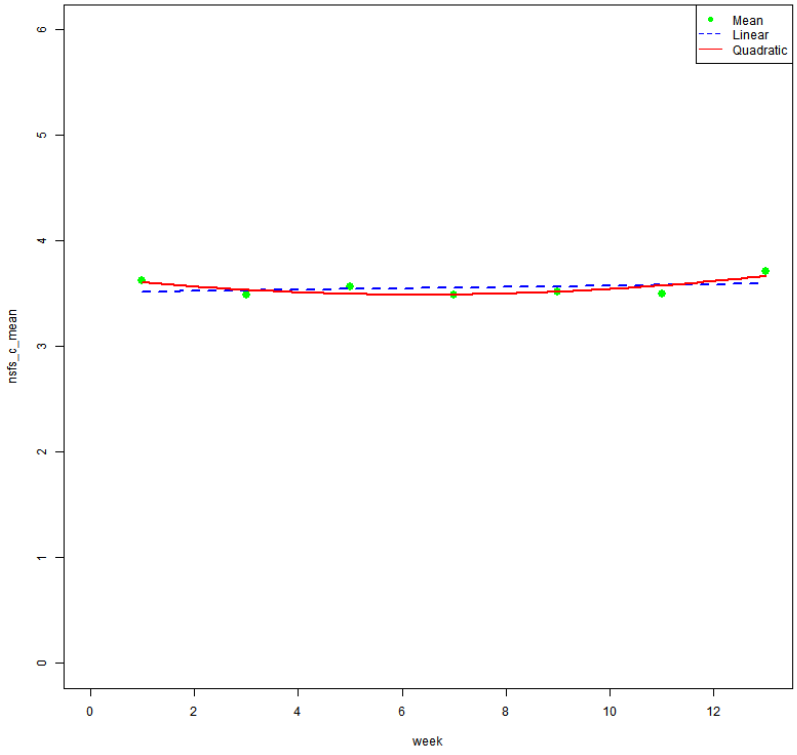

Figure 11. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for competence.

3.2.2 Agentic engagement

Agentic engagement was evaluated using a four item scale. Following is a presentation of the use of the scale in the study together with some descriptive data. First, some bullet points highlighting the most important points are presented.

- Representation: 3/12 weeks (odd) + exit
- Note: No comments.
- Response rates: Internal dropout was moderate (12 - 18)
- Reliability α: AE(5-6) .77 - 92
- Test-retest *r*: AE(5-6) .69
- Mean: max = 4.23 (week 3) min = 4.04 (week 11) reflecting ‘rather seldom’
- Longitudinal data:
  - Between individual variation: AE(5-6) 41%
  - General de/increases: AE(5-6) n.s

Reeve, J. (2013). How students create motivationally supportive learning environments for themselves: The concept of agentic engagement. *Journal of Educational Psychology*, *105*(3), 579.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in Table 21 and 22, followed by the response format in English (and Swedish).

Table 21. Representation in the surveys.

Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
		x				x				x			x

Note: x = marks the presence of the variable in the survey.

Table 22. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
	Under den senaste veckan när du har varit på arbetet, hur ofta har du…	When you've been at work during the past week, how often have you…	
1	frågat dina kollegor efter feedback på vilka arbetsarbetsuppgifter som du behöver träna mer på?	asked your colleagues for feedback on which work tasks you need further practice?	agent1
2	bett en kollega visa dig hur man utför en specifik arbetsuppgift?	asked a colleague to show you how a certain work task should be performed?	agent2
3	aktivt tagit dig an arbetsuppgifter som du känner att du behöver träna på?	actively engaged yourself in work tasks you feel you need more practice in?	agent3
4	i diskussioner inom arbetsgruppen, spontant bidragit med dina egna reflektioner?	in discussions within the work group spontaneously contributed with your own reflections?	agent4

Response format (Swedish phrasing used in the study):
1 = Very often or always (Mycket ofta eller alltid)
2 = Rather often (Ganska ofta)
3 = Sometimes (Ibland)
4 = Rather seldom (Ganska sällan)
5 = Very seldom or never (Mycket sällan eller aldrig)

Comments about representation in the surveys (e.g. change in phrasing or response format): No comments.

In Table 23 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 23. Response rates of items through full study period.

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
AE			87				93				87			87

Reliability estimates Cronbach's alpha, mean-inter-item correlations, item-total correlations and test-retest correlations are presented in Table 24, 25, 26 and 27.

Table 24. Cronbach's α, MIIC, ITC max and min of index through full study period. (all)

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Alpha			.53				.52				.57			.59
MIIC			.16				.15				.17			.19
ITC min			.14				.04				-.01			.08
ITC max			.37				.45				.50			.56

Table 25. Cronbach's α, MIIC, ITC max and min of index through full study period. (agent 1-4)

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Alpha			.48				.31				.43			.40
MIIC			.19				.10				.16			.14
ITC min			.23				.09				.12			.06
ITC max			.33				.23				.37			.38

Table 26. Cronbach's α, MIIC, ITC max and min of index through full study period. (agent 5-6)

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Alpha			.86				.77				.91			.92
MIIC			.75				.63				.84			.85
ITC min			.75				.63				.84			.85
ITC max			.75				.63				.84			.85

Table 27. Test-retest (correlation) between week 11 and exit (n = 84).

Subscale	*r*	*p*
AE(all)	.60	.001
AE (1-4)	.39	.001
AE (5-6)	.69	.001

Mean values and standard deviations (SD) are presented in Table 28, 29 and 30. Values are indicated separately for each time the scale is included in the study.

Table 28. Mean value and SD of index through full study period. (all)

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
M			3.63				3.53				3.39			3.50
SD			.55				.56				.59			.58

Table 29. Mean value and SD of index through full study period. (agent 1-4)

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
M			3.33				3.25				3.06			3.17
SD			.65				.60				.63			.60

Table 30. Mean value and SD of index through full study period. (agent 5-6)

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
M			4.23				4.09				4.04			4.16
SD			.90				.90				.99			.97

For longitudinal data, intra class correlations are presented together with slope estimates in Table 31. Adding to this, individual regression lines are presented in Figure 12, 13 and 14, and the estimated mean level development is presented in Figure 15, 16 and 17.

Tabel 31. Longitudinal development.

	ICC	slope	slope p
AE(all)	.432	-.014	.019
AE(1-4)	.228	-.018	.015
AE(5-6)	.586	-.005	.607

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

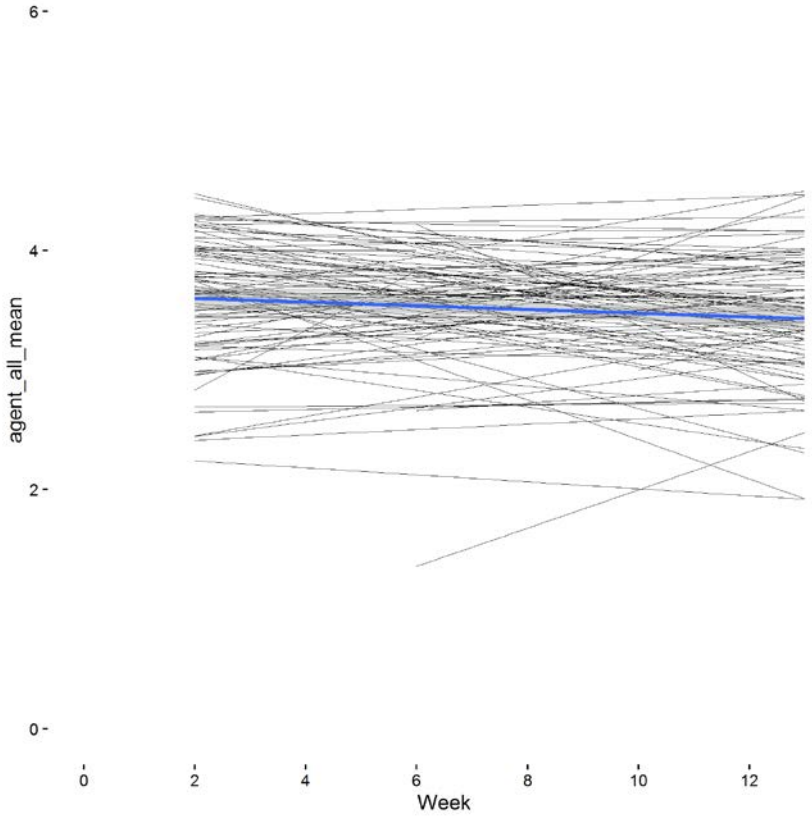

Figure 12. Individual regression lines for AE (all).

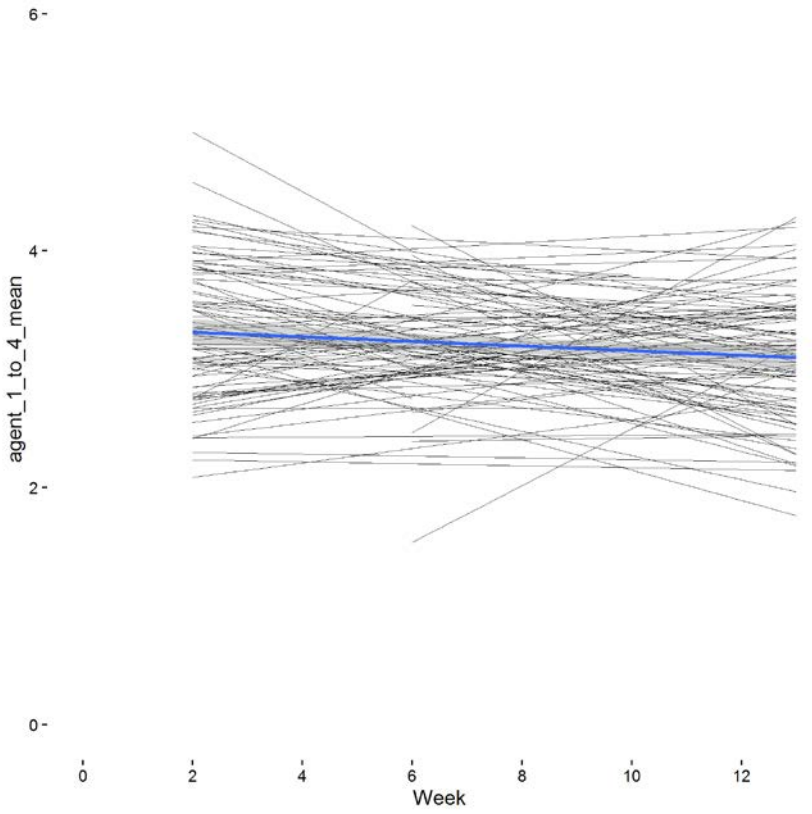

Figure 13. Individual regression lines for AE (1-4).

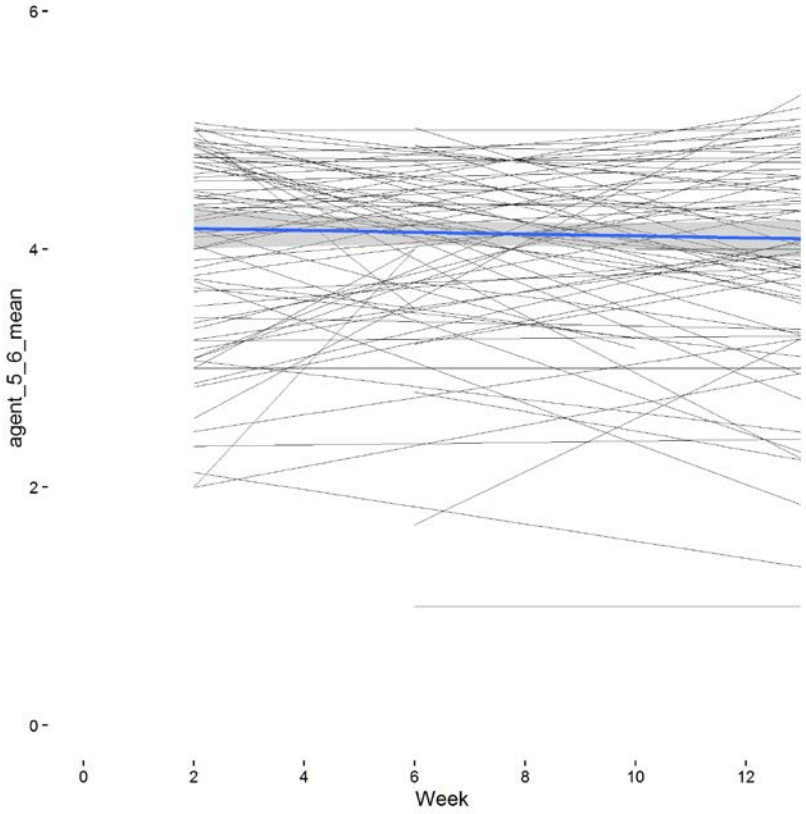

Figure 14. Individual regression lines for AE (5-6).

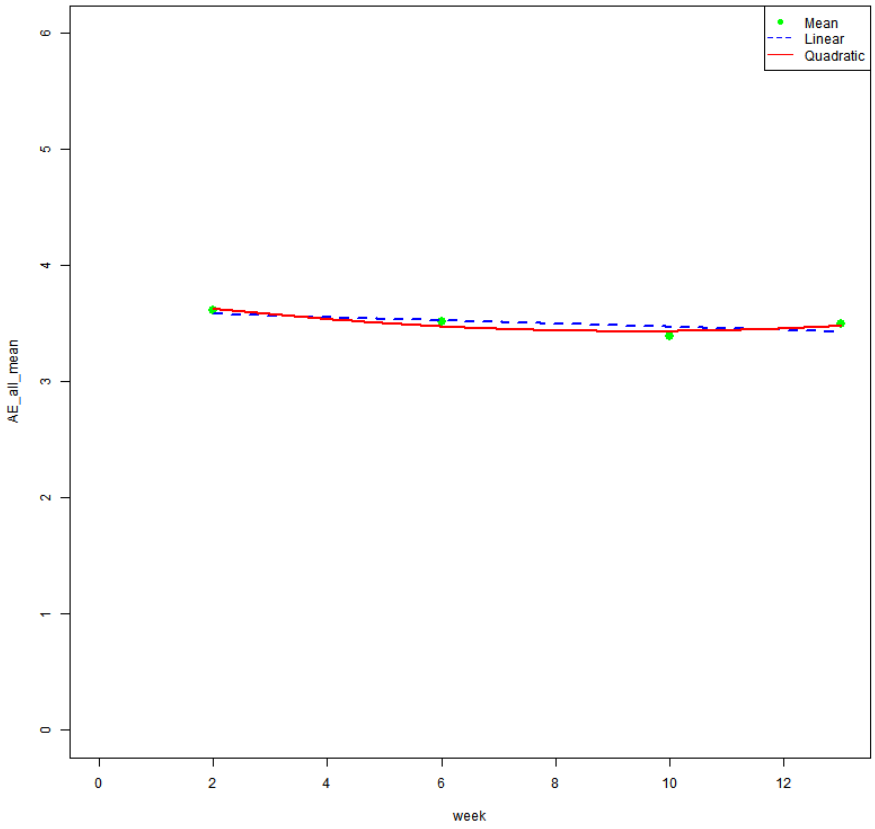

Figure 15. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for AE (all).

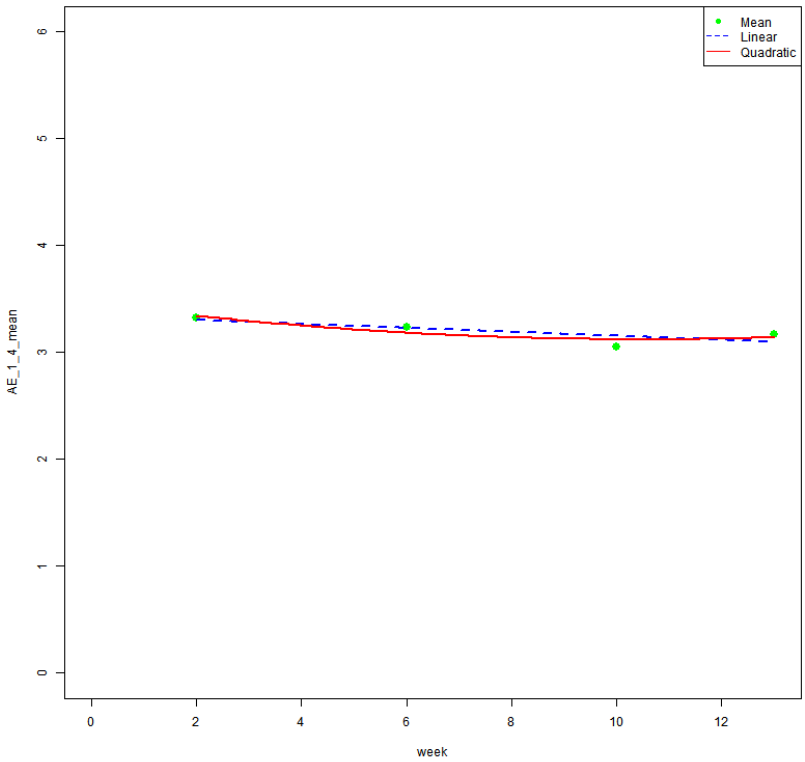

Figure 16. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for AE (1-4).

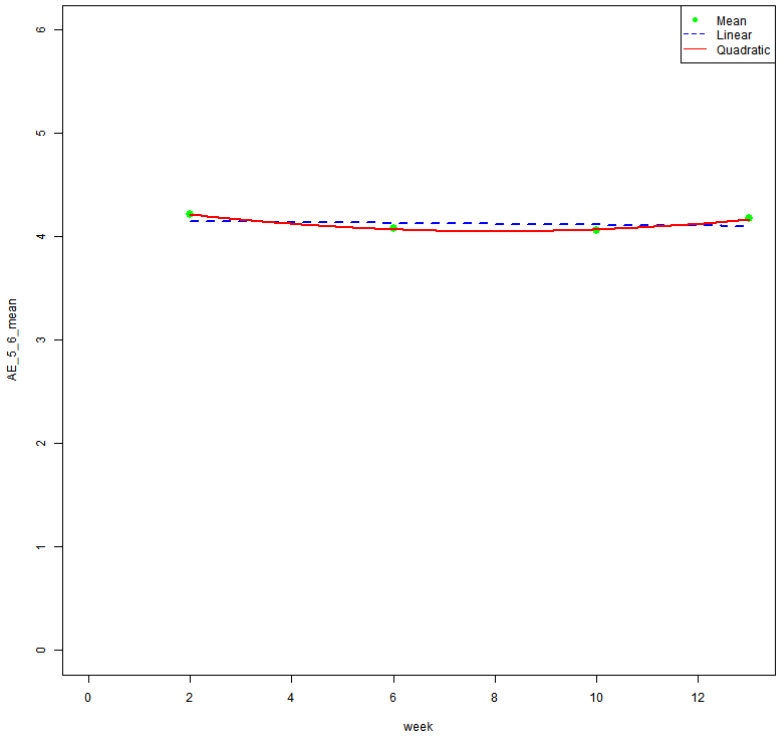

Figure 17. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for AE (5-6).

3.2.3 QPS-Nordic Role clarity

Role clarity was evaluated using a three item scale. Following is a presentation of the use of the scale in the study together with some descriptive data. First, some bullet points highlighting the most important points are presented.

- Representation: 6/12 weeks (even) + exit
- Note: No comments.
- Response rates: Internal dropout was moderate 12 - 26
- Reliability α: .84 - .91
- Test-retest *r*: .77
- Mean: max = 3.79 (week 6) min = 3.54 (week 12)
- Longitudinal data:
    - Between individual variation: .63 %
    - General de/increases: n.s.

Dallner, M., Elo, A. L., Gamberale, F., Hottinen, V., Knardahl, S., & Lindström, K. (2000). Validation of the General Nordic Questionnaire (QPSNordic) for psychological and social factors at work. Copenhagen: Nordic Council of Ministers, 2000:12.

Lindström, K., Dallner, M., Elo, A., Gamberale, F., Knardahl, S., Skogstad, A., Ørhede, E. (1997). Review of psychological and social factors at work and suggestions for the General Nordic Questionnaire (QPS Nordic) – description of the conceptual and theoretical background of the topics selected for coverage by the Nordic questionnaire. Copenhagen: Nordic Council of Ministers, 1997:15.

Wännström, I., Nygren, Å., Åsberg, M., Gustavsson, J. P. (Manuscript). The importance of response format in the assessment of the association between work characteristics and self-rated health – an experimental study.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in Table 32 and 33, followed by the response format in English (and Swedish).

Table 32. Representation in the surveys.

Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
	x		x		x		x		x		x		x

Note: x = marks the presence of the variable in the survey.

Table 33. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
	Under den senaste veckan, hur ofta har du upplevt att…	During the past week, how often have you experienced…	
1	det finns klart definierade mål för ditt arbete?	you have clear, planned goals and objectives defined for your job?	roleclarity1
2	du vet vilket ansvarsområde du har?	you know what your responsibilities are?	roleclarity2
3	du vet precis vad som krävs av dig i arbetet?	you know exactly what is expected of you at work?	roleclarity3

Response format (Swedish phrasing used in the study):
1 = Very often or always (Mycket ofta eller alltid)
2 = Rather often (Ganska ofta)
3 = Sometimes (Ibland)
4 = Rather seldom (Ganska sällan)
5 = Very seldom or never (Mycket sällan eller aldrig)

Comments about representation in the surveys (e.g. change in phrasing or response format): All items were coded reversed before performing analysis.

In Table 34 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 34. Response rates through full study period.

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
RCL		82		88		93		89		78		78		87

Reliability estimates Cronbach's alpha, mean-inter-item correlations, item-total correlations and test-retest correlations are presented in Table 35 and 36.

Table 35. Cronbach's α, MIIC, ITC max and min of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Alpha		.80		.86		.84		.89		.90		.87		.91
MIIC		.58		.68		.65		.73		.76		.69		.77
ITC min		.58		.71		.68		.74		.79		.69		.75

ITC max	.72	.80	.75	.82	.83	.79	.87

Table 36. Test-retest (correlation) between week 10 and 12 (n = 73).

Subscale	*r*	*p*
Role clarity	.765	.001

Mean values and standard deviations (SD) are presented in Table 37. Values are indicated separately for each time the scale is included in the study.

Table 37. Mean value and SD of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
M		3.61		3.71		3.79		3.78		3.65		3.54		3.78
SD		.79		.83		.80		.86		.95		.95		.95

For longitudinal data, intra class correlations are presented together with slope estimates in Table 38. Adding to this, individual regression lines are presented in Figure 18, and the estimated mean level development is presented in Figure 19.

Table 38. Longitudinal development.

Subscale	ICC	slope	slope p
Role clarity	.634	.006	.458

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

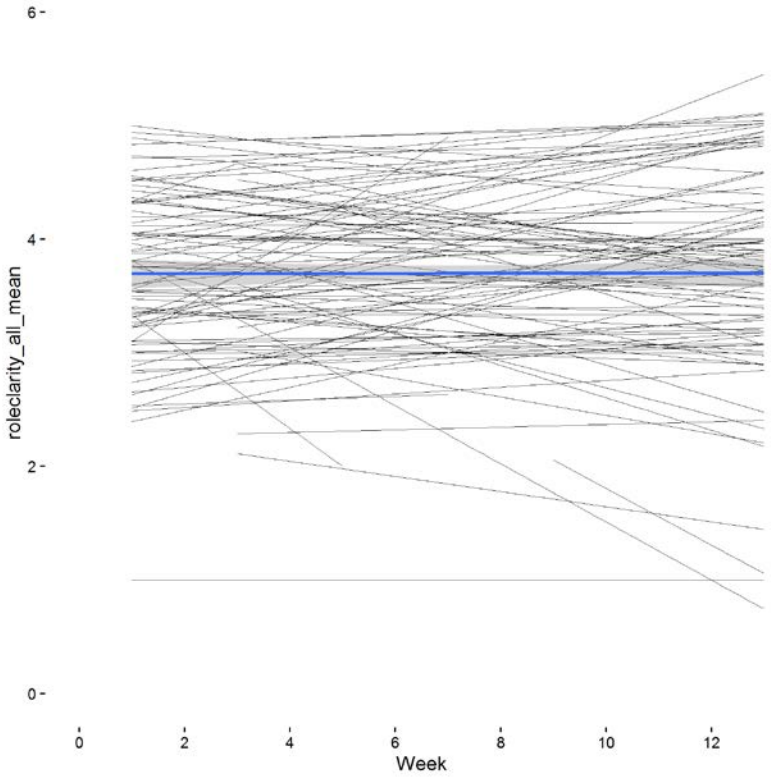

Figure 18. Individual regression lines.

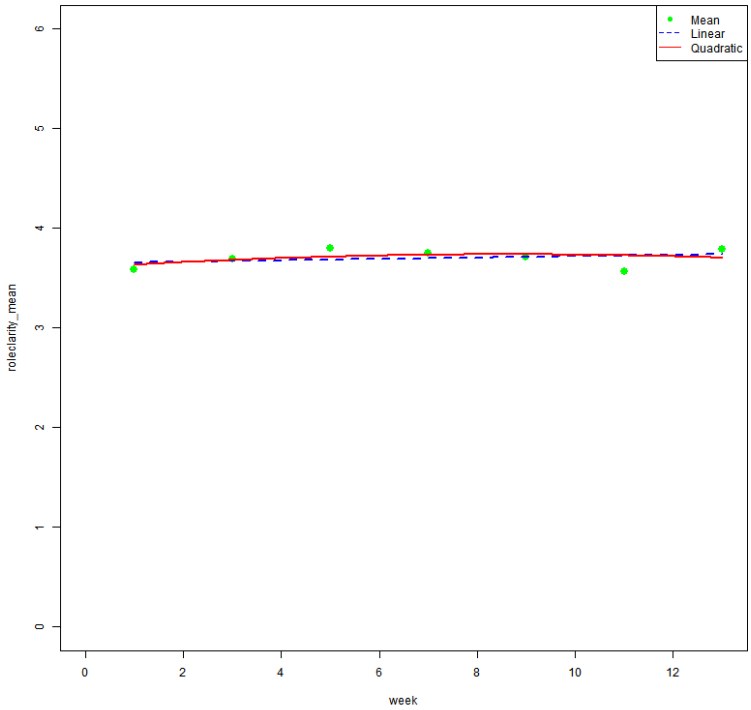

Figure 19. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect.

3.2.4 Fit perceptions

Fit perception was evaluated using a four item scale. Following is a presentation of the use of the scale in the study together with some descriptive data. First, some bullet points highlighting the most important points are presented.

- Representation: 6/12 weeks (even) + exit
- Note: No comments.
- Response rates: Internal dropout was moderate (12 – 27)
- Reliability α: .92 - .95
- Test-retest *r*: .81
- Mean: max = 3.22 (week 4), min 2.67 (exit)
- Longitudinal data:
    - Between individual variation: 70 %
    - General de/increases: -.04

Walton, G. M., & Cohen, G. L. (2007). A question of belonging: race, social fit, and achievement. *Journal of personality and social psychology*, *92*(1), 82.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in Table 38 and 39, followed by the response format in English (and Swedish).

Table 38. Representation in the surveys.

Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
	x		x		x		x		x		x		x

Note: x = marks the presence of the variable in the survey.

Table 39. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
	Hur har du har känt om dig själv som sjuksköterska den senaste veckan?	How have you felt about yourself as a nurse during the past week?	
1	Jag har pendlat mellan att uppleva att jag passar i yrket och att jag inte passar i det.	I have oscillated between experiencing that I belong in the profession and that I don't belong.	fitperc1
2	När jag stött på motgångar i arbetet har jag tvivlat på att jag hör hemma i yrket.	When facing difficulties at work I have doubted that I belong in the profession.	fitperc2
3	Jag har känt att jag passar som sjuksköterska även när jag har haft en dålig dag.	I have felt that I fit as a nurse even when I've had a bad day.	fitperc3
4	Jag har oroat mig för att jag inte kommer att passa som sjuksköterska.	I have worried that I won't fit as a nurse.	fitperc4

Response format (Swedish phrasing used in the study):
1 = 1 Not at all true (Stämmer inte alls)
2 = 2
3 = 3
4 = 4 Somewhat true (Stämmer delvis)
5 = 5
6 = 6
7 = 7 Completely true (Stämmer helt)

Comments about representation in the surveys (e.g. change in phrasing or response format): No comments.

In Table 40 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 40. Response rates through full study period.

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
Belonging uncertainty		82		88		93		89		78		78		87

Reliability estimates Cronbach's alpha, mean-inter-item correlations, item-total correlations and test-retest correlations are presented in Table 41 and 42.

Table 41. Cronbach's α, MIIC, ITC max and min of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Alpha		.91		.93		.93		.95		.92		.92		.94
MIIC		.73		.78		.79		.84		.75		.75		.79
ITC min		.75		.81		.80		.85		.71		.77		.82
ITC max		.87		.90		.91		.92		.91		.90		.91

Table 42. Test-retest (correlation) between week 10 and 12 (n = 73).

Subscale	*r*	*p*
Belonging uncertainty	.813	001

Mean values and standard deviations (SD) are presented in Table 43. Values are indicated separately for each time the scale is included in the study.

Table 43. Mean value and SD of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
M		3.13		3.22		3.02		2.95		2.88		2.83		2.67
SD		1.87		1.94		1.93		1.86		1.77		1.84		1.75

For longitudinal data, intra class correlations are presented together with slope estimates in Table 44. Adding to this, individual regression lines are presented in Figure 20, and the estimated mean level development is presented in Figure 21.

Table 44. Longitudinal development.

Subscale	ICC	slope	slope p
Belonging uncertainty	.696	-.043	.002

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

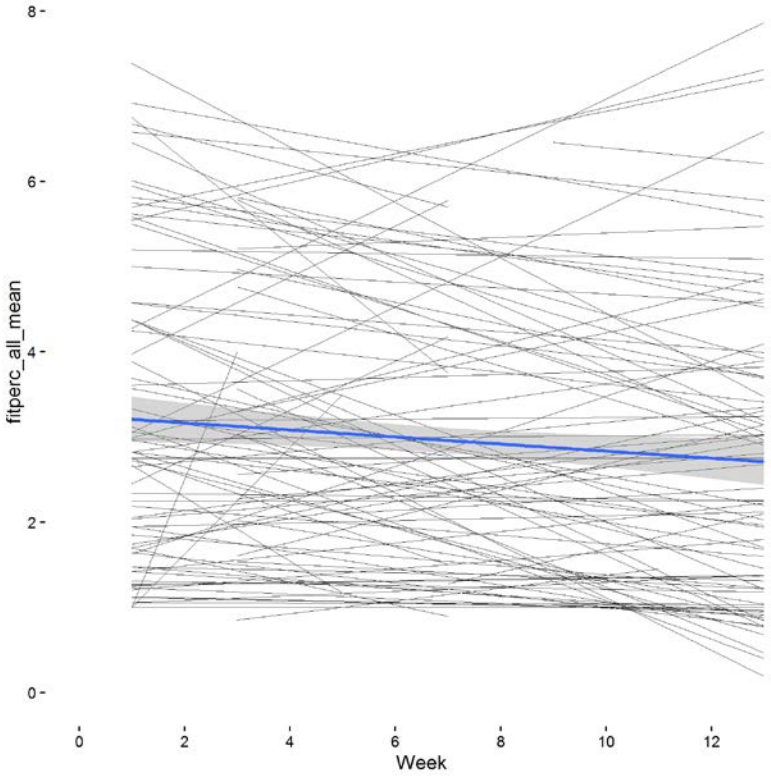

Figure 20. Individual regression lines.

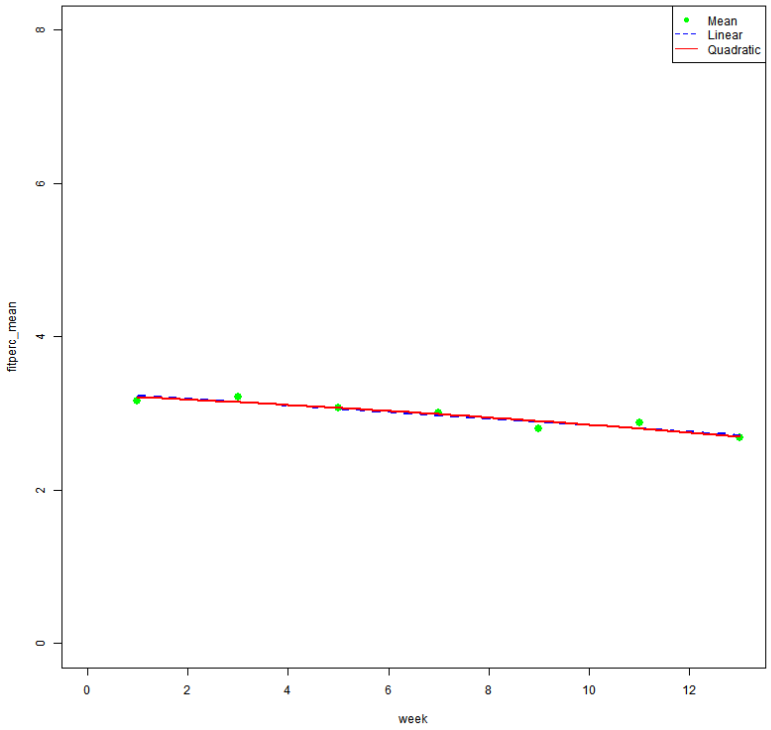

Figure 21. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect.

3.2.5 Stress and Energy Questionnaire

Stress was evaluated using a 12 item scale reflecting two dimensions: stress and energy. Following is a presentation of the use of the scale in the study together with some descriptive data. First, some bullet points highlighting the most important points are presented.

- Representation: Baseline + 12/12 weeks
- Note: Two subscales representing Stress (S) and Energy (E). Frustration item in design but not in scale.
- Response rates: Internal dropout was moderate (4 – 26 %)
- Reliability α: Stress .90 - .94; Energy .70 -.90
- Test-retest: Stress .73; Energy .68
- Mean: Stress max 3.88 (baseline [week 1]), min 3.49 (week 13); Energy max 4.57 (week 11), min 4.21 (baseline [week 1])
- Longitudinal data:
    - Between individual variation: Stress 51 %; Energy 65 %
    - General de/increases: Stress n.s; Energy .01

Hadzibajramovic, E., Ahlborg, G., Grimby-Ekman, A., & Lundgren-Nilsson, Å. (2015). *Internal construct validity of the stress-energy questionnaire in a working population, a cohort study.* BMC public health, 15(1), 180.

Hultberg, A., Hadzibajramovic, E., Pettersson, S., Skagert, K. & Ahlborg jr, G. (2010). *KART-studien. Arbetsmiljö, stress och hälsa bland anställda vid Västra Götalandsregionen. Delrapport 5: Uppföljning utifrån organisations-, yrkesgrupps- och individperspektiv 2008-2010* (ISM-rapport 10). Göteborg: Institutet för stressmedicin.

Kjellberg, A. & Iwanowski, S. (1989*). Stress/Energi formuläret: Utveckling av en metod för skattning av sinnestämning i arbetet.* Undersökningsrapport, Arbetsmiljöinstitutet, 1989:2.

Kjellberg, A. & Wadman, C. (2002). *Subjektiv stress och dess samband med psykosociala förhållanden och besvär. En prövning av Stress-Energi-modellen.* Arbete och hälsa, Arbetslivsinstitutet, 2002:12.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in Table 45 and 46, followed by the response format in English (and Swedish).

Table 45. Representation in the surveys.

Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
x	x	x	x	x	x	x	x	x	x	x	x	x	

Note: x = marks the presence of the variable in the survey.

Table 46. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Subscale	Variable name
	Under den senaste veckan när du har arbetat, i vilken utsträckning har du känt dig…	During the past week when you have been working, to what extent have you felt…		
1	avslappnad?*	rested?*	Stress	seq1
2	aktiv?	active?	Energy	seq2
3	spänd?	tense?	Stress	seq3
4	slö?*	dull?*	Energy	seq4
5	stressad?	stressed?	Stress	seq5
6	energisk?	energetic?	Energy	seq6
7	ineffektiv?*	inefficient?*	Energy	seq7
8	avspänd?*	relaxed?*	Stress	seq8
9	skärpt?	focused?	Energy	seq9
10	pressad?	pressured?	Stress	seq10
11	passiv?*	passive?*	Energy	seq11
12	lugn?*	calm?*	Stress	seq12

* Items are coded reversed before calculating subscale mean scores.

Response format (Swedish phrasing used in the study):
1 = Not at all (Inte alls)
2 = Hardly (Knappt alls)
3 = Somewhat (Något)
4 = Fairly (Ganska)
5 = Much (Mycket)
6 = Very much (Mycket, mycket)

Comments about representation in the surveys (e.g. change in phrasing or response format): No comments.

In Table 47 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 47. Response rates through full study period.

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
Subscale														
Stress	102	83	87	87	88	93	93	89	82	78	87	79	78	
Energy	102	83	87	87	88	93	93	89	82	78	87	79	78	

Reliability estimates Cronbach's alpha, mean-inter-item correlations, item-total correlations and test-retest correlations are presented in Table 48 and 49.

Table 48a. Cronbach's α, MIIC, ITC max and min of index through full study period (baseline to W7).

Sub-scale	Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7
Stress	**Alpha**	.91	.90	.90	.92	.93	.93	.92
	MIIC	.64	.57	.61	.64	.69	.70	.68
	ITC min	.69	.61	.62	.72	.73	.74	.75
	ITC max	.82	.80	.80	.81	.88	.87	.85
Energy	**Alpha**	.81	.70	.82	.81	.79	.81	.84
	MIIC	.42	.28	.44	.42	.39	.42	.47
	ITC min	.47	.33	.55	.41	.48	.46	.55
	ITC max	.68	.52	.64	.69	.58	.69	.65

Table 48b. Cronbach's α, MIIC, ITC max and min of index through full study period (W8 to exit).

Sub-scale	Statistics	W8	W9	W10	W11	W12	W13	Exit (W14)
Stress	**Alpha**	.94	.93	.91	.91	.91	.92	
	MIIC	.72	.69	.62	.64	.64	.66	
	ITC min	.78	.69	.69	.70	.69	.69	
	ITC max	.85	.87	.77	.80	.81	.82	
Energy	**Alpha**	.84	.81	.82	.84	.82	.90	
	MIIC	.46	.41	.44	.47	.43	.60	
	ITC min	.55	.40	.50	.59	.50	.63	
	ITC max	.70	.68	.67	.66	.67	.82	

Table 49. Test-retest (correlation) between week 11 and 12 (n= 76).

Subscale	*r*	*p*
Stress	.747	.001
Energy	.798	.001

Mean values and standard deviations (SD) are presented in Table 50. Values are indicated separately for each time the scale is included in the study.

Table 50a. Mean value and SD of index through full study period (baseline to W7).

Sub-scale	Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7
Stress	**M**	3.88	3.76	3.82	3.80	3.75	3.79	3.84
	SD	1.02	1.00	.89	.95	1.06	1.04	1.07
Energy	**M**	4.21	4.47	4.44	4.52	4.57	4.53	4.49
	SD	.84	.70	.79	.77	.71	.72	.80

Table 50b. Mean value and SD of index through full study period (W8 to exit).

Sub-scale	Statistics	W8	W9	W10	W11	W12	W13	Exit (W14)
Stress	**M**	3.79	3.83	3.81	3.80	3.72	3.49	
	SD	1.07	1.01	.97	.97	1.02	.97	
Energy	**M**	4.54	4.59	4.53	4.50	4.46	4.51	
	SD	.75	.75	.76	.75	.78	.89	

For longitudinal data, intra class correlations are presented together with slope estimates in Table 51. Adding to this, individual regression lines are presented in Figure 22 and 23, and the estimated mean level development is presented in Figure 24 and 25.

Table 51. Longitudinal development.

Subscale	ICC	slope	slope p
Stress	.513	-.011	.208
Energy	.652	.011	.031

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

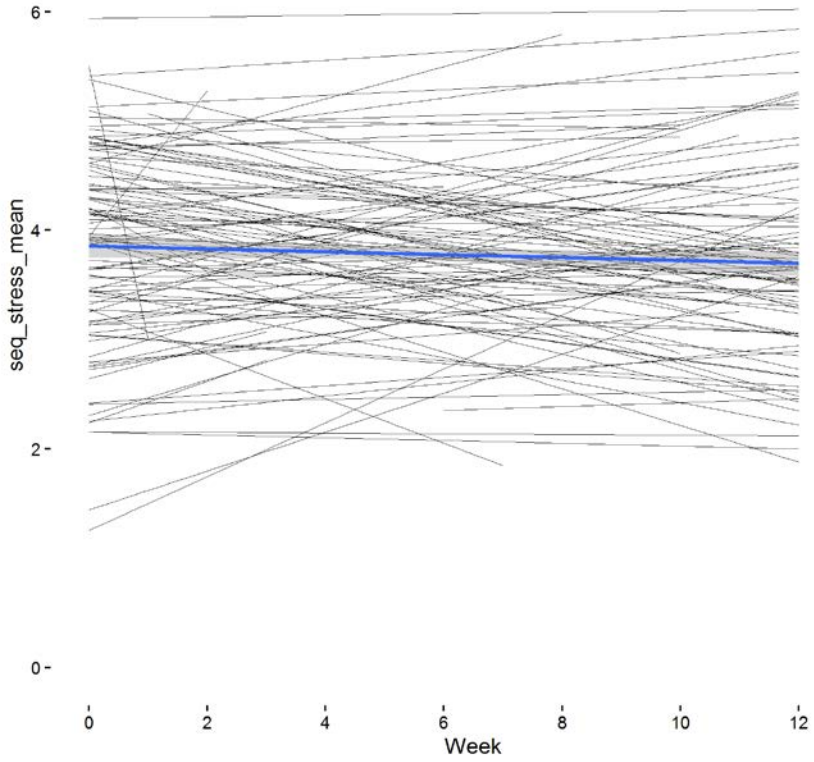

Figure 22. Individual regression lines for Stress.

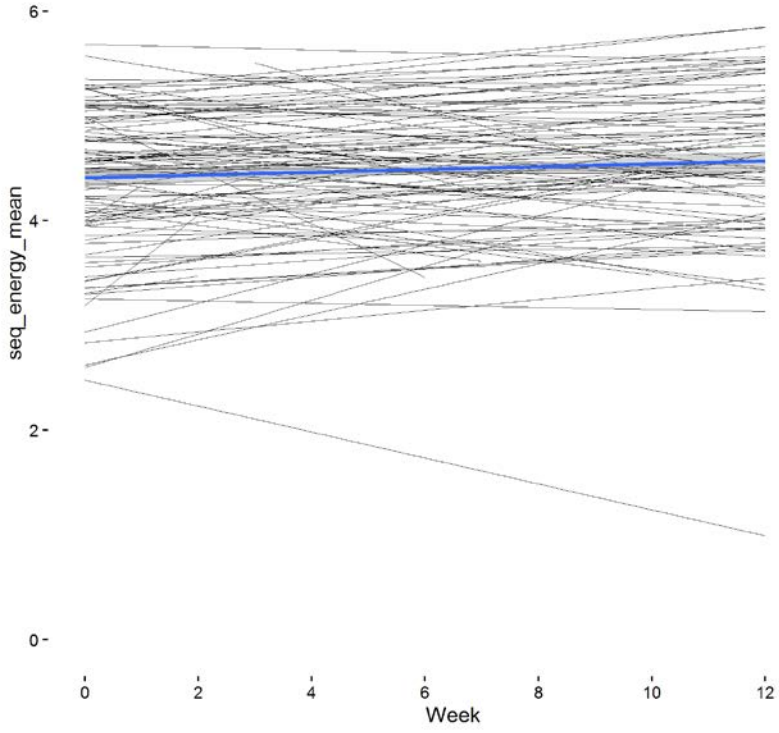

Figure 23. Individual regression lines for Energy.

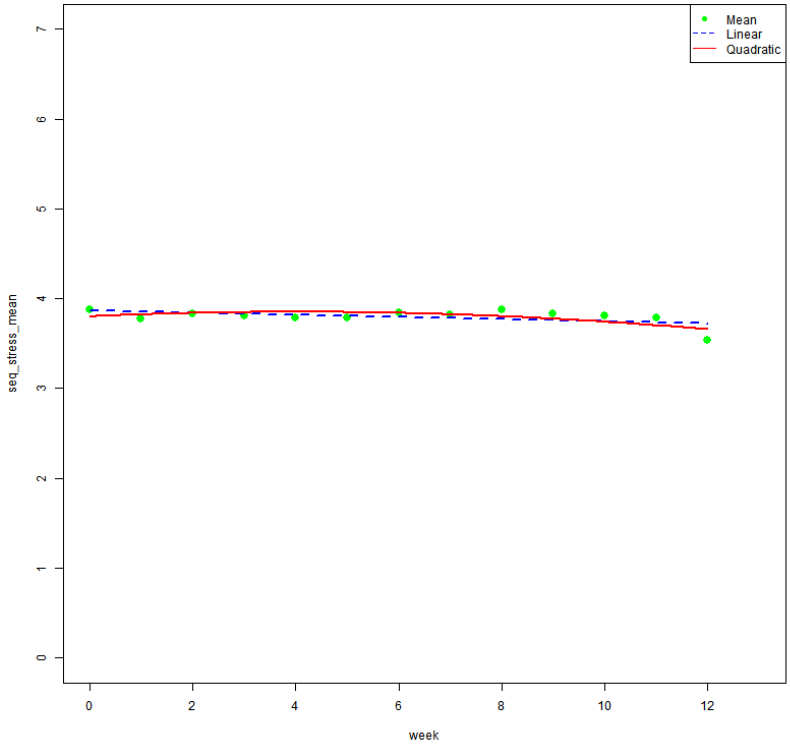

Figure 24. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for stress.

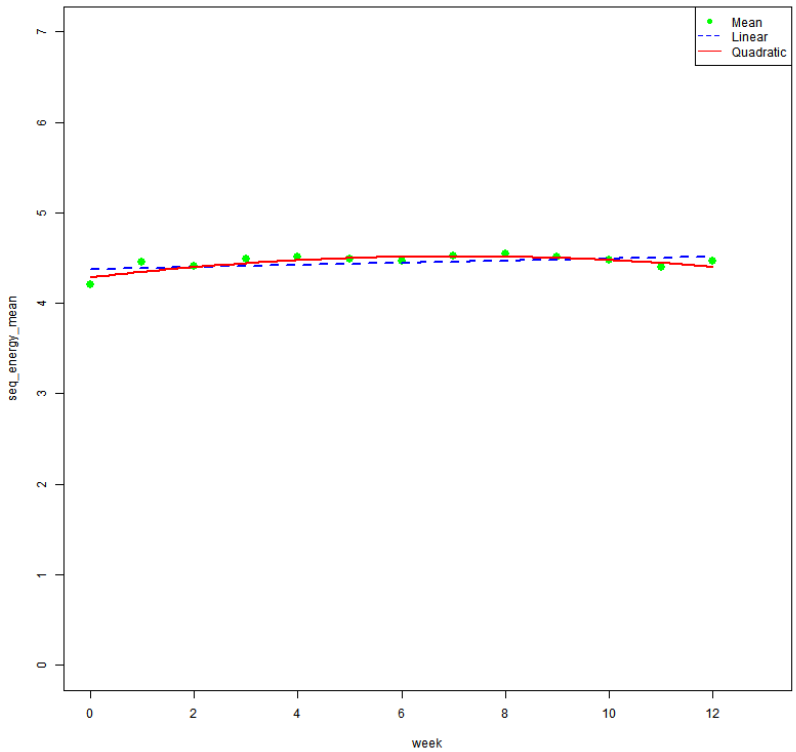

Figure 25. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for energy.

3.2.6 Emotions

Emotions were evaluated using a six item scale. Following is a presentation of the use of the scale in the study together with some descriptive data. First, some bullet points highlighting the most important points are presented.

- Representation: 6/12 weeks (odd)
- Note: Two subscales reflecting Depression (D) and Anxiety (A). Additional item “happy” in design but not in scale.
- Response rates: Internal dropout was moderate (12 – 27 %)
- Reliability α: Depression .90 - 94; Anxiety .85 - .91
- Test-retest *r*: Depression only .51; Anxiety .60
- Mean: Depression max = 2.66 (week 11) min = 2.21 (week 2); Anxiety max = 3.41 (week 2) min = 2.71 (week 13)
- Longitudinal data
    - Between individual variation: Depression 50 %; Anxiety 59 %
    - General de/increases: Depression n.s.; Anxiety -.05

Thauyer, R E (1989). *The Biopsychology of Mood and Arousal*. New York: Oxford University Press.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in Table 52 and 53, followed by the response format in English (and Swedish).

Table 52. Representation in the survey.

Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
		x		x		x		x		x		x	

Note: x = marks the presence of the variable in the survey.

Table 53. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Subscale	Variable name
	Under den senaste veckan när du har arbetat, i vilken utsträckning har du känt dig…	During the past week when you have been working, to what extent have you felt…		
1	nedstämd?	depressed?	Depression	emot1
2	uppgiven?	dejected?	Depression	emot2
3	ledsen?	sad?	Depression	emot3
4	orolig?	anxious?	Anxiety	emot4
5	nervös?	nervous?	Anxiety	emot5
6	osäker?	doubtful?	Anxiety	emot6

Response format (Swedish phrasing used in the study):
1 = Not at all (Inte alls)
2 = Hardly (Knappt alls)
3 = Somewhat (Något)
4 = Fairly (Ganska)
5 = Much (Mycket)
6 = Very much (Mycket, mycket)

Comments about representation in the surveys (e.g. change in phrasing or response format): A 7th item asking about being "happy" ("glad") was added to the study at the participants request from survey P4.

In Table 54 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 54. Response rates of items through full study period.

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
Subscale														
D			86		88		93		83		86		77	
A			86		87		93		83		85		77	

Reliability estimates Cronbach's alpha, mean-inter-item correlations, item-total correlations and test-retest correlations are presented in Table 55 and 56.

Table 55. Cronbach's α, MIIC, ITC max and min of index through full study period.

Subs-cale	Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
D	**Alpha**			.90		.91		.91		.93		.92		.95	
	MIIC			.75		.77		.79		.82		.79		.86	
	ITC min			.79		.80		.81		.85		.81		.89	
	ITC max			.82		.86		.87		.86		.88		.90	
A	**Alpha**			.88		.91		.89		.88		.85		.90	
	MIIC			.71		.77		.73		.71		.66		.76	
	ITC min			.76		.77		.76		.72		.68		.79	
	ITC max			.79		.85		.82		.83		.79		.83	

Table 56. Test-retest (correlation) between week 11 and 13 (n= 74).

Subscale	*r*	*p*
Depression	.509	.001
Anxiety	.620	.001

Mean values and standard deviations (SD) are presented in Table 57. Values are indicated separately for each time the scale is included in the study.

Table 57. Mean value and SD of index through full study period.

Sub-scale	Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
D	**M**			2.21		2.40		2.60		2.58		2.66		2.34	
	SD			1.12		1.28		1.31		1.39		1.24		1.31	
A	**M**			3.41		3.23		3.33		3.15		3.07		2.71	
	SD			1.19		1.30		1.18		1.16		1.07		1.09	

For longitudinal data, intra class correlations are presented together with slope estimates in Table 58. Adding to this, individual regression lines are presented in Figure 26 and 27, and the estimated mean level development is presented in Figure 28 and 29.

Table 58. Longitudinal development.

Subscale	ICC	slope	slope p
Depression	.496	.025	.101
Anxiety	.585	-.053	.001

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

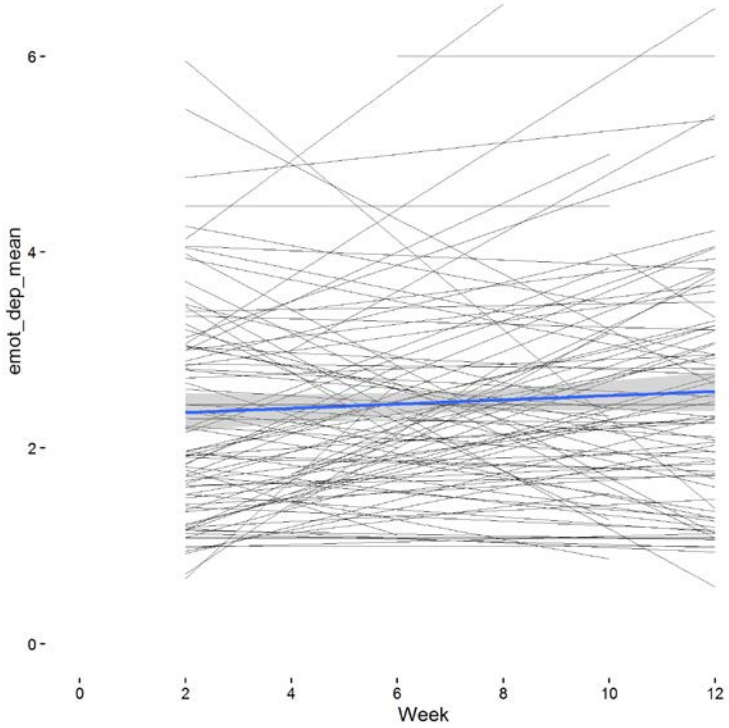

Figure 26. Individual regression lines for Emotions Depression.

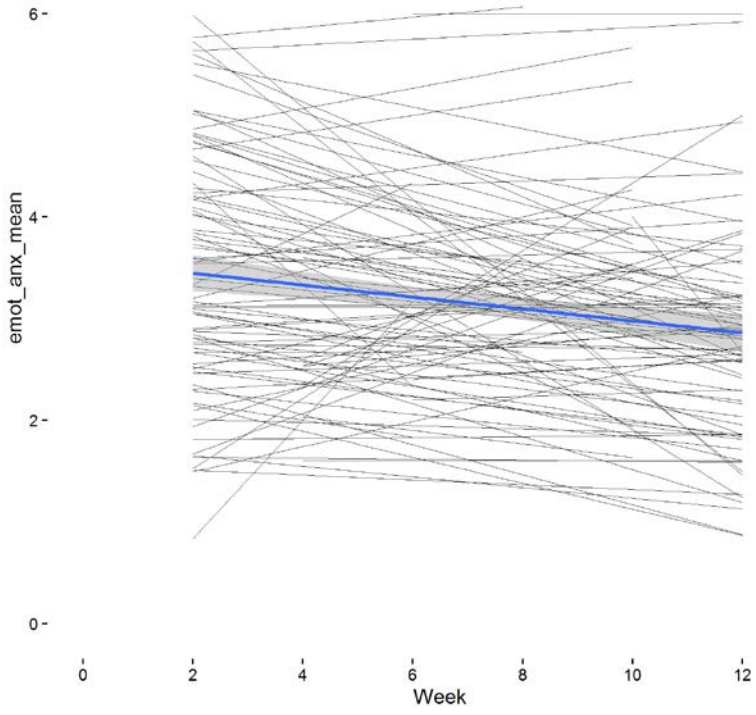

Figure 27. Individual regression lines for Emotions Anxiety.

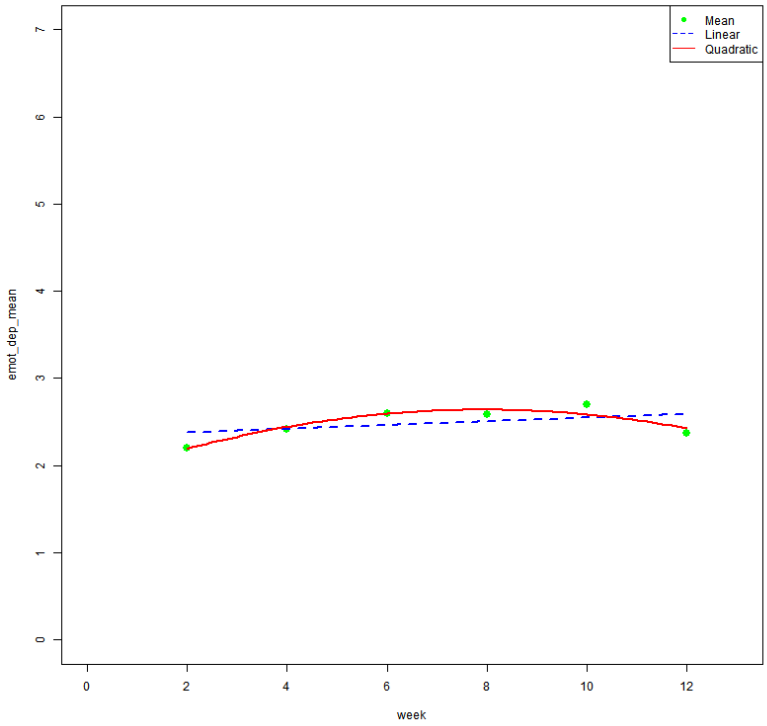

Figure 28. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for depression.

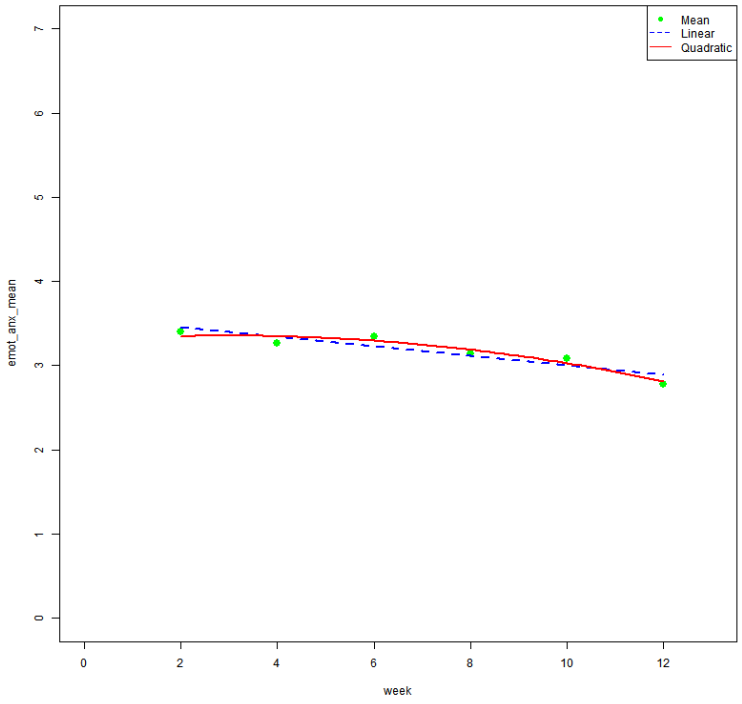

Figure 29. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect, linear and quadratic effect for anxiety.

3.2.7 SWEBO concentration

Concentration was evaluated using a three item scale. Following is a presentation of the use of the scale in the study together with some descriptive data. First, some bullet points highlighting the most important points are presented.

- Representation: 6/12 weeks (odd)
- Note: Scale measure of “unconcentration”. Other response format than original SWEBO. “Rastlös” problematic?
- Response rates: Internal dropout was moderate (12 – 27 %)
- Reliability α: .56 - .81
- Test-retest *r*: .70
- Mean: max = 2.52 (week 7) min = 2.34 (week 13)
- Longitudinal data
    - Between individual variation: 66 %
    - General de/increases: n.s.

Hultell, D., & Gustavsson, J. P. (2010). A psychometric evaluation of the Scale of Work Engagement and Burnout (SWEBO). *Work*, *37*(3), 261.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in Table 59 and 60, followed by the response format in English (and Swedish).

Table 59. Representation in the surveys.

Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
		x		x		x		x		x		x	

Note: x = marks the presence of the variable in the survey.

Table 60. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
	Under den senaste veckan när du har arbetat, i vilken utsträckning har du känt dig…	During the past week when you have been working, to what extend have you felt…	
1	ofokuserad?	unfocused?	swebo1
2	rastlös?	restless?	swebo2
3	lättdistraherad?	easily distracted?	swebo3

Response format (Swedish phrasing used in the study):
1 = Not at all (Inte alls)
2 = Hardly (Knappt alls)
3 = Somewhat (Något)
4 = Fairly (Ganska)
5 = Much (Mycket)
6 = Very much (Mycket, mycket)

Comments about representation in the surveys (e.g. change in phrasing or response format): Other response format than original SWEBO.

In Table 61 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 61. Response rates of items through full study period.

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
SWEBO			88		88		93		83		85		77	

Reliability estimates Cronbach's alpha, mean-inter-item correlations, item-total correlations and test-retest correlations are presented in Table 62 and 63.

Table 62. Cronbach's α, MIIC, ITC max and min of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Alpha			.56		.76		.61		.69		.73		.81	
MIIC			.31		.51		.35		.42		.48		.59	
ITC min			.34		.45		.34		.39		.48		.59	
ITC max			.43		.67		.47		.62		.67		.75	

Table 63. Test-retest (correlation) between week 11 and 13 (n = 74).

Subscale	*r*	*p*
SWEBO	.701	.001

Mean values and standard deviations (SD) are presented in Table 64. Values are indicated separately for each time the scale is included in the study.

Table 64. Mean value and SD of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
M			2.48		2.50		2.52		2.49		2.49		2.34	
SD			.86		1.04		.84		.91		.92		1.03	

For longitudinal data, intra class correlations are presented together with slope estimates in Table 65. Adding to this, individual regression lines are presented in Figure 30, and the estimated mean level development is presented in Figure 31.

Table 65. Longitudinal development.

Subscale	ICC	slope	slope p
SWEBO	.660	-.013	.147

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

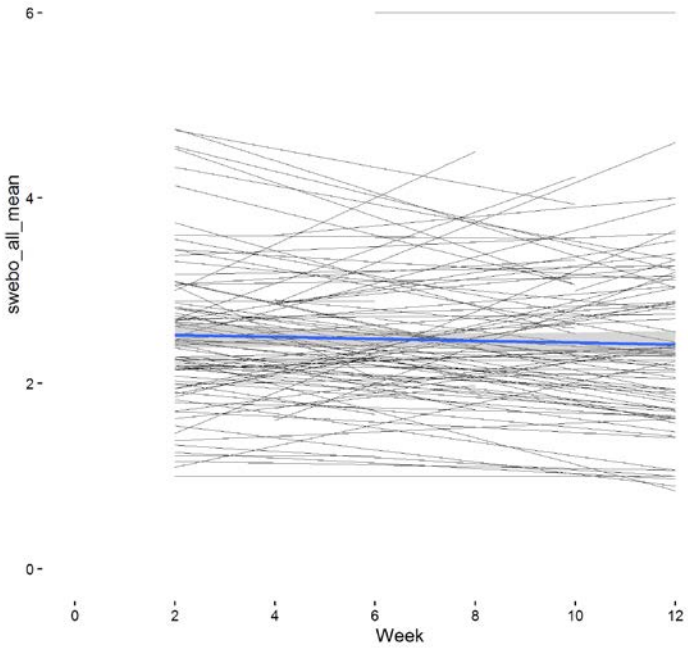

Figure 30. Individual regression lines for SWEBO concentration.

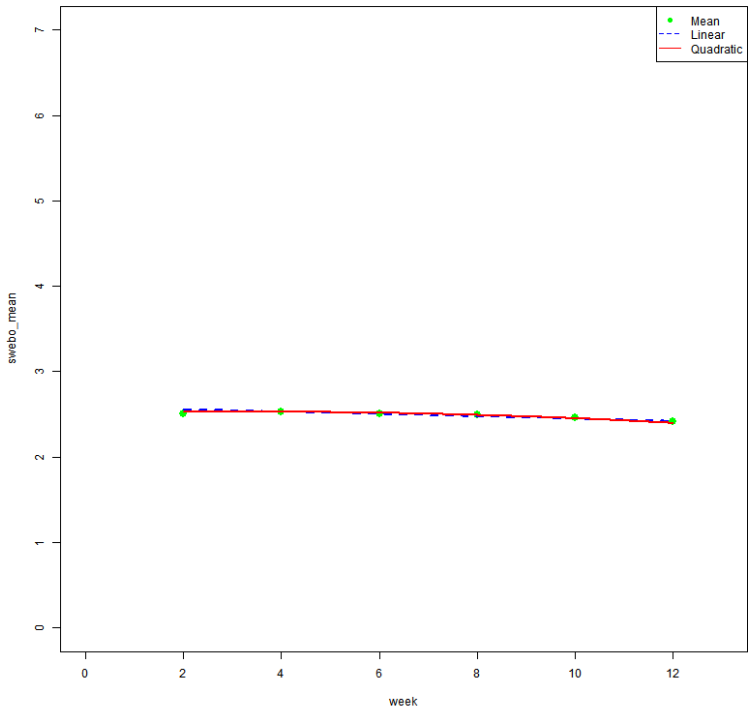

Figure 31. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect.

3.2.8 Sleepiness during shift

Sleepiness during shift was evaluated using a two item scale. Following is a presentation of the use of the scale in the study together with some descriptive data. First, some bullet points highlighting the most important points are presented.

- Representation: 6/12 weeks (even)
- Note: Two single items representing experience in the beginning (B) and end (E) of a work shift
- Response rates: Internal dropout was moderate (12 – 27 %).
- Test-retest: Beginning .39; End .35
- Mean: Beginning max = 5.04 (week 2) min = 4.29 (week 12); End max = 5.61 (week 2) min = 5.38 (week 8)
- Future comments: No comments.
- Longitudinal data
    - Between individual variation: Beginning 40 %, End 41 %
    - General de/increases: Beginning -.07, End n.s.

Åkerstedt, T., & Gillberg, M. (1990). Subjective and objective sleepiness in the active individual. *International Journal of Neuroscience, 52*, 29-37.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in table 66 and 67, followed by the response format in English (and Swedish).

Table 66. Representation in the surveys.

Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
	x		x		x		x		x		x		

Note: x = marks the presence of the variable in the survey.

Table 67. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Subscale	Variable name
1	Hur sömnig kände du dig i början av ditt senaste arbetspass?	How sleepy did you feel in the beginning of your latest work shift?	Beginning	sleepiness1
2	Hur sömnig kände du dig i slutet av ditt senaste arbetspass?	How sleepy did you feel at the end of your latest work shift?	End	sleepiness2

Response format (Swedish phrasing used in the study):
1 = Extremely alert (Mycket pigg)
2 = 2
3 = Alert (Pigg)
4 = 4
5 = Neither alert nor sleepy (Varken pigg eller sömnig)
6 = 6
7 = Sleepy, but no difficulty remaining awake (Sömnig, men ej ansträngande att vara vaken)
8 = 8
9 = 9 Extremely sleepy, fighting sleep (Mycket sömnig, ansträngande att vara vaken, kämpade mot sömnen)

Comments about representation in the surveys (e.g. change in phrasing or response format): No comments.

In Table 68 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 68. Response rates of items through full study period.

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
Beginning		83		88		93		88		78		78		
End		83		88		93		89		78		78		

Test-retest correlations are presented in Table 69.

Table 69. Test-retest (correlation) mlc1 between week 10 and 12 (n = 73).

Subscale	*r*	*p*
Beginning	.387	.001
End	.354	.002

Mean values and standard deviations (SD) are presented in Table 70. Values are indicated separately for each time the scale is included in the study.

Table 70. Mean value and SD of index through full study period.

Sub-scale	Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
B	**M**		5.04		4.85		4.69		4.57		4.78		4.29		
	SD		2.04		2.03		2.27		2.14		2.28		2.13		
E	**M**		5.61		5.49		5.47		5.38		5.46		5.41		
	SD		2.07		2.14		1.88		1.72		2.14		1.93		

For longitudinal data, intra class correlations are presented together with slope estimates in Table 71. Adding to this, individual regression lines are presented in Figure 32 and 33, and the estimated mean level development is presented in Figure 34 and 35.

Table 71. Longitudinal development.

Subscale	ICC	slope	slope p
Beginning	.397	-.073	.001
End	.408	-.027	.200

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

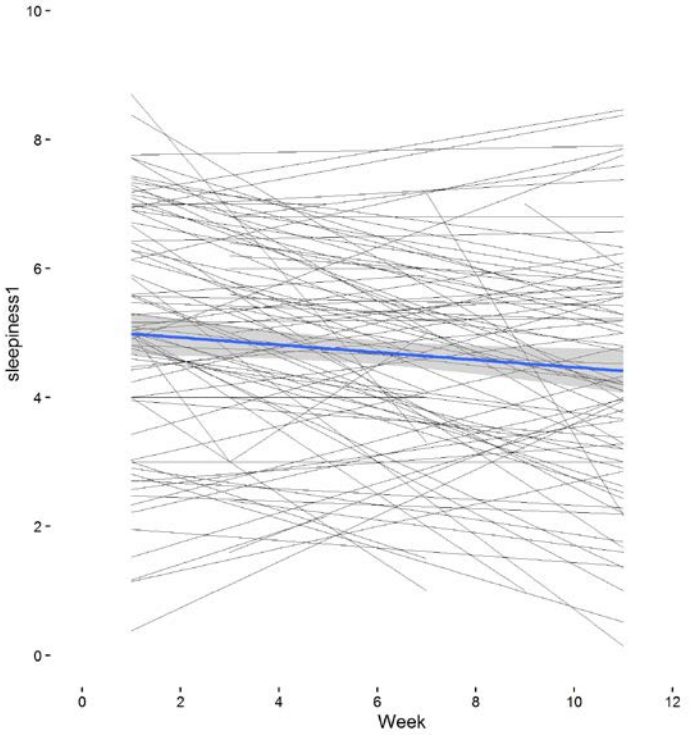

Figure 32. Individual regression lines for Sleepiness during work shift Beginning.

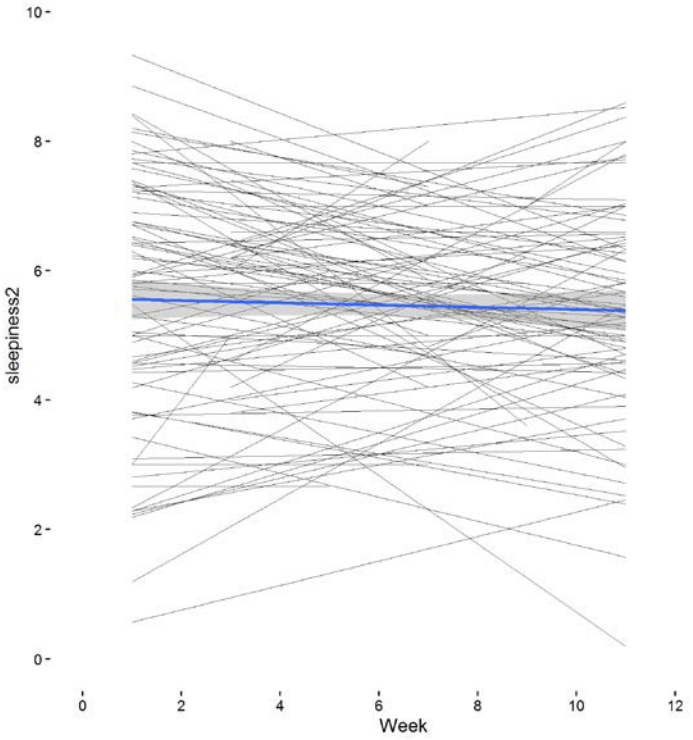

Figure 33. Individual regression lines for Sleepiness during work shift End.

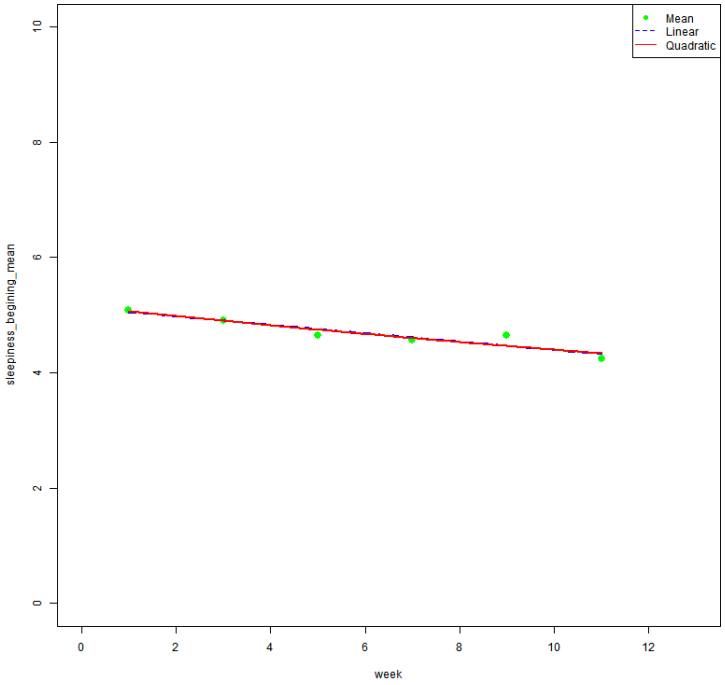

Figure 34. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect for beginning.

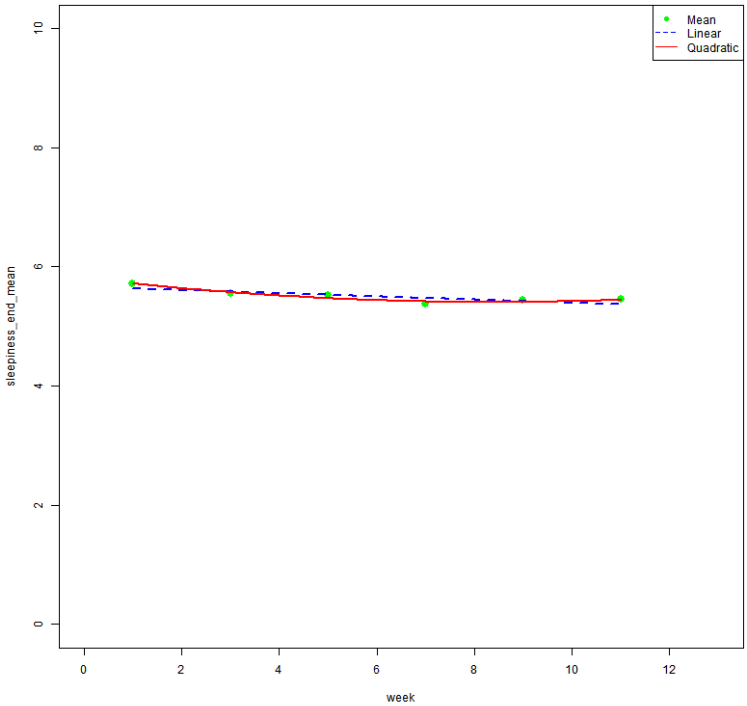

Figure 35. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect for end.

3.2.9 Sleep quality

Sleep quality was evaluated using a four item scale with differing response formats. Following is a presentation of the use of the scale in the study together with some descriptive data. First, some bullet points highlighting the most important points are presented.

- Representation: 12/12 weeks
- Note: Response format vary with items.
- Response rates: Internal dropout was moderate (12 – 27 %)
- Reliability α: .69 - .83
- Test-retest: .47
- Mean: max = 4.01 (week 13) min = 3.78 (week 2)
- Longitudinal data:
  - Between individual variation: 37 %
  - General de/increases: n.s.
- Future comments: No comments.

Åkerstedt, T., Hume, K., Minors, D., & Waterhouse, J. (1994). The meaning of good sleep: a longitudinal study of polysomnography and subjective sleep quality. Journal of Sleep Research, 3, 152-158.

Åkerstedt, T., Hume, K., Minors, D., & Waterhouse, J. (1997). Good sleep - its timing and physiological sleep characteristics. Journal of Sleep Research, 6, 221-229.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in Table 72 and 73, followed by the response format in English (and Swedish) in Table 74.

Table 72. Representation in the surveys.

Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
	x	x	x	x	x	x	x	x	x	x	x	x	

Note: x = marks the presence of the variable in the survey.

Table 73. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
1	Hur har du sovit (senaste natten)?*	How did you sleep (last night)?*	sleep_qual1
2	Hade du svårt att somna (senaste natten)?	Did you find it difficult to fall asleep (last night)?	sleep_qual2
3	Hade du orolig sömn (senaste natten)?	Did you have restless sleep (last night)?	sleep_qual3
4	Vaknade du i förtid (senaste natten)?	Did you wake up too early (last night)?	sleep_qual4

* Items are reverse coded before calculating subscale mean scores.

Table 74. Response format (Swedish phrasing used in the study).

Item no	Response format
1	5 = Very well (Mycket bra) 4 = Rather well (Ganska bra) 3 = Neither well nor poorly (Varken eller) 2 = Rather poorly (Ganska dåligt) 1 = Very poorly (Mycket dåligt)
2	5 = Not at all (Inte alls) 4 = 4 3 = 3 Fairly (Ganska) 2 = 2 1 = 1 Very much (Mycket)
3	5 = 5 Not at all (Inte alls) 4 = 4 3 = 3 Somewhat (Lite) 2 = 2 1 = 1 Very much (Mycket)
4	5 = 5 No (Nej) 4 = 4 3 = 3 Somewhat too early (Något för tidigt) 2 = 2 1 = 1 Much too early (Mycket för tidigt)

Comments about representation in the surveys (e.g. change in phrasing or response format): No comments.

In Table 75 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 75. Response rates of items through full study period.

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
SQ		83	86	88	86	93	93	89	83	78	85	78	77	

Reliability estimates Cronbach's alpha, mean-inter-item correlations, item-total correlations and test-retest correlations are presented in Table 76 and 77.

Table 76. Cronbach's α, MIIC, ITC max and min of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Alpha		.82	.73	.69	.70	.80	.77	.81	.83	.83	.77	.78	.81	
MIIC		.55	.41	.35	.38	.51	.46	.52	.57	.54	.47	.48	.52	
ITC min		.46	.37	.30	.26	.49	.40	.54	.52	.45	.36	.52	.46	
ITC max		.82	.70	.68	.74	.76	.76	.74	.82	.81	.79	.69	.76	

Table 77. Test-retest (correlation) between week 11 and 12 (n= 76).

Subscale	*r*	*p*
SQ	.470	.001

Mean values and standard deviations (SD) are presented in Table 78. Values are indicated separately for each time the scale is included in the study.

Table 78. Mean value and SD of index through full study period.

Stat-istics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
M		3.78	3.9	3.92	3.88	3.80	3.88	3.94	3.89	3.94	3.69	3.99	4.01	
SD		1.0	.86	.89	.89	1.01	.92	.91	1.01	1.03	.99	.88	.95	

For longitudinal data, intra class correlations are presented together with slope estimates in Table 79. Adding to this, individual regression lines are presented in Figure 36, and the estimated mean level development is presented in Figure 37.

Table 79. Longitudinal development.

Subscale	ICC	slope	slope p
Sleep quality	.373	.008	.271

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

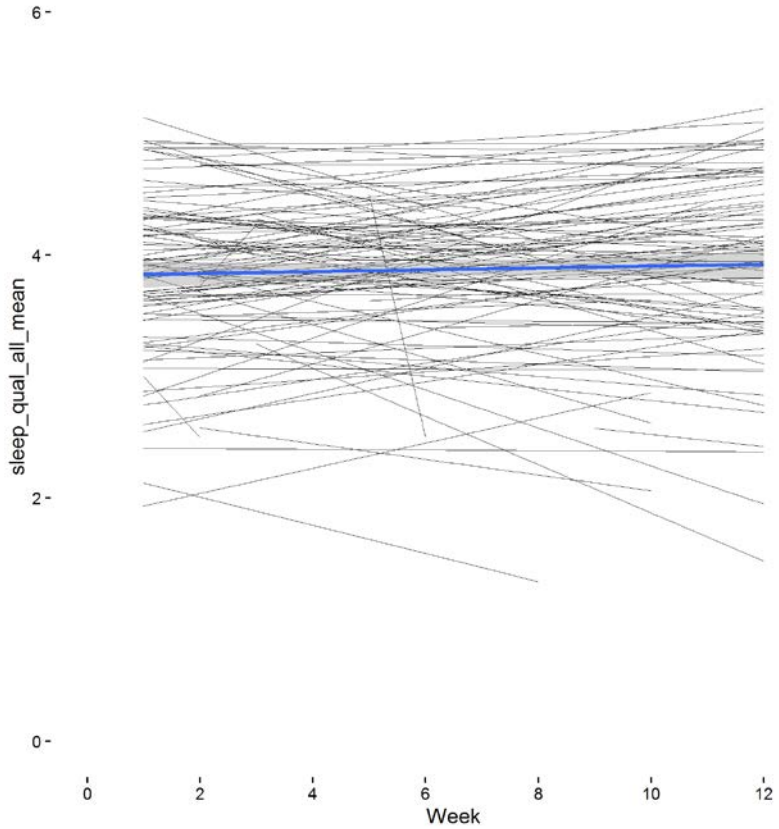

Figure 36. Individual regression lines for Sleep Quality.

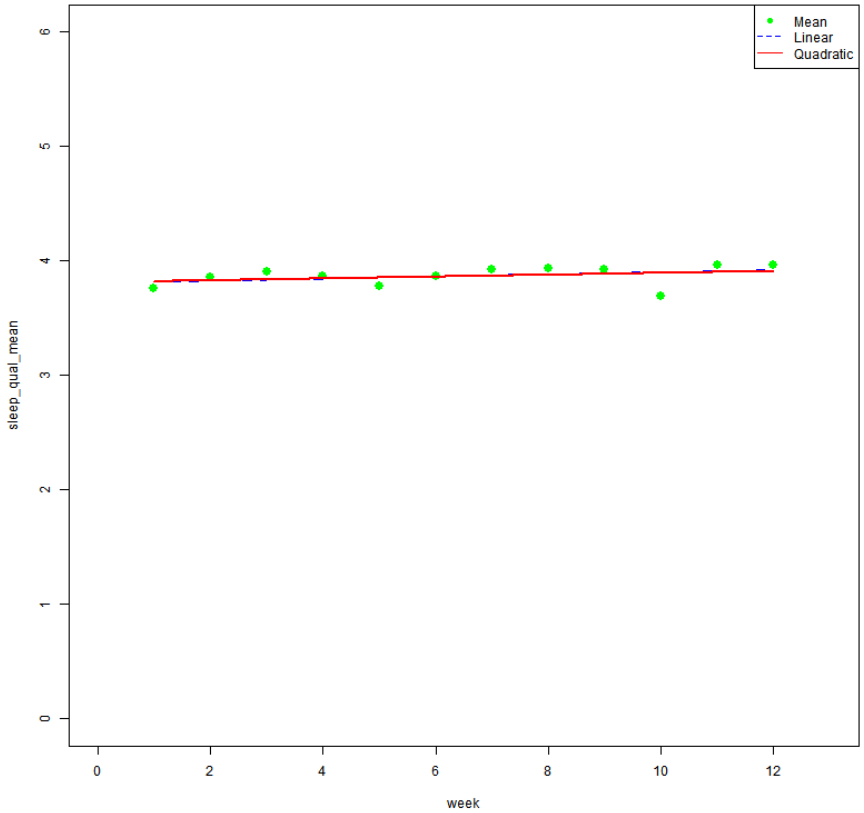

Figure 37. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect.

3.2.10 Somatic symptoms scale 8

- Representation: 6/12 weeks (odd)
- Response rates: internal dropout 12 - 27 %
- Reliability α: .74 - .81
- Test-retest: .81
- Mean: max = 2.49 (week 7) min = 2.25 (week 3)
- Longitudinal data:
  - Between individual variation: 26 %
  - General de/increases: not significant
  - Note: diverging trends
- Future comments: No comments.

Gierk, B., et al. (2014). The Somatic Symptom Scale-8 (SSS-8) A Brief Measure of Somatic Symptom Burden. Jama Internal Medicine, 174, 399-407.

Information about representation of the variable in the surveys, as well as item content and variable names in the data set are presented in Table 80 and 81, followed by the response format in English (and Swedish).

Table 80. Representation in the surveys.

Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
		x		x		x		x		x		x	

Note: x = marks the presence of the variable in the survey.

Table 81. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
	Under de senaste 7 dagarna, hur besvärad har du varit av följande problem?		
1	Ont i magen, illamående, gaser i magen eller dålig matsmältning		sss81
2	Ont i ryggen		sss82
3	Ont i armar, ben eller leder (knän, höfter, etc)		sss83
4	Huvudvärk		sss84
5	Ont i bröstet, hjärtklappning eller svårigheter att andas		sss85
6	Yrsel		sss86
7	Trötthet eller låg energinivå		sss87
8	Problem att sova		sss88

Response format (Swedish phrasing used in the study):
1 = Not at all (Inte alls)
2 = Hardly (Knappt alls)
3 = Somewhat (Något)
4 = Fairly (Ganska)
5 = Much (Mycket)

In Table 81 the number of responders is presented in three ways for comparison: the total number of respondents on each survey, the number of respondents who had been working during the last week, and number of subjects who responded to the specific scale or subscales.

Table 81. Response rates of items through full study period.

	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Total	106	97	97	99	95	98	94	91	86	83	88	81	82	88
Working		84	87	88	89	94	93	88	84	80	87	79	78	
SSS8			86		86		93		83		85		77	

Reliability estimates Cronbach's alpha, mean-inter-item correlations, item-total correlations and test-retest correlations are presented in Table 82 and 83.

Table 82. Cronbach's α, MIIC, ITC max and min of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
Alpha			.74		.80		.79		.81		.76		.81	
MIIC			.26		.33		.32		.36		.29		.35	
ITC min			.33		.41		.39		.47		.36		.40	
ITC max			.54		.61		.56		.63		.52		.58	

Table 83. Test-retest (correlation) between week 11 and 13 (n= 74).

Subscale	*r*	*p*
Sss8	.735	.001

Mean values and standard deviations (SD) are presented in Table 84. Values are indicated separately for each time the scale is included in the study.

Table 84. Mean value and SD of index through full study period.

Statistics	Baseline (W1)	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	Exit (W14)
M			2.25		2.39		2.39		2.49		2.40		2.32	
SD			.71		.82		.80		.80		.74		.77	

For longitudinal data, intra class correlations are presented together with slope estimates in Table 85. Adding to this, individual regression lines are presented in Figure 38, and the estimated mean level development is presented in Figure 39.

Table 85. Longitudinal development.

Subscale	ICC	slope	slope p
SSS8	.740	.001	.81

ICC = intraclass correlation as a measure of between individual variance in relation to total variance, calculated from the unconditional mean model. Slope = Estimated slope in an unconditional growth model. Slope p= statistical significance of slope estimate.

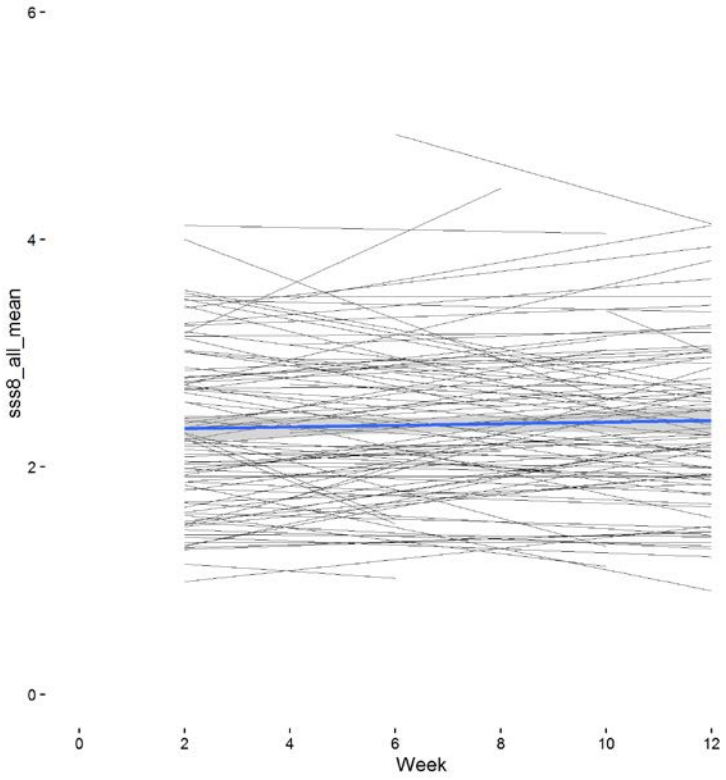

Figure 38. Individual regression lines.

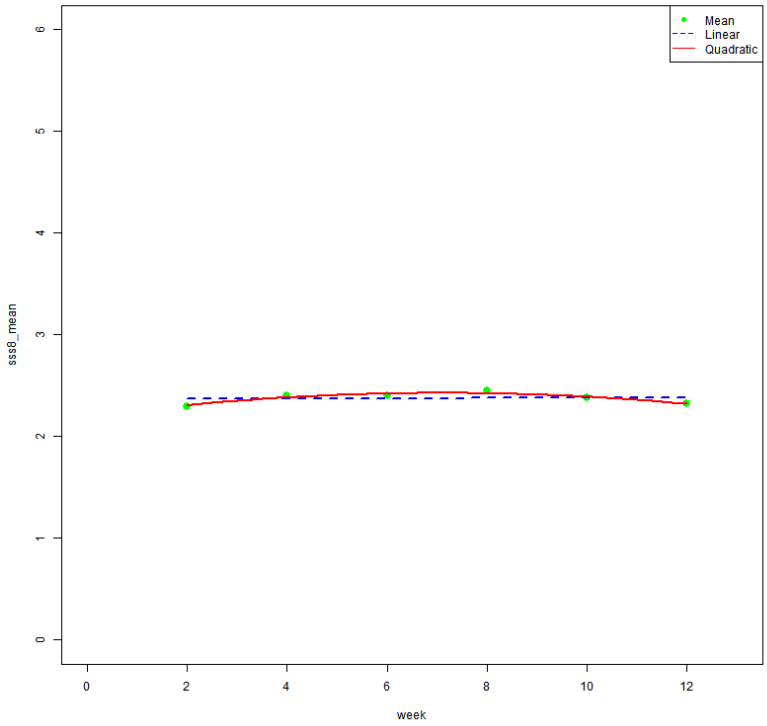

Figure 39. Estimated mean level development (from a Fitzmaurice mean profile mixed model), linear and quadratic effect.

3.3 Socialization outcomes

The Exit survey included a number of additional variables typically included as outcomes in socialization models. Below references, item content, response formats, response rates, reliability and mean values of these variables are presented.

3.3.1 Job satisfaction

Job satisfaction was evaluated using a three item scale. Following is a presentation of the use of the scale in the study together with some descriptive data.

Brayfield, A. H., & Rothe, H. F. (1951). An index of job satisfaction. Journal of Applied Psychology, 35, 307-311.

Item content and variable names in data set are presented in Table 86, followed by the response format in English (and Swedish).

Table 86. Item content and variable name in data file:

Item no	Item content Swedish	Item content English	Variable name
	Hur ofta känner du på följande sätt inför ditt arbete?	How often do you feel the following about your job?	
1	Jag känner att jag trivs på mitt arbete.	I feel that I find enjoyment at my job.	ex_jobsat1rev
2	Jag känner mig nöjd med det arbete jag har.	I feel satisfied with the job I have got.	ex_jobsat2rev
3	Jag känner tillfredsställelse med mitt arbete.	I feel satisfaction with my job.	ex_jobsat3rev

Response format (Swedish phrasing used in the study):
1 = Very often or always (Mycket ofta eller alltid)
2 = Fairly often (Ganska ofta)
3 = Sometimes (Ibland)
4 = Fairly seldom (Ganska sällan)
5 = Very seldom or never (Mycket sällan eller aldrig)

Comments about representation in the surveys (e.g. change in phrasing or response format): Data is revers coded for analysis.

In Table 67 response rate, Cronbach's alpha, mean-inter-item correlations, item-total correlations, mean value, and standard deviation (SD) are presented.

Table 87. Response rate, reliability and mean of scale

Response rate		88
Reliability	Cronbach's α	0.932
	MIIC	0.822
	ITC min	0.805
	ITC max	0.906
Mean (SD)		4.02 (1.00)

3.3.2 Organizational commitment

Organizational commitment was evaluated using a three item scale. Following is a presentation of the use of the scale in the study together with some descriptive data.

Dallner, M., Elo, A. L., Gamberale, F., Hottinen, V., Knardahl, S., & Lindström, K. (2000). Validation of the General Nordic Questionnaire (QPSNordic) for psychological and social factors at work. Copenhagen: Nordic Council of Ministers, 2000:12.

Kristensen, T. S., Borg, V. (2003). Copenhagen Psychosocial Questionnaire (COPSOQ).

Item content and variable names in data set are presented in Table 88, followed by the response format in English (and Swedish).

Table 88. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
	Följande påståenden handlar om din inställning till organisationen du arbetar i.	The following items concern your attitude toward the organization you work in.	
1	För mina vänner berättar jag att organisationen är ett mycket bra ställe att arbeta på.	To my friends I praise this organization a great place to work	ex_org_com1
2	Mina egna värderingar är mycket lika organisationens.	My values are very similar to the organization's values	ex_org_com2
3	Organisationen inspirerar mig verkligen att göra mitt bästa.	This organization really inspires me to give my very best job performance	ex_org_com3

Response format (Swedish phrasing used in the study):
1 = Not at all accurate (Stämmer inte alls)
2 = Pretty unaccurate (Stämmer ganska dåligt)
3 = Doubtful (Tveksamt)
4 = Pretty accurate (Stämmer ganska bra)
5 = Completely accurate (Stämmer helt)

Comments about representation in the surveys (e.g. change in phrasing or response format): No comments.

In Table 89 response rate, Cronbach's alpha, mean-inter-item correlations, item-total correlations, mean value, and standard deviation (SD) are presented.

Table 89. Response rate, reliability and mean of scale.

Response rate		88
Reliability	Cronbach's α	0.826
	MIIC	0.615
	ITC min	0.636
	ITC max	0.722
Mean (SD)		3.19 (1.09)

3.3.3 Intention to quit

Two scales with three items respectively was used for evaluation of thoughts about leaving the workplace and the profession.

Rudman, A., Omne-Pontén, M., Wallin, L., & Gustavsson, P.J. (2010). Monitoring the newly qualified nurses in Sweden: the Longitudinal Analysis of Nursing Education (LANE) study. Human resources for health, 8, 10.

Sverke, M., & Sjöberg, A. (1996). Union membership behaviour: The influence of instrumental and value based commitment. In L.E. Tetrick & J. Barling (Eds.), Behavioral and Social Perspectives on Changing Employment Relations (pp. in press). Washington, D.C.: American Psychological Association.

Sverke, M., & Hellgren, J. (2002). Arbetsmiljö och engagemang i vården. Studie 1, 2, 3 & 4. Itemförteckning med kod & svarsalternativ. Stockholm: Department of Psychology, Stockholm University.

Item content and variable names in data set are presented in Table 90, followed by the response format in English (and Swedish).

Table 90. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
	Ta ställning till följande påståenden om byte av arbetsplats.		
1	Jag tänker ofta att jag ska lämna min nuvarande arbetsplats.	I often think about leaving my current workplace.	ex_itl1rev
2	Så fort det blir möjligt kommer jag att lämna min nuvarande arbetsplats.	As soon as possible I will leave my current workplace.	ex_itl2rev
3	Jag söker aktivt efter ett arbete utanför min nuvarande arbetsplats.	I am actively looking for work outside of my current workplace.	ex_itl3rev
	Ta ställning till följande påståenden om byte av yrke.		
4	Jag tänker ofta på att byta yrke.	I often think about changing profession.	ex_ itl4rev
5	Jag söker aktivt efter arbete utanför sjuksköterskeyrket.	I am actively looking for work outside of the nursing/teaching profession.	ex_ itl5rev
6	Jag skulle så fort som möjligt vilja lämna sjuksköterskeyrket.	I would like to leave the nursing/teaching profession as soon as possible.	ex_ itl6rev

Response format (Swedish phrasing used in the study):
1 = 1 Not at all accurate (Stämmer inte alls)
2 = 2
3 = 3
4 = 4
5 = 5 Completely accurate (Stämmer helt)

Comments about representation in the surveys (e.g. change in phrasing or response format): Items are reversed for analysis. A high value thus indicates a high intention of leaving the workplace/profession.

In Table 91 response rates, Cronbach's alpha, mean-inter-item correlations, item-total correlations, mean values, and standard deviations (SD) for each subscale are presented.

Table 91. Response rate, reliability and mean of scale.

Workplace (item name in data file: mitlw)		
Response rate		87
Reliability	Cronbach's α	0.878
	MIIC	0.706
	ITC min	0.724
	ITC max	0.819
Mean (SD)		2.20 (1.30)
Profession (item name in data file: mitlp)		
Response rate		86
Reliability	Cronbach's α	0.746
	MIIC	0.538
	ITC min	0.471
	ITC max	0.769
Mean (SD)		1.49 (0.82)

3.3.4 Turnover

The study included two single items asking the participants whether or not they had changed their workplace at any time since their graduation and whether or not they expected to be working as nurses in 5 years' time.

Djordjevic, A. (2010). Factors mediating the effect of age on early career burnout. Essay for a bachelor's degree. Department of Clinical Neuroscience, Karolinska Institutet.

Item content and variable names in data set are presented in Table 92, followed by the response format in English (and Swedish).

Table 92. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
1	Har du bytt arbetsplats någon gång sedan din examen?	Have you changed your workplace since you graduated?	ex_change_work
2	Tror du att du kommer att arbeta som sjuksköterska om 5 år?	Do you think you will be working as a nurse in 5 years' time?	ex_itl_5years

Response format (Swedish phrasing used in the study):
Item no 1:
1 = Yes (Ja)
2 = No (Nej)

Item no 2:
1 = Yes (Ja)
2 = No (Nej)
3 = I don’t know (Jag vet inte)

Comments about representation in the surveys (e.g. change in phrasing or response format): No comments.

Response rate and response in percent per item are presented in Table 93.

Table 93. Response rate and response in percent

Change of workplace since graduation		
Response rate		87
Percent	Yes	3.4
	No	95.6
	Missing	1.1
Expect to be working as nurse in 5 years’ time		
Response rate		86
Percent	Yes	75.0
	No	5.7
	I don’t know	17.0
	Missing	2.3

3.3.5 Nurse self-efficacy

Nurse self-efficacy was evaluated using a ten item scale. Following is a presentation of the use of the scale in the study together with some descriptive data.

Hagquist, C., Bruce, M., & Gustavsson, P.J. (2009). Using the Rasch model in nursing research: An introduction and illustrative example. International Journal of Nursing Studies, 46, 380–393

Bandura (1977). Self-efficacy: toward a unifying theory of behavioral change. Psychological Review, 84¸191-215.

Item content and variable names in data set are presented in Table 94, followed by the response format in English (and Swedish).

Table 94. Item content and variable name in data file:

Item no	Item content Swedish	Item content English	Variable name
	Skatta hur du tror att du klarar av dessa moment utifrån din utbildning, dina erfarenheter och dina nuvarande arbetsförhållanden.	Rate your efficacy for handling the following situations based on your education, your experience and your current work context.	
1	Leda och fördela arbetet i en grupp av undersköterskor och/eller biträden.	Manage the work of a group of assistant nurses.	ex_nse_1rev
2	Snabbt organisera om ditt arbete vid oförutsedda situationer.	Reorganise work fast when unforeseeable situations appear.	ex_nse_2 rev
3	Besvara frågor från patienter och deras närstående om sjukdomar och behandlingar.	Answer questions from patients and their relatives about illnesses and treatments.	ex_ nse_3 rev
4	Självständigt analysera styrkor och svagheter i din professionella kompetens.	Independently analyze the strengths and weaknesses of your professional skills.	ex_nse_4 rev
5	Självständigt bedöma och analysera patienters omvårdnadsbehov.	Identify and analyse the care needs of patients and the resources required.	ex_nse_5 rev
6	Självständigt bedöma och utvärdera effekten av genomförda omvårdnadsåtgärder.	Independently assess and evaluate the impact of implemented nursing interventions.	ex_nse_6 rev
7	Behålla en professionell roll men ändå engagera dig personligt i enskilda patienter.	Maintain a professional role but still get personally involved in individual patients.	ex_nse_7 rev
8	Ingripa och vidta åtgärder när du ser att vården bedrivs på ett felaktigt sätt.	Intervene and take action when you see that care is carried out incorrectly.	ex_nse_8 rev
9	Inför överföring av patient till annan vårdgivare göra patienten delaktig och välinformerad.	Make the patient involved and informed before transferring patients to other health care providers.	ex_nse_9 rev
10	Tillämpa kunskaper inom farmakologi så att läkemedel hanteras rätt.	Apply knowledge of pharmacology so that medicines are handled correctly.	ex_nse_10 rev

Response format (Swedish phrasing used in the study):
1 = 1 I am completely sure that I can do it (Det är jag helt säker på att jag klarar)
2 = 2
3 = 3 I think I can do it (Det klarar jag nog)
4 = 4
5 = 5 I am not confident that I can do it (Det känner jag mig osäker på om jag klarar)
6 = 6
7 = I am completely sure that I can’t do it (Det är jag helt säker på att jag inte klarar)

Comments about representation in the surveys (e.g. change in phrasing or response format): Items are reversed for analysis. A high value thus indicates a high level of self-efficacy.

In Table 95 response rate, Cronbach's alpha, mean-inter-item correlations, item-total correlations, mean value, and standard deviation (SD) are presented.

Table 95. Response rate, reliability and mean of scale.

Response rate		87
Reliability	Cronbach's α	0.904
	MIIC	0.497
	ITC min	0.567
	ITC max	0.764
Mean (SD)		5.73 (0.85)

3.3.6 Professional expectations

The study included a three item scale for evaluation of (un)fulfilled expectations.

Lait, J., & Wallace, J. E. (2002). Stress at Work: A Study of Organizational-Professional Conflict and Unmet Expectations. Industrial relations, 57, 463-490.

Wallace, J.E., & Mueller, C.W. (1994). "The Job Satisfaction Paradox: Why are Women Satisfied with Less?" Paper presented at the Annual Meeting of the American Sociological Association, Los Angeles, California.

Item content and variable names in data set are presented in Table 96, followed by the response format in English (and Swedish).

Table 96. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
	Mina erfarenheter av detta jobb har varit mer positiva än vad jag ursprungligen förväntade mig	My experiences in this job have been better than I originally expected	ex_expect1rev
1	På det stora hela är detta jobb vad jag trodde att det skulle vara.	Generally, this job is what I thought it would be.	ex_expect2rev
2	Mitt jobb har levt upp till de förväntningar jag hade på det när jag först började arbeta.	This job has lived up to the expectations I had when I first started	ex_expect3rev

Response format (Swedish phrasing used in the study):
1 = To a very small degree (I mycket liten grad)
2 = To a small degree (I liten grad)
3 = Partly (Delvis)
4 = To a high degree (I hög grad)
5 = To a very high degree (I mycket hög grad)

Comments about representation in the surveys (e.g. change in phrasing or response format): Items are reversed for analysis. A high value thus indicates a high level of fulfilled expectations.

In Table 97 response rate, Cronbach's alpha, mean-inter-item correlations, item-total correlations, mean value, and standard deviation (SD) are presented.

Table 97. Response rate, reliability and mean of scale.

Response rate		86
Reliability	Cronbach's α	0.821
	MIIC	0.68
	ITC min	0.624
	ITC max	0.770
Mean (SD)		3.40 (0.90)

3.3.7 Sick leave

Sick leave was evaluated using a four item scale. Following is a presentation of the use of the scale in the study together with some descriptive data.

Vingård, E et al. (2004). HAKuL Hållbart arbete i kommuner och landsting. Stockholm, Sektionen för personskadeprevention. Institutionen för klinisk neurovetenskap.

Egan, F.M. (2000). An investigation of absenteeism among third year student nurses. University of Dublin Trinity College, Unpublished MSc Dissertation, Dublin.
Timmins, F., & Kaliszer, M. (2002). Absenteeism among nursing students – fact or fiction? Journal of Nursing Management, 10, 251-264.

Rudman, A., Omne-Pontén, M., Wallin, L., & Gustavsson, J.P. (2010). Monitoring the newly qualified nurses in Sweden: the Longitudinal Analysis of Nursing Education (LANE) study. Human Resources for Health, 8, 10.

Item content and variable names in data set are presented in Table 98, followed by the response format in English (and Swedish).

Table 98. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
1	Hur många tillfällen har du varit frånvarande från arbetet på grund av egen sjukdom sedan du påbörjade din anställning?	At how many occasions since you started working have you been absent from work due to sickness?	ex_sick_abs1
2	Hur många dagar har du sammanlagt varit borta från arbetet på grund av egen sjukdom sedan du påbörjade din anställning?	How many days all in all have you, since you started working, been absent from work due to disease?	ex_sick_abs2
3	Hur många dagar har din längsta sjukfrånvaroperiod sedan du påbörjade din anställning varat?	How many days in a row did your longest period of absence due to disease since you started working last?	ex_sick_abs3
4	Vid hur många tillfällen har du gått till arbetet trots att du med tanke på din hälsa borde ha stannat hemma?	At how many occasion since you started working have you been at work even though you should have stayed at home due to your health?	ex_sick_abs4

Response format (Swedish phrasing used in the study):
Number of occasions (item 1 and 4)
1 = No occasion (Inget tillfälle)
2 = 1 occasion (1 tillfälle)
3 = 2-3 occasions (2-3 tillfällen)
4 = 4-5 occasion (4-5 tillfällen)
5 = 6 or more (6 eller fler)

Number of days (item 2 and 3)
1 = 0 days (0 dagar)
2 = 1-3 days (1-3 dagar)
3 = 4-7 days (4-7 dagar)
4 = 8-14 days (8-14 dagar)
5 = More than 14 days (Mer än 14 dagar)

Response rate and response in percent per item are presented in Table 99.

Table 99. Response rate and response in percent.		
Absent from work due to sickness (ex_sick_abs1)		
Response rate		87
Percent	No occasion	47.1
	1 occasion	26.4
	2-3 occasions	23.0
	4-5 occasion	2.3
	6 or more	1.1
	Missing	0.1
Total number of sickness absence days (ex_sick_abs2)		
Response rate		87
Percent	0 days	43.7
	1-3 days	35.6
	4-7 days	13.8
	8-14 days	4.6
	More than 14 days	2.3
	Missing	0.1
Longest period of sickness absence (ex_sick_abs3)		
Response rate		87
Percent	0 days	43.7
	1-3 days	43.7
	4-7 days	9.2
	8-14 days	1.1
	More than 14 days	2.3
	Missing	0.1
Sickness presence (ex_sick_abs4)		
Response rate		87
Percent	No occasion	44.8
	1 occasion	26.4
	2-3 occasions	17.2
	4-5 occasion	8.0
	6 or more	3.4
	Missing	0.1

3.3.8 Oldenburg Burnout Inventory

Burnout was evaluated using seven items from Oldenburg Burnout Inventory (OLBI). Following is a presentation of the use of the scale in the study together with some descriptive data.

Dahlin, M. (2007). Future doctors: Mental distress during Medical Education: Cross sectional and longitudinal studies. (Dissertation) Department of Clinical Neuroscience, Division of Psychiatry St. Göran, Karolinska Institutet, Stockholm, Sweden.

Gustavsson, J.P., Hallsten, L., & Rudman, A. (2010). Early career burnout among nurses: Modelling a hypothesized process using an item response approach. International Journal of Nursing Studies, 47, 864-875.

Halbesleben, J.R.B., & Demerouti, E. (2005). The construct validity of an alternative measure of burnout: Investigating the English translation of the Oldenburg Burnout Inventory. Work and Stress, 19, 208-220.

Item content and variable names in data set are presented in Table 100, followed by the response format in English (and Swedish).

Table 100. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
	Här följer ett antal påståenden om hur man kan känna för sitt arbete.	Following are a number of items concerning how one can feel about one's work.	
1	Det finns dagar då jag känner mig trött redan innan jag går till jobbet.	There are days when I feel tired even before I go to work.	ex_olbi1rev
2	Det händer allt oftare att jag talar om mitt arbete på ett nedvärderande sätt.	It happens more and more often that I talk about my work in a derogatory manner.	ex_olbi2rev
3	Jag behöver mer tid för avkoppling nu än tidigare för att återhämta mig från arbetet.	I need a longer time of rest nowadays than before to refresh myself from work.	ex_olbi3rev
4	På senare tid har jag utfört arbetet alltmer mekaniskt, utan att använda hjärnan.	Lately, I have been performing my work more mechanically, without using my brain.	ex_olbi4rev
5	På jobbet känner jag mig ofta känslomässigt urlakad.	At work I often feel emotionally drained.	ex_olbi5rev
6	Med tiden förlorar man ett djupare intresse för det egna arbetet	Over time, one loses a deeper interest in one's profession.	ex_olbi6rev
7	Efter jobbet känner jag mig ofta trött och utsliten	After work, I often feel tired and worn out.	ex_olbi7rev

Response format (Swedish phrasing used in the study):
1 = Not accurate at all (Stämmer inte alls)
2 = Not particularly accurate (Stämmer inte särskilt bra)
3 = Pretty accurate (Stämmer ganska bra)
4 = Totally accurate (Stämmer precis)

Comments about representation in the surveys (e.g. change in phrasing or response format): Items are reversed for analysis. A high value thus indicates a high level of burnout symptoms.

In Table 101 response rate, Cronbach's alpha, mean-inter-item correlations, item-total correlations, mean value, and standard deviation (SD) are presented.

Table 101. Response rate, reliability and mean of scale.

Response rate		87
Reliability	Cronbach's α	0.895
	MIIC	0.548
	ITC min	0.562
	ITC max	0.802
Mean (SD)		2.39 (0.78)

3.3.9 Self-rated health

Self-rated health was evaluated using one single item. Following is a presentation of the use of the item in the study together with some descriptive data.

Bailis, D.S., Segall, A., & Chipperfield, J.G. (2003). Twp views of self-rated general health status. Social Science & Medicine, 56, 203-217.

Hasson, D., Lindfors, P., & Gustavsson, J.P. (2010). Trends in self-rated health among nurses: A four year longitudinal study on the transition from nursing education to working life. Journal of Professional Nursing, 26, 54-60.

Item content and variable names in data set are presented in Table 102, followed by the response format in English (and Swedish).

Table 102. Item content and variable name in data file.

Item no	Item content Swedish	Item content English	Variable name
1	Hur bedömer du ditt allmänna hälsotillstånd?	How do you rate your general health?	ex_srh

Response format (Swedish phrasing used in the study):
1 = Very good (Mycket bra)
2 = Good (Bra)
3 = Pretty good (Ganska bra)
4 = Neither good nor bad (Varken bra eller dåligt)
5 = Pretty bad (Ganska dåligt)
6 = Bad (Dåligt)
7 = Very bad (Mycket dåligt)
Comments about representation in the surveys (e.g. change in phrasing or response format): No comments.

Response rate and percentage of response are presented in Table 103.

Table 103. Response rate and percentage of response.		
Response rate		87
Percentage	Very good	12.6
	Good	49.4
	Pretty good	19.5
	Neither good nor bad	13.8
	Pretty bad	2.3
	Bad	2.3
	Very bad	0.0
	Missing	0.1

4 References

Artologik. Survey&Report.

Saks, A.M, & Gruman, J.A. (2012) Getting newcomers on board: a review of socialization practices and introduction to socialization resources theory In *The Oxford handbook of organizational socialization*, ed. C Wanberg, pp. 27-55. New York, New York: Oxford University Press, Inc.

5 Appendix

Table A. Descriptive data of baseline variables		
Item	**Response format**	**%**
Employer, type of employment and prior experience		
I vilken region kommer du att börja arbeta?	Stockholm	36.8
	Uppsala	0.9
	Sörmland	2.8
	Östergötland	3.8
	Jönköping	4.7
	Kronoberg	0.0
	Kalmar	0.0
	Gotland	0.9
	Blekinge	0.9
	Skåne	15.1
	Halland	1.9
	Västra Götaland	15.1
	Värmland	0.0
	Örebro	1.9
	Västmanland	3.8
	Dalarna	2.8
	Gävleborg	0.0
	Västernorrland	2.8
	Jämtland Härjedalen	1.9
	Västerbotten	1.9
	Norrbotten	0.9
	Norge	0.0
	Danmark	0.0
	Annat land än Sverige, Norge eller Danmark	0.0
	Jag vet inte	0.0
	Missing	0.9
Om Annat land än Sverige, Norge eller Danmark, ange vilket.	Text	
Vilken arbetsgivare kommer du att ha?	Landsting	82.1
	Kommun	4.7
	Privat vårdgivare	10.4
	Privat uthyrningsföretag/ bemanningsföretag	0.0
	Universitet/högskola	0.0
	Läkemedels-, biotech- eller medicinteknikföretag	0.0
	Annan arbetsgivare	0.9
	Jag vet inte	0.9
	Missing	0.9
Vilken typ av inriktning kommer ditt arbete att ha?	Vårdavdelning	84.9
	Mottagning	4.7
	Vårdcentral	0.9

	Hemsjukvård	2.8
	Äldreboende/Servicehus	2.8
	Ambulanssjukvård	0.9
	Operation/anestesi	1.9
	Forskning/utbildning	0.9
	Annan inriktning	4.7
	Jag vet inte	0.0
Inom vilken huvudsaklig medicinsk specialitet kommer du att börja arbeta?	Text	
Vilken anställningsform har du på din kommande arbetsplats?	Tillsvidare	88.7
	Tidsbegränsat	7.5
	Timanställd	0.0
	Projektanställd	0.0
	Annan tillfällig anställning	3.8
Vilken anställningsform hade du helst velat ha om du hade fått välja?	Tillsvidare	92.5
	Tidsbegränsat	5.7
	Timanställd	0.9
	Projektanställd	0.9
	Annan tillfällig anställning	0.0
Har du tidigare erfarenhet av den arbetsplats som du ska börja jobba på?	Ja, praktik/kliniska studier/VFU	35.8
	Ja, extraarbete parallellt med studierna	19.8
	Ja, anställning innan utbildningen	6.6
	Nej	50.0
Expected formal introduction practices at first employment		
Kommer du att få gå med en mer erfaren sjuksköterska innan du får eget ansvar för patienter ("bredvidgång")?	Ja	93.4
	Nej	2.8
	Vet ej	3.8
Hur många veckor kommer du att få gå med en mer erfaren sjuksköterska ("bredvidgång") innan du börjar arbeta självständigt?	1	0.0
	2	14.2
	3	29.2
	4	26.4
	5	3.8
	6	9.4
	7	0.0
	8	4.7
	9	0.9
	10	0.0
	11	0.0
	12	0.9
	Mer än 12 veckor	0.0
	Vet ej	3.8
	Missing	6.6
Kommer du att få ha en mentor?	Ja	24.5
	Nej	28.3
	Vet ej	46.2
	Missing	0.9

Hur många månader har du blivit lovad att ha en mentor?	1	0.9
	2	0.9
	3	0.0
	4	0.0
	5	0.0
	6	4.7
	7	0.0
	8	0.0
	9	0.0
	10	0.0
	11	0.0
	12	7.5
	Mer än 12 veckor	2.8
	Vet ej	6.6
	Missing	76.4
Kommer du att få utbildningsdagar i ditt schema?	Ja	65.1
	Nej	10.4
	Vet ej	24.5
	Missing	0.0
Kommer du inledningsvis att ha ett reducerat antal patienter som du är huvudansvarig för?	Ja	14.2
	Nej	43.4
	Vet ej	42.5
	Missing	0.0
Kommer du att ha reducerad arbetstid med heltidslön?	Ja	6.6
	Nej	85.8
	Vet ej	7.5
	Missing	0.0
Hur många timmar arbete omfattar din heltidstjänst?	Färre än 35 timmar	1.9
	35	0.0
	36	0.9
	37	0.9
	38	0.9
	39	0.0
	40	0.0
	Fler än 40 timmar	0.0
	Vet ej	1.9
	Missing	93.4
Kommer du att ingå i ett introduktionsprogram eller liknande (t.ex. utvecklingsprogram, traineeprogram)?	Ja	27.4
	Nej	64.2
	Vet ej	8.5
	Missing	0.0
Hur många månader pågår ditt introduktionsprogram?	1	1.9
	2	0.9
	3	0.0
	4	0.0

	5	0.0
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	1.9
	11	0.0
	12	17.0
	Mer än 12 månader	3.8
	Vet ej	1.9
	Missing	72.6
Expectations of developmental possibilities		
I vilken grad förväntar du dig att på din kommande arbetsplats få goda möjligheter att utveckla dina kliniska färdigheter?	I mycket hög grad	1.6
	I hög grad	2.3
	Delvis	2.2
	I liten grad	0.4
	I mycket liten grad	0.2
I vilken grad förväntar du dig att på din kommande arbetsplats få goda möjligheter att utöka dina ansvarsområden och befogenheter?	I mycket hög grad	0.6
	I hög grad	2.9
	Delvis	1.8
	I liten grad	1.0
	I mycket liten grad	0.3
I vilken grad förväntar du dig att på din kommande arbetsplats få goda möjligheter att själv bedriva kvalitetsutvecklingsarbete?	I mycket hög grad	0.6
	I hög grad	1.8
	Delvis	2.4
	I liten grad	1.2
	I mycket liten grad	0.7
I vilken grad förväntar du dig att på din kommande arbetsplats få goda möjligheter att följa med i kunskapsutvecklingen inom ditt område?	I mycket hög grad	0.5
	I hög grad	2.1
	Delvis	2.1
	I liten grad	1.3
	I mycket liten grad	0.6
Sleep		
Hur tycker du att du sover på det hela taget?	Mycket bra	18.9
	Ganska bra	44.3
	Varken bra eller dåligt	16.0
	Ganska dåligt	17.0
	Mycket dåligt	1.9
	Missing	1.9
Anser du att du har fått tillräckligt med sömn under den senaste veckan?	Nej, långt ifrån tillräckligt	7.5
	Nej, klart otillräckligt	12.3
	Nej, något otillräckligt	24.5
	Ja, i stort sett tillräckligt	41.5
	Ja, definitivt tillräckligt	12.3

	Missing	1.9
Hur många timmars sömn behöver du per dygn?	Färre än 4.5 timmar	0.0
	5	0.0
	5.5	0.9
	6	2.8
	6.5	1.9
	7	21.7
	7.5	15.1
	8	37.7
	8.5	6.6
	9	8.5
	9.5	0.9
	10	1.9
	10.5	0.0
	11	0.0
	Fler än 11 timmar	0.0
	Missing	1.9
Är du morgon eller kvällsmänniska?	Utpräglad morgonmänniska	3.8
	Mer morgon- än kvällsmänniska	32.1
	Varken eller	17.0
	Mer kvälls- än morgonmänniska	32.1
	Utpräglad kvällsmänniska	13.2
	Missing	1.9
Har du haft känning av följande besvär de senaste tre månaderna? Svårigheter att somna?	Aldrig	12.3
	Någon, några gånger senaste kvartalet	39.6
	Flera gånger per månad	17.0
	1-2 gånger per vecka	15.1
	3-4 gånger per vecka	9.4
	5 gånger eller mer per vecka	4.7
	Missing	1.9
Har du haft känning av följande besvär de senaste tre månaderna? Upprepade uppvaknanden med svårigheter att somna om?	Aldrig	36.8
	Någon, några gånger senaste kvartalet	32.1
	Flera gånger per månad	16.0
	1-2 gånger per vecka	6.6
	3-4 gånger per vecka	3.8
	5 gånger eller mer per vecka	2.8
	Missing	1.9
Har du haft känning av följande besvär de senaste tre månaderna? För tidigt uppvaknande?	Aldrig	29.2
	Någon, några gånger senaste kvartalet	37.7
	Flera gånger per månad	13.2
	1-2 gånger per vecka	11.3
	3-4 gånger per vecka	3.8
	5 gånger eller mer per vecka	2.8
	Missing	1.9
Har du haft känning av följande besvär de	Aldrig	15.1

senaste tre månaderna? Störd/orolig sömn?	Någon, några gånger senaste kvartalet	37.7
	Flera gånger per månad	21.7
	1-2 gånger per vecka	9.4
	3-4 gånger per vecka	4.7
	5 gånger eller mer per vecka	9.4
	Missing	1.9

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