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# The Effect of Fixed-Term Employment on Well-Being: Disentangling the Micro-Mechanisms and the Moderating Role of Social Cohesion

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## Abstract

This paper examines the impact of fixed-term employment on well-being from a cross-national comparative perspective by testing (1) the effect heterogeneity across European countries, (2) to which extent Jahoda's Latent Deprivation Model provides a sufficient micro-level explanation for the underlying mechanisms and (3) whether the macro-level factor of social cohesion weakens the micro-level impacts. We investigate the effects in both an upwards (permanent employment) and a downwards (unemployment) comparative control group design. Due to the mediating role of social contacts on the micro-level, we assume social cohesion on the country-level to moderate the main effects: A high degree of societal affiliation should substitute the function of social contacts in the work environment of individuals. Using microdata from the European Social Survey (ESS) 2012 for 23 countries and applying multilevel estimation procedures, we find that there is a remarkable variation in the effects across countries. Even though in each country fixed-term employees have a lower subjective well-being compared to permanent ones, the point estimates vary from .17 to 1.19 units. When comparing fixed-term employees to unemployed individuals, the coefficients even range from  $- .27$  to 1.25 units. More specifically, a negative effect indicates that having a fixed-term contract is worse than unemployment in some countries. Moreover, pooled linear regression models reveal that Jahoda's Latent Deprivation Model explains about three-quarters of the micro-level effect sizes for both directions. Eventually, social cohesion on the country-level diminishes the individual-level well-being differences between fixed-term employees and permanent individuals but not between fixed-term employees and the unemployed.

**Keywords** Fixed-term employment · Well-being · Social cohesion · Multilevel estimation · Mediation analysis

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## 1 Introduction

Job insecurity has become a key characteristic of modern labor markets in the last few decades and its importance is even assumed to keep on rising (Kalleberg 2018). Fixed-term employment, i.e. jobs based on contracts with a predetermined expiry date, is one of the most visible manifestations of job insecurity. Compared to life-long employment, which used to be the standard employment relationship, fixed-term contracts can be expected to negatively affect individuals in many ways. Fixed-term employees, hereinafter also referred to as temporary employees, are limited in their plannability concerning important decisions like homeownership or family formation and consequently in the perceived controllability of their lives (Burchell 1994). Due to this uncertainty regarding future plans, a great amount of stress might arise (De Witte 1999). These issues highlight the necessity to examine the consequences of fixed-term employment on health outcomes and well-being.

Because well-being describes the quality of living within a society (Veenhoven 2008), it does not come as a surprise that there is a rich literature on the consequences of different types of fixed-term employment on well-being outcomes for several countries. These studies are summarized within various literature reviews (Virtanen et al. 2005; Cuyper et al. 2008; Imhof and Andresen 2018; Hünefeld et al. 2019).

Since most of the studies so far assume fixed-term employment to lie on a continuum from the greatest job insecurity (unemployment) to the greatest job security (permanent employment), the majority of scholars compares fixed-term employees to one of these two extremes. We extend this idea by bridging these two research practices. This paper thus includes a comparison to permanent employment, which we refer to as *upwards comparison*, and a comparison to unemployment, which we refer to as *downwards comparison*.

What we have learned so far regarding these two perspectives is that for the downwards comparison, fixed-term employees seem to have a higher well-being (Gebel and Voßemer 2014; Gundert and Hohendanner 2014; Chambel et al. 2016). However, even though there is an extraordinarily higher amount of studies on the upwards comparison, the findings are more than mixed (for a summary see Cuyper et al. 2008). Even though the previous explanation of the impeded plannability seems plausible, some studies find a zero or even a positive impact of fixed-term employment on well-being.

One explanation for these varying findings is the lacking comparability between studies due to different types of measurements in distinct countries (Cuyper et al. 2008; Imhof and Andresen 2018). We test this assumption by estimating the effects of fixed-term employment on well-being within single countries using a cross-national comparative dataset with harmonized measurements. This strategy enables us to compare the estimates across countries.

Related to the issue of differing effect directions and sizes, we also know little about the explanations for the connection, namely the underlying mechanisms. Previous literature mostly borrows arguments from theories on the impact of unemployment on well-being, of which one of the most prominent examples Jahoda's Latent Deprivation Model is. However, only few of these studies empirically test the assumptions of the theoretical model with regard to whether they also apply within the context of temporary employment (Gundert and Hohendanner 2014), let alone adapt the argumentation adequately. To address this shortcoming, we discuss theoretically which mechanisms of the model can or cannot be expected to be transferable to the case of fixed-term employment. Furthermore, we empirically test the most plausible mechanisms for both the upwards and downwards comparative perspective by conducting mediation analyses.

Eventually, when examining the effect heterogeneity across different countries, for policy making it is not only relevant whether there *are* differences across countries, but also *which* country-specific characteristics cause these differences. Previous literature shows that some economic macro-level factors like employment protection legislation (EPL), gross domestic product (GDP), unemployment rate, subjective and objective income inequality as well as other social policies do moderate the effects of fixed-term employment on well-being (Carr and Chung 2014; Voßemer et al. 2018; Karabchuk and Soboleva 2019; Täht et al. 2019). Nevertheless, we lack knowledge on whether besides the perceived income inequality, there are other cultural country-level characteristics explaining the variation. Referring to the adapted version of the Latent Deprivation Model, we assume that social cohesion moderates the effect of fixed-term employment on well-being. We thereby not only enlighten the role of cultural country characteristics regarding the effect of interest, but we also take on a concept with rising political interest (Schiefer and van der Noll 2017).

For answering the research questions, we utilize the European Social Survey (ESS) data from 2012 with its high standards when it comes to comparability of information between countries. We estimate regression models for each country separately, which reveals the heterogeneity in the micro-level effects across 23 countries. Concerning the mediation analyses, we estimate pooled linear regression models with country-level clustered standard errors to decompose the total effects. Eventually, simultaneously estimated multilevel linear regression models shed light on the macro-level moderating role of social cohesion.

## 2 Theoretical Framework

Most studies draw on the unemployment literature and especially Jahoda's Latent Deprivation Model to explain the effects of fixed-term employment on well-being. However, in the following we argue that this transfer of theoretical arguments is only partly reasonable and where it has its limits. The initial line of argumentation refers to both manifest functions (*financial resources*) and the employment-related latent functions (*social contacts, time structure, activity, supra-individual aims, status, and identity*) (Jahoda 1982).

More precisely, *financial resources* subsume the income and other public payments individuals own at their free disposal. Turning to the latent functions, *social contacts* describe the possibility of building a social network apart from the context of family, i.e. meeting colleagues, which Jahoda describes as broadening the social horizon. A given *time structure* refers to forced and internalized daily routines, which are given by distinct agreements within an employment contract like working hours. *Activity* is closely connected to the latter function, as it describes how individuals utilize their time. *Supra-individual aims* are defined by goals individuals share with a greater level unit: e.g. a firm aims to maximize its profits, which should be common ground for the individual employees. Eventually, *status and identity* refer to the internalized wish of individuals to describe and classify themselves within a given hierarchy. The deprivation of these previously described functions is said to cause stress, which as a result lowers the well-being.

In particular, subjective well-being describes the conscious assessment of one's own life, which consists of individually weighted evaluation criteria. Individuals refer to both their past as well as to other individuals for the weighting procedure. It is a rational assessment in which people compare their expectations regarding life (*target state*) and perception of

their fulfillment (*actual state*) (Veenhoven 2010). Due to the societal institutionalization, paid employment is understood as being a desirable state for the previously described evaluation process (Boland and Griffin 2016). Combined with Jahoda's idea of employment fulfilling several functions, not having a job leads to an imbalance of expectations and perceptions regarding the fulfillment of life goals. Therefore, the well-being should decline.

Various scholars refer to this theory when explaining the impact of fixed-term employment compared to permanent employment on well-being (Scherer 2009; Gash et al. 2007; Gundert and Hohendanner 2014; Selenko et al. 2017). We augment the idea of utilizing this theory by a more fine-graded discussion of the various mechanisms with regard to both the upwards and downwards comparison. One possibility is to assume fixed-term employment to be similar to unemployment, which would imply that fixed-term employees lack all of the previously mentioned functions of employment. Besides this assumption being very strict, since the original theory comprises a severe division of employment and unemployment without referring to the quality of jobs, we doubt that it is possible to adapt the theory one-to-one.

We rather suggest similar to Warr's Vitamin Model (Warr 2017), that some of the functions might be less fulfilled due to the job insecurity fixed-term employment on average should include compared to permanent employment. Thus, we assume that within temporary jobs, there are also some of the functions present, but the manifestations differ on average both from unemployment and permanent employment. This additionally adds strength for combining arguments in explaining the effect of fixed-term employment compared to both permanent employment (*upwards*) and unemployment (*downwards*), which enables a more comprehensive picture of the effect.

## 2.1 Upwards Comparison

Regarding the upwards comparative perspective, fixed-term employment should on average offer less of the manifest and the latent functions than permanent employment. First, temporary jobs might be seen as a prolonged probationary period by the employers. This perspective might make employers less willing to pay a high *income* or invest in the human capital of the temporary compared to permanent employees. For the latter, the firing costs might increase, which might furtherly boost the utility of investing in their human capital (Booth et al. 2002).

Moreover, permanent employment offers on average *social contacts* to colleagues, which due to the permanency should be more likely to be stable and consequently also more reliable. For fixed-term employees it might be less likely to establish contacts, as oftentimes not only their employment contract, but also the time with their colleagues is limited (Julià et al. 2017).

Associated with that, temporary employees might feel less like belonging to a team or the firm itself, i.e. a greater unit or community. Accordingly, temporary employees might be less likely to have *supra-individual aims*, such as participating in a union. Not participating in unions might also be due to the fear that the employer is not willing to renew the contract when joining such organizations (ILO 2016).

The last important difference is the possibility to build a *status and identity* connected to the job. Fixed-term employees might be less attached to their jobs compared to permanent employees (Cuyper et al. 2005). Because fixed-term employees on average should experience greater job insecurity and might be more easily replaced (Selenko et al. 2017),

fixed-term workers might be less likely to identify with their employment and may therefore be more difficult to draw status from it.

For the remaining latent functions of the original model, one can barely find reasonable arguments to account within this framework. Both temporary and permanent employees should benefit from a given *time structure* in their daily lives. They also need to fulfill the employment contract, i.e. work for a predefined number of hours. Both types of employees need to be *active* due to that. Thus, we can neither deduce a mediating impact of *time structure* nor *activity*.

Summarizing the previous thoughts, we believe *income*, *social contacts*, *supra-individual aims* and *status and identity* to matter for explaining the effect of temporary employment in the upwards comparative perspective on well-being. Therefore, we expect:

**Hypothesis 1.1** On average, fixed-term employees should have a lower subjective well-being than permanent employees.

**Hypothesis 1.2** This negative impact should be explained by (a) fewer financial resources, (b) fewer social contacts, (c) having less supra-individual aims and (d) perceiving a lower status (and identity).

## 2.2 Downwards Comparison

Concerning the comparison with unemployment, a temporary job should offer both the manifest function of income and all the latent functions (Gash et al. 2007). As the key difference between permanent and temporary employment is the predetermination of the end of the job contract (Chambel et al. 2016), we suspect a similar line of argumentation like in the original theory. Besides that, empirical evidence shows that becoming unemployed is on average as harmful for temporary as for permanent employees (Gebel and Voßemer 2014), which suggests that fixed-term jobs might fulfill the functions in an equal way.

Regarding the theoretical argumentation, having no job rather than being in a fixed-term employment should on average decrease *financial resources*, since the individuals do not receive any payments from an employer. Temporary employees might at least make some *social contacts* within their job, which might be missing when being unemployed. The presence of social contacts might increase the well-being of fixed-term employed compared to unemployed individuals (Gundert and Hohendanner 2014). Likewise, compared to unemployed individuals, fixed-term employees usually are integrated within firm structures, which might allow them to develop adherence to some *supra-individual aims*. Because individuals define themselves by their employment status and the prestige that comes along with it, fixed-term employees might interpret their *status and identity* as being (temporarily) part of the firm. Unemployed individuals lack this definition. Since most fixed-term employees have specific agreements within their employment contracts, they should be regularly active, whilst unemployed people lack this steady activity.

This deficiency goes hand in hand with an absenteeism of a given *time structure*: unemployed individuals might lack the feeling of having a structure in their daily life, since e.g.

there is no necessity to get up on time and go to work. The lack of these functions for the unemployed explains why being fixed-term employment results in a greater well-being:

**Hypothesis 2.1** On average, fixed-term employees are expected to have a greater subjective well-being than unemployed individuals.

**Hypothesis 2.2** This positive impact should be explained by having (a) more financial resources, (b) more social contacts, (c) more supra-individual aims, (d) perceiving to have a higher status (and identity), (e) a greater level of activity and (f) a given time structure.

### 2.3 Social Cohesion as Moderator

Since one of the explanations for the effects in both the upwards and downwards comparison refers to the social contacts individuals have, we assume that societies can offer buffering structures for the negative (positive) impacts. These structures within societies might substitute the latent function of building up social networks within the workplace environment of individuals.

We argue that having social contacts and frequently being with them should be a socially desirable state, which on average increases the well-being of individuals. If within societies there is the perception of an overarching affiliation, then the importance of social contacts within the job might be less relevant for individuals (Gallie 2014). This affiliation, namely social cohesion, describes the feeling regarding the possibility to make contacts independent of the work environment and the perception of belonging to a group at a higher level (e.g. country or societies) and identifying with it (Schiefer and van der Noll 2017).

Moreover, a high degree of social cohesion in countries might substitute the function of social contacts in the work environment of individuals. When there is a strong feeling of affiliation and identification within a society, the focus might shift from the important function of paid employment to the societal structure on a higher level offering it. Thus, if there is the feeling of belonging to the society rather than identifying only via employment, the fewer social contacts might matter for the individuals. Accordingly, the individuals might rather identify with the greater social unit than only their employment status.

**Hypothesis 3** On average, a greater social cohesion within a society should diminish the negative impact of fixed-term employment compared to permanent employment on subjective well-being.

The same should be true for the positive impact of fixed-term employment compared to being unemployed. Thus, the unemployed can rely on their shared identity within the society rather than their identification via job status or the networks of colleagues.

**Hypothesis 4** On average, a greater social cohesion should reduce the positive impact of fixed-term employment compared to unemployment on well-being.

## 3 Research Design

### 3.1 Data and Sample Definition

We use the 6th round of the European Social Survey (ESS) from 2012 (European Social Survey 2013), which is a cross-sectional multi-country survey. The data is collected every two years via computer-assisted personal interviews (CAPI). The interviewees are sampled by a random probability sampling procedure and include a minimum target response rate of 70% (European Social Survey 2014). Besides the high methodological standards for data collection, the ESS has high standards in comparability of measurements across European countries. It includes information on both EU and Non-EU countries. For this specific round, the questionnaire includes a module on social well-being, which permits testing the important mediating variables (e.g. social contacts, income perceptions or status in society). As 54,673 individuals were interviewed within 29 different countries, it allows to account for the structure of individuals being nested within countries.

Our sample refers to 23 of the 29 possible countries, as there is missing information on important macro-level variables for Albania, Israel, Iceland, Russia, Ukraine, and Kosovo. However, we think that the sample covers the variety of countries within Europe, as it comprises both some of the largest countries (e.g. Germany and France) as well as very different ones when it comes to labor market regimes (e.g. United Kingdom representing a liberal labor market and Spain having a conservative labor market).

At the micro-level, we exclude individuals in education as well as homemakers, retirees and self-employees or employees of family businesses. These groups in general do not have an employment contract in the sense of owning a written and signed agreement between an employee and an employer on a paid job. We furtherly restrict the age of the individuals to range from 25 to 65 years. This sample restriction is intended to minimize the impact of previous education and training or anticipatory effects of retirement. All countries together entail 18,596 individuals for our sample. The frequencies of interviewed people within those countries range from 347 (Italy) to 1316 (Germany).

### 3.2 Operationalization

#### 3.2.1 Independent Variables

The measurement of fixed-term employment in the upwards comparative design refers to the question on the type of working contract (unlimited, limited, no contract) for the current job. Unlimited is understood as a permanent employment without a predetermined expiry date. Limited equals a fixed-term job and having no contract is excluded.

Regarding the downwards comparative dimension, for unemployed individuals we refer to the definition of the International Labor Organization (ILO). Thus, the control group are individuals, who mainly were actively searching for a job during the last seven days. Consequently, we compare fixed-term employees with those being unemployed.

### 3.2.2 Dependent Variable

Since we assume well-being to be an evaluation of the expectations and perceptions regarding the own life, we use the cognitive measurement on the life satisfaction on a scale from 0 (“extremely dissatisfied”) to 10 (“extremely satisfied”).

### 3.2.3 Mediators

For our mediation analyses, we use a subjective measurement of the perceived *financial resources*. The variable consists of four options, namely (1) living comfortably on present income, (2) coping on it, (3) finding it difficult or (4) very difficult on present income. *Social contacts* are measured by asking how often the interviewees meet with friends, relatives or colleagues (seven categories of frequency: never, less than once a month, several times a month, once a week, several times a week, every day). *Status (and identity)* is operationalized by the perceived location in society. Interviewees place themselves on a “social ladder” from bottom to top of the society (eleven categories). *Activity* is equalized with how many days individuals have been physically active continuously for 20 minutes or longer during the last seven days. The answering categories range from no to seven days.

Even though it is not possible to test all of the latent functions (a measure or a proxy for *time structure* or *identity* are missing), testing the possible ones gives first hints of whether they explain some parts of the effect.

### 3.2.4 Moderator

The macro-level variable social cohesion, which we understand as describing the feeling of belonging to a greater unit, namely the country, is characterized by positive relationships between members and groups within the societies and the perception of solidarity and helpfulness. Social cohesion is measured via the so-called Social Cohesion Radar from the Bertelsmann Foundation (Dragolov et al. 2013). This index aggregates data on the micro-level from 2009 to 2012 for social relations, connectedness, and the focus on the common goods.

### 3.2.5 Control Variables

At the micro-level, we control for gender, education (International Standard Classification of Education (ISCED), condensed in three categories), age and age squared, social background (highest educational level of both parents, ISCED), and migration status (being citizen of the country). These variables are assumed to influence both the individuals’ employment status, namely being fixed-term employed, as well as individuals’ subjective well-being and have been proven to be relevant confounders (Silla et al. 2009; Kiersztyn 2016; Cortès-Franch et al. 2018). For instance, lower education of an individual might make it more likely to become fixed-term than permanent employed and less likely to become fixed-term than unemployed. Also, lower education might reduce the subjective well-being (Kiersztyn 2016).

At the macro-level, we control for income inequality. We assume that inequality in the distribution of income within a country affects both the social cohesion on the macro-level and

well-being on the micro-level. More precisely, a greater level of social inequality, e.g. regarding income distribution, on average boosts the feeling of social division and consequently lowers the social cohesion. Besides that, inequality might lower the subjective well-being of individuals. We utilize a measurement of Eurostat on the inequality of income distribution in 2012 (Eurostat 2019). More specifically, the measurement entails the ratio of the equalized disposable income received by the top quintile earners to that of the lowest quintile.

It might be also interesting to account for the micro-level variables aggregated on the macro-level, such as the proportion of migrants, women or lower educated within countries. However, it is more difficult to imagine how for instance the share of migrants might affect both the individual employment status and the well-being of individuals. For these reasons and more specifically to not induce overcontrol bias, we do only introduce theoretically based variables, which might affect both the independent and dependent variable, namely are confounders (Elwert and Winship 2014).

### 3.3 Methods

Since we assume individuals to be nested within countries and want to account for variables on both micro- and macro-level, we utilize linear multilevel models (two-level models). Because we have three distinct research questions, we fit the estimation procedures to the specific needs. First, to reveal heterogeneity in the micro-level effect sizes across countries, we estimate separate linear regression models for the respective 23 countries. This equals the first step of a two-step estimation procedure and enables a visualization of micro-level effect variation (Franzese 2005; Bryan and Jenkins 2016). Secondly, for testing the mediation impact of the micro-level functions, we use usual pooled linear regression models with clustered standard errors on the country-level. Eventually, for testing the cross-level interaction effect of social cohesion on the micro-level impact of fixed-term employment, we utilize a simultaneous estimation procedure and specify random slope models (Hox et al. 2018).

#### 3.3.1 Micro-Level Estimation

For answering the first research question, we are interested in the heterogeneity of the effects of Hypothesis 1.1 and 2.1 across countries. Thus, we want to allow for the most possible flexibility when it comes to model specification. Therefore, the estimation refers to the following equation:

$$swb_{ij} = \beta_{0j} + \beta_{1j} \cdot ftc_{ij} + \beta_{2j} \cdot gender_{ij} + \dots + \beta_{7j} \cdot migration_{ij} + \varepsilon_{ij}, \quad (1)$$

where  $\beta_{1j}$  denotes both the upwardly and downwardly comparative effect of fixed-term employment (*ftc*) on subjective well-being (*swb*). This means that we calculate the basic models for two different samples. The first sample includes individuals being either fixed-term or permanently employed, where  $\beta_{1j}$  refers to the effect of the upwards comparison. The second sample refers to fixed-term compared to unemployed individuals, where  $\beta_{1j}$  respectively denotes the downwardly comparative effect. Index *i* refers to individuals and *j* to the countries, in which the individuals are nested.  $\beta_{2j}$  to  $\beta_{7j}$  denote the estimates of the micro-level control variables.

Accordingly, we fit in both cases, i.e. in the upwardly and downwardly comparative models, an ordinary least square linear regression model for each of the 23 countries. It is obvious that we are able to have the most flexible specification for the micro-level

independent variables, as all of the effects are allowed to vary between the countries. This procedure is similar to allowing for all random effects (Heisig et al. 2017). More specifically, we include variable slopes for every independent variable and model effect variation across countries (Jusko and Shively 2005).

For the second research question, more precisely Hypothesis 1.2 and 2.2, we want to know whether the functions of Jahoda's Latent Deprivation Model can on average explain the relationship. Thus, we specify pooled linear regression models:

$$swb_i = \theta_1 \cdot ftc_i + \theta_2 \cdot gender_i + \dots + \theta_7 \cdot migration_i + \varepsilon_i, \quad (2)$$

where we account for the two-level structure by calculating clustered standard errors on the country-level. The idea of mediation analysis (Freese and Kevern 2013) includes the decomposition of the total effect, which is denoted as  $\theta_1$ .

Secondly, we add to (2) the mediating variables, i.e. the manifest and latent functions:

$$swb_i = \Theta_1 \cdot ftc_i + \Theta_2 \cdot gender_i + \dots + \Theta_7 \cdot migration_i + \Theta_8 \cdot socialcontacts_i + \Theta_9 \cdot income_i + \Theta_{10} \cdot status + \varepsilon_i, \quad (3a)$$

where  $\Theta_8, \Theta_9, \Theta_{10}$  represent the estimates for each single function, i.e. the assumed mediators. Thus, for the upwards comparative effects, there are three distinct models (social contacts, income, and status).

$$swb_i = \Theta_1 \cdot ftc_i + \Theta_2 \cdot gender_i + \dots + \Theta_7 \cdot migration_i + \Theta_8 \cdot socialcontacts_i + \Theta_9 \cdot income_i + \Theta_{10} \cdot status + \Theta_{11} \cdot activity + \varepsilon_i, \quad (3b)$$

For the downwards comparison, there are four possible equations (social contacts, income, status, and activity).  $\Theta_1$  equals the direct effect, i.e. accounting for the mediating effects of the functions.

The difference between the total and the direct effect

$$\theta_1 - \Theta_1 = \Delta \quad (4)$$

reveals the third important effect size, the indirect effect. It describes the reduction caused by the mediating variable. If the effects are mediated by the variables,  $\Theta_1$  should disappear or at least decrease in both effect size and statistical relevance compared to  $\theta_1$ .

As the Latent Deprivation Model assumes all functions to simultaneously explain the effect of unemployment on well-being, we add to the three (four) models for the upwards (downwards) comparative effects another one. This last model includes all mediators.

Following the guidelines of up-to-date research (Mustillo et al. 2018), we utilize the *KHB* command in Stata by Kohler and Karlson (2010) and report total, direct and indirect effects. The *ado* calculates a test on the statistical significance of  $\Delta$ .

### 3.3.2 Macro-Level Estimation

In order to test Hypothesis 3 and 4, namely the moderation of social cohesion (macro-level) on the micro-level effects, we apply a simultaneous estimation approach for the hierarchical linear models. Since we assume the effects of fixed-term employment on well-being to vary across countries, we specify random slope models:

$$swb_{ij} = \beta_{0j} + \beta_{1j} \cdot FTC_{ij} + \beta_2 \cdot gender_{ij} + \dots + \beta_7 \cdot migration_{ij} + \beta_8 \cdot income\_inequality_j + \varepsilon_{ij} \quad (5)$$

The model includes a random intercept and a random slope for fixed-term employment. Additionally to the micro-level confounders, we now also include the macro-level confounder of income inequality. In fact, compared to the estimation for the heterogeneity for the micro-level effects, we now average across the countries (fixed effects) and let only the micro-level impact for fixed-term employment vary ( $\beta_{1j}$ ) across the macro-level unit (random effects). However, we again calculate the effects for two differing subsamples, namely the upwards and downwards comparative effect.

We fit the models by the ‘mixed’ command in Stata, using the restricted maximum likelihood (REML) estimator and estimate all variances and covariances distinctly. We test the statistical relevance of the included random slope using a likelihood ratio test. For the cross-level interaction, we specify the model:

$$swb_{ij} = \beta_{0j} + \beta_{1j} \cdot FTC_{ij} + \beta_2 \cdot social\_cohesion_j + \beta_3 \cdot (FTC_{ij} \cdot social\_cohesion_j) + \beta_4 \cdot gender_{ij} + \dots + \beta_9 \cdot migration_{ij} + \beta_{10} \cdot income\_inequality_j + \epsilon_{ij} \quad (6)$$

The model now includes the macro-level variable on social cohesion, which is interacted with the micro-level effect of fixed-term employment. Accordingly, the equation is fitted for both the upwards (Hypothesis 3) and the downwards comparative effects (Hypothesis 4).

## 4 Results

### 4.1 Descriptive Findings

Table 1 shows unweighted univariate descriptive statistics for our key micro- and macro-level variables averaged over all individuals ( $n = 18,596$ ) and countries ( $N = 23$ ). Regarding the key independent variable, 16% of the individuals are fixed-term employed, 79% are permanently employed and 5% are unemployed. Over all countries, the interviewees report on average 6.91 points on the life satisfaction scale ranging from 0 (“extremely dissatisfied”) to 10 (“extremely satisfied”). The standard deviation, however, is 2.26 units, indicating a high variation either across individuals and/or countries.

Concerning the macro-level characteristics, the index for social cohesion varies for the 23 countries of interest from  $-.97$  for Bulgaria to  $1.32$  in Denmark with an average of zero and a standard deviation of  $.70$  units. Regarding the ratio for the income inequality, the average is  $4.53$  with a standard deviation of  $.92$  units. According to the index, Spain has the highest income inequality with a ratio of  $6.5$  and Norway the lowest, i.e.  $3.2$ .

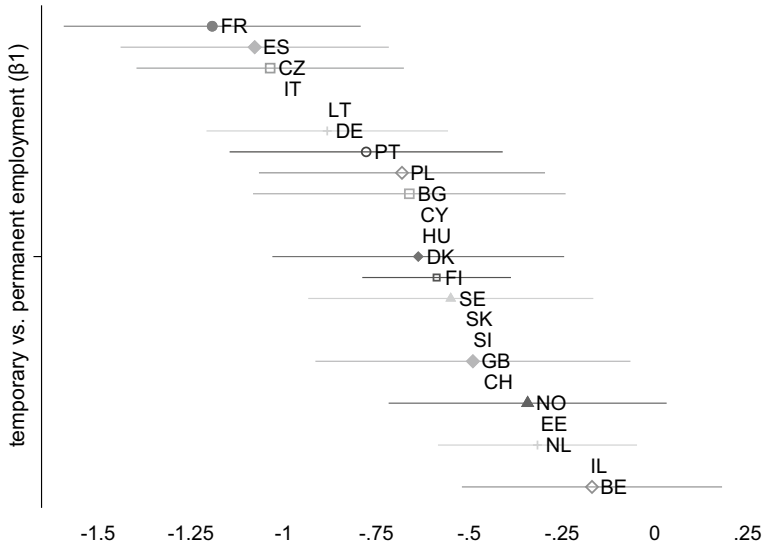
### 4.2 Hypothesis 1.1

Figure 1 shows the results regarding the first hypothesis for each country separately and ordered by effect sizes. To repeat, Hypothesis 1.1 states that fixed-term compared to permanent employment should reduce the perceived well-being of the individuals. The results are unambiguous concerning the effect direction. The coefficient plot shows that in all countries, the impact of fixed-term compared to permanent employment is estimated to be negative, holding constant the control variables. However, the effect sizes do seem to vary noticeably.

**Table 1** Univariate descriptive statistics for both micro-level and macro-level variables. *Sources:* Own calculations using the European Social Survey, round 6 (2012)

	Mean	S.D.	Min	Max
<i>Micro-level variables</i>				
Employment status				
Unemployed	.05			
Fixed-term employed	.16			
Permanent employed	.79			
Subjective well-being	6.91	2.26	0	10
Feeling about income				
Living comfortably	.28			
Coping	.45			
Difficult	.19			
Very difficult	.08			
Social contacts				
Never	.01			
Less than once a month	.08			
Once a month	.11			
Several times a month	.22			
Once a week	.19			
Several times a week	.26			
Every day	.13			
Activity	4.82	2.34	0	7
Status	5.72	1.73	0	10
Education				
Low education	.17			
Middle education	.53			
High education	.30			
Social background				
Low background	.40			
Middle background	.44			
High background	.16			
Gender				
Male	.46			
Female	.54			
Age	44.19	10.62	25	65
Migration status				
No migrant	.95			
Migrant	.05			
<i>n</i>	18,596			
<i>Macro-level variables</i>				
Social cohesion	.00	.70	-.97	1.32
Income inequality	4.53	.92	3.2	6.5
<i>N</i>	23			

One example for the interpretation of the coefficient for France (FR) is: On average, being temporarily rather than permanently employed *ceteris paribus* decreases the life satisfaction by 1.19 units. The effect is statistically significant, as the confidence interval does



**Fig. 1** Coefficients plot for the micro-level effects of fixed-term employment compared to permanent employment on subjective well-being for each country. *Notes:* Coefficients from linear regression models fitted for each country separately (dependent variable: well-being, scale-points). Statistical significances are represented by 95% confidence intervals. Models include micro-level control variables (education, social background, gender, age, migration). Table 1 provides information on included variables. *Sources:* Own calculations using the European Social Survey, round 6 (2012)

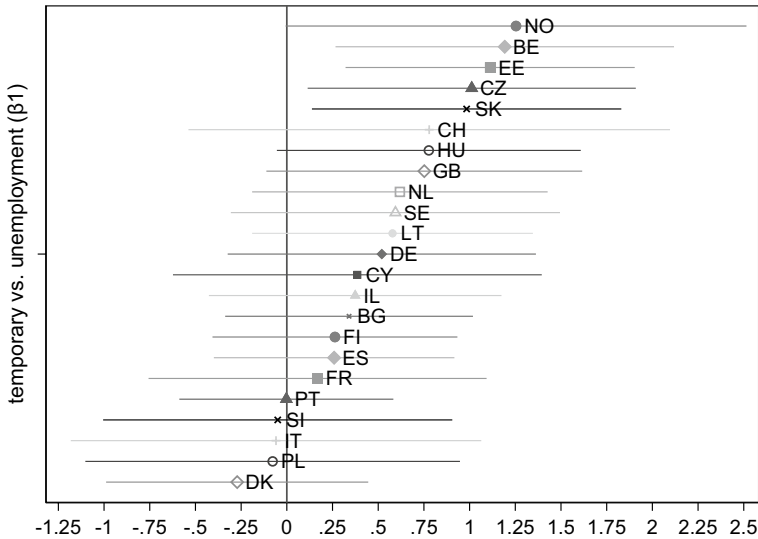
not include zero. Moreover, it is the strongest negative impact size compared to the other countries. For Belgium (BE) we find the smallest negative effect. Having a temporary compared to a permanent job in Belgium on average decreases the well-being by only .17 units. The estimate is statistically insignificant. Moreover, for six additional countries, namely Ireland, Estonia, Norway, Switzerland, Slovenia, and Cyprus we do not find statistically significant effects. Nevertheless, the direction of the effects fits the expectations.

The range between the point estimates is 1.02 units, indicating a great variation in the effect sizes across countries. It is also noticeable that some of the countries with a rather liberal labor market (Great Britain, Netherlands) have a smaller effect, while the conservative ones (e.g. Spain, Italy, Germany, France) are among those countries with the greatest effect sizes.

Yet, regarding both effect directions and sizes in general for all the 23 countries, we find support for the upwards comparative effect. Moreover, the results suggest effect heterogeneity across countries.

### 4.3 Hypothesis 2.1

Figure 2 shows the results for the downwards perspective. The hypothesis states that fixed-term employees should have a greater subjective well-being compared to unemployed individuals. The findings suggest a more ambiguous picture compared to the upwards comparative effects. Holding the important confounders constant, for 18 of the 23 countries there are coefficients in the direction of expectation, whilst for five this is not the case.



**Fig. 2** Coefficients plot for the micro-level effects of fixed-term employment compared to unemployment on subjective well-being for each country. *Notes:* Coefficients from linear regression models fitted for each country separately (dependent variable: well-being, scale-points). Statistical significances are represented by 95% confidence intervals. Models include micro-level control variables (education, social background, gender, age, migration). Table 1 provides information on included variables. *Sources:* Own calculations using the European Social Survey, round 6 (2012)

For Norway (NO)—the largest impact size—being temporarily employed compared to being unemployed on average and statistically significantly increases the subjective well-being *ceteris paribus* by 1.25 units. The smallest negative effect size appears for Denmark (DK), where, on average and holding the confounders constant, jobs with a fixed duration compared to unemployment even decrease the life satisfaction by .27 units. This estimate is statistically insignificant as well as it is for Poland, Italy, Slovenia, and Portugal. Moreover, the range for the magnitude of the coefficients is 1.52 units, which again points to a great variation in the effect sizes across countries.

It is interesting to note that for some countries, which have a point estimate very close to zero, it does not seem to matter whether individuals are fixed-term employed or unemployed. This result points towards the argument from the literature, suggesting that this kind of job insecurity might feel as harmful as unemployment (Inanc 2018). However, for the large majority of the countries, to wit 18 countries, the effect is estimated to be positive.

When looking at the direction and significance of the effects, for five countries the data support the hypothesis. These findings indicate that temporary employees have a greater well-being compared to unemployed individuals. Nevertheless, for most of the countries, where the direction of the impact fits the expectation, we do not obtain a statistically significant estimate.

**Table 2** Pooled linear regression models with mediation analyses for the effect of fixed-term employment compared to permanent employment. *Sources:* Own calculations using the European Social Survey, round 6 (2012)

	M1	M2	M3	M4	M5
Dependent variable	$\theta$	$\Theta$	$\Theta$	$\Theta$	$\Theta$
Subjective well-being	(t-value)	(t-value)	(t-value)	(t-value)	(t-value)
Fixed-term employment	-.833*** (-11.75)	-.817*** (-7.49)	-.508*** (-6.45)	-.335*** (-4.08)	-.255*** (-3.80)
$\Delta_p$ , mechanism (z-value)		-.016 (-1.46)	-.325*** (-9.49)	-.498*** (-10.83)	-.579*** (-13.04)
Social contacts ( <i>Ref.</i> : never)					
< Than once a month		.756*** (4.21)			.520*** (3.69)
Once a month		1.576*** (6.24)			.839*** (4.43)
Several times a month		1.957*** (7.03)			1.031*** (5.79)
Once a week		2.136*** (7.66)			1.151*** (6.47)
Several times a week		2.268*** (7.79)			1.173*** (6.70)
Every day		2.243*** (6.15)			1.256*** (6.50)
Status			.570*** (12.19)		.388*** (15.42)
Feeling about income ( <i>Ref.</i> : very difficult)					
Living comfortably				3.655*** (12.93)	2.545*** (13.99)
Coping				2.698*** (11.51)	1.928*** (12.33)
Difficult				1.400*** (10.78)	.963*** (10.90)
<i>n</i>	17,624	17,624	17,624	17,624	17,624
<i>N</i>	23	23	23	23	23
BIC	77,374	76,587	73,743	73,534	71,487

Coefficients from linear regression models averaging over all countries with cluster-robust standard errors for the macro-level (dependent variable: well-being, scale-points). Micro-level control variables included (education, social background, gender, age, migration). Table 1 provides information on included variables

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

#### 4.4 Hypothesis 1.2

To explain the effect of fixed-term employment on well-being, we suggest that some of the functions of the Latent Deprivation Model should matter. This assumption is tested by conducting mediation analyses, for which the results are shown in Table 2. Like previously explained, we consider three different estimates: the total effect (M1), the direct

and the indirect effect (both included in M2–M5). Concerning Hypothesis 1.2, we assume that the effect size from M1 decreases in M2–M5 and that this decline ( $\Delta$ ) is statistically significant.

On average, we find that fixed-term employees are—holding the confounding variables constant—.833 units less satisfied with their lives compared to permanent employees. This is also what we expected in the basic Hypothesis 1.1 and thus also holds across countries. It is statistically significant as  $t = -11.75$ .

Adding the mediating variable for social contacts, the impact only slightly decreases to  $-.817$  units. The point estimate is still statistically significant as  $t = -7.49$ . Thus, the coefficient from M1 only slightly decreases in M2 and this decline  $\Delta = -.016$  is not statistically significant ( $z = -1.46$ ). This leads us to reject the hypothesis on social contacts being a mechanism for the comparison of fixed-term to permanent employees.

Another latent function, which we suggest mediating the impact is the status. Adding this mediator in M3, the total effect declines in both empirical size and statistical relevance to a direct effect of  $-.508$  units ( $t = -6.45$ ). The indirect effect of  $-.325$  units—about 39% in relative terms—is statistically significant ( $z = -9.49$ ). Thus, we find support for status to explain some part of the effect of fixed-term employment on well-being.

The greatest decline, however, can be observed for adding the manifest function of the income (M4): the total effect reduces to the direct effect of  $-.335$  units, that is to say a 60% ( $\Delta = -.498$ ,  $z = -10.83$ ) decline in the size of the point estimate. Thus, the data support the importance of worries about income to be one explanation for the negative impact.

Adding all mechanisms simultaneously (M5) decreases the total effect of  $-.833$  units to a much smaller point estimate of  $-.255$  units ( $t = -3.80$ ), which is still statistically significant. The decline of  $.579$  units proves statistical significance ( $z = -13.04$ ) and indicates in relative terms a 70% weakening.

Whereas the results show that adding the mediating variables notably decreases the main correlates, still there remains a  $-.255$  unit effect size, which we cannot explain. This finding might refer to the fact that we were restricted in the choice of mediators by the data source. Nevertheless, the results give first hints for utilizing the Latent Deprivation Model when explaining the main effects. It is a reasonable theoretical approach to explain the association between fixed-term employment compared to permanent employment and well-being.

## 4.5 Hypothesis 2.2

With the results of the previous analyses in mind, we now return to the downwards comparative effects. Table 3 reveals the results of the mediation analyses. Even though we could not find support for every single country for a positive connection to exist, on average (M1) it turns out to be statistically significant and in the direction of expectation ( $\beta = .581$ ,  $t = 5.75$ ). Thus, *ceteris paribus* individuals who are temporarily employed rather than not having a job, report on average a  $.581$  unit higher life satisfaction. Within the framework of the Latent Deprivation Model, we suggest social contacts, status, income, activity, time structure and supra-individual aims to explain this positive correlate.

However, when it comes to social contacts, adding the variable to the model (M2) again does not notably decrease the positive impact: the point estimate decreases to  $.560$  units ( $t = 4.48$ ), which implies a statistically insignificant net difference of  $\Delta = .021$  ( $z = 1.09$ ).

**Table 3** Pooled linear regression models with mediation analyses for the effect of fixed-term employment compared to unemployment. *Sources:* Own calculations using the European Social Survey, round 6 (2012)

	M1	M2	M3	M4	M5	M6
Dependent variable	$\theta$	$\Theta$	$\Theta$	$\Theta$	$\Theta$	$\Theta$
Subjective well-being	(t-value)	(t-value)	(t-value)	(t-value)	(t-value)	(t-value)
Fixed-term employment	.581*** (5.75)	.560*** (4.48)	.447*** (3.93)	.085 (.75)	.582*** (4.49)	.129 (1.18)
$\Delta$ , mechanism (z-value)		.021 (1.09)	.134*** (3.18)	.496*** (8.20)	-.001 (-.43)	.452*** (7.76)
Social contacts ( <i>Ref.</i> : never)						
< Than once a month		.817*** (2.66)				.678* (2.02)
Once a month		1.533*** (3.57)				.883* (2.04)
Several times a month		1.935*** (5.30)				1.183*** (3.12)
Once a week		2.062*** (5.98)				1.197*** (3.40)
Several times a week		2.312*** (6.21)				1.455*** (3.89)
Every day		2.070*** (5.63)				1.432*** (3.93)
Status			.564*** (11.91)			.407*** (14.63)
Feeling about income ( <i>Ref.</i> : very difficult)						
Living comfortably				3.414*** (12.09)		2.365*** (12.79)
Coping				2.453*** (9.70)		1.751*** (11.77)
Difficult				1.236*** (6.80)		.820*** (5.88)
Activity					-.021 (-.71)	-.019 (-.81)
<i>n</i>	3862	3862	3862	3862	3862	3862
<i>N</i>	23	23	23	23	23	23
BIC	18,078	17,981	17,328	17,357	18,086	16,929

Coefficients from linear regression models averaging over all countries with cluster-robust standard errors for the macro-level (dependent variable: well-being, scale-points). Micro-level control variables included (education, social background, gender, age, migration). Table 1 provides information on included variables

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Thus, we do not find support for social contacts to mediate the downwards comparative effects.

Regarding the status, the analyses (M3) reveal its important role as a mediator: the indirect effect of  $\Delta = .134$  is statistically significant with  $z = 3.18$ .

Similar to the results for the upwards comparison, the perceived financial situation is the most important explanation for the total effect. Incorporating it (M4) decreases the point estimate by 85% and the  $t$ -value to .75. Thus, the effect even becomes statistically insignificant when accounting for the financial resources.

Different from the previous models, we now also include activity (M5). We find that this does neither cause a change in the initial effect size nor in its statistical significance ( $\Delta = -.001$ ,  $z = -.43$ ). Owing to this, we need to reject the hypothesis of activity being a mediator.

When we add all mechanisms simultaneously (M5), the total effect of  $\theta = .581$  ( $t = 5.75$ ) can be decomposed into a direct effect of  $\Theta = .129$  ( $t = 1.18$ ) and an indirect effect of  $\Delta = .452$  units ( $z = 7.76$ ). In relative terms, this means that 78% of the initial total effect can be explained by the added mediating variables. Vis-à-vis 22% remain unexplained. This unexplained share of the effect might be due to lacking the possibility to test for the mediating impact *time structure* and *supra-individual aims*. However, the findings pinpoint to the mediating role of both the manifest as well as the latent functions.

**Table 4** Random slope linear regression models for the cross-level interaction effects of social cohesion. Sources: Own calculations using the European Social Survey, round 6 (2012)

	Hypothesis 3		Hypothesis 4	
	M1	M2	M1	M2
Dependent variable	$\beta$	$\beta$	$\beta$	$\beta$
Subjective well-being	(t-value)	(t-value)	(t-value)	(t-value)
Fixed-term employment	-.69*** (-11.24)	-.69*** (-12.13)	.47*** (4.98)	.48*** (4.81)
Social cohesion		.95*** (5.46)		1.05*** (4.16)
Interaction term		.19* (2.22)		.02 (.13)
Control variables	✓	✓	✓	✓
Constant	9.56*** (11.26)	8.44*** (12.64)	10.37*** (9.47)	8.47*** (9.26)
Random-effects coefficients	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)	Coefficient (S.E.)
Variance (FTC)	.045 (.025)	.032 (.021)	.022 (.051)	.033 (.060)
Variance (Constant)	.600 (.189)	.247 (.081)	.983 (.344)	.438 (.181)
Covariance (FTC, Constant)	.068 (.054)	.011 (.031)	-.142 (.111)	-.097 (.088)
Variance (Residual)	3.902 (.042)	3.902 (.042)	5.272 (.121)	5.271 (.121)
$n(N)$	17,624 (23)	17,624 (23)	3862 (23)	3862 (23)
BIC	74,329	74,331	17,612	17,613
ICC	.13	.06	.16	.08

Coefficients from simultaneous estimation procedure for multilevel linear regression models (dependent variable: well-being, scale-points). Micro-level control variables included (education, social background, gender, age and age squared, migration). Macro-level control variable included (income inequality). REML estimation,  $t$ -statistics estimated by generalized Satterthwaite approximation. Table 1 provides information about included variables

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

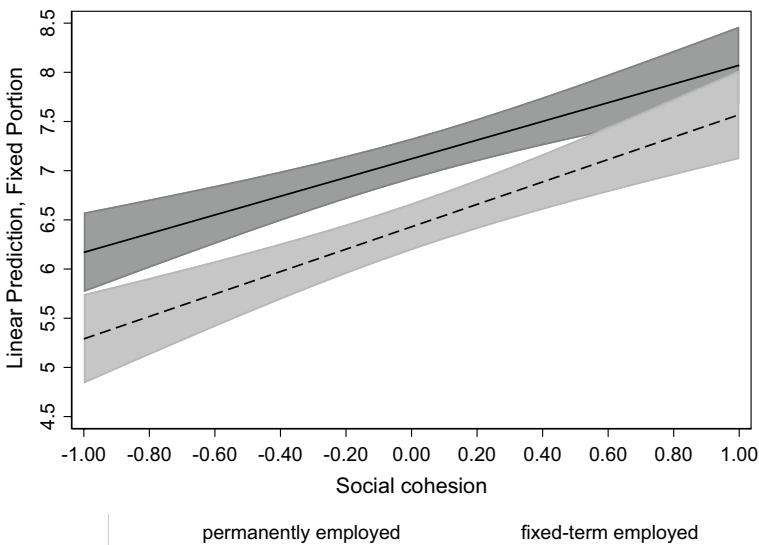
Comparing the results of Hypothesis 1.2 and 2.2, it is interesting that the explanatory power of the mediating variables seems to be very similar in magnitude. This finding also strengthens the interest in the results of the following analyses regarding social cohesion as a country-level moderator, which we assume to substitute the micro-level mechanisms. Table 4 includes the estimates for the cross-level interaction effects.

### 4.6 Hypothesis 3

First, we again return to the well-being effects comparing fixed-term to permanent employment. Now we are interested in whether an increasing level of social cohesion on the macro-level reduces the negative impact. More specifically, this assumption refers to the difference between temporarily and permanently employed individuals in their well-being on the micro-level.

The coefficient on intra-class correlation (ICC) of the empty model (not shown) indicates that about 17% of the variance in life satisfaction of fixed-term and permanent employed individuals is observed at the country-level. This indicates a substantial variation across welfare states. The likelihood ratio test on the random slope indicates that it is reasonable to include a random slope for the micro-level independent variable of fixed-term employment ( $X^2 = 28.20, p < 0.01$ ).

M1 includes the random slope specification. The model reveals that, controlling for all important micro- and macro-level confounding variables, on average fixed-term



**Fig. 3** Conditional effects plot for the cross-level interaction of the macro-level social cohesion on the upwards comparative micro-level effects. *Notes:* Average marginal estimates for the subjective well-being of fixed-term and permanent employees for specific values of social cohesion. 95% confidence intervals displayed. Visualization of the results from hierarchical models from Table 4 (Hypothesis 3). Difference between the lines represents effect sizes. Micro-level control variables included (education, social background, gender, age and age squared, migration). Macro-level control variable included (income inequality). REML estimation, t-statistics estimated by generalized Satterthwaite approximation. Table 1 provides information about included variables. *Sources:* Own calculations using the European Social Survey, round 6 (2012)

employment decreases the subjective well-being of individuals by .69 units, when comparing them to permanent employees. Therefore, we again find support for Hypothesis 1.1.

The interaction term is added in M2 and equals .19 units. This indicates that a one unit increase in social cohesion *ceteris paribus* decreases the negative well-being effect of fixed-term compared to permanent employment by .19 units. Hence, the greater the social cohesion in a country is, the smaller the well-being difference between fixed-term and permanent employees. The direction of the moderating term is in line with our theoretical assumptions and the test statistics ( $t=2.22$ ) backs up the importance of social cohesion as macro-level moderator.

Figure 3 visualizes the cross-level interaction. It includes the linear predictions for both fixed-term and permanent employees regarding their well-being for specific values of social cohesion. For instance, for countries with a social cohesion of  $-1$  unit, the prediction for the subjective well-being of fixed-term employees is 5.29 units. For permanent employees living in those countries, the models predict a 6.17 unit well-being. The difference equals the impact, i.e. fixed-term employees have a .88 unit lower subjective well-being compared to permanent employees in countries with a very low social cohesion. For countries in which the social cohesion is high, i.e. 1 unit, the effect is  $-.60$  (7.47–8.07). Thus, the greater the social cohesion is, the smaller the well-being difference between fixed-term and permanent employees.

Eventually, we find support for social cohesion on the macro-level to diminish the negative impact of fixed-term employment compared to permanent employment on subjective well-being.

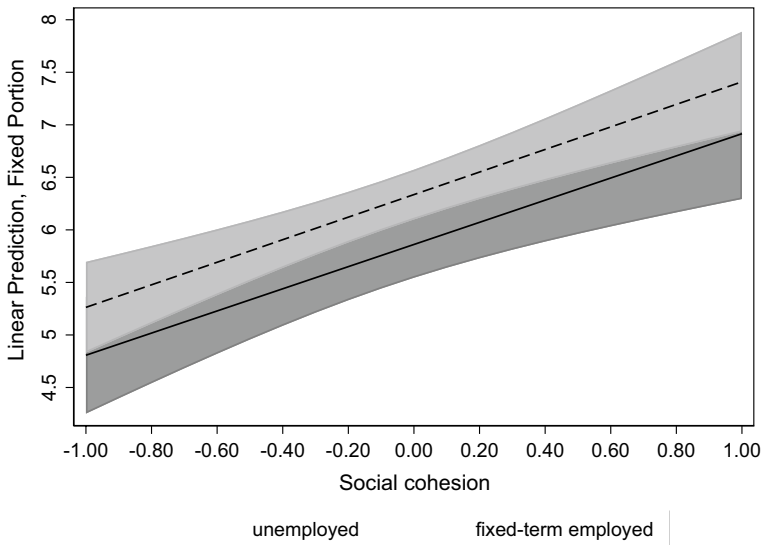
#### 4.7 Hypothesis 4

For the well-being effects regarding fixed-term employed compared to unemployed individuals, the theory also assumes social cohesion to diminish the impact by substituting the role of social contacts. More precisely, Hypothesis 4 suggests a greater social cohesion to balance out the differences between fixed-term employed and unemployed individuals, such that they should turn into a zero correlate.

The coefficient on intra class correlation (ICC) of the empty model (not shown) indicates that about 16% of the variance in life satisfaction of fixed-term employed and unemployed individuals is observed at the country-level. Again, this suggests a high heterogeneity across welfare states. The likelihood ratio test on the random slope indicates that there is no statistically significant improvement when including a random effect for the micro-level independent variable of fixed-term employment compared to a model without it ( $X^2 = 0.69, p = 0.70$ ). However, since we theoretically assume the downwardly comparative effect to vary across countries, which the results of Hypothesis 2.1 also indicated, we include a random slope anyway.

The simultaneous estimation procedure reveals that, *ceteris paribus*, fixed-term employees have a .47 greater subjective well-being compared to unemployed individuals (M1). This effect is statistically significant ( $t=4.98$ ). Thus, the results also support Hypothesis 1.2. Specifically, the effect of the upwards comparison seems to be stronger compared to the downwards comparatively effects. This is in line with the findings for Hypothesis 1.1 and 1.2, where we fitted regression models for each country separately.

Adding the cross-level interaction effect in M2, results in an interaction term of .02, which is statistically insignificant ( $t=.13$ ). In greater detail, this means that one unit increase in social cohesion increases the positive effect by .02 units. Specifically, the



**Fig. 4** Conditional effects plot for the cross-level interaction of the macro-level social cohesion on the downwards comparative micro-level effects. *Notes:* Average marginal estimates for the subjective well-being of fixed-term and permanent employees for specific values of social cohesion. 95% confidence intervals displayed. Visualization of the results from hierarchical models from Table 4 (Hypothesis 4). Difference between the lines represents effect sizes. Micro-level control variables included (education, social background, gender, age and age squared, migration). Macro-level control variable included (income inequality). REML estimation, t-statistics estimated by generalized Satterthwaite approximation. Table 1 provides information about included variables. *Sources:* Own calculations using the European Social Survey, round 6 (2012)

direction is in opposite to what we expected, but is also very close to zero. Thus, there is no support for the moderating effect of social cohesion on the well-being effect of fixed-term employment compared to unemployment.

Figure 4 shows that the linear prediction lines for the subjective well-being for fixed-term employees and unemployed individuals dependent on social cohesion almost run parallel. When there is very low social cohesion, i.e.  $-1$  unit, the effect of fixed-term employment compared to unemployment is .45 units (5.26–4.81). When there is a high level of social cohesion, i.e.  $1$  unit, the impact is .49 units (7.41–6.92). Moreover, the 95% confidence intervals overlap, which means that the differences are not statistically significant.

Therefore, we cannot find support for the hypothesis that social cohesion moderates the effect of fixed-term employment compared to unemployment on subjective well-being.

## 5 Conclusion

This paper extends the previous literature on the effect of fixed-term employment on well-being and the role of country characteristics as moderators. In greater detail, it addresses three research questions: the first one refers to whether the effect of fixed-term employment on well-being varies across European countries. Moreover, it wants to clarify whether it is reasonable to utilize Jahoda's Latent Deprivation Model to explain

the connection between fixed-term employment and well-being. Eventually, it raises the question of whether social cohesion can explain cross-country differences in the effects.

Drawing on the country-comparative and harmonized ESS data of round 6 (2012) on 18,596 individuals from 23 different European countries, the results show that the effect sizes of fixed-term employment both compared to permanent and to unemployment differ remarkably across countries. Even though on average there is a negative (positive) impact of fixed-term employment compared to permanent employment (unemployment), for some countries the employment status seems to be more important for well-being than for others. Adapting the Latent Deprivation Model to the fixed-term employment framework, we find mediating effects for some of the functions, namely income and status. Moreover, social cohesion on the country-level indeed buffers the well-being effects when comparing fixed-term to permanent employees, but not for the comparison of fixed-term to unemployed individuals.

Specifically, literature reviews raised the question about the role regarding heterogeneity of the effect of fixed-term compared to permanent employment on well-being across countries to explain mixed findings (Cuyper et al. 2008; Imhof and Andresen 2018). We add on that by utilizing harmonized cross-country comparative data to estimate regression models for each country and find that the magnitude of the coefficients differs remarkably between the countries. This indicates that when conducting single country studies, one should be careful in referring to previous findings from different countries as fixed-term employment seems to impact well-being differently.

In contrast to the few studies on the effect of fixed-term employment compared to unemployment on well-being, we could not exclusively find evidence for the assumption of any job being better than not having a job (Gebel and Voßemer 2014; Gundert and Hohendanner 2014; Chambel et al. 2016). In fact, the variation between countries was even greater for comparing temporary workers to unemployed individuals than to permanent employees. Even if in most of the countries fixed-term employees were better off than their unemployed counterparts, in some countries the difference was either very small and statistically insignificant, almost zero or even the opposite direction. The latter is in line with the argumentation of fixed-term employment to be similar stressful as being unemployed. Thus, the findings point out that more studies in the respective countries should be carried out for this kind of comparison.

Moreover, we extend the literature on the plausibility to use the Latent Deprivation Model (Gundert and Hohendanner 2014) to explain the effect by not only adapting the arguments to the framework of fixed-term employment but also empirically testing it. We show that the initial mechanisms are partly transferable. Status and income are indeed explanations for the effect, whilst for social contacts and physical activity we could not find any mediating impact. Interestingly, the mediation effects were similarly strong for both directions of comparison, i.e. permanent employment, and unemployment.

Lastly, we extend the knowledge regarding the moderating role of country-level characteristics, which so far mainly consists of objective factors regarding social policies or economic measures (Carr and Chung 2014; Voßemer et al. 2018; Karabchuk and Soboleva 2019). We add on the current research on cultural country-level moderators (Täht et al. 2019) by assuming social cohesion to substitute the function of social contacts and status within work environment. This moderation effect occurs to be existent for the upwards comparative perspective rather than for the downwards one. These findings shift the focus from explaining country differences with mainly economic factors to also broadening the focus to societal ones.

Nevertheless, there are also some shortcomings of the analyses. Firstly, due to data restrictions we cannot account for the heterogeneity within temporary jobs, meaning that the job quality and perceived security might be different for working within a project with a fixed end than jobs in the public sector. Moreover, we did not separate between short- and long-term unemployment. Thus, even though we follow the standards of the literature regarding the measurements, we could still mix up effects for those types of (un) employment.

In the same manner, future research might want to include measurements like a sophisticated index for both the latent and manifest functions such as the “access to categories of experience” (ACE) scales from Evans (1986). Like previously indicated, we were limited in the choice for the functions, although our chosen measurements are very close to the initial ideas of the functions. However, we recommend testing the hypotheses using other and/or additional variables to have some sensitivity analyses.

Eventually, even though we controlled for the most important micro- and macro-level confounders, we cannot account for unobservable variables. One argument regarding selection into fixed-term jobs are different preferences of individuals, i.e. being voluntarily or involuntarily fixed-term employed (Kauhanen and Nätti 2015). We could not test for these. Thus, future research should repeat the (mediation) analyses using more recent panel data for distinct countries to ensure that there is no bias caused by unobserved heterogeneity.

Yet, this article provides proof for the necessity to specify more flexible models when it comes to country-comparative analyses on the effect of fixed-term employment on well-being. Moreover, the article offers empirical evidence for utilizing theory from another field of study, namely the unemployment research. Finally, this paper promotes the debate on the role of cultural characteristics, namely social cohesion, which should also be considered in labor market policy making. In this respect, one avenue for future research could be to examine the moderating role also of other related aggregated indicators at the macro-level, such as proportions of migrants or distribution of education within countries.

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