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Employment contract, occupation and well-being

Name student: Michelle Lemmen

Student ID number: 428983

Supervisor: Dr. L.D.S. Hering

Second assessor: Dr. A.C. Gielen

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Abstract

In this paper an attempt is made in finding associations between different types of employment contracts and employees' subjective well-being in terms of life satisfaction, general health and distress. Specific attention is given to permanent employment versus temporary employment. It is also investigated whether different occupations or sectors bring about different associations. Different associations have been found between employment contract types and aspects of well-being. While temporary-staffing is associated with higher values of life satisfaction, regular temporary employment is associated with better general health. Associations however, appear to differ for people with different job types.

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1. Introduction

In the labour market temporary employment contracts provide an alternative for permanent employment contracts. Temporary employment contracts come in handy for employers specifically, as it offers flexibility on the employers' side (Booth, Francesconi & Frank, 2002; Matsaganis, Rabemiafara & Ward, 2014). Temporary employment contracts can be offered as means of probation, but above all it can be used by employers to easily hire new workers when needed without having to bind for the long term. However, for employees, entering into temporary employment may not always be as ideal. Temporary employment contracts are namely associated with, among other things, lower pay, less job satisfaction and at least in some cases, less social security (Booth et al., 2002; Matsaganis et al., 2014).

Due to the differences mentioned above, many analyses have already been performed in finding significant differences in effects of temporary employment contracts compared to permanent employment contracts on workers' well-being. Many of these analyses point to a negative association between temporary employment contracts and at least one aspect of well-being (e.g. Kompier, Ybema, Janssen & Taris, 2009), although not all of them. Well-being may be defined differently in different research papers, but in this paper well-being is defined as overall health, with a greater emphasis on the mental health aspect, in terms of life satisfaction and distress, than on the physical health aspect of well-being. However, not as much research has been done as to whether associations between temporary employment contracts, or types of employment contracts in general, and well-being differ for distinctive groups of people. Employees in different industries or with different types of jobs may for example not be affected in the same way by temporary employment contracts. Investigating these possible differences in how well-being responds to different types of employment contracts is important as differences in associations would imply that policy measures may not impact every employee in the same way.

Hence the research question of this paper is:

"What is the impact of different employment contracts on the well-being of employees and is there a difference in occupation?"

By using Dutch longitudinal survey data (CentERdata, n.d.) an attempt has first been made to find whether an association exists between types of employment contract and well-being in terms of life satisfaction, general health and distress. I find that temporary employment is not associated with worse subjective well-being compared to permanent employment, it is sometimes even associated with better subjective well-being compared to permanent employment. Furthermore, I have investigated whether there is a difference in association between workers with different types of occupations. As far as I know, this has not been done before. The results show that this is the case.

This paper consists of several chapters. In chapter 2 attention is given to what the differences are in types of employment contracts as well as a summary of the findings in existing literature. Furthermore, the hypotheses tested in this paper are introduced. Chapter 3 includes a description of the used data and descriptive statistics. In chapter 4 an explanation of the methodology is given, followed by a presentation of the results in chapter 5. Chapter 6 consists of a discussion of the results and chapter 7 contains the conclusion of this analysis.

2. Literature review

2.1 Differences in types of employment contracts

The main distinction in employment contracts often made in existing literature is between permanent employment contracts and temporary employment contracts, where the difference lies in the duration of the employment contracts. The employment duration of permanent employees is indefinite, while that of temporary employees is definite. However, temporary employment contracts can still take on many forms (Bernhard-Oettel, De Cuyper, Berntson & Isaksson, 2008). While on-call employees are hired for a relatively short term, fixed-term employees are usually hired for longer periods. Fixed-term employees are said to do the same work as permanent employees, as in that the work itself is not necessarily fixed-term (Booth et al., 2002). As these different temporary employment contracts may involve other (unobserved) differences, a distinction in types of temporary employment contracts can and is often made. In my own analysis a distinction is made in temporary employment too, which consists of: temporary employees, on-call employees and temporary-staffers. Temporary employees ("werknemers in tijdelijke dienst" in Dutch) are a company's own employees with a fixed-term employment contract. In the CentERdata dataset (n.d.), which is the dataset used here, and in

its codebook (CentERdata, 2019) no exact duration is given for each contract type. On-call employees ("oproepkrachten" in Dutch) are a company's own employees who are used only when there is a shortage of manpower otherwise. Although it is said that on-call employees can also be permanently employed, most of them are not (De Vries & Spijkerman, 2019). Temporary-staffers ("uitzendkrachten" in Dutch) are not a company's own employees, but work for an employment agency instead. These type of workers are also used in case of a shortage of manpower.

Permanent and temporary employment contracts appear to not only differ in terms of hours, but in terms of many other aspects as well (Booth et al., 2002). Job satisfaction of temporary employees tend to be lower compared to permanent employees when it comes to security and promotion possibilities. Overall job satisfaction is found to be lower for seasonal-casual workers specifically when compared to permanent workers' job satisfaction. Temporary employees are also less likely to receive training and if they do receive training, seasonal-casual employees tend to receive less training than permanent employees (Booth et al., 2002). Having a seasonal-casual employment contract when one's working life starts also has a negative impact on wages later on (Booth et al., 2002). Working under a fixed-term contract first has less of a negative impact. Nonetheless, women with a fixed-term contract at the beginning of their career (and who then get into permanent employment) are able to make up for this loss in wages later on in their working lives. It is even said that they eventually earn the most compared to women with a seasonal-casual employment contract at the beginning of their career and a permanent contract for the rest of it or women who are permanently and full-time employed for the first decade in their working lives (Booth et al., 2002). These statements are made under certain assumptions however, such as having no children and working full-time in the first decade of one's working life.

2.2 Job contracts and well-being

The possible link between employment contracts and well-being has not gone unnoticed. Multiple researchers from different disciplines have already attempted to prove the existence of an association between both and have also attempted to find the determinants behind this association, if an association was found in the first place. Results of these investigations have shown to be rather ambiguous.

Dawson, Veliziotis and Hopkins (2017) investigate the difference in well-being between those with a permanent contract and those with a temporary contract using British panel data for the years 1991-2008. One goal of their study is to see whether job satisfaction plays a role in how temporary contracts influence workers' well-being. Well-being is not only defined here as mental health, but constitutes also well-being in terms of life satisfaction, overall health and distress. The authors use both pooled OLS models as well as fixed effects models. Dawson et al. (2017) find that when job security satisfaction is controlled for, which is considered to be a part of overall job satisfaction, employees with a temporary contract tend to have better general health and less distress than employees with a permanent contract. Furthermore, temporary workers are also found to be more satisfied with life compared to permanent workers, looking at the pooled OLS results. Life satisfaction is only found to be significantly better for fixed-term temporary workers using a fixed-effects estimation method. Without this control for job security satisfaction however, it has been found that those with non-fixed temporary contracts experience more distress, are less satisfied with life (looking at the pooled OLS model) and have better general health (in the fixed-effects model).

Overall, it appears that job security is an important determinant of the lower well-being associated with temporary employment contracts. That job security plays an important role in the well-being of a worker is also shown by Green (2011) using longitudinal Australian data. He finds job insecurity to have a negative impact on subjective well-being, but finds also that this effect is mediated by employability. This means that the easier it is for an individual to get another job and stay in the job, the less affected one is by job insecurity of one's current job. This would indicate that the temporary employed might not all be equally affected by job insecurity, as it might be easier in some industries to find a new job compared to other industries.

One of the things Kompier et al. (2009) investigate is the relationship between both well-being and health and contract type using cross-sectional and longitudinal data on Dutch workers. They divide temporary workers into four different groups, namely temporary agency workers, on-call workers, semi-permanent workers and fixed-term workers. The latter two groups indicate those who could get a permanent contract and who are not able to get a permanent contract respectively. Respondents were asked to indicate to which group they belong, which also means that the prospect on getting a permanent contract is from respondents' own point of view. Temporary agency workers appear to have worse mental health compared to

permanent or semi-permanent workers in the sense that they indicate more signs of depressiveness (Kompier et al., 2009). Together with on-call workers, they also tend to be smokers more frequently. Emotional exhaustion does not appear to relate to contract forms. Additionally, they find that individuals changing into less secure employment contracts indicate more signs of depressiveness than individuals changing into more secure employment contracts. The first group, i.e. those transitioning into less secure employment contracts, is also found to drink more. Quesnel-Vallée, DeHaney & Ciampi (2010) estimate the possible relationship between temporary employment contracts and depressiveness using American panel data. They find that working under a temporary employment contract within two years before depressiveness measurement is associated with worse depressive symptoms compared to those who did not work under a temporary employment contract. It is found to be even half as bad as the mean severeness of the whole sample. No significant difference is found for the four years after working under a temporary employment contract.

Not everyone finds a significant association between type of employment contract and well-being. De Cuyper and De Witte (2006) find, using Belgian cross-sectional data, no obvious difference in life satisfaction between permanent employees and temporary employees. Although contract type does not appear to significantly influence life satisfaction, employment insecurity seems to do so negatively. Interacting contract type with employment insecurity does also not seem to significantly influence life satisfaction. Bernhard-Oettel et al. (2008) find no significant effect of type of employment contract on well-being (in terms of life satisfaction and general health) either. For this analysis they have used Swedish cross-sectional data.

Even if a negative association is found between type of employment contract and well-being, this association is biased (when cross-sectional data is used) according to Dawson, Veliziotis, Pacheco and Webber (2015). They argue, and find evidence for this argument, that those with temporary employment contracts have worse mental health before becoming temporary employed compared to those that always stay permanently employed using British panel data. The measured negative impact of temporary employment contracts on mental health is therefore said to be exaggerated. The results are mitigated when controlling for work dissatisfaction. Also, whether an association can be found might depend on characteristics of the sample used. Inoue, Kawakami, Tsuchiya, Sakurai and Hashimoto (2010) for example find that women with a temporary employment contract have a higher probability than women with a permanent employment contract to having mental health problems using Japanese cross-

sectional data. For men this result has not been found. This would indicate that links that are found between employment contracts and well-being cannot necessarily be generalized to the whole population, as there may be variation in associations among different subgroups.

Overall, no conclusive remarks can be made about a potential link between well-being and type of employment contracts based on existing literature. However, as temporary employment contracts bring along more job uncertainty into an individual's life, I argue that this unstable prospect is likely to be associated with more stress and a lower life satisfaction. My first hypothesis is therefore as follows:

Hypothesis 1: There exists a negative association between temporary employment contracts and a temporary employee's well-being.

2.3 Heterogeneity in correlation well-being and contract type

In this paper I do not intend to only find a possible association between employees' well-being and different contract types, but I also look at whether the existence of an association differs among occupations. Causes for expecting differences in associations between industries can be found in existing literature. Research done by Kraimer, Wayne, Liden and Sparrowe (2005) indicates that including temporary employees into an organization's workforce may have an impact on other employees in that organization. Using cross-sectional data from a factory in the Southeast of the United States, they find that the more full-time employees exhibit job insecurity, the more temporary employees are considered to be a threat by full-time employees. The jobs that comprise the sample that is used in this research are professions in production and design engineers.

Another research also shows that including temporary employees in the workforce may correlate to job security of other employees (De Cuyper, Sora, De Witte, Caballer & Peiró, 2009). The researchers use cross-sectional data from both Spanish and Belgian employees that work in the education industry, the food industry or the retail industry. They find the share of temporary employees to bring about more job insecurity among colleagues with a permanent employment contract if the share becomes larger. The exact causes behind this insecurity are not very clear-cut and seem to differ between the two countries. Kuroki (2012) uses Japanese cross-sectional data of five years to investigate the effect of the liberalization of temporary

staffing on other employees' job security. He finds that the liberalization, and thus the possible increase in temporary agency workers, decreased job security among other low-skilled employees, which includes both permanent and temporary employees. Temporary employees and part-time employees however, seem to be less affected.

The literature therefore seems to indicate that perceived job security, and therefore perhaps well-being overall, may depend on how many temporary employees are working within an organization. The number of temporary workers may differ among industries (De Vries & Spijkerman, 2019). In the Netherlands, many permanent workers can be found in the public sector and in the banking sector for example. Many temporary employees can be found in the catering and cultural industries as well as in some other industries when it comes to the Netherlands. These differences can have multiple causes, such as when an industry is particularly active in some months of the year and not in others, as in agriculture. Also the possibility of getting a permanent contract after having a temporary one may differ between industries (De Vries & Spijkerman, 2019).

Based on the literature on the existence of an association between job insecurity and well-being and the literature on how the number of temporary employees within a firm may impact colleagues of those temporary employees, combined with the fact that the use of temporary employees can differ between industries, I expect to also find a difference on how employees' well-being may be correlated with distinct employment contracts between different types of jobs. The second hypothesis of this research therefore is:

Hypothesis 2: There is a difference in type of jobs regarding the association between well-being and employment contract.

3. Data

3.1 Variables

For this research LISS (Longitudinal Internet Studies for the Social sciences) panel data (CentERdata, n.d.) is used, which is administered by CentERdata (Tilburg University, The Netherlands). The LISS panel data are constructed using an accurate probability sample of

Dutch households inferred from the population register and are therefore representative of the Dutch population. Variables that are drawn from this panel data are variables regarding individuals' background, employment circumstances and (mental) health for the years 2011-2018. Background variables are provided by the household head only and are thus not provided by the individuals themselves. Values of these variables can be adjusted every month. Background variables used here include information about an individual's gender, age, marital status, household, personal imputed net income and imputed net household income. The panel is unbalanced.

To estimate subjective well-being, life satisfaction, subjective general health and the amount of distress are used independently as variables of interest.[1] Participants are asked to assign a number to their life satisfaction, with the exact question being: "How satisfied are you with the life you lead at the moment?" Assigning a 0 means complete dissatisfaction and assigning a 10 means complete satisfaction. Initially there also existed a value for "I don't know", but I transformed those responses into missing values. Respondents are also asked about their overall health: "How would you describe your health, generally speaking?" Indicating the number 1 means poor health and indicating the number 5 means excellent health. Participants are also asked about the amount of distress they are experiencing in their lives at the moment: "Indicate to what extent you feel, right now, that is, at the present moment distressed?" Assigning number 1 means experiencing absolutely no distress and assigning a 7 means experiencing the highest possible level of distress. The independent variable that is the focus of this research is the variable for type of employment. Respondents were (in brief) asked: "Are (/In your last job) (/were) you an employee in permanent or temporary employment, an on-call employee or temp-staffer, or are (/were) you a self-employed/freelance worker, or an independent professional?" Originally possible answers were grouped into eight different categories, namely: permanent employees, temporary employees, on-call employees, temporary-staffers, those self-employed/freelancers, independent professionals, directors of a limited liability or private limited company and majority shareholder directors. However, the self-employed are merged with independent professionals which leaves the dataset with seven categories for types of employment contract.

[1] "Life satisfaction" and "distress" are missing for the year 2016, while the variable "general health" is missing for 2014.

Background variables that are retrieved from LISS and included in the analysis as controls are, among other things, gender and age. The squared of age is added as a control variable to the regressions as there is evidence for life satisfaction following a U-shaped curve during the life cycle (Blanchflower & Oswald, 2008). As the topic of this paper concerns the working population, individuals who are younger than 18 or older than 65 years old are removed from the dataset. Furthermore, if the head of the house lives together with a partner (married or unmarried) and civil status are added as independent variables. Civil status originally includes the categories married, separated, divorced, widow/widower and never been married. However, I combine separated, divorced and widow/widower into the category "not together". Also the number of children living at home are included as a control variable, which could also be the children of the household head's partner. Personal imputed net monthly income and imputed monthly household income are also accounted for. The income variables are imputed, which means that many missing values are filled in according to other available data. This makes the income variables somewhat inaccurate, but they are not expected to heavily impact the results. Another possible inaccuracy is that respondents might indicate that they have an income of 0, while in fact they do not know exactly what their income is or they do not want to provide information about their income. Logs are taken from the income variables to make them normally distributed and for easier interpretation.

Another control variable includes highest level of education with diploma. Originally the variable consisted of nine categories, but were eventually merged into seven categories, which are: no education, primary school, high school, junior college (intermediate vocational education), college (higher vocational education), university and "other". After high school, one usually chooses to go to junior college, college or university, depending on the educational attainment of the high school one went to. That is why none of those three educational levels are merged together. Also there has been controlled for the real number hours of work each week in one's current or previous job. As well-being may be affected differently by employment contract type if a respondent comes from unemployment rather than from working under another contract type, I create and include a dummy variable as control for when an individual was unemployed in the previous year.

Another control variable is a variable that indicates a respondent's current or previous profession. It is categorized into nine categories of which job examples are in parentheses:

higher academic or independent profession (e.g. architect, physician, scholar, academic instructor, engineer), higher supervisory profession (e.g. manager, director, owner of large company, supervisory civil servant), intermediate academic or independent profession (e.g. teacher, artist, nurse, social worker, policy assistant), intermediate supervisory or commercial profession (e.g. head representative, department manager, shopkeeper), other mental work (e.g. administrative assistant, accountant, sales assistant, family carer), skilled and supervisory manual work (e.g. car mechanic, foreman, electrician), semi-skilled manual work (e.g. driver, factory worker), unskilled and trained manual work (e.g. cleaner, packer) and agrarian profession (e.g. farm worker, independent agriculturist). Although the jobs are not precisely specified this way, the categories indicate what type of job is or was performed and whether this involves mental or physical effort. This variable is also used to discover whether differences in possible association between employment contract type and well-being exist among individuals with different types of jobs, as no specific industry variable is available.

As background variables could be modified every month in contrary to the other variables, some modifications have to be made. For the income variables and the variable number of children living at home, the average is computed for each year. As questionnaires were not always completed in the same months each year, some years provide data for more months in the retrieved dataset. That is why some averages are taken from different months. Of the background variables gender, marital status, whether the household head lives with a partner and education, the mode is taken of each year. The mode is chosen as the well-being variables are not all from the same months. Missing values are obtained when there are all missing values or multiple modes for a group. Duplicates are removed when necessary.

3.2 Sample

In Table 1 descriptive statistics can be found for the well-being variables. The largest standard deviation is found for distress and the lowest for general health. The mean value of distress is relatively low compared to the other two well-being variables.

Table 1. Descriptive statistics well-being variables

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Life satisfaction	29,523	7.333	1.406	0	10
General health	28,370	3.153	.781	1	5
Distress	18,930	2.900	1.675	1	7

Source: CentERdata (Tilburg University, The Netherlands), n.d. and own calculations. Notes: rounded to three decimals if necessary.

The final sample consists of 60,467 observations and 14,360 individuals, of which 7,066 are male and 7,293 female and of which one is unknown. Of 27,350 observations the type of employment contract is known (see Table 2): 20,230 are said to be permanently employed, 3,118 temporarily employed, 722 on-call employed, 671 temporary-staffers, 2,233 self-employed or an independent professional, 116 directors of a limited liability or private limited company and 260 majority shareholder directors. Conclusions regarding directors of limited liabilities or private limited companies may be biased to the small number of observations.

Table 2. Number of observations by each employment contract category

Type of employment contract	Number of observations
Permanent employed	20,230
Temporary employed	3,118
On-call employed	722
Temp-staffers	671
Self-employed/independent professional	2,233
Director of a limited liability or private limited company	116
Majority shareholder director	260
Total	27,350

Source: CentERdata (Tilburg University, The Netherlands), n.d. and own calculations.

4. Methodology

To estimate the impact of different types of employment contract on different aspects of subjective well-being, namely life satisfaction, general health and distress, a fixed effects model is used. Fixed effects are taken with respect to individual identifiers and with respect to each year covered in the dataset.

The following specifications are used for the fixed effects models:

(1) $LIFESAT_{it} = \beta_0 + \beta_1 * CONTRACT_{it} + \delta * X_{it} + \eta_i + \eta_t + \varepsilon_{it}$

(2) $HEALTH_{it} = \beta_0 + \beta_1 * CONTRACT_{it} + \delta * X_{it} + \eta_i + \eta_t + \varepsilon_{it}$

(3) $DISTRESS_{it} = \beta_0 + \beta_1 * CONTRACT_{it} + \delta * X_{it} + \eta_i + \eta_t + \varepsilon_{it}$

The dependent variables are the variables for life satisfaction, health and distress respectively, where each individual is indicated by subscript i and each year is indicated by subscript t. Xit stands for the time variant control variables added to the equation and controls for age, the real number of hours worked, profession, the log of individual income, the log of household income, number of children living at home, marital status, whether the head of the house lives together with a partner, education, year and whether an individual was unemployed in the previous year. Individual fixed effects are denoted by η_i, while year fixed effects are denoted by η_t. ε_{it} is the error term. The fixed effects method controls for unobserved attributes.

Standard errors are clustered on individuals' ID. No precise location variable is available to cluster on location. After estimating equations (1)-(3), using the whole sample, each equation is estimated separately again using interaction terms that combine each form of employment contract with each type of occupation. This is done to discover possible differences in well-being effects of types of employment contracts among people with different professions.

As the above specifications do not control for initial health, equations (1)-(3) are estimated again with interactions terms which combine all control variables and three different subgroups, namely: those who always work under a permanent contract, those who work under a permanent contract but have worked under a temporary contract before and those who work under a permanent contract now but will work under a temporary contract at least once hereafter. This is done as "self-selection" may play a role in the type of contract an individual has (Dawson et al., 2015). It is quite likely that those with poor health were not able to work for a long time and when re-entering the labour market were granted a temporary employment contract instead of a permanent employment contract, not necessarily due to bad health conditions but as a common practice. This would mean that people with worse initial health select themselves into jobs that are temporary instead of permanent. By using interaction terms one can find out if the three different subgroups differ significantly from one another. As I am mostly interested in differences between permanent and temporary employees, the self-employed, directors of a limited liability or private limited company and majority shareholder

directors are left out of the sensitivity analysis. If an individual's type of employment contract is missing for a specific year, then that observation is classified as missing.

Furthermore, following the example of Dawson et al. (2015), I execute the same analysis as before, using interaction terms for job contract and type of job, for men and women separately. Reason for doing this is that men and women may respond differently to job characteristics, which means that their health aspects are dissimilarly affected by employment contract or occupation. Literature indicates that men and women differ in health (Denton, Prus & Walters, 2004) or at least that men and women's mental well-being should be approached differently (Rosenfield & Mouzon, 2013). The difficulty with doing this analysis however, is that due to the smaller sample sizes, no observations have been found for many of the different interactions, which makes comparing men and women more difficult.

5. Results

5.1 Main results

First a look is taken at the regressions that do not distinguish between different types of occupations, of which the results are presented in Table 3. According to the model for life satisfaction (see "Life satisfaction", Column 2), higher net household income is positively associated with life satisfaction (0.192) while having been unemployed the previous year is negatively associated with life satisfaction (-.091). A possible explanation could be higher and lower wealth respectively, with people becoming happier when they have more to spend. Regarding employment contracts, it is found that being a temporary-staffer is associated with higher life satisfaction compared to when one is a permanent employee at a 5% significance level (.262). This is a result that does not exactly match the results found in literature described in chapter 2.2. However, as no significant results are found for other employment types, one could say that the results somehow correspond to those of De Cuyper and De Witte (2006) and to those of Bernhard-Oettel et al. (2008) in that no (evident) difference in life satisfaction is found between employees with different contract types. Agrarian professions are also associated with a higher value of life satisfaction compared to higher academic or independent professionals (.730).

Looking at the model for general health (see "General health, Column 3), being temporary employed (.047) or self-employed (.078) seems to be better for one's general health compared to being a permanent worker. That being a temporary employee is associated with having better general health has been established earlier for non-fixed temporary contracts by Dawson et al. (2017). Being a majority shareholder director however, is significantly worse for one's health compared to being a permanent worker (-.259). Skilled and supervisory manual work negatively impacts general health compared to higher academic or independent professionals (-.159), which may logical since these jobs require physical activity. However, other types of manual work do not seem to significantly influence general health, which contradicts the argument of physical activity negatively influencing general health, unless it is the skilled component that negatively influences general health.

Result for the model with distress as dependent variable can be found in Table 3, Column 4. Being married is associated with more distress compared to never having been married (.252). Other than this result, no significant results are found. This means that no significant differences are found for the different types of employment contracts and for the different types of occupations regarding their influence on distress. This is somewhat surprising, as significant differences in distress are found in other literature (Dawson et al., 2017).

Overall it seems that there are not many differences in the influence of different types of temporary employment contracts (temporary employment, on-call employment and temporary-staffers) compared to permanent employment contracts on people's subjective well-being. The first hypothesis I stated was: "There exists a negative association between temporary employment contracts and a temporary employee's well-being." This hypothesis can be rejected. Not many significant differences are found between permanent employees and temporary employees in terms of subjective well-being, and in case that differences are found, being a temporary-staffer is associated with higher life satisfaction and being a temporary employee is associated with better general health. Therefore, temporary employees do not seem to be worse off compared to permanent employees.

Table 3. Results regression analyses without distinction in occupation[2] part I

Variable	Life satisfaction	General health	Distress
Temporary employee	-.032 (0.049)	.047** (0.024)	.024 (0.117)
On-call employee	-.155 (0.191)	.033 (0.058)	.235 (0.327)
Temp-staffer	.262** (0.125)	.065 (0.057)	.010 (0.211)
Self-employed/independent professional	-.101 (0.115)	.078* (0.046)	.452 (0.296)
Director of a limited liability or private limited company	.053 (0.239)	.059 (0.085)	.462 (0.378)
Majority shareholder director	-.160 (0.220)	-.259* (0.156)	.291 (0.547)
Real hours of work (per week)	.001 (0.001)	-.000 (0.001)	.001 (0.002)
Higher supervisory profession	.094 (0.132)	.007 (0.063)	.294 (0.311)
Intermediate academic or independent profession	-.099 (0.112)	.002 (0.056)	-.004 (0.280)
Intermediate supervisory or commercial profession	-.106 (0.125)	.043 (0.068)	-.021 (0.298)
Other mental work	-.160 (0.135)	-.056 (0.064)	-.223 (0.297)
Skilled and supervisory manual work	-.259 (0.218)	-.159** (0.076)	.415 (0.404)
Semi-skilled manual work	.030 (0.170)	-.043 (0.090)	.122 (0.334)
Unskilled and trained manual work	.049 (0.167)	-.086 (0.073)	-.251 (0.360)
Agrarian profession	.730*** (0.268)	-.012 (0.225)	-1.665 (1.075)
Log net personal income (monthly)	.053 (0.055)	.019 (0.028)	-.096 (0.118)

[2] Year controls are included in the regressions but excluded from the table.

Table 3. Results regression analyses without distinction in occupation part II

Variable	Life satisfaction	General health	Distress
Log household income (monthly)	.192*** (0.073)	.026 (0.031)	-.148 (0.132)
Previous year unemployed	-.091** (0.042)	-.028 (0.019)	-.059 (0.084)
Age^2 (in years)	-1.07e-06 (0.000)	-.000* (0.000)	-.000 (0.000)
Children	-.090*** (0.026)	-.034** (0.016)	-.021 (0.059)
Married	.012 (0.093)	-.080* (0.047)	.252* (0.143)
Not together	-.109 (0.183)	-.021 (0.066)	.124 (0.257)
Head lives with partner	.024 (0.091)	.043 (0.039)	.080 (0.151)
Primary school	-.268 (0.334)	-.117 (0.205)	.442 (1.441)
High school	.281* (0.149)	-.045 (0.140)	.711 (1.377)
Junior college	.148 (0.166)	-.063 (0.153)	.719 (1.398)
College	.214 (0.164)	-.075 (0.151)	.484 (1.401)
University	.013 (0.205)	-.069 (0.156)	.329 (1.415)
Other (education)	.249 (0.263)	-.101 (0.168)	.452 (1.447)
R-squared	.024	.044	.002
Number of observations	13,364	13,474	7,151

*Source: CentERdata (Tilburg University, The Netherlands), n.d. and own calculations. Standard errors can be found in between the brackets. Notes: rounded to three decimals if necessary. *p<0.10, **p<0.05, ***p<0.01.*

By using interactions between different contract types and occupations, I try to investigate whether a difference in associations between employment contracts and aspects of well-being exist among various types of jobs. Results of these regressions are found in Table 4. In Column 2 of Table 4, one can find the results for life satisfaction. Again, a higher net household income seems to positively influence life satisfaction (.186), while having been unemployed in the previous year seems to negatively influence life satisfaction (-.089). Because of the inclusion of an interaction term between employment contract and type of occupation, the result for being a temporary-staffer compared to being a permanent employee has turned insignificant, while the influence of having an agrarian profession has remained positive (.702).

Being an on-call employee and performing skilled and supervisory manual work is more negatively associated with life satisfaction (-1.350) compared to being a permanent employee. The latter result cannot be attributed to high job insecurity due to there being many temporary employees in the industry, as the number of temporary employees was just 19% in the second quarter of 2019 for the industry that comprises metal, installation and vehicles when not taking into account people under the age of 25 and above the age of 66 (De Vries & Spijkerman, 2019).

Being self-employed and performing skilled and supervisory manual work or semi-skilled manual work more positively influences life satisfaction (1.060 and .961 respectively) compared to being permanent employed. Examples of these type of jobs are driver, electrician and car mechanic. One could argue that having the freedom to take on as many clients as one wants increases job security and therefore positively influencing life satisfaction. However, as other coefficients including self-employment turn out insignificant, this seems unlikely. Being a majority shareholder director and performing “other mental work” or unskilled and trained manual work seems to influence life satisfaction more negatively than being a permanent employee (-1.358 and -1.198 respectively).

Table 4. Results regression analyses using interaction terms part I[3]

Variable	Life satisfaction	General health	Distress
Temporary employee	-.009 (0.105)	-.012 (0.066)	.246 (0.329)
On-call employee	.630 (0.461)	.122 (0.179)	-.336* (0.197)
Temp-staffer	.585 (0.522)	.251 (0.274)	-1.489** (0.637)
Self-employed/independent professional	-.346 (0.311)	.121 (0.125)	-.548 (0.759)
Director of a limited liability or private limited company	.220 (0.497)	.075 (0.175)	-.206 (0.756)
Majority shareholder director	.330 (0.512)	.105 (0.233)	-.979* (0.572)
Real hours of work (per week)	.001 (0.001)	.000 (0.001)	.000 (0.002)
Higher supervisory profession	.142 (0.134)	.044 (0.069)	.124 (0.312)
Intermediate academic or independent profession	-.090 (0.118)	-.017 (0.063)	-.077 (0.296)
Intermediate supervisory or commercial profession	-.091 (0.129)	.047 (0.074)	-.045 (0.313)
Other mental work	-.114 (0.142)	-.028 (0.070)	-.184 (0.315)
Skilled and supervisory manual work	-.275 (0.231)	-.137* (0.080)	.281 (0.421)
Semi-skilled manual work	-.007 (0.184)	-.020 (0.101)	.177 (0.352)
Unskilled and trained manual work	-.003 (0.192)	-.026 (0.090)	-.208 (0.400)
Agrarian profession	.702** (0.347)	-.059 (0.218)	.526 (0.731)
Temporary employee*Higher supervisory profession	-.304 (0.241)	.010 (0.106)	.441 (0.453)

[3] Year controls are included in the regressions but excluded from the table.

Table 4. Results regression analyses using interaction terms part II

Variable	Life satisfaction	General health	Distress
Temporary employee*Intermediate academic or independent profession	.028 (0.143)	.120 (0.080)	-.019 (0.388)
Temporary employee*Intermediate supervisory or commercial profession	-.044 (0.172)	.139 (0.101)	-.680 (0.420)
Temporary employee*Other mental work	-.078 (0.133)	.019 (0.081)	-.323 (0.377)
Temporary employee*Skilled and supervisory manual work	-.073 (0.292)	.098 (0.151)	.226 (0.552)
Temporary employee*Semi-skilled manual work	-.019 (0.184)	.075 (0.100)	-.418 (0.391)
Temporary employee*Unskilled and trained manual work	.140 (0.207)	.002 (0.095)	-.452 (0.532)
Temporary employee*Agrarian profession	.100 (0.457)	.132 (0.245)	-5.162*** (0.874)
On-call employee*Intermediate academic or independent profession	-.928 (0.620)	.055 (0.196)	-.689 (0.457)
On-call employee*Intermediate supervisory or commercial profession	-.552 (0.672)	-.215 (0.242)	2.414** (0.987)
On-call employee*Other mental work	-1.035 (0.632)	-.124 (0.213)	.552 (0.518)
On-call employee*Skilled and supervisory manual work	-1.350** (0.630)	-.644*** (0.244)	.403 (1.397)
On-call employee*Semi-skilled manual work	-.415 (0.523)	.100 (0.248)	1.376*** (0.344)

Table 4. Results regression analyses using interaction terms part III

Variable	Life satisfaction	General health	Distress
On-call employee*Unskilled and trained manual work	-.425 (0.543)	-.289 (0.209)	1.247* (0.639)
On-call employee*Agrarian profession	-.361 (0.527)	.250 (0.388)	3.308*** (0.233)
Temp-staffer*Intermediate academic or independent profession	-.034 (0.642)	-.023 (0.277)	2.037** (0.875)
Temp-staffer*Intermediate supervisory or commercial profession	-.429 (0.563)	.046 (0.287)	2.023* (1.126)
Temp-staffer*Other mental work	-.698 (0.559)	-.190 (0.288)	1.647** (0.720)
Temp-staffer*Skilled and supervisory manual work	.130 (0.736)	-.290 (0.292)	1.568 (1.019)
Temp-staffer*Semi-skilled manual work	-.180 (0.559)	-.285 (0.301)	1.241* (0.683)
Temp-staffer*Unskilled and trained manual work	-.470 (0.867)	-.316 (0.359)	Omitted
Temp-staffer*Agrarian profession	.013 (0.683)	.203 (0.362)	Omitted
Self-employed/independent professional*Higher supervisory profession	.661 (0.474)	-.308 (0.189)	.813 (0.811)
Self-employed/independent professional*Intermediate academic or independent profession	.056 (0.366)	.016 (0.136)	1.534* (0.913)
Self-employed/independent professional*Intermediate supervisory or commercial profession	.478 (0.436)	.018 (0.177)	1.130 (0.988)

Table 4. Results regression analyses using interaction terms part IV

Variable	Life satisfaction	General health	Distress
Self-employed/independent professional*Other mental work	.696 (0.481)	-.137 (0.200)	.156 (1.000)
Self-employed/independent professional*Skilled and supervisory manual work	1.060** (0.411)	.363* (0.218)	2.331* (1.259)
Self-employed/independent professional*Semi-skilled manual work	.961* (0.550)	-.319* (0.194)	-2.857*** (0.797)
Self-employed/independent professional*Unskilled and trained manual work	-.321 (0.672)	-.071 (0.211)	1.357 (0.939)
Self-employed/independent professional*Agrarian profession	-.105 (0.412)	-.077 (0.150)	.844 (0.811)
Director of a limited liability or private limited company*Higher supervisory profession	-.272 (0.521)	-.033 (0.193)	.174 (0.757)
Director of a limited liability or private limited company*Agrarian profession	-.146 (0.496)	-.061 (0.176)	.145 (0.759)
Majority shareholder director*Higher supervisory profession	-.475 (0.599)	-.582** (0.292)	3.102*** (0.386)
Majority shareholder director*Intermediate academic or independent profession	-.586 (0.512)	-.934*** (0.235)	Omitted
Majority shareholder director*Intermediate supervisory or commercial profession	-.418 (0.656)	-.501 (0.352)	1.032 (0.659)

Table 4. Results regression analyses using interaction terms part V

Variable	Life satisfaction	General health	Distress
Majority shareholder director*Other mental work	-1.358** (0.529)	-.081 (0.233)	Empty
Majority shareholder director*Skilled and supervisory manual work	Empty	-.125 (0.235)	Empty
Majority shareholder director*Unskilled and trained manual work	-1.198** (0.517)	-.200 (0.236)	1.870*** (0.591)
Log net personal income (monthly)	.063 (0.054)	.012 (0.027)	-.134 (0.120)
Log household income (monthly)	.186*** (0.069)	.027 (0.030)	-.143 (0.131)
Previous year unemployed	-.089** (0.043)	-.030 (0.020)	-.046 (0.083)
Age^2 (in years)	.000 (0.000)	-.000* (0.000)	-.000 (0.000)
Children	-.091*** (0.027)	-.034** (0.016)	-.027 (0.060)
Married	.015 (0.094)	-.082* (0.047)	.283** (0.142)
Not together	-.088 (0.183)	-.025 (0.067)	.130 (0.243)
Head lives with partner	.039 (0.090)	.039 (0.039)	.066 (0.153)
Primary school	-.263 (0.321)	-.095 (0.214)	.201 (1.435)
High school	.276 (0.175)	-.023 (0.144)	.698 (1.381)
Junior college	.150 (0.191)	-.043 (0.157)	.627 (1.401)
College	.231 (0.182)	-.048 (0.155)	.340 (1.401)
University	.012 (0.216)	-.042 (0.160)	.211 (1.417)
Other (education)	.260 (0.275)	-.085 (0.171)	.322 (1.449)
R-squared	.025	.043	.006
Number of observations	13,364	13,474	7,151

*Source: CentERdata (Tilburg University, The Netherlands), n.d. and own calculations. Standard errors can be found in between the brackets. Notes: rounded to three decimals if necessary. *p<0.10, **p<0.05, ***p<0.01.*

With regards to general health (see "General health", Column 3), all significant differences that were found between the types of employment contract concerning general health have disappeared now that interaction terms are included in the analysis. Being an on-call employee and performing skilled and supervisory manual work is more negatively associated with general health (-.644) compared to being permanent employed. Being self-employed and performing skilled and supervisory manual work is more positively associated with general health (.363), while being self-employed and performing semi-skilled manual work is more negatively associated with general health (-.319). This difference could be due to the nature of the job. Being a majority shareholder director and having a higher supervisory profession or having an intermediate academic or independent profession is more negatively associated with general health (-.582 and -.934 respectively) compared to permanent employment.

For distress (see "Distress, Column 4), it is suddenly found that being an on-call employee (-.336), a temporary-staffer (-1.489) or a majority shareholder director (-.979) is associated with less distress compared to being a permanent employee. A highly negative interaction value is found for being a temporary employee and having an agrarian job (-5.162). It is contrary to what has been found before, i.e. that being non-fixed temporary employed is associated with more distress compared to being permanently employed without controlling for job security satisfaction (Dawson et al., 2017). However, there are some reasons for why this result is not found now. First, a fixed-effects model is used instead of a pooled OLS model. Second, despite there being relatively many temporary employees in agriculture in the Netherlands (De Vries & Spijkerman, 2019), temporary employees may not be as much affected by the share of temporary employees in the workplace as Kuroki (2012) stated.

Many significant, positive interaction terms are found for on-call employees and temporary-staffers compared to permanent employees. This indicates that the influences of these types of employment contracts, i.e. less distress, is often dampened by taking into account occupation. Being self-employed and performing semi-skilled manual work is associated with causing less distress (-2.857), while being self-employed and having an intermediate academic/independent profession (1.534) or performing skilled and supervisory manual work is associated with causing more distress (2.331) compared to being permanent employed.

The second hypothesis was stated as follows: “There is a difference in type of jobs regarding the association between well-being and employment contract.” As significant differences have been found between different employment contract types and different types of occupation, this hypothesis cannot be rejected. Where these differences come from, needs further investigation.

5.2 Results sensitivity analyses

To see whether initial health differences could have impacted the results, a sensitivity analysis is performed where the different aspects of subjective well-being are compared for those always being permanently employed, those going from permanent employment to temporary employment and vice versa. Results of this sensitivity analysis can be found in Table A1 in the Appendix, where the base level consists of those who always stay permanently employed.

With regards to life satisfaction (see “Life satisfaction, Column 2) it is found that significant different effects are found between the three groups in terms of education, for example for those who transition from temporary employment to permanent employment compared to those always permanently employed when it comes to having a college degree (-1.035). Other differences are found between those who transition from temporary employment to permanent employment compared to those always permanently employed: a coefficient of -.643 is found for the interaction with higher supervisory profession, -.613 for intermediate supervisory or commercial profession, -.607 for other mental work and -.746 for semi-skilled manual work. It therefore appears that starting with temporary employment is associated with lower life satisfaction than continuously working as a permanent employee.

Concerning general health, significant dissimilarities are found as well (see “General health”, Column 3). Many positive coefficients are found when interacting levels of education with having a permanent employment contract first and a temporary contract later on. Interacting being a temporary employee first with higher supervisory profession and skilled and supervisory manual work gives -.321 and -.627 respectively. Therefore, it can be said that the results indicate there to be differences between the groups when it comes to subjective general health.

Almost no significant differences are found for distress (see “Distress, Column 4”). A higher distress value is found for those who transition from a temporary employment contract to a permanent employment contract compared to those always permanently employed regarding primary school and junior college. In addition, two negative associations are found for those permanently employed first compared to those always permanently employed.

Considering that overall some significant differences are found between the three groups, one needs to keep in mind that the results found in this paper might partly be due to differences in well-being that already existed before entering into employment.

Additionally, I analyse whether there is a difference in gender by performing Models (1)-(3) for men and women separately with interaction terms for employment contract and occupation included. In Table A2 the results can be found for life satisfaction, for men and women separately. There are some differences in the influence of background variables on life satisfaction between the sexes, with women’s life satisfaction being negatively influenced by having been unemployed in the previous year and by having more children. The latter seems logical, when taking into account the traditional role of the mother in the family. What stands out is that life satisfaction seems to be positively associated with being an on-call employee or a temporary-staffer compared to being a permanent employee for men, but not for women.

For men, being self-employed is negatively associated with life satisfaction, while for women being a majority shareholder director is negatively associated with life satisfaction in comparison to permanent employment. For women barely any significant associations are found for occupation or interactions between occupation and employment contract. Only being a majority shareholder director seems to have a more positive influence on women’s life satisfaction compared to being a permanent employee when interacted with occupation. The negative influence of being a majority shareholder director is mitigated by occupation. For men more significant interaction effects are found for different employment contract types and job types than for women. These seem to more negatively influence life satisfaction compared to permanent employment in many cases, which often diminishes the positive main effect of the employment contract.

In Table A3 the results can be found for general health. Being a temporary-staffer is positively associated with general health compared to being a permanent employee for

women, but not for men. For men, having an agrarian job or performing skilled and supervisory manual work is negatively associated with general health compared to having a higher academic or independent profession. For both men and women, several significant associations are found with general health when interacting employment contract type with job type. Being a temporary-staffer seems to more negatively influence general health for women when interacted with occupation, no matter what type of occupation, compared to being a permanent employee, but not for men. For men, multiple significant interaction terms are found however, which mostly differ from that of women.

In Table A4 the results can be found for distress. When looking at the background variables, one can see that all levels of education are positively associated with distress for women, but negatively associated with distress for men. Regarding types of employment contracts, differences are again found between men and women. While being self-employed or a majority shareholder director is positively related to distress for women (compared to being a permanent employee), it is negatively related to distress for men. Furthermore, being temporary-staffer is negatively associated with distress for men, while being an on-call employee is positively associated with distress for men compared to being a permanent employee. It therefore seems that these types of temporary work are perceived differently by men, but not by women. Also when interacting occupation with employment contract, differences are found between men and women. Being a temporary-staffer seems to increase the level of distress when interacted with occupation compared to being a permanent employee for men only. This reduces the negative association that is found between being a temporary-staffer and distress for men.

Overall, it seems that the influence of job characteristics on subjective health aspects sometimes differ between men and women. One should therefore keep in mind that the associations that are found in the models using the full sample could change when looking at men and women separately.

6. Discussion

When interpreting the results found in this paper, some other matters need to be taken into account. First of all, there might be the case of reverse causality. Although it is assumed here

that it is the employment contract that influences aspects of health, it could also be the case that it is the other way around. Even though a sensitivity analysis regarding this point of discussion has been performed, a definite answer could not be given to whether this reverse causality is indeed the case.

Another point of discussion is that in this paper no account is taken of the actual health issues an individual has. Physical inconveniences and mental health illnesses not related to work could both impact the well-being aspects used here, but are not added as controls to the regressions. Adding these controls could possibly take away the significant associations found. Additionally, no account has been taken of job security, while it has been shown before that security plays a big role in how an employment contract is perceived (Dawson et al., 2017; Green, 2011). This could as well be a reason for significant associations to become insignificant.

Another thing that has not really been covered in this research is the possibility that individuals change employer during the time covered in the dataset. Changing employer means different work circumstances which may for example influence how much stress an employee is experiencing. As changing employer may also go together with working under a different contract type, this change in contract type could be designated as the cause of higher distress levels, while in fact the work circumstances are what cause these levels to increase.

Lastly, in the data used there may be inaccuracies due to respondents making mistakes. Some questions from different studies are answered differently by respondents, although the same information is asked. Therefore, a guess had to be made as to which information is most reliable. Furthermore, respondents were sometimes asked to fill in information about their previous job when they were unemployed at the time of questioning, which may have caused certain job characteristics to be linked to the well-being of the unemployed.

7. Conclusion

The research question of this paper was stated as follows:

"What is the impact of different employment contracts on the well-being of employees and is there a difference in occupation?"

Using survey data, it has been shown that different forms of temporary employment contracts, i.e. on-call employment and temporary-staffing employment in addition to regular temporary employment, are in some way associated with the subjective well-being of individuals, although minimal. The associations that are found do not indicate temporary employment to be bad for one's well-being as is often assumed. In fact, temporary-staff employment is correlated with more life satisfaction and temporary employment is correlated with better general health.

It is also found that associations might differ between different types of jobs. Temporary employment may negatively influence subjective well-being in case of some types of jobs. This would mean that if one would want to combat negative health consequences due to specific contract types, a general policy would not be applicable as not every contract form impacts the individuals with different types of occupations the same. Perhaps the share of temporary employees should be minimized in particular industries.

An idea for future research would be to extend this analysis with more control variables, such as job security and indicators of physical or mental illnesses. In addition, a more clear-cut industry variable could be used instead of the variable that is used here. It would also be interesting to see whether well-being is a determinant of the type of employment contract one has, keeping in mind the different types of jobs. This may or may not rule out the possibility of reverse causality.

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Appendix

Table A1. Sensitivity analysis[4] transitioning groups part I

Variable	Life satisfaction	General health	Distress
Permanent first*Real hours of work (per week)	-.004 (0.003)	-.003 (0.002)	.003 (0.007)
Temporary first*Real hours of work (per week)	-.002 (0.003)	.000 (0.002)	.009 (0.009)
Permanent first*Higher supervisory profession	-.235 (0.340)	-.054 (0.164)	-.016 (0.689)
Temporary first*Higher supervisory profession	-.643** (0.312)	-.321** (0.163)	.121 (0.903)
Permanent first*Intermediate academic or independent profession	.101 (0.269)	-.078 (0.141)	-.322 (0.688)
Temporary first*Intermediate academic or independent profession	-.438 (0.275)	.018 (0.171)	1.016 (0.776)
Permanent first*Intermediate supervisory or commercial profession	-.436 (0.366)	.073 (0.188)	.233 (0.805)
Temporary first*Intermediate supervisory or commercial profession	-.613* (0.318)	-.035 (0.174)	.163 (0.884)
Permanent first*Other mental work	-.197 (0.350)	-.182 (0.167)	-.056 (0.729)
Temporary first*Other mental work	-.607* (0.345)	-.097 (0.175)	.211 (0.910)
Permanent first*Skilled and supervisory manual work	-.054 (0.465)	-.272 (0.191)	-.411 (0.827)
Temporary first*Skilled and supervisory manual work	.217 (0.504)	-.627*** (0.207)	.419 (1.361)
Permanent first*Semi-skilled manual work	-.505 (0.417)	-.022 (0.230)	-1.117 (0.743)

[4] Only the non-year interaction variables are included.

Table A1. Sensitivity analysis transitioning groups part II

Variable	Life satisfaction	General health	Distress
Temporary first*Semi-skilled manual work	-.746* (0.416)	-.397 (0.241)	.027 (1.106)
Permanent first*Unskilled and trained manual work	-.158 (0.510)	-.042 (0.221)	-1.385* (0.794)
Temporary first*Unskilled and trained manual work	-.467 (0.502)	-.100 (0.210)	.575 (0.955)
Permanent first*Agrarian profession	.132 (0.703)	.103 (0.689)	.943 (1.385)
Permanent first*Log net personal income (monthly)	.027 (0.173)	.058 (0.080)	-.132 (0.362)
Temporary first*Log net personal income (monthly)	.060 (0.179)	.150* (0.086)	-.040 (0.374)
Permanent first*Log household income (monthly)	.238 (0.184)	.073 (0.089)	.007 (0.384)
Temporary first*Log household income (monthly)	.082 (0.215)	-.093 (0.089)	.175 (0.386)
Permanent first*Previous year unemployed	-.121 (0.122)	.032 (0.054)	-.338 (0.238)
Temporary first*Previous year unemployed	-.028 (0.143)	.024 (0.062)	.155 (0.295)
Permanent first*Age^2 (in years)	-.000 (0.001)	.000 (0.000)	.003 (0.002)
Temporary first*Age^2 (in years)	-.000 (0.001)	.001** (0.000)	.001 (0.002)
Permanent first*Additional child	-.003 (0.083)	.011 (0.052)	-.027 (0.224)

Table A1. Sensitivity analysis transitioning part III

Variable	Life satisfaction	General health	Distress
Temporary first*Additional child	.032 (0.080)	-.055 (0.050)	-.195 (0.173)
Permanent first*Married	.494** (0.237)	.123 (0.147)	.556 (0.413)
Temporary first *Married	.128 (0.201)	.135 (0.101)	-.499 (0.405)
Permanent first*Not together	.359 (0.438)	.267 (0.183)	.263 (0.807)
Temporary first*Not together	-.225 (0.562)	-.231 (0.189)	-.226 (0.657)
Permanent first*Head lives with partner	.023 (0.281)	-.163 (0.122)	-.875* (0.467)
Temporary first*Head lives with partner	.132 (0.227)	-.056 (0.090)	-.639 (0.499)
Permanent first*Primary school	-1.778** (0.880)	.190 (0.311)	1.410 (1.573)
Temporary first*Primary school	.015 (0.548)	-.169 (0.348)	2.856** (1.222)
Permanent first*High school	-.695* (0.374)	.995*** (0.183)	.153 (1.312)
Temporary first*High school	-.582* (0.345)	.312* (0.188)	.954 (0.946)
Permanent first*Junior college	-.960* (0.544)	1.211*** (0.272)	1.120 (1.303)
Temporary first*Junior college	-.248 (0.228)	.342* (0.177)	1.599* (0.913)
Permanent first*College	-.654 (0.575)	1.159*** (0.259)	1.333 (1.216)
Temporary first*College	-1.035*** (0.388)	.402 (0.253)	.888 (0.843)
Permanent first*University	-.733 (0.682)	1.172*** (0.324)	Omitted
Temporary first*University	-.857* (0.485)	.542** (0.256)	Omitted
Permanent first*Other (education)	-.721 (0.580)	1.583*** (0.312)	1.660 (1.378)
Temporary first*Other (education)	-1.081** (0.531)	.633** (0.253)	Omitted
R-squared	.010	.006	.002
Number of observations	11,386	11,483	6,120

*Source: CentERdata (Tilburg University, The Netherlands), n.d. and own calculations. Standard errors can be found in between the brackets. Notes: rounded to three decimals if necessary. *p<0.10, **p<0.05, ***p<0.01.*

Table A2. Results regression analyses life satisfaction using interaction terms, for men and women separately part I

Variable	Men	Women
Temporary employee	.172 (0.120)	-.145 (0.169)
On-call employee	1.398*** (0.291)	.174 (0.413)
Temp-staffer	.846*** (0.286)	.647 (0.849)
Self-employed/independent professional	-.675** (0.285)	.243 (0.676)
Director of a limited liability or private limited company	.098 (0.352)	.062 (0.054)
Majority shareholder director	.641 (0.397)	-2.874*** (0.043)
Real hours of work (per week)	.001 (0.001)	.001 (0.002)
Higher supervisory profession	.169 (0.179)	.041 (0.201)
Intermediate academic or independent profession	.044 (0.151)	-.227 (0.189)
Intermediate supervisory or commercial profession	-.179 (0.161)	-.057 (0.215)
Other mental work	-.169 (0.192)	-.121 (0.219)
Skilled and supervisory manual work	-.397 (0.275)	-.071 (0.530)
Semi-skilled manual work	-.269 (0.231)	.306 (0.317)
Unskilled and trained manual work	-.822*** (0.259)	.278 (0.259)
Agrarian profession	.468 (0.403)	.356 (0.732)
Temporary employee*Higher supervisory profession	-.633* (0.379)	-.000 (0.256)
Temporary employee*Intermediate academic or independent profession	-.180 (0.200)	.202 (0.209)

Table A2. Results regression analyses life satisfaction using interaction terms, for men and women separately part II

Variable	Men	Women
Temporary employee*Intermediate supervisory or commercial profession	-.189 (0.208)	-.046 (0.296)
Temporary employee*Other mental work	-.369** (0.182)	.097 (0.198)
Temporary employee*Skilled and supervisory manual work	-.179 (0.268)	-.557 (1.132)
Temporary employee*Semi-skilled manual work	-.135 (0.212)	-.098 (0.362)
Temporary employee*Unskilled and trained manual work	.620* (0.326)	.063 (0.256)
Temporary employee*Agrarian profession	-.199 (0.520)	1.199* (0.723)
On-call employee*Intermediate academic or independent profession	-1.308*** (0.377)	-.444 (0.606)
On-call employee*Intermediate supervisory or commercial profession	-2.913*** (0.284)	.120 (0.628)
On-call employee*Other mental work	-1.067** (0.489)	-.662 (0.645)
On-call employee*Skilled and supervisory manual work	-2.093*** (0.498)	Empty
On-call employee*Semi-skilled manual work	-1.206*** (0.451)	-.212 (0.507)
On-call employee*Unskilled and trained manual work	-1.193** (0.583)	-.108 (0.474)
On-call employee*Agrarian profession	-.439 (0.577)	-.132 (0.421)
Temp-staffer*Intermediate academic or independent profession	-.334 (0.391)	.043 (0.975)
Temp-staffer*Intermediate supervisory or commercial profession	-.538 (0.328)	-1.276 (0.920)

Table A2. Results regression analyses life satisfaction using interaction terms, for men and women separately part III

Variable	Men	Women
Temp-staffer*Other mental work	-1.260** (0.514)	-.680 (0.881)
Temp-staffer*Skilled and supervisory manual work	-.174 (0.622)	.362 (1.046)
Temp-staffer*Semi-skilled manual work	-.274 (0.405)	-.527 (0.889)
Temp-staffer*Unskilled and trained manual work	-.120 (1.235)	-.472 (0.952)
Temp-staffer*Agrarian profession	-.344 (0.577)	Empty
Self-employed/independent professional*Higher supervisory profession	.934*** (0.339)	.418 (2.457)
Self-employed/independent professional*Intermediate academic or independent profession	.305 (0.388)	-.488 (0.719)
Self-employed/independent professional*Intermediate supervisory or commercial profession	1.297** (0.542)	-.581 (0.751)
Self-employed/independent professional*Other mental work	1.050*** (0.382)	.048 (0.818)
Self-employed/independent professional*Skilled and supervisory manual work	1.433*** (0.359)	Empty
Self-employed/independent professional*Semi-skilled manual work	.676** (0.320)	1.030 (0.707)
Self-employed/independent professional*Unskilled and trained manual work	Omitted	-1.071 (0.890)
Self-employed/independent professional*Agrarian profession	.157 (0.388)	Omitted
Director of a limited liability or private limited company*Higher supervisory profession	-.166 (0.377)	Omitted
Majority shareholder director*Higher supervisory profession	-.620 (0.532)	Omitted
Majority shareholder director*Intermediate academic or independent profession	Omitted	2.639*** (0.065)

Table A2. Results regression analyses life satisfaction using interaction terms, for men and women separately part IV

Variable	Men	Women
Majority shareholder director*Intermediate supervisory or commercial profession	-.477 (0.504)	Omitted
Majority shareholder director*Other mental work	Empty	1.926*** (0.129)
Majority shareholder director*Unskilled and trained manual work	Empty	1.936*** (0.109)
Log net personal income (monthly)	.083 (0.078)	.052 (0.072)
Log household income (monthly)	.156 (0.096)	.214** (0.096)
Previous year unemployed	-.015 (0.056)	-.146** (0.063)
Age^2 (in years)	.000 (0.000)	-.000 (0.000)
Children	-.043 (0.035)	-.146*** (0.039)
Married	-.023 (0.136)	.034 (0.129)
Not together	-.289 (0.233)	.120 (0.309)
Head lives with partner	-.078 (0.127)	.110 (0.129)
Primary school	-.829* (0.460)	.016 (0.476)
High school	.127 (0.193)	.215 (0.379)
Junior college	-.212 (0.222)	.160 (0.378)
College	-.281 (0.228)	.370 (0.376)
University	-.472* (0.264)	.104 (0.422)
Other (education)	-.689** (0.331)	.464 (0.441)
R-squared	.013	6,790
Number of observations	6,574	.004

*Source: CentERdata (Tilburg University, The Netherlands), n.d. and own calculations. Standard errors can be found in between the brackets. Notes: rounded to three decimals if necessary. *p<0.10, **p<0.05, ***p<0.01.*

Table A3. Results regression analyses general health using interaction terms, for men and women separately part I

Variable	Men	Women
Temporary employee	-.043 (0.093)	.046 (0.105)
On-call employee	-.076 (0.060)	.249 (0.224)
Temp-staffer	.069 (0.171)	1.312*** (0.163)
Self-employed/independent professional	.133 (0.096)	.099 (0.237)
Director of a limited liability or private limited company	.089 (0.171)	.030 (0.024)
Majority shareholder director	.106 (0.233)	-.037 (0.060)
Real hours of work (per week)	.000 (0.001)	-.000 (0.001)
Higher supervisory profession	.036 (0.077)	.018 (0.123)
Intermediate academic or independent profession	-.086 (0.073)	.033 (0.107)
Intermediate supervisory or commercial profession	.007 (0.086)	.072 (0.122)
Other mental work	-.024 (0.090)	-.014 (0.107)
Skilled and supervisory manual work	-.185** (0.085)	-.071 (0.204)
Semi-skilled manual work	-.122 (0.117)	.106 (0.182)
Unskilled and trained manual work	-.127 (0.147)	.007 (0.128)
Agrarian profession	-.649*** (0.248)	-.030 (0.249)
Temporary employee*Higher supervisory profession	-.003 (0.136)	.032 (0.173)
Temporary employee*Intermediate academic or independent profession	.118 (0.115)	.075 (0.119)

Table A3. Results regression analyses general health using interaction terms, for men and women separately part II

Variable	Men	Women
Temporary employee*Intermediate supervisory or commercial profession	.200 (0.143)	.087 (0.144)
Temporary employee*Other mental work	.005 (0.126)	-.019 (0.120)
Temporary employee*Skilled and supervisory manual work	.215 (0.179)	-.596*** (0.179)
Temporary employee*Semi-skilled manual work	.060 (0.122)	.058 (0.200)
Temporary employee*Unskilled and trained manual work	.135 (0.141)	-.066 (0.132)
Temporary employee*Agrarian profession	.245 (0.257)	.342 (0.262)
On-call employee*Intermediate academic or independent profession	.103 (0.069)	-.049 (0.243)
On-call employee*Intermediate supervisory or commercial profession	-.246 (0.259)	-.196 (0.302)
On-call employee*Other mental work	.252* (0.147)	-.297 (0.250)
On-call employee*Skilled and supervisory manual work	-.420** (0.193)	Empty
On-call employee*Semi-skilled manual work	.170 (0.230)	.213 (0.352)
On-call employee*Unskilled and trained manual work	-.386** (0.191)	-.375 (0.256)
On-call employee*Agrarian profession	1.836*** (0.271)	-.262 (0.226)
Temp-staffer*Intermediate academic or independent profession	.400** (0.188)	-1.172*** (0.260)
Temp-staffer*Intermediate supervisory or commercial profession	.156 (0.186)	-.639*** (0.152)
Temp-staffer*Other mental work	-.169 (0.261)	-1.225*** (0.195)
Temp-staffer*Skilled and supervisory manual work	-.034 (0.202)	-1.604*** (0.358)

Table A3. Results regression analyses general health using interaction terms, for men and women separately part III

Variable	Men	Women
Temp-staffer*Semi-skilled manual work	-.093 (0.208)	-1.297*** (0.305)
Temp-staffer*Unskilled and trained manual work	-.273 (0.241)	-1.206*** (0.413)
Temp-staffer*Agrarian profession	.453 (0.295)	Empty
Self-employed/independent professional*Higher supervisory profession	-.358* (0.192)	-.157 (0.286)
Self-employed/independent professional*Intermediate academic or independent profession	-.012 (0.128)	.034 (0.248)
Self-employed/independent professional*Intermediate supervisory or commercial profession	.019 (0.136)	.025 (0.323)
Self-employed/independent professional*Other mental work	-.186 (0.591)	-.148 (0.285)
Self-employed/independent professional*Skilled and supervisory manual work	.357* (0.206)	Omitted
Self-employed/independent professional*Semi-skilled manual work	-.329 (0.253)	-.364 (0.259)
Self-employed/independent professional*Unskilled and trained manual work	Omitted	-.055 (0.294)
Self-employed/independent professional*Agrarian profession	-.011 (0.150)	Omitted
Director of a limited liability or private limited company*Higher supervisory profession	-.060 (0.193)	Omitted
Majority shareholder director*Higher academic or independent profession	.	Empty
Majority shareholder director*Higher supervisory profession	-.592** (0.294)	Empty
Majority shareholder director*Intermediate academic or independent profession	Omitted	-.814*** (0.081)

Table A3. Results regression analyses general health using interaction terms, for men and women separately part IV

Variable	Men	Women
Majority shareholder director*Intermediate supervisory or commercial profession	-.483 (0.341)	Omitted
Majority shareholder director*Other mental work	Empty	.050 (0.076)
Majority shareholder director*Skilled and supervisory manual work	-.131 (0.237)	Empty
Log net personal income (monthly)	.011 (0.050)	.033 (0.034)
Log household income (monthly)	.039 (0.054)	.002 (0.037)
Previous year unemployed	-.031 (0.028)	-.031 (0.028)
Age^2 (in years)	-.000 (0.000)	-.000 (0.000)
Children	-.056** (0.023)	-.006 (0.024)
Married	-.107 (0.071)	-.046 (0.057)
Not together	-.070 (0.093)	.009 (0.097)
Head lives with partner	-.011 (0.062)	.105** (0.049)
Primary school	.165 (0.220)	-.692** (0.285)
High school	.038 (0.133)	-.331 (0.237)
Junior college	-.261 (0.164)	-.045 (0.244)
College	-.038 (0.153)	-.336 (0.252)
University	.079 (0.151)	-.410 (0.258)
Other (education)	-.210 (0.168)	-.364 (0.262)
R-squared	.065	.015
Number of observations	6,657	6,817

*Source: CentERdata (Tilburg University, The Netherlands), n.d. and own calculations. Standard errors can be found in between the brackets. Notes: rounded to three decimals if necessary. *p<0.10, **p<0.05, ***p<0.01.*

Table A4. Results regression analyses distress using interaction terms, for men and women separately part I

Variable	Men	Women
Temporary employee	.144 (0.532)	.529 (0.362)
On-call employee	1.115*** (0.392)	-.185 (0.245)
Temp-staffer	-3.210*** (0.797)	-.899 (0.733)
Self-employed/independent professional	-1.659*** (0.292)	1.204*** (0.213)
Director of a limited liability or private limited company	-.871** (0.380)	-.134 (0.118)
Majority shareholder director	-1.178*** (0.434)	.948*** (0.224)
Real hours of work (per week)	-.000 (0.003)	.003 (0.004)
Higher supervisory profession	-.345 (0.379)	.713* (0.432)
Intermediate academic or independent profession	.209 (0.429)	-.339 (0.380)
Intermediate supervisory or commercial profession	-.016 (0.396)	-.157 (0.482)
Other mental work	-.217 (0.460)	-.318 (0.394)
Skilled and supervisory manual work	.261 (0.540)	.564 (0.477)
Semi-skilled manual work	.311 (0.485)	-.122 (0.449)
Unskilled and trained manual work	-.668 (0.586)	.040 (0.513)
Agrarian profession	.631 (1.064)	-.675 (0.572)
Temporary employee*Higher supervisory profession	.750 (0.595)	-.127 (0.661)
Temporary employee*Intermediate academic or independent profession	-.249 (0.642)	-.150 (0.444)

Table A4. Results regression analyses distress using interaction terms, for men and women separately part II

Variable	Men	Women
Temporary employee*Intermediate supervisory or commercial profession	-.485 (0.587)	-.994 (0.645)
Temporary employee*Other mental work	-.012 (0.595)	-.691 (0.427)
Temporary employee*Skilled and supervisory manual work	.174 (0.694)	2.760*** (0.796)
Temporary employee*Semi-skilled manual work	-.300 (0.611)	-1.018** (0.454)
Temporary employee*Unskilled and trained manual work	.620 (0.954)	-1.110* (0.589)
Temporary employee*Agrarian profession	-4.979*** (1.080)	Omitted
On-call employee*Higher academic or independent profession	Empty	.
On-call employee*Intermediate academic or independent profession	-1.484*** (0.426)	-.807 (0.504)
On-call employee*Intermediate supervisory or commercial profession	-.814 (0.636)	2.999** (1.301)
On-call employee*Other mental work	-1.877** (0.799)	.382 (0.594)
On-call employee*Skilled and supervisory manual work	-.780 (1.452)	Empty
On-call employee*Semi-skilled manual work	Omitted	1.714*** (0.525)
On-call employee*Unskilled and trained manual work	Omitted	.636 (0.652)
On-call employee*Agrarian profession	Omitted	3.234*** (0.309)
Temp-staffer*Intermediate academic or independent profession	5.788*** (1.241)	.739 (0.788)

Table A4. Results regression analyses distress using interaction terms, for men and women separately part III

Variable	Men	Women
Temp-staffer*Intermediate supervisory or commercial profession	3.977*** (1.339)	Omitted
Temp-staffer*Other mental work	4.817*** (1.171)	.936 (0.823)
Temp-staffer*Skilled and supervisory manual work	4.015*** (1.069)	-2.390*** (0.870)
Temp-staffer*Semi-skilled manual work	2.886*** (0.841)	.627 (0.791)
Self-employed/independent professional*Higher supervisory profession	2.181*** (0.449)	-1.604*** (0.551)
Self-employed/independent professional*Intermediate academic or independent profession	2.354** (0.960)	.205 (0.662)
Self-employed/independent professional*Intermediate supervisory or commercial profession	2.515** (1.039)	-.845 (0.920)
Self-employed/independent professional*Other mental work	2.271 (1.510)	-1.817** (0.714)
Self-employed/independent professional*Skilled and supervisory manual work	3.560*** (1.222)	Empty
Self-employed/independent professional*Semi-skilled manual work	Omitted	-4.510*** (0.389)
Self-employed/independent professional*Unskilled and trained manual work	Omitted	-.602 (0.579)
Self-employed/independent professional*Agrarian profession	2.039*** (0.326)	Omitted
Director of a limited liability or private limited company*Higher academic or independent profession	.	Empty
Director of a limited liability or private limited company*Higher supervisory profession	.948** (0.392)	Omitted
Majority shareholder director*Higher supervisory profession	3.528*** (0.391)	Omitted

Table A4. Results regression analyses distress using interaction terms, for men and women separately part IV

Variable	Men	Women
Majority shareholder director*Intermediate supervisory or commercial profession	1.400** (0.698)	Omitted
Log net personal income (monthly)	.199 (0.160)	-.324** (0.163)
Log household income (monthly)	-.296 (0.207)	-.029 (0.174)
Previous year unemployed	-.085 (0.118)	-.059 (0.124)
Age^2 (in years)	-.000 (0.001)	-.000 (0.001)
Children	-.018 (0.079)	-.003 (0.092)
Married	.160 (0.193)	.237 (0.212)
Not together	.410 (0.305)	-.409 (0.382)
Head lives with partner	.364 (0.227)	-.213 (0.207)
Primary school	-1.607*** (0.574)	2.716*** (0.722)
High school	-1.116*** (0.288)	2.545*** (0.292)
Junior college	-1.718*** (0.523)	2.926*** (0.432)
College	-1.757*** (0.473)	2.298*** (0.445)
University	-1.489*** (0.561)	1.938*** (0.538)
Other (education)	-1.559*** (0.581)	2.200*** (0.683)
R-squared	.003	.009
Number of observations	3,529	3,622

*Source: CentERdata (Tilburg University, The Netherlands), n.d. and own calculations. Standard errors can be found in between the brackets. Notes: rounded to three decimals if necessary. *p<0.10, **p<0.05, ***p<0.01.*