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ORIGINAL RESEARCH

Out of Work, Out of Spirit? The Effects of Unemployment Duration on Young People's Intrinsic Work Motivation

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Abstract
Unemployment in early career stages has been found to have lasting negative effects on future careers. The *culture of worklessness* theory attributes these after-effects to a decreasing intrinsic work motivation during unemployment. However, empirical evidence regarding the impact of prolonged unemployment on the intrinsic work motivation of young people is scarce. Drawing on a sample of young adults who were interviewed twice—once at the beginning of an unemployment spell and again one year later—we examine how intrinsic work motivation changed during this period. We use change score models to estimate the effects of unemployment duration, re-employment status, and—for those re-employed—the quality of the new job. In contrast to the culture of worklessness theory, but in line with Jahoda's theory of latent deprivation, we find that longer unemployment durations induce an overall increase in intrinsic work motivation—especially for those who were no longer unemployed at the time of the second interview and whose new jobs were of higher intrinsic quality than the previous ones. Our findings challenge the idea that prolonged unemployment feeds a self-reinforcing circle of demotivation, highlighting instead the need for intrinsically motivating jobs for young people.

Keywords Intrinsic work motivation · Latent deprivation · Panel survey · Quality of work · Unemployment duration · Youth unemployment

Prior Use of Data

The comprehensive survey data has been used in a few prior publications. Yet, the focus of the previous publications differed considerably from the focus of the present article. Mühlböck et al. (2017; 2018) focused on methodological aspects (interviewer bias and panel attrition), Mühlböck et al. (2020) examined the impact of educational activities on perceived employability, Mühlböck et al. (2022), and Vogtenhuber et al. (2021) analysed ethnic and gendered employment gaps.

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1 Introduction

Elevated risk of unemployment among young people remains one of the most pressing challenges of today's labour markets.[1] Experiencing unemployment at an early career stage induces long-lasting effects on future career paths, including a permanently elevated risk of unemployment (Arulampalam et al., 2000; Gregg, 2001; Ralston et al., 2022). These 'scarring effects' are particularly pronounced in cases of longer or repeated early-career unemployment spells (Cockx & Picchio, 2011; Schmillen & Umkehrer, 2017). The experience of unemployment leaves scars in the form of future income losses (Arulampalam, 2001; Gangl, 2006; Gregg & Tominey, 2004) as well as a decrease in job quality (Brand, 2006; Dieckhoff, 2011; Voßemer, 2019), job satisfaction (Bell & Blanchflower, 2011) and general well-being (Clark et al., 2001; Knabe & Rätzel, 2011). Among adolescents, the exposure to unemployment in early career stages has additionally been found to entail negative effects on the long-term development of mental health (Strandh et al., 2014; Virtanen et al., 2016).

From a social norms perspective, it has been argued that youth unemployment leaves scars and tends to be persistent because extended and recurring periods of unemployment alter the values and work norms of the unemployed. Unemployment status may become normalised and—when sustained over an extended period—develop into a lifestyle based on a 'culture of unemployment', which in turn may erode intrinsic motives to take up employment beyond basic financial needs (e.g. Aberg, 2001). From a different theoretical viewpoint, the experience of unemployment may trigger a raised awareness of the non-financial, i.e. latent, functions of employment (Jahoda, 1981), which may induce an increase rather than a decrease in intrinsic work motivation (Hyggen, 2008).

However, empirical evidence regarding the precise impact of unemployment and its duration on intrinsic work motivation is scarce. Most studies on the effects of unemployment experience on intrinsic work motivation rely on cross-sectional data (e.g. Demel et al., 2018; Hammer & Russell, 2004; Svallfors et al., 2001; van der Wel & Halvorsen, 2015), whereas longitudinal studies are mainly concerned with long-term changes in work motivation during the transition from youth to adulthood (Chow et al., 2014; Johnson et al., 2012; Lechner et al., 2017). The few longitudinal studies on the consequences of unemployment for work-related attitudes provide mixed results and do not necessarily focus on early career stages (Isaksson et al., 2004; Nordenmark, 1999). Hence, little is known regarding the impact of unemployment duration on the work motivation of young people.

Addressing that research gap, this article examines longitudinal data from a two-wave panel survey of young people aged 18 to 28 years in Vienna, Austria (Steiber et al., 2017). Participants were first interviewed when they registered as unemployed at the public employment office and a second time a year later. The study tracked the intrinsic work motivation of these young people across one year in which they either remained unemployed or re-entered the labour market or the education system.

This article proceeds as follows: First, we present the two counteracting theories regarding the effect of unemployment duration on intrinsic work motivation: the norms-based *culture of unemployment* theory and Jahoda's *latent deprivation theory*. From these, we derive hypotheses about the effect of prolonged unemployment on relative intrinsic work motivation. Subsequently, we review existing empirical evidence on such effects, followed

[1] Recent Eurostat data show that the unemployment rate among individuals aged 15 to 24 years was 14.9% in 2024, compared with just 5.4% for those in the prime working-age group of 25 to 54 years (Eurostat, 2025).

by our own empirical analysis. Finally, we discuss the main results and policy implications of our findings in the conclusion.

2 Intrinsic Work Motivation

Conceptually, intrinsic work motivation is defined as the motivation to carry out employment for reasons that go beyond external (mainly financial) rewards, meaning that the work itself is regarded as a rewarding activity (Wielers & van der Meer, 2020). Empirically, the concept can be operationalized in several distinct ways, capturing its different dimensions:

One perspective focuses on (non-financial) *employment commitment* (e.g. Isaksson et al., 2004; Kittel et al., 2019; Wielers & van der Meer, 2020). This concept was first applied by Morse and Weiss (1955), who asked a sample of employees whether or not they would keep working if they inherited enough money to live comfortably for the rest of their lives. This question—sometimes referred to as the 'lottery question'—was later complemented with other measures such as agreement to the statement 'Having a job is very important to me' to build a *work involvement* scale (Warr et al., 1979).

Another perspective considers the importance attached to specific job attributes as indicators of intrinsic or extrinsic work motivation, typically termed 'work values,' 'job preferences' or 'work orientations' (Bacher et al., 2022; Gallie, 2007; Kalleberg & Marsden, 2013; Wielers & van der Meer, 2020). The classification into intrinsic and extrinsic attributes can be traced back to Rosenberg (1957: 11–12). *Intrinsic job preferences* relate to internal characteristics of the tasks performed in these jobs, such as opportunities for personal advancement and taking initiative, as well as autonomy and executing interesting tasks. According to self-determination theory (Deci & Ryan, 1985), such intrinsic aspects fulfil basic psychological needs for autonomy, competence and relatedness, thereby fostering internal motivation and overall job satisfaction. By contrast, *extrinsic job preferences* relate to external job characteristics, such as a high income, career opportunities and job security (Gallie, 2007; Kalleberg & Marsden, 2013). Gallie (2007: 283–284) introduced a measure of *relative* intrinsic job preferences by subtracting the scores of an extrinsic job preferences scale from those of an intrinsic job preferences scale. This approach automatically corrects for a possible acquiescence bias, which may arise when significant importance is placed on both intrinsic and extrinsic work rewards (Jackson & Messick, 1961), and also helps to address culture-specific response patterns (De Witte et al., 2004; Gallie, 2007; Kozák, 2020). Hjort (2015) points out that a relative measure does not convey whether changes are due to an increase in intrinsic or a decrease in extrinsic ratings, or a combination of both. However, according to needs theory (Inglehart, 1971; Maslow, 1977), higher-order needs like self-actualisation can only emerge once lower-order, material needs have been satisfied. This trade-off between the salience of intrinsic and extrinsic work orientations can be accounted for by measuring *relative* intrinsic orientation (see also De Witte et al., 2004).

The two concepts—employment commitment and job preferences— have a strong theoretical relation but measure distinct aspects. Wielers and van der Meer (2020) argue that *work commitment* refers to the broader meaning of doing paid work for one's life, while *intrinsic work orientation* more specifically measures the value attached to the content of work. In the present article, we focus on the latter and draw on the *relative* measurement of intrinsic work motivation proposed by Gallie (2007).

3 Theorising a Potential Effect of Unemployment Duration

There are two opposing theories regarding the impact of unemployment on work motivation: On the one hand, theories of *welfare state dependency* or *culture of unemployment* suggest that unemployment may negatively affect intrinsic work motivation (Halvorsen, 1999; Hyggen, 2008). Times of high unemployment are thought to shift preferences in the spheres of work, consumption and leisure (Roed, 1997), driven by a decline in the norm of engaging in paid work, an increased appreciation of leisure time (Lindbeck et al., 1999) and reduced stigmatisation of unemployed people (Frey & Stutzer, 2002; Simões et al., 2022). Indeed, Clark (2003) found that the psychological (or utility) impact of individuals' unemployment experience was reduced in contexts where relevant others also showed a high level of unemployment. At the individual level, such processes of norm adaptation may also occur among individuals who experience long spells of joblessness, regardless of the general level of unemployment at the time (Aberg, 2001): Those who face long-term unemployment may give up on job searches after repeated failure to find a job, and consequently lower their employment commitment (Jackson, 1994). Following this line of reasoning, we would expect longer spells of unemployment to negatively affect young people's intrinsic work motivation.

On the other hand, prolonged unemployment can raise awareness of the non-financial aspects of paid work, thereby increasing intrinsic work motivation (Hyggen, 2008; Steiber, 2013; Svallfors et al., 2001). This assumption is based on Jahoda's *latent deprivation* theory. Jahoda (1995, 1981) argues that employment fulfils not only its manifest function—providing income and material security—but also latent functions that emerge as an 'unintended by-product' (Jahoda, 1981: 188) of employment and meet basic human needs. Jahoda identifies five latent functions: The provision of a time structure, regular social contacts exceeding the nuclear family, the connection to goals and purposes beyond one's own, the provision of status and identity and the opportunity to engage in a regular activity. Building on Jahoda's theory, the psychological need of competence – as defined by self-determination theory (Deci & Ryan, 1985) – has been identified as an additional latent function of employment which might not be fulfilled during unemployment (Zechmann & Paul, 2019). As basic human needs, the loss of these latent functions not only entails negative effects on mental wellbeing but might also increase the salience of the non-financial rewards of paid work, thereby increasing intrinsic work motivation. Thus, in contrast to the prediction deriving from the *culture of unemployment*-thesis, latent deprivation theory proposes that unemployment of longer durations can have a positive effect on young people's intrinsic work motivation.

However, while emphasizing the advantages of any form of employment over unemployment, Jahoda (1995) also points out that not all jobs satisfy the latent functions of employment. Jobs that involve repetitive tasks and lack opportunities for skill development can lead to alienation from work, whereas jobs of high intrinsic quality, as described in the job characteristics model (Hackman & Oldham, 1980), positively affect intrinsic work motivation—as corroborated by empirical research (e.g. Gallie et al., 2012; Gesthuizen & Verbakel, 2011; Sharabi & Harpaz, 2019; van der Wel & Halvorsen, 2015).

4 Prior Empirical Evidence

Cross-sectional studies on the working-age population provide mixed results. Some studies find positive (Gallie & Alm, 2004; Gallie & Vogler, 1994; Steiber, 2013; van der Wel & Halvorsen, 2015) and others negative (Halvorsen, 1999; Hammer & Russell, 2004; Snir, 2014; Svallfors et al., 2001) correlations between unemployment and employment commitment. Regarding a potential effect of unemployment duration, an examination of those registered as unemployed in Sweden shows no difference in employment commitment between those experiencing longer or shorter unemployment spells (Aberg, 2001). The few specific studies on younger populations also show mixed results. A study of young adults aged 18 to 35 in eleven European countries found no relationship between being unemployed and intrinsic work motivation (Kittel et al., 2019; Rainsford et al., 2019), whereas research on a similar age group in Spain (Demel et al., 2018) and an analysis of 18- to 24-year-olds in five European countries (Hammer & Russell, 2004) show a negative correlation between employment commitment and, respectively, the number of months spent searching for a job or the overall unemployment duration.

Research based on cross-sectional data is prone to inconclusive findings, because studies cannot control for individuals' pre-unemployment levels of work motivation. By contrast, longitudinal data record the *actual* duration of unemployment—rather than relying on retrospective self-reports—and also track intra-individual changes in work motivation over time. In addition to controlling for the level of work motivation before the period of unemployment, panel data allow to control for a potential omitted variable bias from time-constant characteristics. However, there is limited evidence from previous longitudinal research. Most longitudinal studies on young adults are concerned with the long-term development of work values during transitions from the education system to work. Johnson et al. (2012), for instance, track the development of work values among students in the United States from their early twenties to their mid-thirties, measuring unemployment incidence based on month-by-month life history calendars. The analysis showed a negative correlation between the number of months spent in unemployment and the importance attributed to extrinsic work values, but no effects on intrinsic work values. Other longitudinal studies find negative associations between the experience of unemployment during school-to-work transitions and intrinsic work motivation. For instance, Lechner et al. (2017) examine the effects of successful (employment) and unsuccessful (unemployment) transitions from education to the labour market on work values in Germany and Finland using three-wave panel data that cover a four-year period in young adults' early to mid-twenties. While no effect was found for the German sample, the transition from education to unemployment led to a decrease in intrinsic work motivation in Finland. Hyggen (2008) also finds a negative effect of unemployment duration on employment commitment in Norway, examining a ten-year period from the respondents' mid to late twenties to their mid to late thirties. Similarly, an analysis of a small sample of Canadian high school graduates finds a negative association between the number of months in unemployment between the ages of 18 to 25 and intrinsic work motivation (Chow et al., 2014).

Taken together, the available longitudinal evidence suggests that unemployment is linked to a long-term decline in intrinsic work motivation during young adulthood. However, none of the above-mentioned studies could attribute the effect to the experience of unemployment itself. The extended observation windows—ranging from four to 14 years—allow ample

time for other life events and value shifts that could not be controlled for and may have shaped the outcomes. More precise results stem from analyses covering a shorter period of time. Drawing on a representative sample of the Swedish labour force, Isaksson et al. (2004) examine the effect of changes in employment status in a two-wave panel analysis spanning 15 months. Neither being unemployed at both time points nor the change from unemployment to employment—or vice versa—showed an effect on work involvement. However, being unemployed in both survey waves was found to be associated with higher work centrality ('Having a job is very important to me'). Whereas this study used employed individuals as a reference group, only one study to date has been able to follow a sample of individuals all starting from the same status of being newly unemployed over time to examine the effect of unemployment duration (Nordenmark, 1999). This study followed a sample of Swedish unemployed over a period of almost two years, assessing the effects of prolonged unemployment versus labour market re-entry. The study finds that those who found a new job with high intrinsic quality or became self-employed at the time of the second interview experienced an increase in employment commitment. By contrast, employment commitment decreased for those who remained unemployed for the whole period and even more so for those who found jobs of low intrinsic quality. As the higher employment commitment is only observed for those in stimulating jobs at the time of the second measurement, this result underlines the importance of work quality for work motivation. We follow a similar design, but instead of looking at the general working-age population, we focus on young adults in the defining early career stages. To date, we lack evidence regarding the change in intra-individual work motivation among young adults during and after unemployment experience. The aim of our study is to fill this research gap.

5 Data and Methods

We use data from a two-wave panel survey among young unemployed adults, aged 18 to 28 in Vienna, Austria (Steiber et al., 2017).[2] The first wave interviews were conducted between May and September 2014 and included only those who had recently (up to four weeks before the interview date) registered as unemployed in search for a job or an apprenticeship (t0). Those who provided their contact information for a second interview were contacted again approximately one year later (t1). The sample from the first wave included 1215 participants; the re-interview response rate was 51%, resulting in a total of 625 participants in both waves. Two sets of weights were calculated: For the analysis of first-wave data, cross-sectional weights were calculated based on register data, providing exact information about the combined distribution of the variables age, gender and education in the population of all 18 to 28-year-olds in Vienna who registered as being unemployed in summer 2014. For the second wave, panel weights were calculated by combining propensity scores (based on the estimated probability of first-wave participants to also participate in the second wave) with the post-stratification weights from the first wave.[3] A descriptive table showing the distribu-

[2] Participation in the survey was entirely voluntary. No psychological, social, legal, or other risks were associated with involvement in the study. All responses were treated with strict confidentiality and analyzed anonymously.

[3] The probability of participation in the second wave is predicted by demographic characteristics (age, level of education, household status), personality traits (extraversion, conscientiousness, anxiety), and character-

tion of gender, age and educational level in the survey sample (weighted and unweighted data) is provided in the Appendix (Table 2).

5.1 Analytical Strategy

We use change score models to estimate the effects of unemployment duration on the intra-individual change of relative intrinsic work motivation (Johnson, 2005). These control for the base level of relative intrinsic work motivation at t0 and all time-invariant individual characteristics. The regression models for the main effects are represented by eq. 1 (Appendix, Table 7, models (1)–(4)):

$$\Delta \text{ Relative intrinsic work motivation}_{(t_1-t_0)} = \beta_0 + \beta_i X_i \quad (1)$$

The right-hand side of the equation (i.e., the dependent variable) is a measure of change in individuals' relative intrinsic work motivation between t0 and t1 (see section 5.2). The vector X_i represents the independent variables—in particular unemployment duration (see section 5.3.1)—and the vector β_i the respective regression coefficients.

The effect of unemployment duration could differ for those who were still or again unemployed at the time of the second interview, in comparison to those who changed from unemployment to an active status. Additionally, the effect of the quality of a new job could be moderated by job search duration. On the one hand, a longer job search period can increase the likelihood that individuals find jobs that match their skills and expectations, which would improve the perceived quality of the new job. On the other hand, as proposed by human capital theory, prolonged unemployment might entail the loss of skills and qualifications, which would result in lower-quality employment options (Dieckhoff, 2011).

To observe such heterogenous effects, separate models were calculated that included, on the one hand, the status at t1 as a moderator of unemployment duration (see section 5.3.2), and on the other hand, unemployment duration as a moderator of the change in intrinsic job quality (see section 5.3.3 and Appendix, Table 7, Models (5)–(10)). Thus, the following interaction effects are added to eq. (1):

$$\Delta \text{ Relative intrinsic work motivation}_{(t_1-t_0)} = \beta_0 + \beta_i X_i + \beta_j X_j + \beta_k X_i X_j \quad (2)$$

where the vector X_j represents the moderator variables, the vector β_j the respective regression coefficients and the vector β_k the regression coefficients of the interaction effects. An advantage of the change score model is that unobserved heterogeneity is controlled for, as time-invariant exogenous variables are automatically kept constant. Supplemental analyses include change score models of absolute intrinsic work motivation (Appendix, Table 9) and lagged dependent variable models (Johnson, 2005) that account for age, gender and level of education (Appendix, Table 10). Due to the relatively small sample size (N=624), 10% significance levels are reported.

istics of survey response behavior in the first wave (interview duration, fluency in German, willingness to participate). For more detailed information on sample selection, survey administration and the weighting procedure, see Mühlböck et al. (2018).

5.2 Dependent Variable: Relative Intrinsic Work Motivation

In both survey waves, respondents were asked to rate specific job characteristics on a four-point scale with the options 'very unimportant,' 'rather unimportant,' 'rather important' and 'very important.' A factor analysis using oblique rotation (detailed results see Table 4 in the Appendix) showed two distinct factors of intrinsic and extrinsic work preferences. The factor of intrinsic work preferences comprises the items 'an interesting job,' 'a job that allows to learn new things' and 'a job that allows for personal development.' Extrinsic work values were identified by the items 'a secure workplace,' 'a high income' and 'good career opportunities.' We calculated the variables measuring intrinsic and extrinsic work preferences using sum scores of the original variables, which were divided by the number of items. Internal consistency of the scales was assessed using ordinal alpha, a measure comparable to Cronbach's Alpha for ordinal variables (Gadermann et al., 2012). High values of ordinal alpha (0.74 for the extrinsic and 0.79 for intrinsic work values) indicate a high reliability of both scales (Blanz, 2015).

Following Gallie's (2007) approach, we subtracted the values of the extrinsic score from those of the intrinsic score, thereby creating a scale of *relative intrinsic work motivation* for both t0 and t1. Positive scores indicate higher intrinsic than extrinsic work values; negative scores point towards stronger extrinsic work orientations. Based on weighted data, the mean value for the panel sample of 624 individuals is 0.16 for t0 and 0.18 for t1 respectively, thereby showing a higher intrinsic than extrinsic work motivation among the young unemployed at both points in time. To measure the change in work motivation between the two interviews, we calculated the dependent variable as a change score. Therefore, we subtracted the values of relative intrinsic work motivation at t0 from the values at t1. The change score variable ranges from −2.00 to +2.33, with a mean value of 0.02 (based on weighted data). Thus, the average relative intrinsic work motivation has remained stable across the two time points, with increases occurring about as often as decreases (see also the histogram in Fig. 1 below).

5.3 Independent and Moderating Variables

5.3.1 Unemployment Duration

Unemployment duration is measured in months,[4] based on respondents' self-reported status in month-by-month life history calendars between the first and second interview. The options included being registered at the public employment office, different forms of employment (full-time, part-time, marginal employment, apprenticeship or military/community service), participation in active labour market programmes (ALMP), formal and informal or self-organised educational activities, and inactivity (at home due to sickness/work incapacity, care responsibilities or other reasons). Unemployment status was coded 1 in each month for those registered as unemployed as the sole status and 0 for those either not registered as unemployed or engaged also in another activity like employment, train-

[4] At the time of the second interview, respondents were asked to choose the respective status for each month in which they spent at least two weeks in this status.

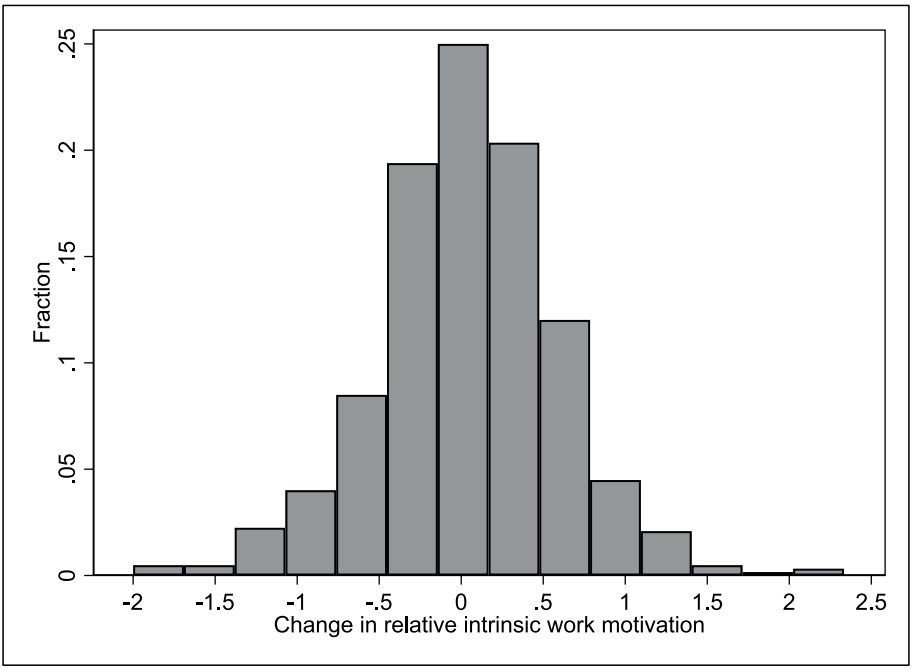

Fig. 1 Histogram of change in relative intrinsic work motivation for panel sample of $N = 624$ individuals

ing/educational activities or stay-at-home care[5] in the same month. We then calculated the duration of unemployment as the sum of months in this status between t0 and t1, using two different forms of measurement: a. cumulative unemployment duration (counting each month in that status, summing over non-consecutive episodes) and b. the longest period of uninterrupted unemployment (only counting the months within the longest episode). We coded both measures as binary variables, distinguishing those with less than six months in unemployment from those with six or more months of unemployment experience in the year between the first and the second interview. This coding decision follows the definition of long-term unemployment for young people aged 15 to 24 used by the Austrian public employment office (Arbeitsmarktservice Österreich, Thema Arbeitsmarkt, 2005, cited by Sommer, 2008). As shown in Table 1, more than a third of the respondents spent a total of six cumulative months or more in unemployment during the observed period. The longest unemployment spell lasted at least six months for nearly a quarter of the sample.

As a robustness check (see Table 8 in the Appendix), we also used more precise measures of unemployment duration, namely the proportion of cumulative unemployment duration and the proportion of the longest period of unemployment as a percentage of the total period between t0 and t1. As the second interview was conducted between 11 and 16 months after the first survey, this approach ensures the comparability of individuals with a different timespan between both interviews.

[5] For our main analysis, we did not code individuals who were inactive due to care responsibilities as unemployed since it cannot be considered an inactive state that results in latent deprivation on many dimensions. However, dropping this group from the analysis ($N = 606$) or coding them as unemployed yields very similar results.

Table 1 Frequency distribution of binary independent variables

	N	% unweighted	% [a]weighted
Cumulative unemployment duration			
<6 months	408	65.3%	64.6%
≥6 months	217	34.7%	35.5%
Longest period of unemployment			
<6 months	485	77.6%	77.4%
≥6 months	140	22.4%	22.6%
Status t1			
Unemployed	170	27.2%	27.1%
In activity	455	72.8%	72.9%
Total	**624**	**100.0%**	**100.0%**

[a]panel weights applied

5.3.2 Re-Employment Status

Measuring the duration of unemployment between two time points does not yet account for whether the unemployment experience remains ongoing or whether the previously unemployed resumed some kind of activity that might fulfil the latent functions of employment. Therefore, we include the status at the time of the second interview as a variable that moderates the effect of unemployment duration. This status is associated with unemployment duration, given that those with long spells of unemployment are more likely to be unemployed at t1. The options and our coding decisions were the same as those for our analysis of unemployment duration specified above. At the time of the second interview, nearly three quarters (73%) of the sample were 'active', i.e. either in employment, education or stay-at-home carers. The remaining 27% were unemployed or inactive.

5.3.3 Intrinsic Job Quality

For those who entered employment by the time of the second interview, the impact of re-entry into the labour market on intrinsic work motivation may depend on the quality of the new job as compared to the job held before becoming unemployed. Thus, only those 326 individuals who were in some form of employment at t1—regardless of its form and extent—were included in the supplemental analysis of job quality effects. For both t0 and t1, dimensions of job quality were identified using exploratory factor analysis with oblique rotation, thereby allowing for a possible correlation between the different factors. Two factors suitable for measurement of intrinsic job quality emerge. The first factor includes skill variety ('My job is rich in variety') and job interest ('My job is interesting' and 'My job is boring.') The last item loaded negatively and was recoded for inclusion in the final scale. The second factor of interest covers aspects of autonomy, measured by the agreement to the statements 'I can decide by myself how I conduct my work,' 'I can decide about the speed of my work myself', 'I can decide the order in which I conduct my tasks myself' and 'I can freely allocate my working hours.' The participants could respond to the statements on a four-point scale with the options 'totally disagree,' 'partly disagree,' 'partly agree' and 'totally agree.' In the first interview, the same questions were asked with reference to the longest job held before the current period of unemployment. Based on the results of the

factor analysis, we constructed two variables: 'skill variety' and 'autonomy' (for detailed analyses see Table 5 in the Appendix). For that purpose, we used sum scores of the original variables, which were divided by the number of items in the scale. Ordinal Alpha is between 0.72 and 0.84 for both scales at both time points, thereby confirming the internal consistency of the scale (Blanz, 2015). Finally, the change in intrinsic job quality was calculated by subtracting the values for t0 from those for t1. The resulting change score variables range from −3 to 3 points, with means at around 0.3 points, indicating a slight increase in intrinsic job quality (see histograms in Fig. 2) compared to the last job prior to unemployment at t0.

6 Results

6.1 Descriptive Analysis

The mean values of relative intrinsic work motivation at the beginning of the unemployment spell (t0) and approximately one year later (t1) vary with unemployment duration (Fig. 3). While a slight decrease is observed for those who spent less than six months in unemployment, an unemployment experience of six months or more is positively associated with an increase in relative intrinsic work motivation. The increase in the mean value is more pronounced for those whose longest period of unemployment was six months or more (0.21 points) than for those whose cumulative unemployment duration adds up to six months or more (0.09 points).

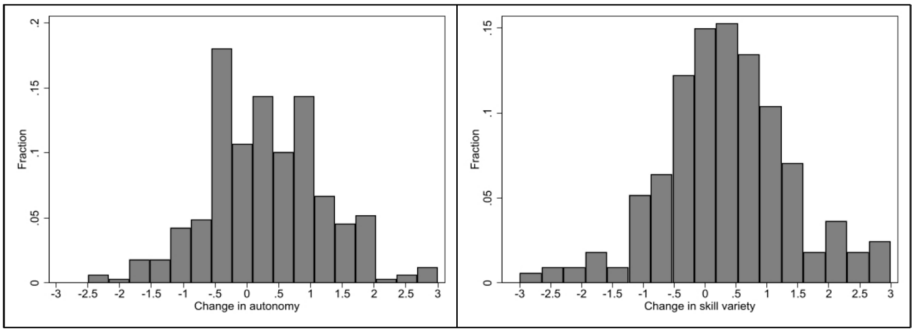

Fig. 2 Histograms for the change in autonomy and change in skill variety between t0 and t1

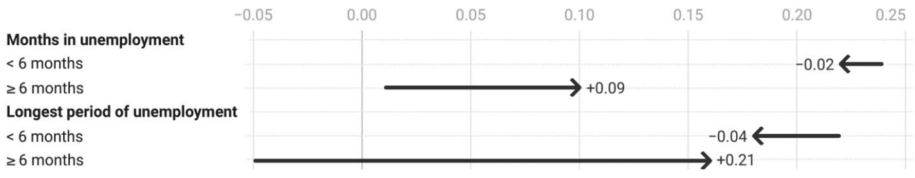

Fig. 3 Change in mean values of relative intrinsic work motivation between t0 and t1, by unemployment duration at t1. N = 624 respondents. Based on Table 3 in the Appendix

6.2 Change Score Models

We applied linear change score models in order to estimate effects of unemployment duration on relative intrinsic work motivation. As described above, change score models automatically control for individuals' time-invariant characteristics such as gender, family background, schooling or general ability. As no control variables are needed, each model only includes the predictors of interest. The results for the models measuring the impact of unemployment duration are depicted in Fig. 4, showing that unlike those with a cumulative unemployment duration of less than six months, those with a cumulative unemployment duration of at least six months experienced a statistically significant increase in relative intrinsic work motivation ($\beta = 0.11$, $t = 1.84$, $p = 0.066$). This positive effect more than doubles when looking at the longest period of unemployment ($\beta = 0.25$, $t = 3.61$, $p = 0.000$). Similar results are obtained using metric variables depicting the proportion of time spent in unemployment during the observation period (models (1)–(2) in Table 8 in the Appendix), thereby confirming the robustness of the findings.

The positive effect of employment duration on relative intrinsic work motivation is moderated by status at t1: As depicted in Fig. 5 (cumulative unemployment duration) and Fig. 6 (longest period of unemployment), the significant increase in work motivation with the duration of unemployment only occurs for those who were active in education or employment at t1. Few and no significant differences according to duration of unemployment are found for the group of individuals who were unemployed at t1. The robustness of this analy-

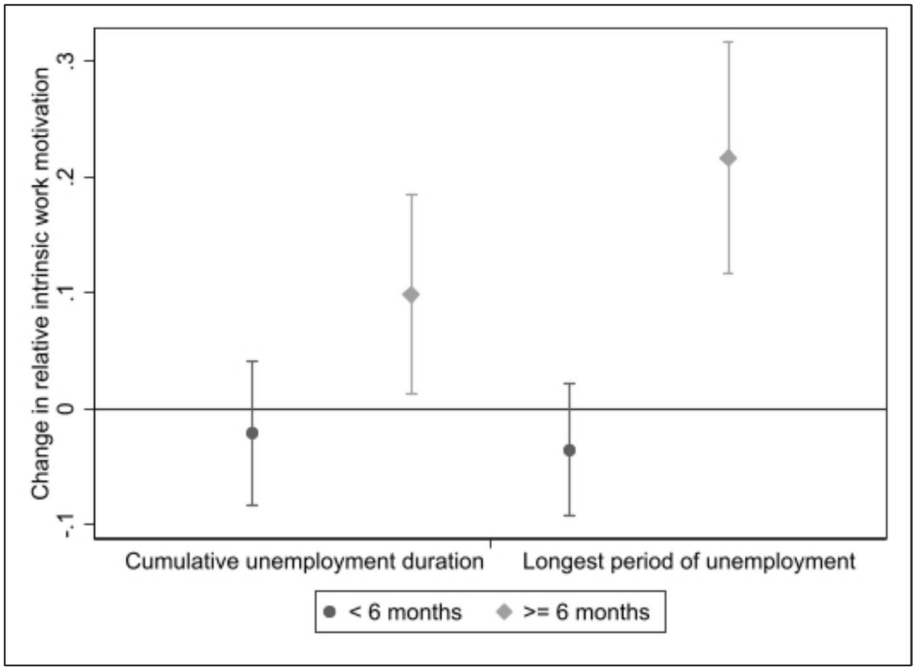

Fig. 4 Linear prediction of change in relative intrinsic work by unemployment duration (90% CI). Based on models (1)–(2) in Table 7 in the Appendix

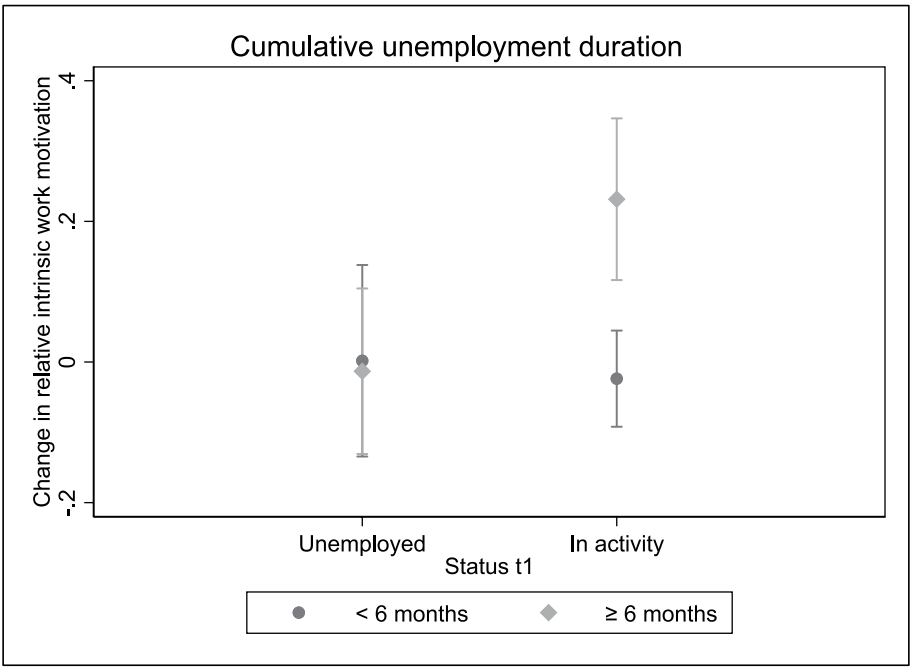

Fig. 5 Linear prediction of change in relative intrinsic work motivation, by status at t1 and unemployment duration (90% CI). Based on model (5) in Table 7 in the Appendix

sis is confirmed by an additional model with the change in absolute intrinsic work motivation as the dependent variable (see Table 9 in the Appendix).

The positive effect of a longer duration of unemployment on the change in relative intrinsic work motivation could be caused by the careful selection of jobs with higher intrinsic quality during the prolonged unemployment experience. Our analysis partly corroborates this assumption: While an increase in job autonomy shows only a small and statistically non-significant effect on the increase in relative intrinsic work motivation ($\beta=0.01$, $t=0.31$, $p=0.755$), an increase in skill variety exerts a statistically significant positive effect on relative intrinsic work motivation ($\beta=0.08$, $t=1.86$, $p=0.064$), which is depicted in Fig. 7. However, no statistically significant effects are found for the moderation of the change in skill variety and autonomy by unemployment duration.

In summary, our analysis shows an increase in young adults' relative intrinsic work motivation with unemployment duration. This effect is observed for those active in education or employment at the time of the second interview, but not for those who were still or again unemployed. Furthermore, the quality of the new job after a period of unemployment seems to be of importance, as an increase in skill variety is positively associated with an increase in relative intrinsic work motivation.

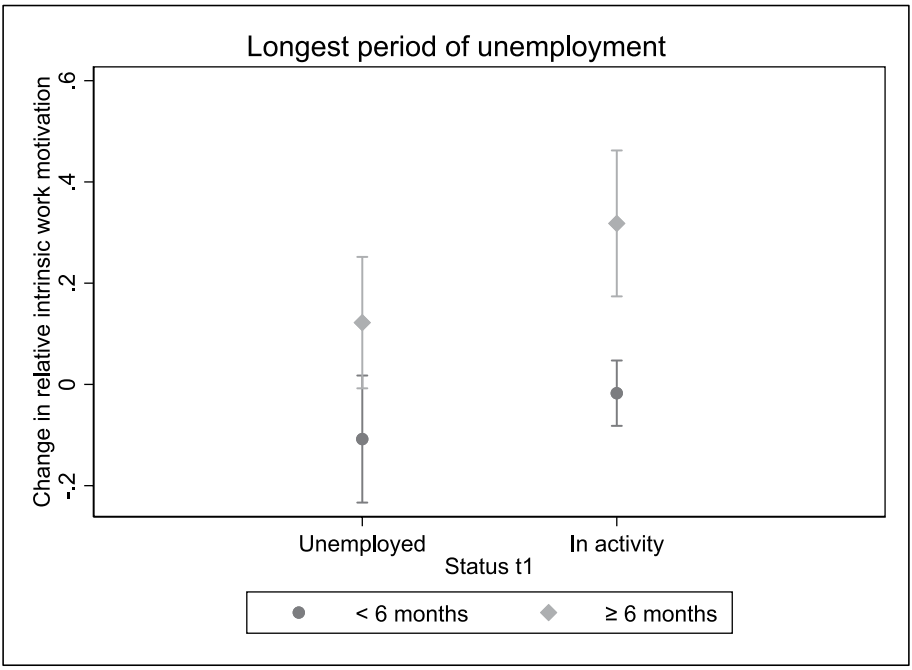

Fig. 6 Linear prediction of change in relative intrinsic work motivation, by status at t1 and longest period of unemployment (90% CI). Based on model (6) in Table 7 in the Appendix

7 Discussion and Conclusions

7.1 Summary of Aims and Methods

The purpose of this study was to examine how the experience of unemployment affects intrinsic work motivation among young adults. As the early career stage is a formative period for longer-term career trajectories, the development of work values in this age group is of particular importance. To empirically asses the effect of unemployment duration on the within-person change in intrinsic work motivation among young adults, we conducted a two-wave panel study: respondents were interviewed at the onset of a *new* unemployment spell and re-interviewed roughly one year later. The use of *change-score regression models* enabled us to identify effects of the unemployment experience on the change in intrinsic work motivation between waves while controlling for baseline motivation—thereby isolating the effect of unemployment from stable individual differences. We analysed *relative* intrinsic motivation (Gallie, 2007), operationalized as change in intrinsic job preferences (e.g., task variety, job autonomy) relative to change in extrinsic preferences (e.g., high earnings, job security).

7.2 Discussion of Findings

Our analysis aimed to adjudicate between two competing theoretical perspectives—*latent deprivation* and *cultures of worklessness*—which make opposite predictions about how

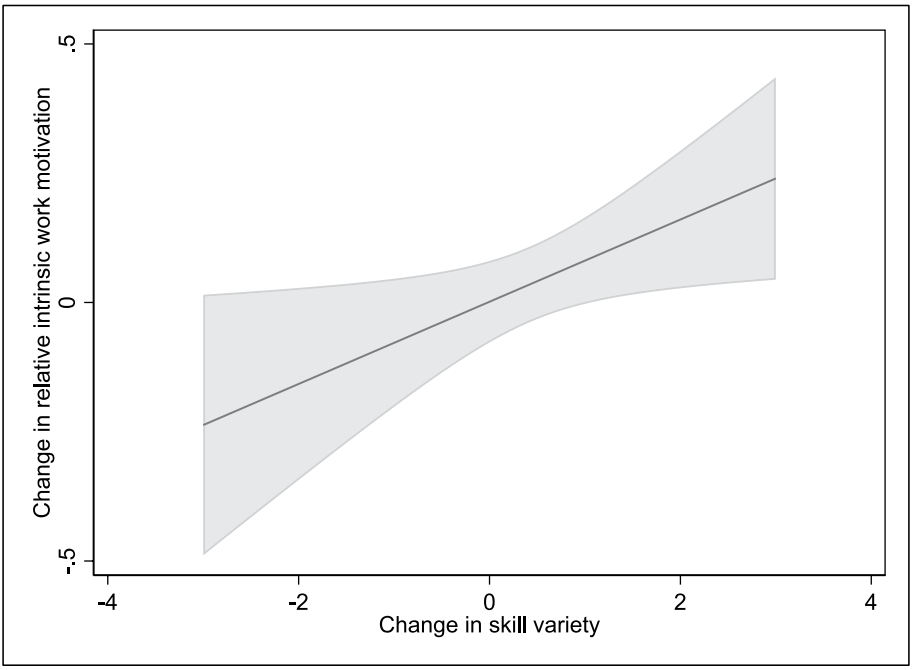

Fig. 7 Marginal effect of change in relative intrinsic work motivation, by change in skill variety (90% CI). Based on model 4 in Table 7 in the Appendix

intrinsic work motivation evolves during unemployment. Our findings show that longer unemployment spells—especially those of six months or more—are associated with within-person increases in intrinsic work motivation between the first and second interview. This pattern is consistent with Jahoda's (1995, 1981) latent deprivation perspective: when work's latent benefits are withheld during unemployment, the value individuals place on meaningful, varied, and autonomous work intensifies.

Beyond average effects, we examined whether the specific labour-market trajectories after entry into unemployment moderate the influence of unemployment duration on the change in work motivation. The positive effect of long unemployment was more pronounced for those who were re-employed or enrolled at the time of the second interview than among those who remained unemployed. This pattern suggests that the heightened valuation of work's non-material rewards developed during long-term unemployment persists—and may even intensify—once the latent functions of employment are restored in either of these two activities. For those who were employed again at the second interview, another key factor is the quality of the new job. The within-person increase in intrinsic work motivation is more pronounced for those who rated their new job as more interesting and varied than their pre-unemployment job, thereby showing an increase in intrinsic job quality. This finding is in line with prior research on the association of intrinsic job quality with intrinsic job preferences (e.g., Gallie, 2007) and also with the study by Nordenmark (1999) showing that transitions from unemployment into stimulating jobs are linked to greater gains in intrinsic motivation. Although Nordenmark's study does not focus specifically on young adults, its two-wave panel design is broadly comparable to ours.

Our analyses furthermore show that the rise in intrinsic work motivation associated with long-term unemployment is not merely due to longer searches yielding jobs with greater intrinsic rewards. Unemployment duration and change in intrinsic job quality (comparing the pre-unemployment job with the one found after unemployment) are uncorrelated in our study, which supports the argument of latent deprivation theory that the non-financial rewards of work become more salient during prolonged unemployment. Moreover, we found no support for selection dynamics: Among respondents who were re-employed at the time of the second interview, unemployment duration is only weakly and negatively correlated with baseline intrinsic motivation, indicating that those with higher initial motivation were not the ones who searched longer and secured jobs of greater intrinsic quality. Taken together, these results support the interpretation that the positive association between long-term unemployment and intrinsic motivation observed in our study reflects a strengthening of intrinsic job preferences during long periods of unemployment.

Overall, our findings are in line with both Jahoda's latent deprivation perspective and self-determination theory (SDT), which predicts that the satisfaction of the basic needs for autonomy, competence and relatedness fosters intrinsic work motivation (Deci & Ryan, 1985). As these needs can complement the latent functions identified by Jahoda (Zechmann & Paul, 2019), the frustration of these basic needs may also increase the value attached to need-satisfying work. This aligns with our finding that long spells of unemployment are linked to rising intrinsic work motivation even before job quality changes—people come to want meaningful, self-directed work more. The stronger effects observed among those re-employed or in education at the time of the second interview also fit SDT's idea that need-satisfying contexts are crucial for the development of intrinsic work motivation. Intrinsic motivation "rebounds" as work and study restore time structure, social contact, and opportunities for skill use.

Our findings diverge from the small set of available longitudinal studies on the long-term development of work values in adolescence and young adulthood, which report either null (Johnson et al., 2012) or negative effects (Chow et al., 2014; Hyggen, 2008) of unemployment duration on intrinsic work orientations. However, comparability with these studies is very limited as they track value change over much longer horizons that span major life-course transitions during adolescence and early adulthood and typically analyse general population samples rather than individuals who were newly unemployed at baseline. In such designs that assess the association of cumulative unemployment experiences with long-term change in work values, it is harder to pinpoint the effects of a specific unemployed experience on work motivation and to tackle endogeneity (i.e., reverse causality) issues.

7.3 Implications

Our study shows that intrinsic work motivation is already high among newly unemployed young adults and further increases with unemployment duration. We therefore find no support for the claim that youth unemployment reflects a lack of work motivation or that prolonged unemployment erodes motivation in line with "cultures of worklessness." Our results thus contribute to the understanding of unemployment scarring in terms of increased risks of future unemployment, suggesting that reduced intrinsic work motivation is not a central mechanism behind such scarring.

Moreover, our findings have policy implications. Interventions premised on presumed motivational deficits among the unemployed are likely misdirected, whereas measures that

restore opportunity—targeted training and good placements—are better aligned with an already strong motivation to work among young adults. Our analysis furthermore underscores the important role of intrinsically motivating jobs in sustaining intrinsic work motivation. Such jobs can be made more accessible for young adults by investing in education and training tailored to the aspirations of the young unemployed. Importantly, we do not interpret the motivational increase among those unemployed for longer as suggesting that young adults may benefit from longer periods of unemployment. We observe no association between unemployment duration and shifts in intrinsic job quality (comparing the current jobs with the last one before unemployment), suggesting that the motivational shift during long unemployment episodes reflects greater salience of work's non-financial rewards rather than a mere by-product of longer searches yielding better jobs. Our findings furthermore imply that shortening unemployment spells by pressuring young adults into findings jobs quickly is poor advice: while long spells are undesirable for many reasons, they do not depress work motivation. This suggests that the Austrian context—with comparatively generous unemployment insurance—may help maintain intrinsic motivation by easing financial strain and allowing intrinsic motives to develop during unemployment.

7.4 Limitations and Avenues for Future Research

Our study has some limitations. First, although our two-wave panel design allows us to control for important confounders, change-score models cannot fully rule out reverse causality—for example, that baseline motivation shapes subsequent unemployment duration. However, as elaborated above, the negative correlation of initial intrinsic motivation with unemployment duration in our sample does not indicate such endogeneity bias. Second, we do not directly observe the mechanisms posited by Jahoda. To elucidate the mechanism underlying our finding that unemployment may foster intrinsic work motivation in certain contexts, future studies should measure the actual experience of latent deprivation *during* unemployment —and, ideally, follow respondents over more than two waves to assess longer-term effects. Third, future research including more than two time points, and the use of quasi-experimental designs, could provide important insights in the direction of causality between work motivation and unemployment duration. This would also allow for a more detailed examination of the diverse factors influencing the long-term effects of unemployment on intrinsic work motivation, thereby extending prior research that has focused on mechanisms underlying scarring effects of unemployment on well-being (Clark et al., 2001; Knabe & Rätzel, 2011).

However, even with the above-mentioned caveats, our evidence points clearly toward an increased awareness of the non-monetary benefits of employment rather than motivational decline as the dominant process during extended unemployment in early careers. Finally, our findings arise in a specific institutional context. Austria's coordinated welfare regime—with comparatively generous unemployment insurance and activation supports—likely moderates the unemployment–motivation relationship by reducing financial strain and by giving unemployed young adults the latitude to value work's non-material rewards. In more liberal systems (e.g., the United States, the United Kingdom), where support is largely means-tested, this space may be narrower and the salience of employment's economic benefits greater. Comparative studies that explicitly test institutional moderation—linking variation in benefit generosity and activation design to changes in intrinsic motivation—are therefore an important avenue for future research.

Appendix

Table 2 Distribution of first and second wave sample according to gender, age and educational level

	Sample 1 st wave			Sample 2nd wave		
	N	%	% weight	N	%	% weight
Gender						
Male	708	58.3%	54.2%	339	54.2%	55.0%
Female	507	41.7%	45.8%	286	45.8%	45.0%
Age						
18–20 years	433	35.6%	22.6%	206	33.0%	21.9%
21–24 years	440	36.2%	37.0%	221	35.4%	37.5%
25–28 years	342	28.2%	40.3%	198	31.7%	41.1%
Educational level						
ISCED 0-2[a]	428	35.2%	35.9%	183	29.3%	32.4%
ISCED 3B[b]	388	31.9%	30.7%	181	29.0%	31.0%
ISCED 3A-4[c]	234	19.3%	18.8%	152	24.3%	21.9%
ISCED 5-6[d]	146	12.0%	12.7%	108	17.3%	14.5%
Missing	19	1.6%	1.8%	1	0.2%	0.1%
Total	1215			625		

[a]compulsory schooling, [b]apprenticeship/vocational training, [c]upper secondary school leaving exam „Matura“, or similar, [d]higher education; cross-sectional weights applied for 1 st wave (2014); panel weights applied for 2nd wave (2015)

Table 3 Mean values of relative intrinsic work motivation at t0 and t1, as well as change score variable (t1-t0), according to duration of unemployment and status at t1

Mean values based on weighted data (panel weights applied)

	t0	t1	Change score	N
Cumulative unemployment duration				
<6 months	0.24	0.22	−0.02	401
≥6 months	0.01	0.10	0.09	223
Longest period of unemployment				
<6 months	0.22	0.18	−0.04	480
≥6 months	−0.05	0.16	0.21	144
Status t1				
Unemployed	0.04	0.03	−0.01	453
In activity	0.20	0.23	0.03	171
Overall	0.16	0.18	0.02	624

Table 4 Ordinal factor analyses for job preferences at t0 and t1 (oblique rotation)

	t0					t1				
	F 1	F 2	F 3	F 4	F 5	F 1	F 2	F 3	F 4	F 5
A secure workplace	0.08	0.54	0.17	−0.13	0.07	0.04	0.60	0.09	−0.10	0.09
A high income	−0.10	0.78	−0.04	0.07	0.06	−0.07	0.77	−0.05	0.08	0.07
Good career opportunities	0.19	0.69	0.00	−0.04	−0.08	0.08	0.72	0.01	−0.04	−0.11
A job that is recognised and respected	0.04	0.44	0.29	0.01	−0.04	0.09	0.47	0.26	−0.07	−0.07
A job that leaves a lot of free time	0.08	0.23	0.01	0.11	0.28	0.18	0.25	0.03	0.23	0.17
A job that allows to work independently	0.37	0.16	0.04	0.28	0.07	0.53	0.06	0.06	0.14	−0.04
A job that leaves room for creativity	0.40	−0.10	0.12	0.29	0.08	0.56	−0.14	0.07	0.15	0.00
A job that allows for personal development	0.77	0.07	0.01	−0.01	−0.05	0.79	0.06	−0.01	−0.05	−0.05
A job that allows to learn new things	0.77	−0.02	0.04	0.01	−0.04	0.78	−0.03	0.05	−0.03	−0.02
An interesting job	0.60	0.03	0.04	−0.01	0.22	0.70	0.03	−0.05	0.01	0.11
Lots of contact with other people	0.04	−0.01	0.61	0.00	−0.05	−0.03	0.00	0.62	0.00	−0.05
A job that allows to help other people	−0.01	0.01	0.68	0.01	0.04	0.04	0.02	0.64	0.00	0.05
Variance	3.64	2.85	2.80	0.67	0.51	3.34	2.60	2.59	0.23	0.21
Proportion of variance explained	0.74	0.58	0.57	0.14	0.10	0.69	0.54	0.54	0.05	0.04

Answers to question “If you could choose a new job, how important would the following aspects for you personally?”

Table 5 Ordinal Factor analyses for job quality at t0 and t1 (oblique rotation)

	t0						t1						
	F 1	F 2	F 3	F 4	F 5	F 6	F 1	F 2	F 3	F 4	F 5	F 6	F 7
I often have to work under a lot of time pressure	0.02	−0.10	−0.03	0.53	−0.04	0.12	−0.07	−0.11	−0.08	0.10	0.52	0.00	0.07
My job is physically strenuous	−0.01	−0.06	0.06	0.53	0.00	−0.09	−0.02	0.09	−0.12	−0.17	0.47	−0.04	−0.10
My job is well paid	0.00	0.02	0.53	−0.01	−0.06	−0.08	0.21	0.10	0.08	−0.10	0.00	0.40	−0.02
I have good career opportunities	0.07	−0.04	0.53	0.07	0.07	0.08	−0.02	0.26	0.09	0.13	−0.07	0.36	0.16
My job is rich in variety	0.62	0.08	−0.01	0.22	−0.01	0.05	0.05	0.48	0.18	0.19	0.23	−0.04	0.11
My job is interesting	0.74	0.11	0.05	−0.03	0.00	0.04	0.11	0.77	0.07	0.08	0.00	−0.05	−0.01
My job is boring	−0.68	0.13	−0.04	0.07	−0.02	0.13	−0.02	−0.76	0.06	0.04	0.01	−0.15	−0.05
I often learn new things in my job	0.52	−0.04	0.13	−0.07	0.19	0.10	0.49	0.28	−0.10	0.21	−0.04	0.04	0.15
I can decide by myself how I conduct my work	0.21	0.56	0.04	−0.01	−0.09	0.10	0.02	0.20	0.75	−0.01	0.04	−0.07	−0.03
I can decide the order in which I conduct my tasks myself	−0.01	0.75	0.02	0.10	0.07	−0.05	0.10	−0.10	0.70	0.01	0.00	0.04	0.15
I can decide about the speed of my work myself	0.02	0.70	−0.02	−0.18	0.03	−0.01	−0.01	−0.03	0.81	−0.01	−0.05	0.03	−0.01
I can freely allocate my working hours	−0.10	0.53	0.13	−0.13	−0.11	0.13	0.02	−0.04	0.64	0.07	−0.11	0.06	−0.14
My job is recognised and respected	0.19	0.20	0.26	−0.07	0.22	−0.03	0.67	−0.01	0.07	−0.02	0.01	0.07	−0.03
We have a good working atmosphere	0.12	0.25	0.23	−0.13	0.19	−0.20	0.51	0.02	0.13	−0.04	−0.11	−0.08	0.02
Variance	3.01	2.83	2.77	1.34	1.17	0.26	3.61	3.35	3.27	1.46	1.16	1.01	0.98
Proportion of variance explained	0.56	0.53	0.52	0.25	0.22	0.05	0.54	0.50	0.49	0.22	0.17	0.15	0.15

Answers to question "If you think of your longest job in the past – to what extent do you agree with the following statements" (t0) and "If you think of your current job – to what extent do you agree with the following statements?" (t1)

Table 6 Spearman correlation of dependent and independent variables

	Change in relative intrinsic work motivation	Cumulative unemployment duration: ≥ 6 months	% cumulative unemployment duration	Longest period of unemployment: ≥ 6 months	% longest period of unemployment	Status t1: in activity	Change in autonomy	Change in skill variety
Change in relative intrinsic work motivation	1.00	0.06	0.08*	0.13***	0.11**	0.00	0.04	0.10
Cumulative unemployment duration: ≥ 6 months	0.06	1.00	0.83***	0.74***	0.77***	−0.41***	−0.01	−0.04
% cumulative unemployment duration	0.08*	0.83***	1.00	0.69***	0.96***	−0.48***	−0.04	0.02
Longest period of unemployment: ≥ 6 months	0.13***	0.74***	0.69***	1.00	0.72***	−0.28***	0.03	0.01
% longest period of unemployment	0.11**	0.77***	0.96***	0.72***	1.00	−0.39***	−0.04	0.02
Status t1: in activity	0.00	−0.41***	−0.48***	−0.28***	−0.39***	1.00	x	x
Change in autonomy	0.05	0.00	−0.05	0.03	−0.05	x	1.00	0.26***
Change in skill variety	0.10	−0.04	0.02	0.01	0.02	x	0.26***	1.00

***$p<0.001$, **$p<0.01$; *$p<0.05$; x = correlation cannot be measured, as all people that had a change in autonomy or skill variety were in activity at t1

Table 7 Linear models of change in relative intrinsic work motivation between t0 and t1 (change score models)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Cumulative unemployment duration: ≥ 6 months (ref.: < 6 months)	0.12*				−0.01		0.27**		0.27**	
	(0.06)				(0.11)		(0.11)		(0.11)	
Longest period of unemployment: ≥ 6 months (ref: < 6 months)		0.25***				0.23**		0.31**		0.29**
		(0.07)				(0.11)		(0.14)		(0.13)
Change in autonomy			0.01				0.01	0.01		
			(0.05)				(0.05)	(0.05)		
Change in skill variety				0.08*					0.08	0.07
				(0.04)					(0.05)	(0.05)
Status t1: in activity (ref.: unemployed)					−0.03	0.09				
					(0.09)	(0.09)				
≥ 6 months cumulative unemployment duration * in activity					0.27**					
					(0.14)					
≥ 6 months longest period of unemployment * in activity						0.11				
						(0.15)				
Change in autonomy * ≥6 months cumulative unemployment duration							0.06			
							(0.12)			
Change in autonomy * ≥6 months longest period of unemployment								0.02		
								(0.14)		
Change in skill variety * ≥6 months cumulative unemployment duration									0.04	
									(0.10)	
Change in skill variety * ≥6 months longest period of unemployment										0.06
										(0.11)
Constant	−0.02	−0.04	0.02	0.00	0.00	−0.11	−0.03	−0.02	−0.05	−0.03
	(0.04)	(0.03)	(0.05)	(0.05)	(0.08)	(0.08)	(0.05)	(0.05)	(0.05)	(0.05)
Observations	624	624	326	326	624	624	326	326	326	326
R^2	0.01	0.03	0.00	0.02	0.02	0.04	0.03	0.03	0.04	0.04

***$p<0.01$, **$p<0.05$, *$p<0.1$; panel weights applied; t0 refers to the first interview (conducted at the beginning of the unemployment spell) and t1 to the second interview (one year later); standard errors in parentheses

Table 8 Linear models of change in relative intrinsic work motivation between t0 and t1 (change score models) with unemployment duration as a metric variable

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
% cumulative unemployment duration	0.23**				0.19		0.38**		0.42**	
	(0.10)				(0.20)		(0.21)		(0.18)	
% longest period of unemployment		0.39***				0.38**		0.59**		0.60***
		(0.11)				(0.19)		(0.24)		(0.19)
Change in autonomy			0.01				−0.01	0.01		
			(0.05)				(0.07)	(0.07)		
Change in skill variety				0.08*					0.06	0.07
				(0.04)					(0.06)	(0.06)
Status t1: in activity (ref: unemployed)					0.04	0.09				
					(0.14)	(0.11)				
% cumulative unemployment duration * in activity					0.27					
					(0.24)					
% longest period unemployment * in activity						0.18				
						(0.24)				
Change in autonomy * % cumulative unemployment duration							0.14			
							(0.24)			
Change in autonomy * % longest period of unemployment								0.06		
								(0.28)		
Change in skill variety * % cumulative unemployment duration									0.09	
									(0.16)	
Change in skill variety * % longest period of unemployment										0.05
										(0.17)
Constant	−0.05	−0.08*	0.02	0.00	−0.11	−0.17	−0.06	−0.09	−0.09	−0.11*
	(0.04)	(0.04)	(0.05)	(0.05)	(0.13)	(0.10)	(0.06)	(0.06)	(0.06)	(0.06)
Observations	624	624	326	326	624	624	326	326	326	326
R^2	0.01	0.02	0.00	0.02	0.02	0.03	0.02	0.04	0.04	0.05

***$p<0.01$, **$p<0.05$, *$p<0.1$; panel weights applied; t0 refers to the first interview (conducted at the beginning of the unemployment spell) and t1 to the second interview (one year later); standard errors in parentheses

Table 9 Linear models of change in absolute intrinsic work motivation between t0 and t1 (change score models)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Cumulative unemployment duration: ≥ 6 months (ref.: < 6 months)	0.02				−0.37***		0.45**		0.45**	
	(0.08)				(0.12)		(0.20)		(0.19)	
Longest period of unemployment: ≥ 6 months (ref: < 6 months)		0.05				−0.18		0.55**		0.55**
		(0.11)				(0.14)		(0.26)		(0.27)
Change in autonomy			−0.01				0.05	0.05		
			(0.08)				(0.05)	(0.05)		
Change in skill variety				0.03					0.07*	0.07*
				(0.05)					(0.04)	(0.04)
Status t1: in activity (ref: unemployed)					−0.20**	0.00				
					(0.09)	(0.08)				
≥ 6 cumulative unemployment duration * in activity					0.67***					
					(0.17)					
≥ 6 months longest period of unemployment * in activity						0.47**				
						(0.21)				
Change in autonomy * ≥6 months cumulative unemployment duration							−0.27			
							(0.28)			
Change in autonomy * ≥6 months longest period of unemployment								−0.40		
								(0.33)		
Change in skill variety * ≥6 months cumulative unemployment duration									−0.24	
									(0.17)	
Change in skill variety * ≥6 months longest period of unemployment										−0.27
										(0.20)
Constant	−0.01	−0.02	0.03	0.02	0.17**	−0.02	−0.05	−0.04	−0.06	−0.05
	(0.04)	(0.03)	(0.06)	(0.06)	(0.08)	(0.07)	(0.05)	(0.05)	(0.05)	(0.05)
Observations	624	624	326	326	624	624	326	326	326	326
R^2	0.00	0.00	0.00	0.00	0.05	0.03	0.07	0.09	0.07	0.07

***$p<0.01$, **$p<0.05$, *$p<0.1$; panel weights applied; t0 refers to the first interview (conducted at the beginning of the unemployment spell) and t1 to the second interview (one year later); standard errors in parentheses

Table 10 Linear models of change in relative intrinsic work motivation between t0 and t1 (lagged dependent variable models)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	intr_extr_t1	intr_extr_t1	intr_extr_t1	intr_extr_t1	intr_extr_t1	intr_extr_t1
Age	0.02*	0.01*	0.02*	0.02*	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Female (ref.: male)	0.02	0.02	0.03	0.03	0.07	0.06
	(0.05)	(0.05)	(0.05)	(0.05)	(0.08)	(0.07)
Vocational edu (ref.: primary educ)	0.12*	0.14**	0.13*	0.13*	0.06	0.08
	(0.07)	(0.07)	(0.07)	(0.07)	(0.11)	(0.11)
Secondary/Tertiary edu (ref.: primary edu)	0.23***	0.24***	0.24***	0.25***	0.17	0.17*
	(0.07)	(0.07)	(0.07)	(0.07)	(0.11)	(0.10)
Relative intrinsic work motivation t0	0.54***	0.55***	0.54***	0.54***	0.52***	0.51***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.09)	(0.08)
Cumulative unemployment duration: ≥ 6 months (ref.: < 6 months)	0.07					
	(0.06)					
Longest period of unemployment: ≥ 6 months (ref: < 6 months)		0.19***				
		(0.06)				
% cumulative unemployment duration			0.17*			
			(0.09)			
% longest period of unemployment				0.30***		
				(0.11)		
Change in autonomy					0.04	
					(0.04)	
Change in skill variety						0.11***
						(0.04)
Constant	−0.43**	−0.45**	−0.48**	−0.52**	−0.32	−0.37
	(0.21)	(0.21)	(0.22)	(0.21)	(0.32)	(0.33)
Observations	623	623	623	623	325	325
R^2	0.33	0.34	0.33	0.34	0.35	0.37

***$p<0.01$, **$p<0.05$, *$p<0.1$; panel weights applied; t0 refers to the first interview (conducted at the beginning of the unemployment spell) and t1 to the second interview (one year later); standard errors in parentheses

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Declarations

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