

TNO report

Study on Transitions in Employment, Ability and Motivation (STREAM)

Technical report



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Contents

1	Introduction.....	3
1.1	Why STREAM?.....	3
1.2	Objective of STREAM.....	3
1.3	Research framework.....	3
1.4	Research questions.....	4
1.5	Strengths and limitations of STREAM	4
1.6	Medical ethical approval	5
2	Study population	6
2.1	Study population at baseline	6
2.2	Study population at follow-up	7
3	Questionnaires.....	11
3.1	Inclusion of previous work status in the routing of the questionnaire	11
3.2	Changes in the follow up questionnaires.....	12
3.3	Topics in the questionnaires.....	14
4	Transitions in employment status, work ability and health	24
4.1	Transitions in employment status	24
4.2	Changes in work ability and health by transition	28
	References	35
	Appendix - Letter Medical Ethical Committee.....	37

1 Introduction

1.1 Why STREAM?

The workforce in the Netherlands is ageing, and a shortage of workers is expected in upcoming years because fewer young people enter the labour market and a large number of baby boomers will retire (1). The rising ratio of retired elderly to the active working population puts pressure on public finances, and causes tension in the solidarity between generations (2). In order to maintain the social welfare state and meet the demands of the global economy, all labour supply needs to be used, work productivity should be maintained at a high level, and sustainable employability should be promoted.

Although an increasing number of studies address sustainable employability in an ageing society, there are several gaps in our knowledge which are primarily due to a lack of longitudinal studies in which a broad set of potential determinants are examined (3). The Study on Transitions in Employment, Ability and Motivation (STREAM) was designed to contribute to filling these gaps, and to provide better insight into the factors that influence transitions in employment and productivity among older workers.

1.2 Objective of STREAM

The objective of STREAM is to acquire knowledge on the circumstances under which persons aged 45 and older continue to participate in paid employment with a high productivity and in good health. This knowledge is necessary for the development of policies and interventions that can improve the sustainable employability of older employees.

1.3 Research framework

In Figure 1 the research framework is presented:

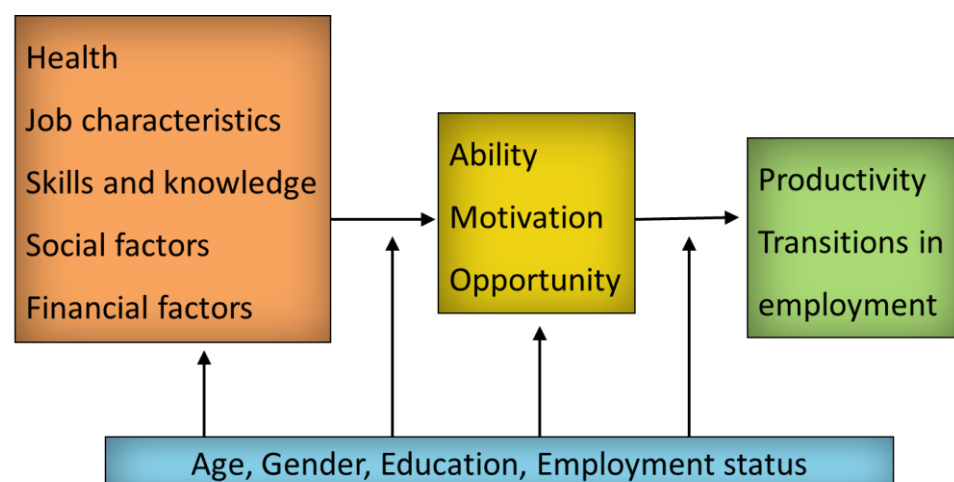


Figure 1.1: STREAM research framework

In the research framework five groups of potential determinants of transitions in employment and work productivity are distinguished. These are health, job characteristics, skills and knowledge, social factors, and financial factors. According to the framework these determinants influence transitions in employment and work productivity through three central explanatory variables, i.e., the ability, motivation, and opportunity to work. All variables in the framework, and their interrelations may be influenced by moderating variables, including gender, age, educational level, and initial employment status (i.e., employed, self-employed or non-employed).

Transitions in employment include: (a) transitions from work to early retirement, unemployment, and disability, (b) transitions from inactivity in the labour market to paid employment, and (c) mobility in the labour market, i.e., transitions to a different employer, transitions to a different occupation, transitions between employment and self-employment. Work productivity refers to the quantity and/or quality of the output that an individual creates. In this study, we focus on several aspects of self-reported productivity, including sickness absence, presenteeism, and loss of productivity while at work.

1.4 Research questions

STREAM aims to examine the relations as reflected in the framework. In particular, STREAM will answer the following research questions:

1. How do work ability, work motivation and opportunity to work develop over time among employees, self-employed and non-employed persons aged 45 to 64 years?
2. How do (changes in) work ability, work motivation and opportunity to work relate to transitions in employment and productivity?
3. What is the influence of (changes in) health, job characteristics, skills and knowledge, social and financial factors on:
 - a. Transitions in employment and productivity?
 - b. (Changes in) work ability, work motivation and opportunity to work?
4. What is the influence of demographic variables (age, gender, education) and employment status on the findings of research question 1 to 3?
5. How do job characteristics and transitions in employment status influence health?

1.5 Strengths and limitations of STREAM

STREAM is a comprehensive longitudinal study. The strength of longitudinal studies is their capacity to approximate causality. A critical issue in establishing causality is the temporality of the observed association, i.e. the cause precedes the effect in time. Therefore, longitudinal studies collect data which better enable us to disentangle cause and effect than cross sectional studies.

With STREAM we intend to examine the relations as represented in the framework (Figure 1.1). STREAM is not suitable for monitoring, meaning we will not make statements about for example the percentage of persons in the Netherlands that retires early. The reason is that we use an internet panel for the data collection and

not a representative sample of the Dutch population. Moreover, our sample is stratified, and contains relatively many employees in the age group of 60 to 64. Also, as in all longitudinal studies, not all participants of the first measurement continue to participate during all follow-up measurements.

We assume that the findings in STREAM may be generalized to the Dutch population. Aim is to examine the influence of various determinants on the participation of older persons in work. For that aim, heterogeneity is more important than representativity. In STREAM we aimed at a highly heterogeneous sample in age, sex and education.

The participants of STREAM are all 45 years or older. The study will not contain data on transitions of younger persons and determinants of these transitions. Findings of the present study with regard to determinants may not be generalized to younger persons.

1.6 Medical ethical approval

The Medical Ethical Committee of the VU University Medical Center (Amsterdam) declared that the Medical Research Involving Human Subjects Act (abbreviation in Dutch: WMO) does not apply to STREAM. The Medical Ethical Committee had no objection to the execution of this research. In the information that accompanied the online questionnaire, it was emphasized that the privacy of participants is guaranteed, that all answers to the questions are treated confidentially, and that all data are stored in secured computer systems. The letter of the Medical Ethical Committee is in the Appendix.

2 Study population

STREAM is a prospective cohort study among employees, self-employed persons, and non-working persons, aged 45 to 64 years at baseline. The study sample was stratified by age and employment status (employed, self-employed, non-working). The baseline measurement was carried out in 2010, with yearly follow-up measurements in 2011, 2012, and 2013.

Persons included in STREAM participated in the Intomart GfK Online Panel, which consisted of approximately 110,000 persons in 2010, of whom about 35,000 were 45 to 64 years of age. Intomart GfK recruited panel members in various ways: from participants in national representative research carried out by Intomart GfK (33%), through contacts of persons already included in the panel (23%), through newsletters (26%) or banners (2%). Moreover, persons applied for the panel themselves (16%). Panel members received a financial incentive to fill out an online questionnaire. For every yearly completed STREAM questionnaire, the savings balance of the participant was increased by about 3.00 euros, with the exact amount depending on the time spent filling out the questionnaire. These savings could be paid out as gift vouchers or as a donation to the Red Cross. In STREAM, response by proxy (i.e., someone else in the household) was not allowed.

2.1 Study population at baseline

The first measurement took place between the 22nd of October and the 28th of November 2010. A sample of 26,601 persons was invited by Intomart to participate in STREAM. Invited persons received a maximum of two reminders. Of this sample, 4,168 persons did not respond to the invitation, and 2,180 persons started but did not complete the questionnaire. For 5,065 persons, the questionnaire was stopped after a few selection questions because the relevant age / employment status category was already filled. In total, 15,887 participants completed their questionnaires, a response rate of 71,45%. We received 15,118 questionnaires, since it was agreed that Intomart would deliver data of 15,000 persons. The remaining 699 questionnaires were selected randomly within persons that did not give permission to link their data to register data of Statistics Netherlands (see section 2.1.3). The remaining respondents are presented in Table 2.1.

Table 2.1: Respondents baseline measurement STREAM

	Employed	Self-employed	Non-working	Total
45-49 years	3.001	254	482	3.737
50-54 years	3.001	250	520	3.771
55-59 years	3.495	252	526	4.273
60-64 years	2.558	273	506	3.337
Total	12.055	1.029	2.034	15.118

2.1.1 *Measures Intomart to raise the response*

Since the Intomart GfK panel contained insufficient employed persons in the age group 60-64, Intomart has put additional effort in recruiting persons in this stratum; participants were asked to approach persons in this age group to participate and an ad was placed in a magazine. These actions yielded 53 extra participants. Also participants were derived from a panel of a GfK-partner of Intomart, yielding 360 additional participants in this stratum. Unfortunately, these actions did not lead to a sufficient number of participants. Therefore, it was decided to approach more employed persons in the age group 55-59.

2.1.2 *Representativity*

Within each of the 12 cells of the design (employment status by age), the sample was intended to be representative of the Dutch population with respect to gender and educational level. For all cells in the design combined, this was the case, χ^2 (df=71) = 32.6, $p = 1.00$. Individual cells were also representative with respect to gender and educational level, χ^2 (df=5) < 6.0, $p > 0.30$, except for the cell with employees aged 60-64 years, χ^2 (df=5) = 23.8, $p < 0.001$. This cell consisted of relatively more females with low education, and less males with low and middle education than the Dutch population of employees aged 60-64 years.

2.1.3 *Linkage to register data*

In the baseline questionnaire, participants were asked to give their consent to link their answers to register data of Statistics Netherlands. Such linkage enables the attainment of additional background variables, for example information about yearly income and financial property from tax authorities. Moreover, in the future, linkage may be used to follow transitions in employment and age of retirement for participants after data collection for this study is completed. Medical consumption, hospital admittance and mortality can also be examined in future linkages. Of the 15,118 participants who completed the baseline questionnaire, 13,672 gave their consent to link their answers to register data (90%). In a test linkage at Statistics Netherlands, the data of 13,416 participants could successfully be linked to the base registration. Therefore, 89% of the sample at baseline could successfully be linked.

2.2 **Study population at follow-up**

The follow-up measurements took place in the fall of the following years:

T1	24 th of October 2011	-	27 th of November 2011
T2	22 nd of October 2012	-	28 th of November 2012
T3	21 st of October 2013	-	24 th of November 2013

In total 9,639 respondents completed all questionnaires, which is 64% of the respondents at baseline measurement. The response was highest among those not employed (65%), and lowest among the self-employed (59.5%). The response among the employed persons was 64%. Figure 2.1 contains a flowchart of the response on all measurements in STREAM. Unattainable refers to persons that resigned from the panel. Intomart is not allowed to approach them for the next measurement.

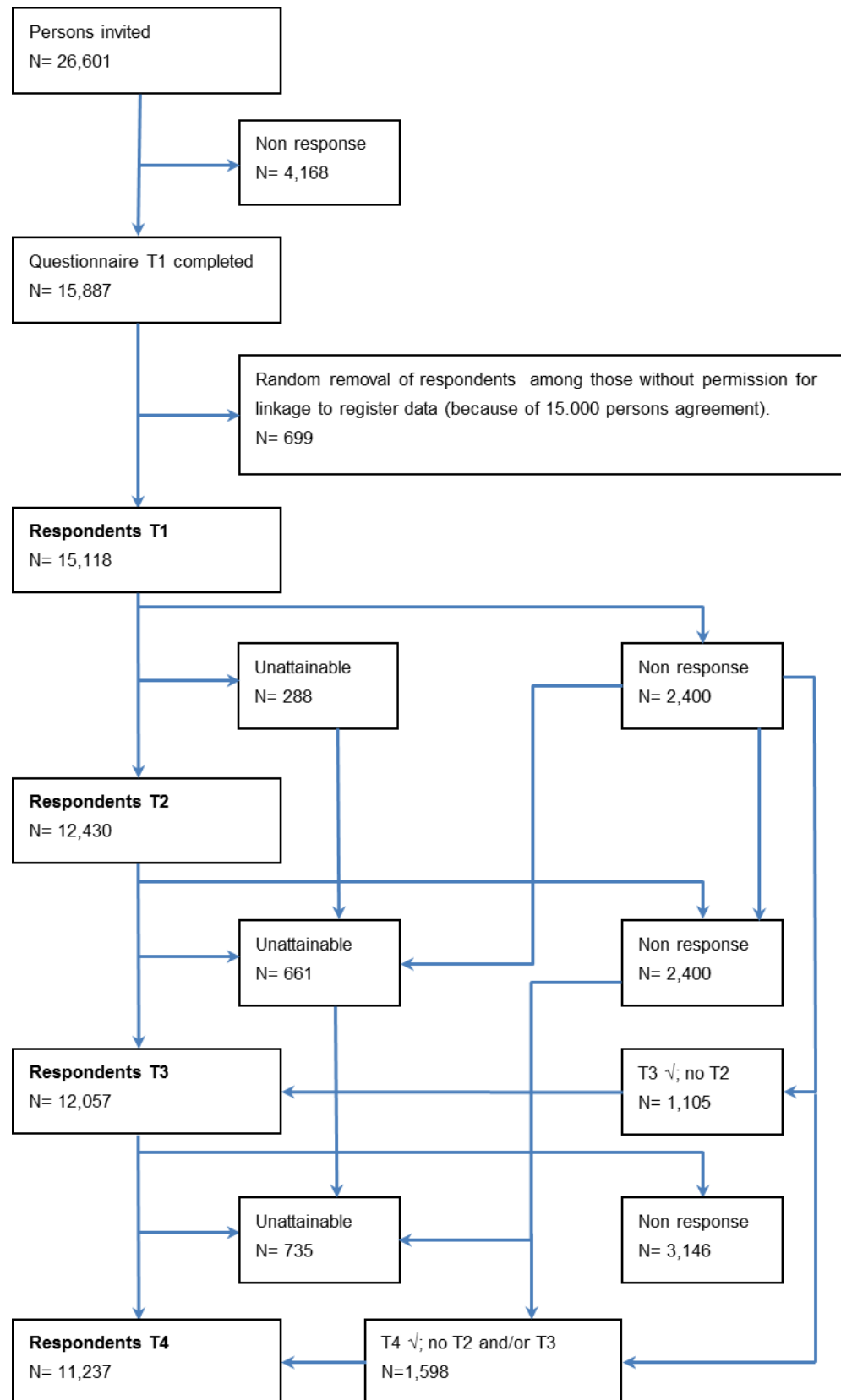


Figure 2.1: Flowchart of the response; 9,639 respondents completed all questionnaires

2.2.1 Active and inactive panel participants

Intomart GfK distinguishes between three groups of panel participants:

- 1 *Active Intomart GfK online panel participants*
panel participants who did not resign and filled in the yearly questionnaire.
- 2 *Inactive Intomart GfK online panel participants*
panel participants who did not resign but failed to fill in the yearly questionnaire.
- 3 *Panel participants of the partner organisation*

Active panel participants received their regular fee (about € 3), as well as the panel participants of the partner organisation. Inactive panel participants received a gift coupon to the value of € 15 after they finished the 2013 measurement.

2.2.2 Selective loss to follow up

To examine possible selective loss to follow up, we compared the respondents who participated in all measurements with those that missed one or more follow up measurements. Table 2.2 shows the results.

Table 2.2: Selective loss to follow up

Baseline characteristics	All measurements (N = 9,639)	Missed one or more (N = 5,479)	p =
Age	54,6	53,9	,000
Sex (percentage women)	46%	46%	,810
Education (1=low; 3=high)	2,04	2,00	,001
Vitality	64,9	64,4	,109
Depression	1,55	1,58	,003
Job demands (WN+ZS)	3,08	3,13	,000
Job satisfaction (WN+ZS)	4,02	4,02	,904
Developmental proactivity (WN+ZS)	3,89	3,92	,023
Knowledge obsolescence (WN+ZS)	2,76	2,78	,255
Knowledge obsolescence (NW)	3,23	3,19	,346
Support from partner to continue working (WN+ZS)	3,10	3,15	,008
Support from partner to start working (NW)	3,31	3,43	,089
Financial situation of the household	3,40	3,32	,000
Work ability	7,31	7,31	,971
Meaning of work	4,07	4,09	,163
Work motivation	3,80	3,80	,858
Productivity	6,64	6,68	,206
Intention to stop working (WN+ZS)	1,43	1,39	,039
Intention to start working (NW)	2,20	2,36	,015

WN=employed, ZS=self-employed, NW=not employed

Table 2.2 shows some selective loss to follow up. Due to the large sample, differences are statistically significant, but very small. Cohen's d was for almost all variables smaller than $.10^1$. Cohen's d was between .10 and .20 for the difference in age (.13) and in the intention to start working among not employed persons (.11).

¹ For Cohen's d an effect size between .20 and .35 may be considered a small effect, while below .20 effect sizes may be considered irrelevant (Cohen (1977), Statistical power analysis for the behavioral sciences, NY: Academic Press).

These small effect sizes indicate that the selective loss to follow up will not seriously bias the results of analyses with the STREAM data.

2.2.3 *Linkage to register data*

Data of respondents who participated in all measurements could be linked to register data in 90% of the persons, i.e. 8,711 persons. This percentage is higher than at baseline since loss to follow up is higher among participants who didn't gave their consent to link their answers to register data (46% versus 35%).

3 Questionnaires

Follow up measurements were highly similar to the baseline measurement. Nevertheless, some changes were applied. One type of change refers to the inclusion of work status as assessed during the previous wave in the routing of the questionnaires. These changes will be described in section 3.1. Other changes refer to additions that were felt necessary, such as missing topics and information on respondents that missed a wave. These changes will be described in section 3.2. Table 3.1 presents the number of questions by work status. Table 3.2 gives an overview of all topics in the questionnaires, the question numbers and the number of questions per topic by work status.

Table 3.1: Number of questions by work status

	T1	T2	T3	T4
Employed	206-220	211-235	211-244	211-244
Self-employed	191-209	195-224	195-233	195-233
Not employed	134-143	119-150	119-159	119-159

3.1 Inclusion of previous work status in the routing of the questionnaire

For a limited number of questions, the work status assessed in the previous wave was used in the routing of the next wave. In this way the number of questions could be reduced. Drawback is a more complicated routing, in particular if a respondent has skipped the previous wave(s). Below, we will describe the use of previous work status for every wave.

Work status at T1 is included in the routing of the T2 questionnaires in twelve questions to persons that were not employed during T1. Part of these persons is not working at both measurements. No work-related information is needed for this group. Part of these persons did have a job between the two measurements, and of this group we like to have some information about their work. The use of previous work status prevents that all participants must report if they had paid work between T1 and T2.

- Questions B05, B06, B07A AND B07 refer to occupation and type of industry. We don't want to bother respondents with these questions if they are working and do not report a change in job or occupation or if they are not working and did not have a job in the last two months. By including work status 'not employed' at T1 in the routing we are able to submit these questions to participants who did not work at T2 but were working, at least for some time, between T1 and T2.
- Questions B09, B10, B11, B12, B13A, C09 and C09A refer to general work characteristics such as type of contract and working hours per week. These questions were submitted to all working persons. By including 'not employed' at T1, these questions could also be submitted to persons that were not working at T2 but did work for some time between T1 and T2.
- Question D05A refers to the transitions of not employed at T1 to self-employed at T2 and asks why the participant chose to be self-employed instead of to be employed by a company.

The inclusion of work status at T2 in the routing of the T3 questionnaire, as well as the inclusion of work status at T3 in the routing of the T4 questionnaire has been done in the same manner.

3.2 Changes in the follow up questionnaires

3.2.1 *Work characteristics*

The questionnaire at baseline contained eight questions with regard to occupational history:

- Number of years in a paid job (C61);
- Number of years in physically, emotionally and mentally demanding work (C63-C65);
- Number of years employed by present or last employer (B13) and in present or last job (B14);
- Number of years self-employed (C62).

These questions were not repeated in the follow up questionnaires, nor were some questions on the past repeated for the not employed: if they earned money with odd jobs (A02), if they ever had a paid job (A08), and reasons why they never had a paid job in the past (A09).

The questionnaire at baseline contained questions on occupation and type of industry for all working persons (employed and self-employed) (B05, B06, B07A, B07). In the follow up questionnaires, these questions were only asked when persons had changed jobs, or if they had started to work, or if they were not employed at two consecutive waves but did some work between them. At follow up, not employed persons were only asked questions B09 to B12 if they were also not employed at the previous wave, but had a paid job in the past 12 months.

The questionnaire at baseline contained a question for the self-employed to ask if they did the same, comparable or completely different work when they were still an employee (B04). At baseline, this question was for all self-employed who were an employee once. At the following waves, this question was only asked those who became self-employed in the previous year.

At baseline, all non-employed persons answered questions about their previous job. In the follow up questionnaires, these questions were only asked those who were not employed at the time of measurement, but did have a paid job in the past 12 months. These persons also answered a new question with regard to the number of months they had a paid job in the previous year (B13A).

To the question with regard to evening and night work (C09) a new question was added in the follow up questionnaires on working between 12.00 p.m. and 6.00 a.m.

3.2.2 *Informal care*

All questionnaires contain questions on the amount of time spent on unpaid activities such as volunteer work or charity work, informal care, care for little children outside the family, and household work (A03-A07). With regard to informal care some extra questions were added in the questionnaires of T3 and T4. They refer to the person the informal care was aimed at, where this person lives, and the travel distance.

3.2.3 *Coping*

In the follow up questionnaires nine questions were added on coping with problems or inconveniences (H48A-H48I).

3.2.4 *Motivation to work*

To the follow up questionnaire an item is added in which employed and self-employed indicate to what extent they work to be financially independent (F34A). A similar item, referring to why they would like to work, was added for the not employed (F44A).

3.2.5 *Opportunity to work*

In the baseline questionnaire, one question was aimed at the payment for training or educational activities (D21). For the follow up questionnaires this question was rephrased and is now aimed at the initiative for these activities (D21A).

3.2.6 *Productivity*

Between the baseline questionnaire and the first follow up, new questionnaires were developed to measure productivity. Since productivity is one of the main outcome measures in STREAM, we decided to add more questions on this topic. Two questions were added on the quantity of work that was finished (E06A, E06B). At baseline, all questions refer to productivity irrespective of the cause. Therefore, we also added questions on health related productivity loss (E25B-E25D). We also added a question on the days of sick leave in the past four days (E25A), which enables the comparison of productivity loss and sick leave over the same period.

3.2.7 *Transitions in work status*

The follow up questionnaires contained new questions to gain more insight in transitions in work status. Two questions were changed slightly to identify the transition from employed and self-employed to not employed in the past 12 months. Persons not employed during the time of measurement were asked if they worked in the past 12 months (A08 → A08A), and were asked when they stopped working (A10 → A10A). Two questions were added to identify transitions from self-employed to employed and from employed to self-employed (D01A, D01C), followed by questions to find out the reasons for this transition (D01B, D01D). For persons who started to work as an entrepreneur and were not employed at the time of the previous measurement, a question was added concerning their reasons for choosing to be self-employed instead of employed (D05A). Two questions referring to transitions that took place before T1 were not repeated in the follow up questionnaires (B02, B03).

To gain more insight in the transition to (early) retirement we added two question with regard to life after retirement. The first refers to aspect of works the retiree might miss (H50), the second assesses the overall contentment of life as a retiree (H51).

3.2.8 *Looking for a job*

At baseline the not employed was asked which activities they undertook to find a job (G11A-G11J). At follow up these questions were also asked the employed and self-employed persons.

3.2.9 *Extra questions for those participants that missed the previous wave*

Some respondents did not participate in one of the follow up measurements but did fill in the questionnaire in the year after that. To obtain data on the most important transitions during the missing period, they were asked some extra questions in the last part of the questionnaire (J03-J08).

3.3 **Topics in the questionnaires**

3.3.1 *Demographic characteristics*

The following demographic characteristics were assessed:

- Date of birth
- Sex
- Ethnicity
- Level of education
- Household composition

Date of birth, sex, ethnicity and level of education are registered by Intomart GfK. Date of birth and sex were also assessed by questionnaire to enable checks. To assess the composition of the household a similar question was asked as used by Statistics Netherlands.

3.3.2 *Health and well-being*

The following aspects of health and well-being were assessed:

- Longstanding diseases and limitations
- Musculoskeletal complaints
- Perceived health
- Vitality
- Depression
- Recovery and relaxation
- Height and weight
- Smoking
- Physical activity

Longstanding diseases were assessed with separate questions for each type of health problem, asking if the respondents has this type of health problem. Subsequently was asked if the health problem limits their performance at work. These questions were derived from a yearly survey among the working population by Statistics Netherlands, which were also used in the Netherlands Working Conditions Survey (NWCS) (4). Also non-employed persons were asked if their health allows them to work. Four questions were included to assess musculoskeletal health problems. The questions were derived from the NWCS (4). Perceived health is assessed with 12 questions of the SF-12 (Short Form Health Survey) (5). The SF-12 is a short version of the SF-36 (Medical Outcomes Study 36-item Short-Form Health Survey) (6).

To assess vitality three items from the SF-36 were added (6). These items were not included in the SF-12. Depression was assessed with the CES-D10 (Center for Epidemiologic Studies Short Depression Scale) (7,8). This 10-item scale is a short form of the original CES-D 20, which contains 20 items. Recovery and relaxation was measured with three items derived from the DISC-R version 3 (9).

Respondents report to what extent after a workday they are still occupied by their work after a workday, are affected by events at work, and are able to relax. Answer scales were adapted to fit in with the other questions of the questionnaire.

3.3.3 *Work-related factors*

The following work-related factors were assessed:

- Work in the past
- Occupation
- Type of industry
- Size of the company
- Type of contract
- Number of working hours, work in days/week, overtime
- Evening and night work
- Management tasks
- Restructuring or reorganisation
- Working conditions
- Support, justice and unwanted social behaviour
- Specific work characteristics for the self-employed

Questions on work in the past and present job characteristics, such as occupation, type of industry, type of contract, working hours etc., were similar to those used in the NWCS (4). With regard to working conditions, exposure was assessed to noise, solvents, physical work load, job demands, job autonomy, emotional demands and mental demands. Questions on physical work load were derived from the Dutch Musculoskeletal Questionnaire (10), while questions on demands and autonomy were derived from the Job Content Questionnaire (JCQ) (11). Emotional demands were assessed with the Copenhagen Psychosocial Questionnaire (COPSOQ) (12), but answer scales were adapted to fit in with the other questions of the questionnaire. Questions on noise and mental demands were derived from the NWCS (4). Social support was assessed with the COPSOQ (12), with adapted answer scales. Questions with regard to procedural and distributive justice were based on a previous study by Boer et al (13).

The work characteristics for self-employed persons will be different than those who work as an employee. Therefore, for this group questions were added with regard to the management of the enterprise (alone or with others), personnel, number of clients/customers, change in demand for services or products, cooperation with other entrepreneurs and questions about typical issues for entrepreneurs, such as insecurity, lack of collective arrangements etc. The questions were newly constructed and partly based on a study by Van den Born on the challenges of being an entrepreneur (14).

3.3.4 *Knowledge and skills*

New questions were constructed with regard to the fit between knowledge/skills and the job (or current labour market for the unemployed) and knowledge obsolescence. Four questions refer to developmental proactivity and are based on a study by Van Veldhoven en Dorenbosch (15).

3.3.5 *Social factors*

The following social factors were assessed:

- Volunteer work and informal care
- Employment status partner
- Support partner with regard work/retirement
- Life events
- Work-family balance

Questions on the support of the partner concerning work or retirement were based on a study by Henkens et al (16). Questions on work-family balance were based on a study by Fox and Dwyer (17).

3.3.6 *Financial factors*

The questionnaire contains items on the contribution to the household income, the financial situation of the household, the financial situation of the company and the financial opportunity to stop working.

3.3.7 *Motivation to work*

The following factors related to motivation were assessed:

- Importance of certain job characteristics (such as appreciation, salary etc.)
- Work engagement
- Motivation (not) to work
- Age till when participant would like to work (or would have liked to work)
- Job satisfaction

Questions on the importance of job characteristic are partly based on the NWCS (4). Work engagement is assessed by the Utrecht Work Engagement Scale (UWES) (18). The UWES-9 is used, in which the dimensions vigor and dedication are assessed. Questions on motivation to work were derived from the questionnaire based on the Self Determination Theory (19). Questions on age till when the participant would like to work are based on the NWCS, as well as the question on job satisfaction (4).

3.3.8 *Ability to work*

The following items in the questionnaire are related to the ability to work:

- Work ability
- Self-efficacy with regard to work
- Self-efficacy with regard to new tasks
- Age till when participant is able to continue working

Four questions of the Work Ability Index (WAI)(20,21) were included. Questions on self-efficacy were newly constructed and based on the guidelines by Bandura (22).

3.3.9 *Opportunity to work*

The following factors related to opportunity to work were assessed:

- Education
- Arrangements in the company
- Social support and norms about continue working
- Age discrimination
- Circumstances under which participants would be prepared to work
- What is needed to perform well in a new job

Questions about arrangements in the company (to facilitate employability or to facilitate retirement) were partly based on the Netherlands Employer Work Survey (NEWS) (23). Questions on norms and support from colleagues about continue working were based on a study by Henkens et al (16). Three items on Age Discrimination were derived from the Nordic Age Discrimination Scale (24). A fourth item was added, as was also done in the German LidA study.

3.3.10 *Transitions – work and productivity*

To gain insight into the transitions with regard to work and productivity the following issues were included in the questionnaire:

- Employment status
- Work in the past
- Reasons to stop working
- Reasons to start working
- Changes of employer, job or profession
- Reasons for these changes
- Promotion and demotion
- Changes in work tasks or working hours
- Sick leave
- Productivity at work
- Social benefit

Productivity at work is assessed with a question on the quantity of work in the last four weeks compared to usual and a question asking for reasons if this was less than usual. From T2 another two questions were added based on the study of Koopmans et al (25) in which questionnaires assessing work performance were reviewed, as well as three questions assessing productivity loss caused by health problems, i.e. presenteeism, based on the Short Form Health and Labour Questionnaire (26).

3.3.11 *Mastery*

Mastery may be defined as the feeling to which a person perceives himself to be in control of events. It is assessed with the Pearlin Mastery Scale (27).

3.3.12 *Intentions*

The following intentions were assessed:

- Intention to stop working
- Intention to change jobs
- Intention to start working

3.3.13 *Looking for work*

Non-employed participants were asked what activities they have carried out to find a job. Also was asked if they are obliged to apply for jobs, how many hours they would prefer to work, and when they could start working. Also, non-employed were asked to estimate their chances to find a suitable job and what they think they would need in order to perform well in a new job.

3.3.14 *Coping*

To measure coping style, 9 items of the Utrecht Coping List were used (28). Three coping styles can be distinguished:

- Active
- Avoiding
- Support seeking

		T1			T2			T3/T4		
		WN	ZS	NW	WN	ZS	NW	WN	ZS	NW
Overtime	B11	1		1	1		1	1		1
Work in days/week	B12	1	1	1	1	1	1	1	1	1
Evening and night work	C09, C09a	1	1	1	2	2	2	2	2	2
Management tasks	B17	1	1		1	1		1	1	
Years at present employer	B13	1		1						
Years in present job	B14	1		1						
Years self employed	C62		1							
Employment status before working as an entrepreneur	B02		1							
Size of the company	B08	1			1			1		
Restructuring/Reorganisation	B20	1	1		1	1		1	1	
<i>Working conditions</i>										
Noise	C07	1	1		1	1		1	1	
Exposure to solvents	C08	1	1		1	1		1	1	
Physical work load	C01-C06	6	6		6	6		6	6	
Job demands	C10-C13	4	4		4	4		4	4	
Job autonomy	C14-C18	5	5		5	5		5	5	
Emotional demands	C22-C24	3	3		3	3		3	3	
Mental demands	C19-C21	3	3		3	3		3	3	
<i>Support, justice and unwanted behaviour (bullying, intimidation, violence and sexual attention)</i>										
Social support colleagues and supervisor	C25-C28	4			4			4		
Social support colleagues, customers, clients	C29-C32		4			4			4	
Unwanted behaviour by colleagues, supervisor or customers	C45-C46	2			2			2		
Unwanted behaviour by colleagues, other entrepreneurs, customers or clients	C47-C48		2			2			2	
Procedural justice	C36-C38	3			3			3		
Distributive justice	C39-C44	6			6			6		
<i>Work characteristics self-employed</i>										
Management of enterprise (alone or with others)	B15		1			1			1	

[illegible]

		T1			T2			T3/T4		
		WN	ZS	NW	WN	ZS	NW	WN	ZS	NW
Financial situation of the company	I09		1			1			1	
Financial opportunity to stop working	G07	1	1		1	1		1	1	
Motivation										
Important characteristics of a job	F01-F10	10	10	10	10	10	10	10	10	10
Presence of these characteristics in current job	F11-F20	10	10		10	10		10	10	
Work engagement	F21-F26	6	6		6	6		6	6	
Motivation to work (<i>in general</i>)	F27-F29	3	3	3	3	3	3	3	3	3
Motivation to work now	F30-F34a	5	5		6	6		6	6	
Would like to continue working in present job in the coming 12 months	F35	1	1		1	1		1	1	
Would like to have paid employment	F36			1			1			1
Motivation to start working	F37-F44a			8			9			9
Motivation not to work	F45-F50			6			6			6
Would like to continue working until ... (age)	G05	1	1		1	1		1	1	
Number of years person would have liked to continue working in last job or another job	A11, A12			2			2			2
Job satisfaction	F51	1	1		1	1		1	1	
Ability										
Work ability	E03-E06	4	4	1	4	4	1	4	4	1
Quit able to work	E15			1			1			1
Self-efficacy: (continue) work	E07-E14	8	8		8	8		8	8	
Self-efficacy: new tasks, new employer	E19-E22	4	3	4	4	3	4	4	3	4
Is able to continue working until ... (age)	G06	1	1		1	1		1	1	
Opportunity										
Who initiated training, course, conference etc.	D21a				1			1		
Arrangements in the company	D26-D32	7			7			7		

		T1			T2			T3/T4		
		WN	ZS	NW	WN	ZS	NW	WN	ZS	NW
Social support to continue working	G08, G10	2			2			2		
Norms about continue working	G09	1			1			1		
Age discrimination	C49-C53	4	1		4	1		4	1	
Age discrimination and the opportunity to work	E17, E18			2			2			2
Would start working under these circumstances	F52-F58			7			7			7
Needed to perform well in a new job	G17			2			2			2
Transitions										
Employment status	A01, B01	2	2	2	2	2	1	2	2	1
Paid job in the past	A08-A10			3						
Transitions WN/ZS to NW: date	A08a*, A10a*						3			3
Transition WN/ZS to NW: reasons to stop working	A13, A14			2			2			2
Retired: aspects they miss	H50, H51						2			2
Transition ZS to WN	D01a, D01b				3			3		
Transition WN to ZS	D01c, D01d					3			3	
Transition NW to ZS	D05a					2			2	
Reasons to start as a self-employed	B03		1							
Change of employer, job or profession	D01-D03*	2	1		2	1		2	1	
Reasons for change	D04-D05	2	2		2	2		2	2	
Promotion and demotion	D07-D08	2			2			2		
Changes in work tasks or working hours	D06	1	1		1	1		1	1	
Sick leave	E23-E25A	3	3		4	4		4	4	
Productivity	E01, E02, E06A, E06B	2	2		4	4		4	4	
Presenteeism	E25B-E25D				3	3		3	3	

		T1			T2			T3/T4		
		WN	ZS	NW	WN	ZS	NW	WN	ZS	NW
Social benefit	E26	1	1	1	1	1	1	1	1	1
Other concepts										
Mastery	H37-H43	7	7	7	7	7	7	7	7	7
Coping	H48A-H48I				9	9	9	9	9	9
Intention to stop working	G01	1	1		1	1		1	1	
Intention to change jobs	G02	1	1		1	1		1	1	
Intention to start working	G03, G04			2			2			2
Looking for a job	G11-G16			6	1	1	6	1	1	6

* The respondent who did not participate in the previous measurement were asked these questions twice; once with regard to the past twelve months and once with regard to the twelve months before that. The corresponding question numbers are J03-J07.

4 Transitions in employment status, work ability and health

4.1 Transitions in employment status

Table 4.1 presents the transitions in employment status for the 9,639 respondents that participated in all four measurements. The grey cells in the table indicate the respondents that did not change employment status through all measurements, which is 77%. Of the employed persons, 76% was employed at each measurement. Of the self-employed persons 75% did not change employment status, while 81% of the non-employed persons stayed non-employed through all measurements. About 20% of the employed and 12.5% of the self-employed persons at baseline were non-employed after three years. Of the non-employed persons at baseline, 12% were working as an employed or self-employed after three years.

Table 4.1 Transitions in employment status for those respondents that participated in all four measurements (n=9,639)

Status T1	Status T2	Status T3	Status T4	N	% of Total
Employed (n=7,703)	Employed (n=7,083)	Employed (n=6,466)	Employed	5874	60,9%
			Self-employed	37	0,4%
			Non-employed	555	5,8%
		Self-employed (n=45)	Employed	6	0,1%
			Self-employed	31	0,3%
			Non-employed	8	0,1%
		Non-employed (n=572)	Employed	65	0,7%
			Self-employed	6	0,1%
			Non-employed	501	5,2%
	Self-employed (n=59)	Employed (n=12)	Employed	6	0,1%
			Self-employed	4	0,0%
			Non-employed	2	0,0%
		Self-employed (n=36)	Employed	3	0,0%
			Self-employed	32	0,3%
			Non-employed	1	0,0%
	Non-employed (n=561)	Non-employed (n=11)	Employed	2	0,0%
			Self-employed	1	0,0%
			Non-employed	8	0,1%
		Employed (n=84)	Employed	52	0,5%
			Self-employed	1	0,0%
			Non-employed	31	0,3%
		Self-employed (n=12)	Employed	1	0,0%
			Self-employed	6	0,1%
			Non-employed	5	0,1%

		Non-employed (n=465)	Employed Self-employed	30 8	0,3% 0,1%
			Non-employed	427	4,4%
Self-employed (n=612)	Employed (n=38)	Employed (n=24)	Employed	20	0,2%
			Self-employed	1	0,0%
			Non-employed	3	0,0%
		Self-employed (n=12)	Employed	5	0,1%
			Self-employed	6	0,1%
			Non-employed	1	0,0%
		Non-employed (n=2)	Employed	1	0,0%
			Non-employed	1	0,0%
	Self-employed (n=538)	Employed (n=14)	Employed	7	0,1%
			Self-employed	4	0,0%
			Non-employed	3	0,0%
		Self-employed (n=538)	Employed	18	0,2%
			Self-employed	456	4,7%
			Non-employed	21	0,2%
		Non-employed (n=29)	Self-employed	6	0,1%
			Non-employed	23	0,2%
Non-employed (n=36)		Employed (n=3)	Employed	2	0,0%
			Non-employed	1	0,0%
		Self-employed (n=6)	Employed	1	0,0%
			Self-employed	4	0,0%
			Non-employed	1	0,0%
		Non-employed (n=27)	Employed	2	0,0%
			Self-employed	2	0,0%
			Non-employed	23	0,2%
Non-employed (n=1,324)	Employed (n=130)	Employed (n=93)	Employed	71	0,7%
			Self-employed	1	0,0%
			Non-employed	21	0,2%
		Self-employed (n=2)	Employed	1	0,0%
			Self-employed	1	0,0%
		Non-employed (n=35)	Employed	8	0,1%
			Self-employed	1	0,0%
			Non-employed	26	0,3%
	Self-employed (n=22)	Employed (n=2)	Employed	2	0,0%
			Self-employed	8	0,1%
		Self-employed (n=10)	Self-employed	2	0,0%
			Non-employed	2	0,0%
		Non-employed	Self-employed	2	0,0%

	(n=10)	Non-employed	8	0,1%
Non-employed	Employed	Employed	33	0,3%
(n=1,172)	(n=58)	Non-employed	25	0,3%
	Self-employed	Self-employed	5	0,1%
	(n=10)	Non-employed	5	0,1%
	Non-employed	Employed	22	0,2%
	(n=1,104)	Self-employed	4	0,0%
		Non-employed	1078	11,2%

Table 4.2 presents the transitions between T1 (2010) and T4 (2013) by age group. It shows that employed persons in the older age groups more often stopped working than those in younger age groups. More than half of the employed persons in the age group 60-64 (in 2010) was no longer employed in 2013. For self-employed this percentage is much lower: 22%. A quarter of the non-employed persons aged 45-49 at T1 was working at T4, 22% as an employee and 3% self-employed. In the age group 60-64, this was only 3%.

Table 4.2 Transitions in employment status by age group*

Age group	Employment status T4 (2013)	Employment status (2010)					
		Employed		Self-employed		Non-employed	
		%	(n)	%	(n)	%	(n)
45-49	Employed	93%	(1929)	10%	(18)	22%	(76)
	Self-employed	2%	(41)	82%	(142)	3%	(10)
	Non-employed	6%	(114)	8%	(14)	75%	(259)
50-54	Employed	92%	(2078)	13%	(24)	12%	(45)
	Self-employed	1%	(27)	82%	(152)	2%	(8)
	Non-employed	7%	(160)	6%	(11)	86%	(328)
55-59	Employed	82%	(2186)	11%	(20)	7%	(30)
	Self-employed	1%	(30)	76%	(141)	1%	(3)
	Non-employed	17%	(442)	13%	(25)	92%	(374)
60-64	Employed	44%	(860)	4%	(9)	2%	(6)
	Self-employed	3%	(56)	74%	(152)	1%	(3)
	Non-employed	53%	(1043)	22%	(44)	98%	(377)

* Refers to age in 2010.

Persons without a paid job could choose more than one of the following answer categories: unemployed, work disabled, (early) retired, housewife and studying. One variable was constructed with a mutually exclusive classification in which work disabled had priority over unemployed, unemployed over retired, retired over housewife/homemaker and housewife/homemaker over studying. For example, if persons marked both the boxes of unemployed and work disabled, they were classified as work disabled, while persons that marked both the boxes for unemployed and retired were classified as unemployed. Table 4.3 shows this classification for those that were employed or self-employed at baseline, and not

working at T4². Most of the exit from work is caused by retirement, among the employed more often than among the self-employed.

Table 4.3 Exit from work between T1 and T4

Employment status T4	Employment status T1					
	Employed		Self-employed		Employed + Self-employed	
	%	(n)	%	(n)	%	(n)
Work disabled T4	2%	(177)	2%	(13)	2%	(190)
Unemployed T4	4%	(395)	2%	(18)	4%	(413)
Retired T4	13%	(1117)	6%	(45)	12%	(1162)
Housewife/homemaker T4	1%	(70)	2%	(18)	1%	(88)

Figure 4.1 shows the inflow in work between T1 and T4. Of the non-employed persons at T1, 12% was working at T4, 10% as an employee and 2% as self-employed. The inflow among the unemployed at T1 was highest: more than one third of the unemployed found a job and was working at T4. Differences between the age groups are large. In the age groups 45-49 and 50-54 (T1) the inflow was 47% and 41% respectively, while it was 21% and 10% in the age groups 55-59 and 60-64.

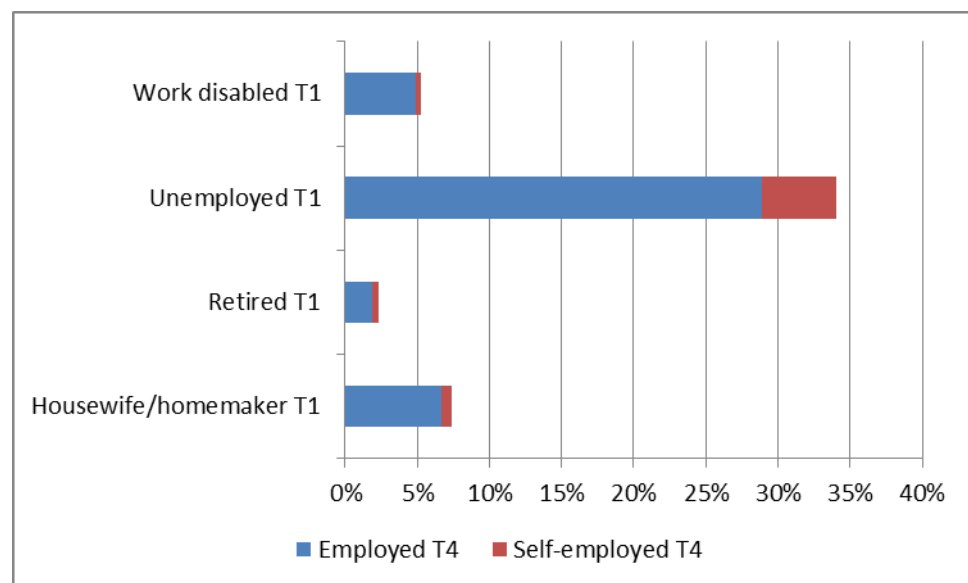


Figure 4.1: Inflow in work between T1 and T4

With regard to mobility, we distinguish between intern mobility, change of tasks/job within the same employer, and extern mobility, change of employer. Of the respondent who were employed through all measurements, 8% changed employer, while 20% had a change in tasks or job within the same company.

² The category 'studying' was not included, because it contained only very few respondents.

4.2 Changes in work ability and health by transition

In this section we will discuss changes in work ability and health for persons that underwent different transitions. We limit ourselves to respondents who participated in all measurements.

4.2.1 Transition to (early) retirement

We will compare the changes in work ability and health for employees who retired during the time of the study with those who stayed employed during all measurements. With retired we mean having reached the official retirement age (i.e. 65 at the time of the study) as well as early retirement. The analyses are limited to those 60 years or older at T1, in order to restrict the age effects between the groups. This resulted in the following subgroups:

Still working as an employee	5874
Retired between T1 and T2	287
Retired between T2 and T3	330
Retired between T3 and T4	326
Other transitions	886

Of the 'other transitions', 63% stopped working to become unemployed, disabled or housewife/homemaker. The other 37% started working as a self-employed or re-entered work after a temporary inactive period. They are not included in the figures shown in the following section.

4.2.1.1 Changes in work ability

Figure 4.2 shows the changes in work ability for employed persons who retired at different points in time and for those who are still working. For all groups the work ability decreased over time. For those who are still working and those that retired between 2012 and 2013 this decrease was minimal. Persons who stayed employed have the highest work ability, in particular during the last measurement period.

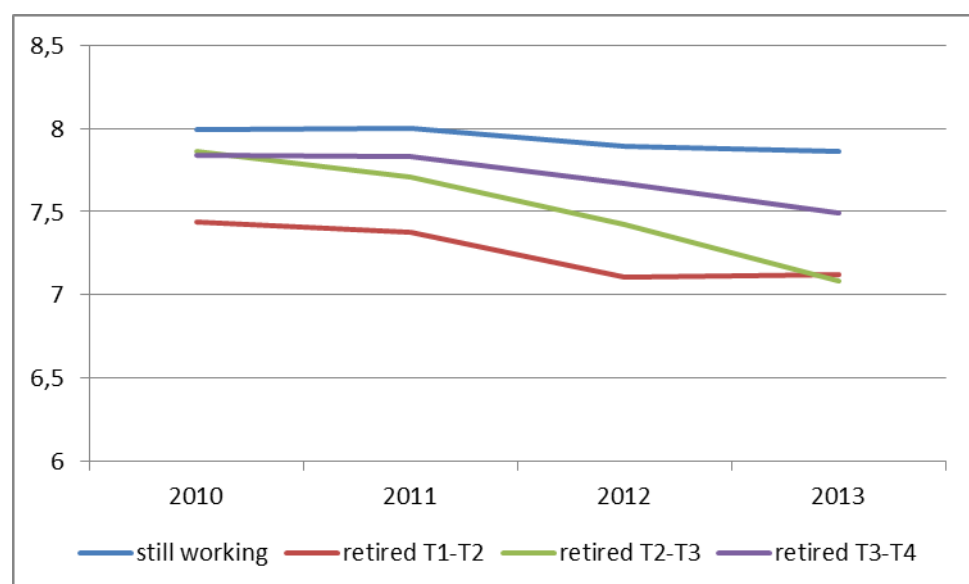


Figure 4.2: Changes in work ability for employed persons who retired at different points in time or who continued working during follow-up.

4.2.1.2 *Changes in health*

Figure 4.3 shows that those who continued working during follow-up have a more favourable score at baseline for most health-related variables. However, differences are small. We see some fluctuation in their health, but no distinct pattern. For those who retired we see a favourable change in vitality in the year they retire, while only little change occurs after that. Although not always statistically significant, a similar pattern can be seen for depression and mental health. Physical health barely changes for all groups.

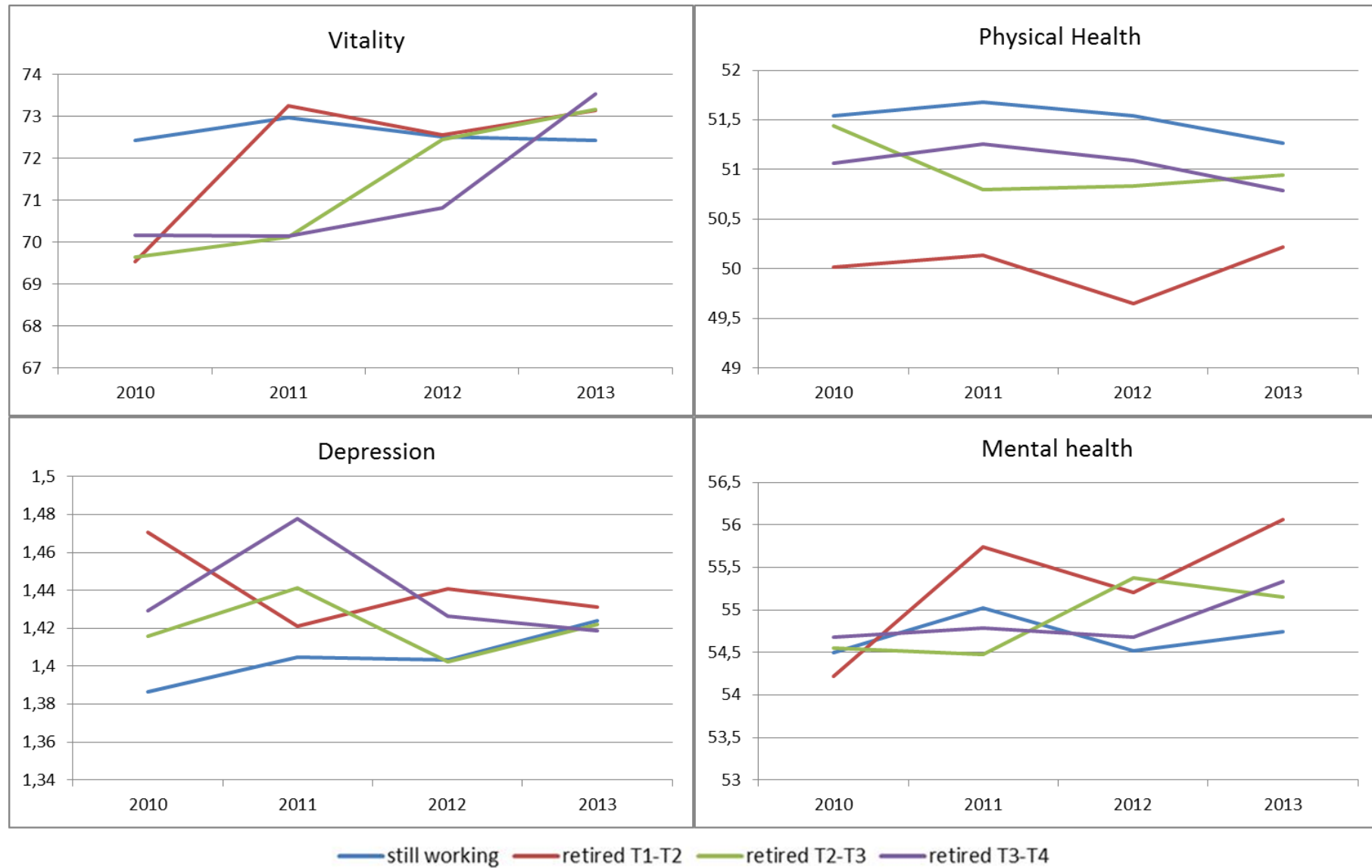


Figure 4.3 Changes in health for employed persons who retired at different points in time or who continued working during follow-up

4.2.1.3 Changes in mastery

Figure 4.4 shows the change in mastery (= feeling to be in control) for employed persons (T1) who retired at different points in time or who stayed working during follow-up. Differences between these groups were marginal and change over time shows no specific pattern.

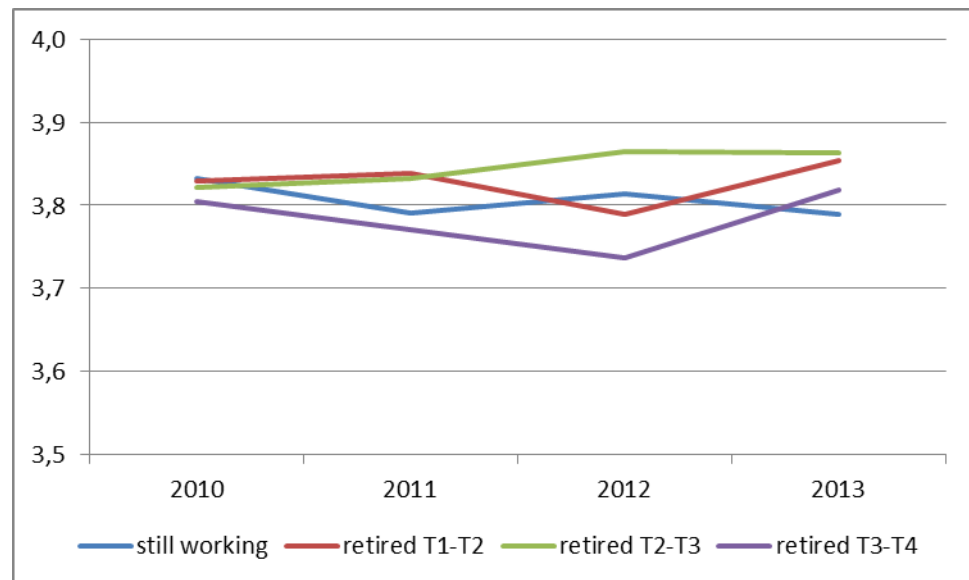


Figure 4.4 Changes in Mastery (= feeling to be in control) for employed persons who retired at different points in time or who continued working during follow-up

4.2.2 Transition from inactivity to work

We will compare the changes in work ability and health for those persons that were inactive at T1 and started to work during follow-up with those who stayed inactive during all measurements. Inactive is defined as not working, e.g. not employed nor self-employed. Among those who started to work, we further distinguish between those who continued working and those who were inactive again at T4. Although mainly the younger persons started to work, we have included all age groups in the analyses.

4.2.2.1 Changes in work ability

Figure 4.5 shows that persons who stayed inactive have a considerable lower work ability than those who started to work. Persons who started to work reported an increase in their work ability, but only if they continued working throughout the time of the study.

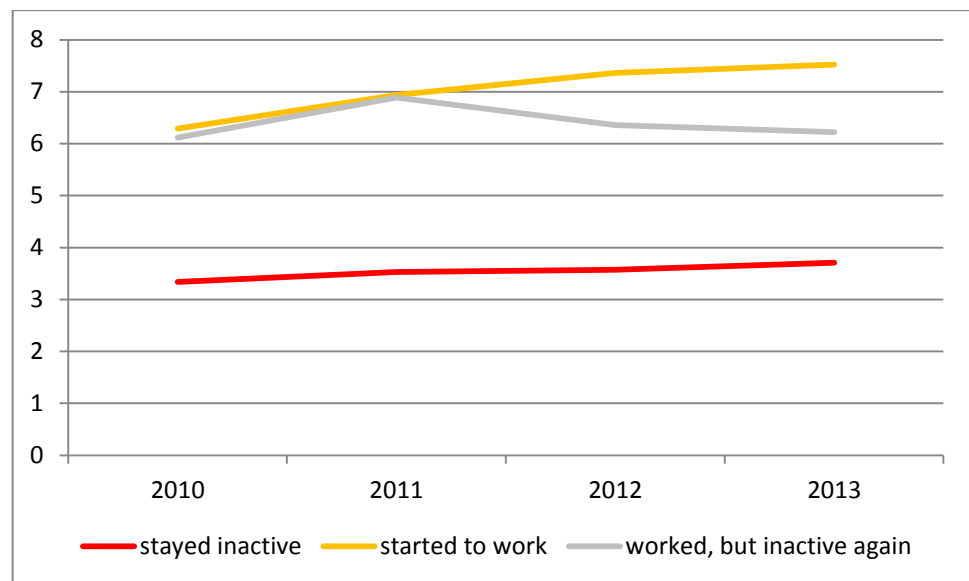


Figure 4.5 Changes in work ability for those inactive at baseline who started to work and those who stayed inactive during follow-up

4.2.2.2 *Changes in health*

Figure 4.6 presents the change in different aspects of health for those inactive at baseline. It shows that on all measurements, those who stayed inactive had a less favourable health than those who started to work. In general, health increased for those who started work and continued working. Those who started work and became inactive again had stable scores on these health aspects.

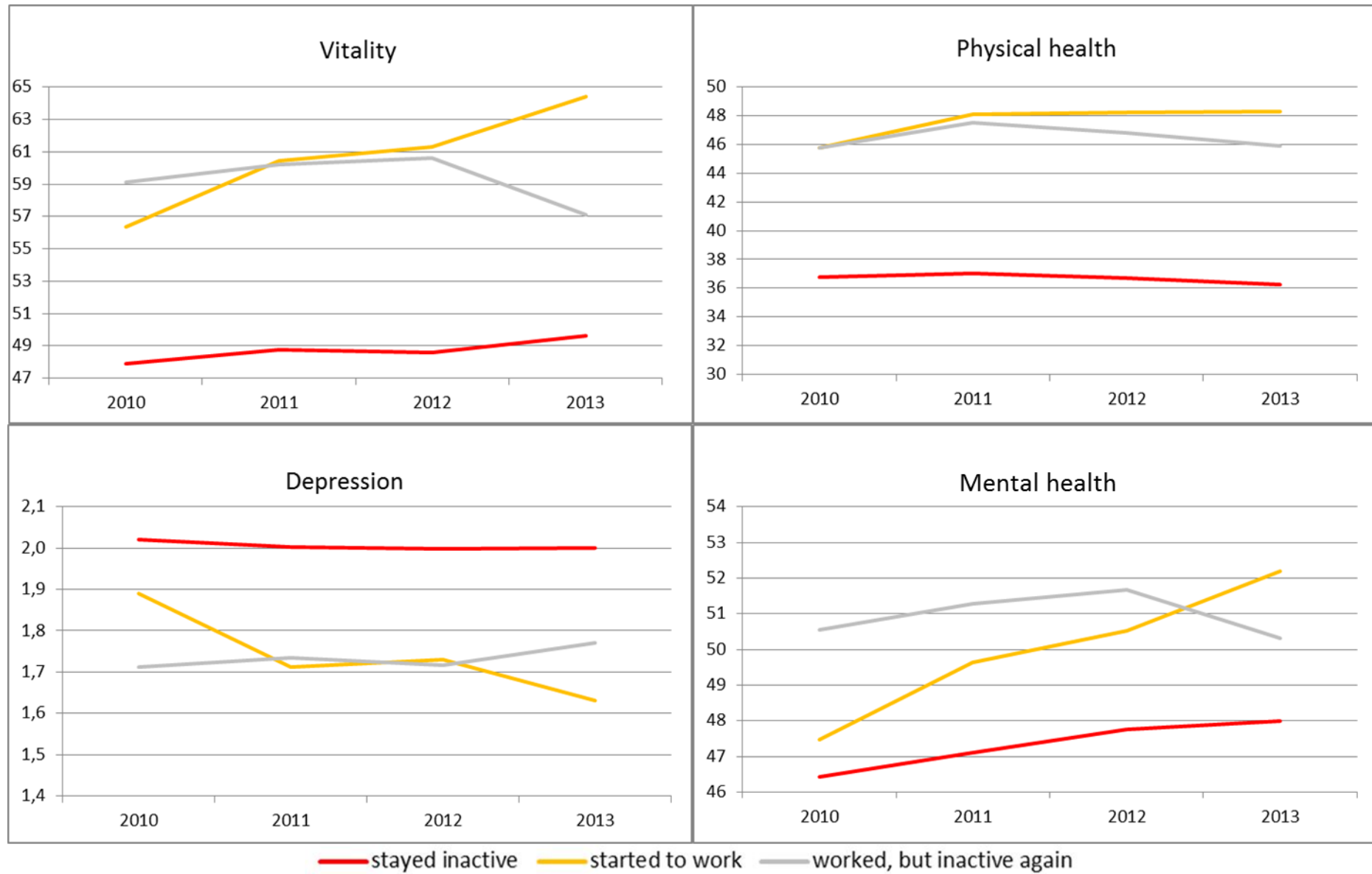


Figure 4.6 Changes in health for those inactive at baseline who started to work and those who stayed inactive during follow-up

4.2.2.3 Changes in Mastery

Figure 4.7 shows the change in mastery (= feeling to be in control) for those inactive at baseline. Differences between the groups were marginal. Mastery of persons who started to work and continued working increased a little, while mastery of persons who stayed inactive or became inactive again decreased a little.

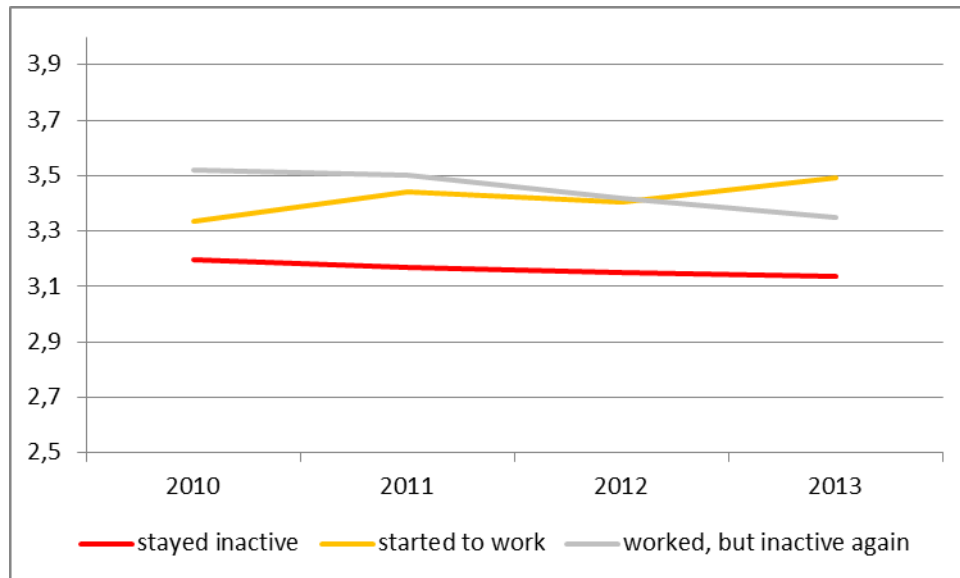


Figure 4.7 Changes in mastery (= feeling to be in control) for those inactive at baseline who started to work and those who stayed inactive during follow-up

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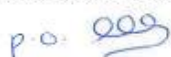
Geachte mevrouw De Wind,

De Medisch Ethische Toetsingscommissie VUmc adviseert in positieve zin omtrent de uitvoering van het onderzoek: " **Study on Transitions in Employment, Ability and Motivation (STREAM)**". Het onderzoek valt niet onder de WMO.

De goedkeuring, waartoe besloten is in de vergadering van d.d. 01-03-2012, is gebaseerd op de volgende documenten:

- TNO-rapport STREAM d.d. 05-04-2011
- Brief met toelichting onderzoek
- Begeleidende e-mail d.d. 15-02-2012

Met vriendelijke groet,
namens de METC VUmc,


prof. dr. J.A. Rauwerda, voorzitter


drs. J.C.M. Koudijs, secretaris

Samenstelling commissie
prof. dr. J.A. Rauwerda
dr. K. Hoekman
mw. M. Baak
mw. dr. B. van Baarsen,
dr. M.J.P.A. Janssens en
mw. dr. L.A.M. van der Scheer
mw. dr. C. Boer
mw. dr. M.A. Bremmer
dr. E.G. Haarman

mw. mr. A.J.G.M. Janssen en
mr. F.J. Faber
dr. D. de Jong

voorzitter, chirurg
plv. voorzitter, Internist-oncoloog
verpleegkundige

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