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Article

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Wirtschaft und Gesellschaft (WuG)

Provided in Cooperation with:

Kammer für Arbeiter und Angestellte für Wien

Suggested Citation: Kettl, Julian; Nguyen, Bich Diem Thy; Grünhaus, Christian (2024) : Active labour market policy during the Covid-19 pandemic: Latent effects on Austrian jobseekers, Wirtschaft und Gesellschaft (WuG), ISSN 0378-5130, Kammer für Arbeiter und Angestellte für Wien, Wien, Vol. 50, Iss. 2, pp. 89-116,
<https://doi.org/10.59288/wug502.229>

This Version is available at:

<https://hdl.handle.net/10419/333130>

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Active labour market policy during the Covid-19 pandemic: Latent effects on Austrian jobseekers

*Julian Kettl[°], Bich Diem Thy Nguyen[°], Christian Grünhaus**

ABSTRACT

The Covid-19 pandemic induced an unprecedented shock to the Austrian labour market. Austria responded by implementing active labour market policies (ALMP) to facilitate the reintegration of individuals abruptly rendered unemployed. This article assesses the effects of a job search assistance and training programme on jobseekers within this context by utilizing a panel survey among participants. Drawing on Marie Jahoda's theory of latent deprivation, we examine how participation in the programme alleviates the adverse effects of unemployment. The results reveal significant improvements in professional competencies after participating in the programme. Participants reported marked reductions in psychological stress and overstrain. Finding work during the programme resulted in enhanced material living conditions and improved health outcomes.

KEYWORDS

Active labour market policy, Covid-19, labour market shocks, employment, latent deprivation

JEL-CODES

A14, C23, J68

DOI

10.59288/wug502.229

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1. Introduction

The Covid-19 pandemic impacted labour markets globally and led to a sharp rise in unemployment and job losses (Flessa et al., 2023). This confronted policymakers in most countries with the difficult decision on how to react to the pandemic's spread: as previous research shows, a laissez-faire approach led to negative shocks to the economy and loss of lives (Bradley et al., 2021). On the other hand, state social distancing policies like business closures and stay-at-home mandates helped reduce the rate of new Covid-19 cases and deaths (Țîrcă et al., 2021). However, they also caused a decline in employment rates in the United States and most European economies, particularly in non-essential industries (Gupta et al., 2020; Su et al., 2022). These negative employment effects account for a significant portion of the overall decline in employment rates during this period (Bernstein et al., 2020). To mitigate the economic burden, scholars previously highlighted the benefits of active labour market policies (ALMPs) (Tsiboukli and Efstratoglou, 2022).

The case of Austria constitutes an empirical example of the use of ALMPs to tackle the spread of unemployment due to the Covid-19 pandemic and related social distancing policies. In 2021, the country's labour market faced its biggest crisis since the end of World War II. Approximately 433,000 of its roughly 9 million inhabitants were registered unemployed and a further 487,000 inhabitants on short-time work (WuG, 2021). Unemployment was at its highest level since 1945. However, a rather rapid recovery was achieved. Amongst exogenous developments, policy measures such as a quick adjustment of short-time work schemes and support programmes could protect the Austrian labour market from a more drastic scenario. The Austrian Public Employment Service (AMS) initiated job counselling services for jobseekers across all provinces, thereby facilitating their expedited reintegration into the labour market. Notably, Lower Austria emerged as the federal state (Bundesland) that registered the most substantial decline in the number of long-term unemployed residents (AMS, 2022). In this region, the "Beratungs- und Betreuungseinrichtung Joboffensive" (BBEJ) programme was launched in the first half of 2021 as one of several support initiatives.

Like other ALMPs implemented during the Covid-19 pandemic, the BBEJ achieved success in terms of reintegration. Approximately 40% of its 3,899 participants had started a new job before the end of the programme six months later. An additional 12% of its participants achieved further educational qualifications, according to internal documentation data. Apart from such manifest indicators, positive latent effects on participating jobseekers can also be expected: training and support programmes might have improved personal competence. They might also have mitigated the psychological distress of jobseekers by offering guidance and assistance. Moreover, finding satisfying work can be expected to improve life quality and well-being. Accordingly, the BBEJ was aiming not only at placing people in the primary labour market, but also at developing human potential and achieving a high level of long-term satisfaction among employees and companies (Mentor, 2020).

In the article below, we analyse the effects of the BBEJ on jobseekers. Moreover, we investigate the effects of obtaining employment on participants' life satisfaction. We utilize random-effects regression models to analyse a longitudinal survey amongst BBEJ participants. By using a novel approach aiming at measuring not only manifest but also latent effects on jobseekers, we contribute to a growing literature on the effectiveness of ALMPs (Böheim et al., 2017; Crépon and Van den Berg, 2016; Eppel et al., 2020; Liu et al., 2014). Furthermore, our results offer rare evidence in the not yet extensively studied context of the Covid-19 pandemic. Our findings are thus valuable for informing policy decisions in times of similar labour market shocks, which can be expected to happen increasingly due to the growing risks of technological unemployment (Sacchi, 2019) and the flexibilization of labour (Beck, 2014).

1.1 The Covid-19 labour market crisis in Austria

Table 1: Grouped unemployment rate in Austria 2019/2020

	2019	2020	Change 2019/2020
	in %		in percentage points
Total	8.7	11.2	+ 2.4
Gender			
Men	8.8	11.2	+ 2.4
Women	8.7	11.1	+ 2.5
Age groups			
Up to 19 years	12.2	12.7	+ 0.5
20 to 24 years	10.8	14.2	+ 3.4
25 to 54 years	8.0	10.5	+ 2.5
55 years and older	10.1	12.1	+ 1.9
Highest level of education completed			
Compulsory schooling	27.0	32.3	+ 5.3
Apprenticeship	6.8	9.1	+ 2.3
Secondary vocational school	4.0	5.2	+ 1.1
General or vocational high school	5.4	7.3	+ 1.9
Academic education	3.7	4.4	+ 0.7
Nationality			
Austria	7.5	9.3	+ 1.9
Foreign country	13.1	17.3	+ 4.2

Source: Bock-Schappelwein et al. (2021). WIFO calculations, Arbeitsmarktservice Österreich, Dachverband der Sozialversicherungsträger, Statistics Austria.

In response to the Covid-19 pandemic, Austria implemented drastic measures to restrict freedom of movement and employment. These measures came into force in March 2020. Within a few days, they were reflected in the labour market, with unemployment rising to its highest level since 1945. Table 1 shows how the increase in unemployment from 2019 to 2020 was distributed across age groups, education level, gender, and nationality. Across age groups, people from age 20 to 24 were affected most (+3.4%). Across education levels, unemployment hit people with the lowest education level hardest (+5.3%). Men (2.4%) and women (2.5%) were affected similarly. Regarding nationality, unemployment increased more drastically among people from foreign countries (+4.2%) than among Austrians (+1.9%). According to calculations by the WIFO Institute (Bock-Schappelwein et al., 2021), the absolute volume of employed work hours declined especially among blue-collar workers (-5.8%). White-collar workers, including civil servants, were less affected. Notably, there was no decline in the volume of hours among people with academic qualifications. Work hours actually increased for this group (+3.0%).

Despite this spike in unemployment, a more drastic scenario on the Austrian labour market could be prevented due to a rapid adjustment of the short-time work scheme and support offers. The Austrian Public Employment Service (AMS) launched job counselling services for jobseekers in all provinces, which enabled a quick reintegration into the labour market. Compared with other federal states, the number of long-term unemployed was reduced most in Lower Austria (AMS, 2022). There, the job search assistance and training programme BBEJ was launched in the first half of 2021 as an active labour market policy (ALMP).

1.2 Types of active labour market policies

The key aim of ALMPs is to facilitate the transition from unemployment to employment. ALMPs involve learning procedures, training, assistance, consulting, and matching policies, as well as the development of new jobs with public subsidies. Previous literature highlights the various forms of ALMPs, their origins, types, and effectiveness (Bonoli, 2010; Crépon and Van den Berg, 2016; Eppel et al., 2022; Tsiboukli and Efstratoglou, 2022). While there is considerable variation in the design and implementation of ALMPs across different countries and regions, there is consensus in the literature that they can have a positive impact on the employability of jobseekers (Crépon and Van den Berg, 2016).

Bonoli (2010) categorizes ALMPs into four types based on two dimensions: the extent to which the policy aims to put people back into demand-driven market employment (1) and the extent to which programmes invest in unemployed peoples' human capital (2). The four types of ALMPs are:

- **Incentive Reinforcement:** Measures that strengthen work incentives for benefit recipients by curtailing passive benefits, making benefits conditional on participation in work schemes or other labour market programmes, and using sanctions. This approach is particularly popular in English-speaking countries.
- **Employment Assistance:** Measures aimed at removing obstacles to labour market par-

ticipation, such as placement services, job search programmes, counselling, job subsidies, and help in finding and paying for suitable day-care services. This approach allows beneficiaries to make full use of their human capital and is common in English-speaking, Nordic, and Continental European countries.

- **Occupation:** Measures that keep jobless people busy to prevent human capital depletion during unemployment spells, such as job creation and work experience programmes in the public or non-profit sector and non-employment-related training programmes. This approach was common in Continental European countries in the 1980s and early 1990s.
- **Upskilling:** Providing vocational training to jobless people to offer a second chance to those who were not able to profit from the training system or whose skills have become obsolete. This approach is most developed in the Nordic countries.

1.3 Austrian unemployment support and the BBE Joboffensive

The Austrian social security system provides various forms of support for unemployed individuals. This mainly includes financial unemployment benefits and several ALMPs like training, education, job placement and counselling services (BMAW 2024). While individuals must have been previously employed for a minimum period to qualify for most unemployment benefits, most ALMPs are available to all jobseekers. Participants of ALMPs must be registered with the Austrian Public Employment Service (AMS), a public-law service provider. The AMS operates most of these programmes and plays a crucial role in preventing and reducing unemployment in the country (BMAW, 2023a).

ALMPs implemented in Austria typically aim at improving individual skills and removing obstacles to labour market participation (Hofer and Weber, 2006). The so-called Beratungs- und Betreuungseinrichtungen (BBE) are a specific form of ALMPs common in the country. BBE are labour market-related counselling and support facilities addressing a range of individuals and groups facing various obstacles to employment, such as long-term unemployment, older workers, unemployed apprenticeship seekers, students pursuing careers, individuals returning to work, and those with complex challenges that hinder their integration into the labour market (BMAW, 2023b): these facilities provide support and advice to help overcome problems that stand in the way of sustainable employment. Moreover, they support unemployed people in their search for new employment or, in some cases, they provide support to people in employment.

The BBE Joboffensive (BBEJ), which is the subject of investigation in this study, is a special case of a BBE. Implemented during the Covid-19 pandemic, it aimed at mitigating the spike of unemployment that occurred as a result. Based on Bonoli's previously described classification of ALMPs, the BBEJ can be considered a mix of employment assistance and skill enhancement measure, as it represents a job search assistance programme with individual training. The BBEJ's focus was to prepare jobseekers for the labour market by improving their skills, offer-

ing guidance on job searching, and eventually placing them in an appropriate position. This initiative supported people registered with the AMS who lost their jobs during the Covid-19 pandemic and needed professional reorientation, qualification, or job search support. After voluntarily enrolling in the programme, each participant was provided with multiple appointments for training, counselling and assistance. The programme offered a range of services: clearing, competence analysis, career guidance, educational counselling, educational support, intensive outplacement and individual or group counselling. The explicit aims of the BBEJ were (1) to create clarity about individual career perspectives, (2) to provide information and advice on training and further education programmes, (3) to support jobseekers in their job search and application, and (4) to ultimately achieve re-entry into the labour market (Mentor, 2020). Of the total of 3,899 participants, 1,540 started a new job during their participation in the BBEJ. In addition, 328 individuals were able to obtain further qualifications through an offer from the AMS, while 137 others were able to do so on the free education market.

2. Previous findings

2.1 Effectiveness of job search interventions

Empirical evidence demonstrates the efficacy of job search interventions such as the BBEJ in enhancing the probability of securing employment. A comprehensive meta-analysis (Liu et al., 2014) examined the effectiveness of job search interventions in facilitating job search success. The analysis summarized data from 47 experimentally or quasi-experimentally evaluated job search interventions and revealed that the odds of obtaining employment were 2.67 times higher for jobseekers participating in job search interventions compared to those in control groups. The moderator analysis indicated that job search interventions comprising specific components, including teaching job search skills, improving self-presentation, boosting self-efficacy, encouraging proactivity, promoting goal setting, and enlisting social support, were more effective than interventions that did not include such components. The results of the meta-analytic path analysis revealed that increased job search skills, job search self-efficacy, and job search behaviours partially mediated the positive effect of job search interventions on obtaining employment. In line with these results, more recent studies found consistent evidence for a positive effect of job search interventions on labour market outcomes (Cheung et al., 2023; Cmar and McDonnal, 2020; Manoli and Patel, 2019).

In the case of Austria, several studies have analysed the impact of ALMPs on the employment prospects of jobseekers. For instance, Weber and Hofer (2004) discovered that training programmes and employment subsidies had a positive impact on the employment prospects of participants. A more recent study investigated the employment effects of several forms of support programmes offered by the Austrian Public Employment Service (AMS) and found that specialized vocational training and job-proximate qualifications were particularly effective (Eppel et al., 2022). Böheim et al. (2017) concluded that a higher ratio of caseworkers to clients significantly increases the likelihood of employment among ALMP participants. A recent

study on ALMP training uptake found that providing unemployed individuals with newsletters and vouchers for training significantly increased their participation in sophisticated training courses, particularly among women, older unemployed individuals, and those with lower prior income (Lehner and Schwarz, 2022). Moreover, a field experiment found that providing a brief informational video about effective job search strategies combined with a reflection survey significantly enhanced job search success among young unemployed individuals with low formal education, increasing their employment probability by 3.7% within 6 months (Mühlböck et al., 2020). In an evaluation study of an Austrian BBE for individuals with multiple barriers to placement, most participants reported improvements in professional orientation, confidence, and overall well-being (Auer et al., 2019). They noted enhanced self-awareness, increased self-confidence, improved ability to overcome personal challenges, and a more optimistic outlook on their future.

2.2 The latent deprivation model

Sociological theory has long highlighted the negative effects of unemployment on individuals beyond merely economic indicators. One renowned approach is the latent deprivation model developed by social psychologist Marie Jahoda. In her comprehensive study on unemployed people in the Austrian town of Märienthal, Jahoda investigated the broad effects of unemployment on individuals (Jahoda, Lazarsfeld, and Zeisel, 2021 [1975]; Jahoda, 1982, 1997). She argued that employment provides not only manifest functions like income, but also latent functions which she divided into 5 categories: (1) time structure, (2) collective purpose, (3) social contact, (4) activity, and (5) status.

Jahoda postulated that the absence of these five functions is a significant contributor to the distress and poor quality of life often experienced by unemployed people. She suggested that the time structure, collective purpose, and social contact provided by employment are essential for well-being. The lack of a clear time structure and planned activities results in a sense of purposelessness and distress. Similarly, the absence of regularly shared experiences and contacts outside the nuclear family impairs mental health, as these cannot be replaced merely by intensifying family life. Furthermore, being active, even if driven by external forces like the need to earn a living, is better for individual well-being than passivity. And finally, even a low status, such as that of a manual worker, can be preferable to the lack of status often experienced by the unemployed. Even though Jahoda's ideas have been historically debated, there is recent and consistent empirical evidence supporting all 5 latent functions (e.g. Paul et al., 2023; Paul and Batinic, 2010).

Regarding the focus of our research, the latent deprivation model raises the following question: to what extent can ALMPs like the BBEJ mitigate the negative effects of unemployment apart from merely increasing the chances of employability (e.g. reducing psychological distress linked to unemployment)?

3. Contributions and hypotheses

The present study is a comprehensive impact analysis of a job search assistance and training intervention implemented during the Covid-19 labour market crisis in Austria, namely the BBEJ. In line with the latent deprivation model, we intend to analyse a comprehensive set of indicators to determine the impact of the intervention on jobseekers and the impact of finding a job on participants. Our findings contribute to the existing literature on active labour market policies and unemployment in two ways.

First, previous studies have provided valuable insights into the effectiveness of job search interventions from a labour market perspective. However, when viewed through the lens of latent deprivation, manifest indicators such as the achievement of employment tell only part of the story. The full impact of an intervention may extend beyond those manifest indicators and also encompass latent factors such as life satisfaction, the reduction of psychological distress and improved competencies while searching for a job. Second, to the best of our knowledge, no previous study has investigated the impact of a specific ALMP in the context of the Covid-19 pandemic in Austria. Research indicates that the pandemic's outbreak had a significant effect on job search behaviour, including an immediate increase in job applications and a substantial shift towards seeking remote work (McFarland et al., 2020). Our study provides valuable evidence within this novel context. Previous research has focused mainly on the effects of interventions on long-term unemployed individuals (Liu et al., 2014). Our study, however, investigates individuals who lost their jobs due to a sudden labour market shock. This evidence is particularly valuable for policy decisions in the event of future labour market shocks with similarities to the Covid-19 labour market crisis. Such shocks may become increasingly prevalent due to the growing risk of technological unemployment (Sacchi, 2019) and the flexibilization of labour (Beck, 2014).

The combination of insights from Jahoda's latent deprivation model and the empirical evidence for the positive effects of job search interventions leads to the identification of 3 expected mechanisms by which the BBEJ impacts its participants. These mechanisms constitute our hypotheses. First, it can be expected that the BBEJ will enhance the professional competencies of its participants (H1). Second, the provision of support by the BBEJ may help to mitigate the negative personal effects of the job search, such as overstrain and psychological distress (H2). Third, obtaining employment within the programme may result in a substantial improvement in participants' life satisfaction (H3).

4. Methods

4.1 Data and measurement

The dataset used for the analysis is a panel survey of participants in the BBEJ programme (n = 929), conducted as part of an evaluation (Kettl et al., 2023). The survey took place between

June 2021 and October 2022. The evaluation used exploratory qualitative methods, such as focus groups with experts and semi-structured interviews with participating jobseekers, to uncover potential impacts of the BBEJ on participants, following the impact analysis approach of Grünhaus and Rauscher (2022). These potential impacts reported by the interviewees were transformed into statements/questions, which were then included in a quantitative survey. Respondents' levels of agreement were measured using a 10-point Likert scale, with higher scores indicating greater agreement (1 = strongly disagree, 10 = strongly agree).

The two survey waves were timed according to the jobseekers' individual participation in the BBEJ. All participants were invited to the first survey wave directly after the BBEJ entry interview. Invitations for the second survey wave were sent immediately after the final interview, which occurred upon completion of the programme. These invitations were issued by presenting a QR code on-site that directed participants to the online questionnaire.

The response rates were 30% (929 out of 3,120 invited individuals) for the first survey wave and 8% (235 out of 3,120 invited individuals) for the second wave. Notably, not all respondents could be uniquely identified, which is necessary for panel analysis utilizing within-subject variance. This identification issue arose because our identifier variable (ID) was based on several non-obligatory questionnaire items, resulting in high levels of missing values and, consequently, missing IDs for many participants. Hence, we were only able to use a subsample of individuals who could be uniquely identified across waves ($n = 105$).

Notably, our small sample size raises the risk of selection bias due to systematic differences from the target population of all BBEJ participants. While we lack data on non-responders, we compared the characteristics of all participants of the first wave ($n = 929$) with those included in our subsample. This comparison, described further in our results section, reveals no systematic differences between these groups. Both sociodemographic characteristics and variables of interest are similarly distributed across these groups, indicating no significant sample bias. We further used the full sample of respondents to test the robustness of our findings, as described in the robustness section.

4.2 Operationalization and construction of variables

Our models employ 2 predictor variables: programme participation and employment status. Our variable indicating programme participation was derived from the wave of measurement (wave 1/wave 2). This reflected whether an individual had received BBEJ services. The first wave was used as the baseline/pre-treatment observation, while the subsequent wave was used as the post-treatment observation. The employment status of the participants was determined by a questionnaire item that indicated whether they had found a job or were still seeking employment (work/no work).

Ten outcome variables within 3 categories (professional competencies, personal relief, and satisfaction with living conditions) were constructed based on various questionnaire items:

Professional competencies: This category included five sub-variables:

- (1) Knowledge about one's own potentials and abilities: Measured by the level of agreement with the statements: "I know my own job-relevant strengths and abilities" and "I know how to use my strengths and abilities in the labour market".
- (2) More know-how regarding the application process: Measured by the level of agreement with the statements: "I know how best to write and design application documents" and "I know how to present myself in job interviews and what I need to pay attention to".
- (3) Knowledge about legal rights: Measured by the level of agreement with the statement: "I know my rights regarding a job".
- (4) Development of a career perspective: Measured by the level of agreement with the statements: "I know what the next steps are to find suitable work" and "I know which jobs are suitable for me".
- (5) Higher flexibility regarding the workplace: Measured by the reported willingness to work in a different field than previously worked or trained in and to take on a significantly longer commute (more than 2 hours a day) for a suitable job.

Personal relief: This category included two sub-variables:

- (1) Psychological relief: Measured by the level of agreement with the statement that job search consultations were supportive and relieving and, furthermore, by the level of agreement with the statement that looking for a job is a psychological strain. The values of the latter item were inverted for the analysis to enable a consistent index. Here, the lowest value (1) represents high psychological strain and the highest value (10) represents low strain.
- (2) Reduction of overstrain: Measured by the level of agreement with the statement: "The job search overwhelms me". The values were again inverted for the analysis. A low value (1) therefore represents a high level of strain and the highest value (10) represents low strain.

Satisfaction with living conditions: This category included three sub-variables:

- (1) Material living conditions: Measured by the participants' reported satisfaction with their financial, residential, and work situation.

- (2) Social living conditions: This is measured by participants' reported satisfaction with their opportunities to participate in social activities and form personal relationships. Model 9a additionally incorporates the reported satisfaction with family life, while Model 9b excludes it.
- (3) Subjective health status: Measured by the participants' reported satisfaction with their psychological and emotional well-being and physical health.

Our 10 outcome variables represent sum indices that were combined from the aforementioned items. Furthermore, we included the following control variables in all models: gender (male/female), highest education level (primary/secondary/tertiary education), age group (under 31/31–50/above 50). For the models regarding living conditions, we included family situation (single parent/single without children/partnership or marriage with children/partnership or marriage without children/other) and time trend dummies (date of response) to adjust for possible time effects, for instance, due to the course of the Covid-19 pandemic and regarding social distancing measures.

4.3 Models

We utilized random-effects (RE) panel regression models for our analysis, given the panel data structure of our subsample ($n = 105$), employing our ID variable to uniquely identify participants and the date of survey participation as our time series variable. The choice of the RE model was guided by its ability to account for unobserved individual-specific effects that are potentially correlated with our observed variables and time trend effects. This model is advantageous because it allows for the inclusion of time-invariant variables, which is not possible with fixed-effects (FE) models:

$$(1) \quad Y_{it} = \beta_0 + \beta_p P_{it} + \beta_X X_{it} + u_i + \epsilon_{it}$$

$$(2) \quad Y_{it} = \beta_0 + \beta_w E_{it} + \beta_X X_{it} + u_i + \epsilon_{it}$$

Y_{it}	as the dependent variable for individual i at time t
P_t	as the programme participation (wave) at time t
E_{it}	as the employment status of individual i at time t
X_{it}	as control variables for individual i at time t (an overview is provided above)
β	as coefficients estimated
u_i	as the unobserved individual-specific effect for individual i
ϵ_{it}	as the idiosyncratic error term for individual i at time t .

Term 1 represents the equation term for our models using programme participation as a predictor variable (M1–M7). Term 2 represents the equation term for our models using employment status as a predictor variable (M8–M10).

The foundational assumption of random-effects (RE) models is that individual-specific effects are random and uncorrelated with the explanatory variables. This assumption often results in the RE model being more efficient than the fixed-effects (FE) model. Our Hausman tests (see table 7, appendix) support the appropriateness of the RE model for all our specifications. However, a significant challenge with the RE model in our context is the reliance on a relatively small subsample of uniquely identifiable individuals ($n = 105$). To mitigate this limitation and enhance the robustness of our findings, we also employed pooled ordinary least squares (OLS) regression models using the full sample of participants, as further described in the robustness section.

5. Results

5.1 Descriptive analysis

Table 2 provides a detailed overview of characteristics among participants in the first wave, second wave, and the subsample used for our panel analysis. To mitigate risks of sample bias, we run chi-square tests to check on systematic differences between our panel subsample and the full sample of first-wave participants. Regarding gender distribution, our panel sample (38.10% male, 61.90% female) closely resembles the full sample of wave 1 (42.73% male, 57.27% female) and wave 2 (37.02% male, 62.98% female), with minor variations but generally a slight majority of female participants. The age group distribution also shows consistency across the samples. Participants aged 31–50 years make up the largest group in all samples (50.48% in the subsample, 52.10% in wave 1, and 47.23% in wave 2). The proportions of younger participants (≤ 30 years) and older participants (> 50 years) are similar, with a slight underrepresentation of younger participants in the second wave (9.69%) compared to the subsample (13.33%) and wave 1 (11.06%). This distribution suggests that age-related biases are minimal. Educational levels across these samples are relatively similar. Secondary education is the most common level (72.38% in the subsample, 65.98% in wave 1, and 64.26% in wave 2). Primary and tertiary education levels also show a similar pattern across the groups. This consistency indicates that educational attainment is comparable across samples, further mitigating potential biases. Family situation distributions indicate minor differences. Single individuals without children and those in partnerships or marriages with children form the largest groups across all samples. The proportions of single parents and those in partnerships/marriages without children are consistent.

Overall, the socio-demographic characteristics of the subsample used for our panel analysis are sufficiently similar to those of the full sample from both survey waves. Chi-square testing confirms no significant difference in gender, educational level or age group distribution between our panel sample and the full sample. In other words, we do not find any sign of systematic differences between our panel subsample and the full sample. We are therefore confident in the validity of our model results despite our rather small sample size.

Table 2: Sample comparison and Description

	Panel sample	Full sample	
		Wave 1 (pre-treatment)	Wave 2 (post-treatment)
Gender (in %)			
Male	38.10	42.73	37.02
Female	61.90	52.10	58.30
Missing	0	5.17	4.68
Age group (in %)			
≤ 30 years	13.33	9.69	11.06
31–50 years	50.48	52.10	47.23
> 50 years	34.29	30.57	35.32
Missing	1.90	7.64	6.38
Education level			
Primary	10.95	14.96	12.34
Secondary	72.38	65.98	64.26
Tertiary	14.76	12.06	15.74
Missing	1.90	7.00	7.66
Family situation			
Single parent	6.67	6.67	9.36
Single without children	26.67	28.85	27.23
Partnership/marriage with children	39.05	38.21	36.60
Partnership/marriage without children	19.05	18.08	18.72
Other	1.90	5.71	0
Missing	6.67	2.48	8.09
N	210	929	235

Table 3 presents the summary statistics of the outcome variables, namely the BBEJ participants' professional competencies, personal relief, and satisfaction with living conditions for the pre- and post-treatment observations. All variables have a minimum value of 1 (low agreement) and a maximum value of 10 (high agreement). Based on the number of observations, not all participants of the panel sample responded to each area. The highest average approval ratings before participating in the programme regarding professional competencies were found for knowledge about one's own potential and abilities (7.275) and the development of

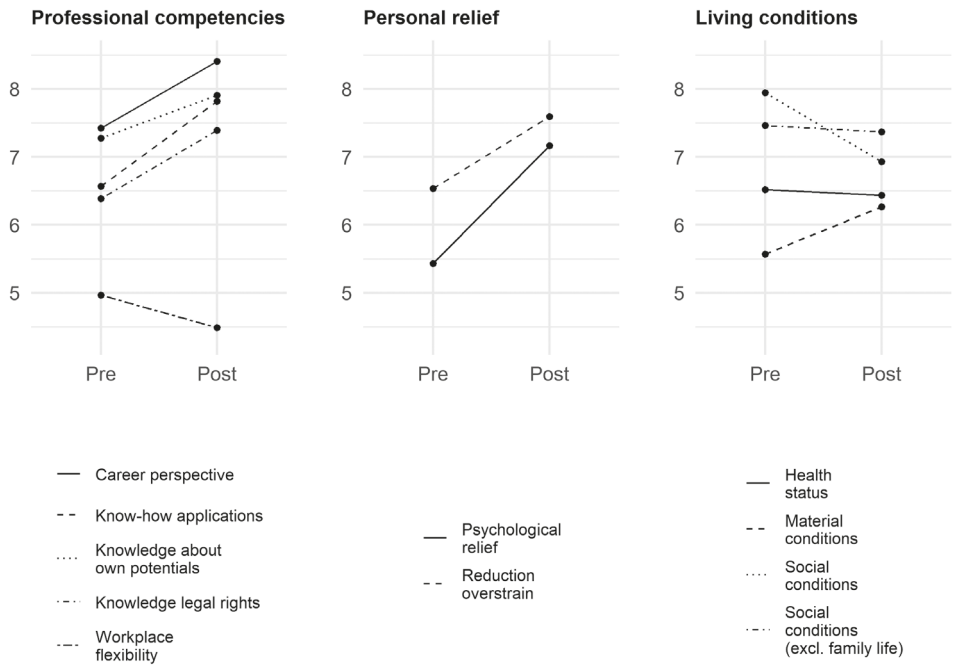
a career perspective (7.423). The lowest level of agreement across the two survey waves was found for flexibility in relation to the workplace with a mean of 4.965 units. The results of the post-treatment value examination revealed a higher average value for the reduction in overstrain (7.590) than for the decrease in psychological stress (7.165). At the beginning of the BBEJ, the participants were most likely to be satisfied with their social living conditions (7.942). The standard deviation is lowest for flexibility regarding the workplace (1.823) and highest for the reduction of overstrain (3.167).

Table 3: Summary Statistics

Dependent variables	Pre-treatment			Post-treatment		
	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.
Professional competencies						
Knowledge about own potentials and abilities	102	7.275	2.434	98	7.908	1.866
Know-how regarding application processes	102	6.568	2.326	100	7.815	1.926
Knowledge about legal rights	99	6.384	2.664	97	7.392	2.008
Development of career perspective	97	7.423	2.255	59	8.407	1.696
Flexibility regarding workplace	100	4.965	1.731	97	4.490	1.643
Personal relief						
Psychological relief	97	5.433	2.181	100	7.165	2.160
Reduction of overstrain	99	6.535	3.167	100	7.590	2.764
Living conditions						
Material living conditions	84	5.570	2.092	84	6.264	2.221
Social living conditions	60	7.942	2.013	24	6.930	2.378
Social living conditions (excluding family life)	95	7.463	2.365	91	7.368	2.183
Subjective health status	96	6.516	2.291	93	6.435	2.345

Descriptive statistics on the association between programme participation and our dependent variables (figure 1) yield higher mean values for variables measuring professional competencies and personal relief for post-treatment observations compared to pre-treatment observations. Regarding workplace flexibility, the mean value is smaller for post-treatment observations. The statistics on satisfaction with living conditions show that the mean value for material living conditions increases, while the mean value for social and health conditions shows a slight decrease.

Figure 1: Pre- and Post-treatment, Mean



5.2 Regression analysis

Table 4 presents our regression results on the effect of BBEJ participation on professional competencies. Model 1 shows that individuals reported significantly higher knowledge of their own potential and skills after participating in the programme. Specifically, knowledge about one’s own potentials and abilities increased significantly by an average of 0.617 units directly after programme participation when compared to the baseline, indicating that individual knowledge improved during the programme. Further, our results show that individuals over the age of 50 tend to report higher levels of knowledge about their own potential and abilities than our youngest group.

Model 2 examines the effect of participating in the programme on know-how regarding the application process. Individuals’ reported knowledge about application processes increased significantly by 1.242 units after having participated in the programme. The coefficients of the socio-demographic control variables are not statistically significant and thus indicate no differences between groups.

Model 3 is an estimation of the effects of the BBEJ programme on the reported knowledge of legal rights. The results show that after programme participation, individuals reported a significant increase in knowledge at 0.984 units. Moreover, individuals over the age of 50 show higher knowledge of legal rights when compared to individuals under 30. Model 4 estimates the effect of programme participation on the development of individual career perspectives. Findings show that participants' perspectives improved significantly by 0.938 units after attending the programme. Again, the oldest age group (>50) reported significantly higher levels of career perspectives when compared to the youngest group.

Table 4: Professional Competencies – Random-Effects Regression

VARIABLES	M2 Know-how regarding application processes	M3 Knowledge about legal rights	M4 Development of career perspective	M5 Flexibility regarding workplace
Programme participation	1.242*** (0.210)	0.984*** (0.248)	0.938*** (0.273)	-0.455** (0.219)
Female (ref. male)	0.410 (0.373)	-0.195 (0.409)	0.241 (0.402)	-0.239 (0.262)
Age group (ref. ≤ 30 years)				
31–50 years	0.0286 (0.577)	0.977 (0.630)	0.442 (0.611)	0.752* (0.395)
> 50 years	0.327 (0.596)	1.317** (0.650)	1.115* (0.637)	0.210 (0.408)
Education level (ref. primary)				
Secondary	-0.210 (0.584)	0.626 (0.642)	-0.261 (0.617)	-0.282 (0.428)
Tertiary	0.657 (0.725)	0.263 (0.791)	-0.430 (0.763)	0.0630 (0.518)
Constant	6.233*** (0.827)	5.031*** (0.900)	6.916*** (0.873)	4.843*** (0.586)
Observations	202	196	156	197
Number of individuals	104	103	101	103
R ²	0.1143	0.0781	0.0938	0.0700

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Finally, model 5 estimates the effect of programme participation on job flexibility. At the 1% significance level, the model indicates that participation in the BBEJ is associated with a reduced likelihood of considering alternative job opportunities diverging from the original field or located at a more distant address. Middle-aged people (31 to 50) tend to be significantly more flexible than their younger counterparts.

All models (M1–M5) have similar variance in the estimated effects of programme participation. Overall, participation in the BBEJ is significantly and positively associated with professional competencies. However, individual flexibility regarding the job did not increase during the programme. In fact, individuals reported significantly lower flexibility after participating in the programme.

Table 5: Personal Relief – Random-Effects Regression

VARIABLES	M6 Psychological relief	M7 Reduction of overstrain
Programme participation	1.736*** (0.259)	1.052*** (0.351)
Female (ref. male)	0.234 (0.365)	-0.811 (0.497)
Age group (ref. ≤ 30)		
31–50	0.863 (0.554)	0.714 (0.757)
> 50	1.200** (0.572)	1.399* (0.781)
Education level (ref. primary)		
Secondary	-0.325 (0.572)	-0.139 (0.782)
Tertiary	-0.265 (0.704)	0.153 (0.962)
Constant	4.722*** (0.801)	6.246*** (1.095)
Observations	197	199
Number of individuals	104	104
R ²	0.1716	0.0699

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5 presents the effects of participation in the BBEJ on personal relief from the burden of looking for a job. Model 6 estimates the reduction of psychological stress after programme participation. The results indicate a notable average increase of 1.736 units in reported psychological relief when compared with the baseline. Moreover, our results show significantly lower levels of psychological strain for participants above the age of 50 when compared to younger age groups.

The effect of participation in the programme on the perception of personal overstrain during the job search process is estimated in model 7. Individuals report significantly lower levels of personal overstrain after participating in the programme. Again, we see lower levels of overstrain for the oldest age group.

The effect of becoming employed on participants' satisfaction with their living conditions is shown in table 6. Model 8 estimates that getting a job leads to a significant improvement in participants' material life satisfaction, by an average of 2.117 units. Due to positive employment effects on household income, it is plausible that employed participants are also more satisfied with their material living conditions. Notably, a significant disparity in material satisfaction is observed between single parents and their counterparts in two-parent or childless households.

Our results from model 9a yield no change in social life satisfaction after finding a job. Looking at our covariates, the oldest age group tends to report greater satisfaction with their social living conditions than younger participants. Furthermore, individuals in a partnership or marriage were more socially satisfied than single parents. Model 9b estimates social life satisfaction without consideration of family life, as model 9a excludes single persons without children. In contrast to the findings of model 9a, the coefficient for our work variable is positive. However, we find no statistical significance in this case.

Model 10 estimates the impact of finding employment on self-reported health. The results indicate that getting a job significantly improved participants' reported mental and physical health by an average of 1.091 units. In other words, participants reported more satisfaction with their health and material living conditions after finding a job.

Our results demonstrate that participation in the BBEJ was associated with improved professional competencies, thereby supporting our initial hypothesis (H1). However, the data do not confirm an increase in flexibility regarding job placement. Furthermore, our results indicate that participants experienced personal relief following their attendance at the BBEJ, thereby confirming our second hypothesis (H2). Our third hypothesis (H3), namely the expected positive effect of finding employment on participants' satisfaction regarding their living conditions, can be partially confirmed. While the data show an increase in material life satisfaction and reported health, there was no significant change in social life satisfaction. This result is robust when controlling for the time trend, which was intended to capture unobserved temporal effects of the Covid-19 pandemic and its social restrictions.

Table 6: Satisfaction with Living Conditions – Random-Effects Regression

VARIABLES	M8 Material living conditions	M9a Social living conditions	M9b Social living con- ditions (excluding family life)	M10 Subjective health status
Work (ref. no work)	2.117*** (0.337)	-0.971 (0.864)	0.577 (0.401)	1.091*** (0.397)
Female (ref. male)	0.757** (0.353)	0.519 (0.491)	0.368 (0.391)	-0.0275 (0.418)
Age group (ref. ≤ 30)				
31–50	-0.0151 (0.561)	0.950 (0.886)	-0.378 (0.643)	-0.344 (0.693)
> 50	0.415 (0.584)	1.991** (0.922)	0.800 (0.675)	-0.0369 (0.726)
Education level (ref. primary)				
Secondary	0.283 (0.544)	0.401 (0.719)	0.187 (0.674)	-0.883 (0.696)
Tertiary	0.526 (0.661)	0.538 (0.905)	-0.442 (0.803)	-0.756 (0.844)
Family situation (ref. single parent)				
Single without children	1.831*** (0.679)		1.473* (0.802)	0.191 (0.854)
Partnership/marriage with children	2.661*** (0.633)	1.891** (0.779)	1.887** (0.748)	1.017 (0.802)
Partnership/marriage without children	2.462*** (0.684)	2.362*** (0.834)	2.093** (0.817)	0.209 (0.863)
Other	0.0426 (1.200)		0.167 (1.224)	0.799 (1.272)
Time trend dummy	No	Yes	Yes	Yes
Constant	2.505*** (0.922)	2.862 (2.088)	4.470** (1.870)	7.306*** (1.845)
Observations	159	84	176	179
Number of individuals	95	66	99	100
R ²	0.3734	0.4000	0.2651	0.2148

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.3 Robustness

To enhance the validity of our findings, we implemented several robustness checks, including various control variables and fixed-effects models with consistent variable specifications. Most importantly, we employed pooled OLS regression models with clustered standard errors. This approach utilized the full data set, encompassing all participants, not just those who were uniquely identifiable. By leveraging the larger number of observations, we were able to directly compare the results with those from our random-effects panel analysis.

Specifically, we estimated pooled OLS regressions to assess the differences between the pre- and post-treatment groups, considering sample dependence and accounting for intra-individual correlation using clustered standard errors via our ID variable (Cameron, 2008). The results, presented in table 7 (see appendix), show that the pooled OLS estimates are highly consistent with our main models. Like the random-effects analysis, the pooled OLS regression indicates significant improvements in professional competencies after programme participation, with similar effect sizes. However, there is a notable distinction: while the random-effects regression for job flexibility (M5) in table 4 shows an average deterioration at the 1% significance level, the OLS regression does not reflect this. Additionally, our analysis of the personal relief category confirms similar positive effects of programme participation, as detailed in table 8 (appendix). Regarding the impact of employment on satisfaction with living conditions, there are notable differences in the social life satisfaction results. Unlike our random effect models, pooled OLS estimates demonstrate a significant effect of employment on satisfaction derived from the ability to participate in social activities and maintain personal relationships (see model 9b, table 9, appendix). Minor variations in control variables are observed, attributable to the different model specifications used.

Overall, these robustness checks confirm the reliability of our main findings, reinforcing the significant positive association of the BBEJ programme with participants' professional competencies and personal relief, as well as the positive effect of finding work on satisfaction with material living conditions and health.

5.4 Limitations

This study sheds light on the effects of the BBEJ programme during Austria's Covid-19 labour market crisis, but it has several notable limitations. First, the response rate of our survey was rather low, particularly in the second wave, which could lead to non-response bias. In other words, the study's findings may not fully represent the experiences of all BBEJ participants. Participants who were particularly satisfied with the BBEJ's service might have been more likely to respond, therefore causing an overestimation of the programme's effect. Second, the study is based on self-reported data, which is subject to response bias. Participants might have over- or underestimated the programme's impact on their competencies and other outcomes. Third, the study's context, the Covid-19 pandemic in Austria, may limit the findings' applicabil-

ity to other situations or labour market crises. Fourth, the study design does not include a control group of unemployed individuals who did not participate in the BBEJ programme, which makes it difficult to isolate the effects of the programme from other factors that may have influenced the outcomes of interest. In other words, time-variant cofounders might explain our measured effects and causality of the BBEJ might not be given. Lastly, although the study encompasses a wide range of indicators to measure BBEJ's impact, there might be other relevant outcomes that this study did not capture.

Despite these limitations, this study offers crucial evidence on the potential benefits of ALMP interventions during labour market crises and enriches our understanding of such interventions' broader impacts beyond merely economic indicators. Future research should address this study's limitations by using a more representative sample and exploring further outcome variables. In addition, subsequent studies might use control groups as well as a study design which does not experience losses in observations. These factors may help to further isolate the causal effects of an investigated programme.

6. Discussion

This study examined the impact of a job search assistance and training intervention, the BBEJ, implemented during the Covid-19 pandemic in Austria. The BBEJ is an ALMP in response to the sudden and unprecedented increase in unemployment resulting from the pandemic (WuG, 2021). Despite the large body of literature examining the effectiveness of job search interventions, much of the previous research has focused on the effects of these interventions on the long-term unemployed (Liu et al., 2014). Our study contributes to the existing literature by providing evidence on the effects of such interventions in a different context: individuals who lost their jobs due to a sudden labour market shock. These abrupt job losses can be expected to have an immediate negative impact on individuals. The deterioration in economic circumstances and the pressure to find a new job quickly are two of several factors that can lead to strain and distress. Our findings highlight the potential of job search interventions to significantly mitigate these negative personal effects of sudden unemployment. They also support previous evidence of the overall positive effects of job search interventions on skills relevant to future employment.

In line with Jahoda's latent deprivation model (Jahoda, 1997), our study analysed a wide range of indicators, including satisfaction with living conditions, psychological distress and job search skills. This allowed us to estimate the possible effects of the BBEJ beyond merely manifest indicators such as achieving employment. This comprehensive approach revealed that participation in the BBEJ was associated with significant improvements in occupational competence and a reduction in perceived psychological stress and overstrain. However, we did not find an increase in flexibility in job preferences. One possible explanation for this could be that increased awareness of one's own competencies could lead to greater selectivity in the job search, as suggested by previous studies (Ortlieb et al., 2020). In other words, participants

may become more selective if the assessment of their skills increases their confidence in their labour market value.

In addition, finding a job during and shortly after the programme significantly improved participants' material living conditions and perceived health status. This supports Jahoda's latent functions of employment, showing that finding a job can improve not only manifest (material living conditions) but also latent outcomes (improved physical and mental health). However, we did not find significant improvements in satisfaction with social living conditions, raising questions about Jahoda's latent function of social contact. According to our results, finding a job was not significantly associated with satisfaction with family life or social relationships. The absence of these positive effects could be explained by work-life conflicts, as employment may reduce the time left for private life. On the other hand, the lack of effects could also be due to the specific context of this study. The Covid-19 pandemic was characterized by dramatic changes in opportunities for social interaction. Temporary closures and other social distancing measures may have overshadowed the benefits of re-employment. However, we have addressed the risk of such time-varying confounders by including time-trend dummies as control variables.

7. Conclusion

In conclusion, the results of our study support the implementation of job search assistance and training interventions to improve the skills and well-being of individuals who have lost their jobs due to a sudden labour market shock. Participants may benefit not only from improved employability, but also from a reduction in the personal distress and strain associated with job search. This is particularly relevant in the context of the growing risks of technological unemployment (e.g. due to replacement by artificial intelligence) and labour flexibilization, which can be expected to lead to more frequent and larger labour market shocks in the future (Beck, 2014; Sacchi et al., 2020). Labour markets increasingly require people to reskill, to change their occupation and to adapt their job search strategies. Our findings suggest that job search assistance and training interventions can be a crucial component of an effective strategy to support individuals in these efforts.

ACKNOWLEDGEMENTS

We are grateful to Thomas Rusch for sharing his expertise and providing much-appreciated support. We would also like to thank the two anonymous reviewers for their helpful comments and valuable suggestions.

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Appendix

Table 7: Hausman Tests

Sample	Hausman test p-value	Model
Knowledge about own potentials and abilities	0.2368	RE
Know-how regarding application processes	0.3793	RE
Knowledge about demands and requirements for job	0.8635	RE
Development of career perspective	0.5911	RE
Flexibility regarding workplace	0.4171	RE
Psychological relief	0.5969	RE
Reduction of overstrain	0.5250	RE
Material living conditions	0.1301	RE
Social living conditions	0.0562	RE
Social living conditions (excluding family life)	0.0993	RE
Health status	0.1635	RE

Table 8: Professional Competencies – Pooled OLS Regression

VARIABLES	M1 Knowledge about own potentials and abilities	M2 Know-how regarding application processes	M3 Knowledge about legal rights	M4 Develop- ment of career perspective	M5 Flexibility regarding workplace
Programme participation	0.619*** (0.145)	1.010*** (0.161)	0.844*** (0.179)	0.877*** (0.191)	0.0186 (0.155)
Female (ref. male)	0.0655 (0.140)	0.0599 (0.151)	-0.0785 (0.172)	0.0781 (0.154)	-0.304** (0.133)
Age group (ref. ≤ 30 years)					
31–50 years	0.385 (0.263)	0.0747 (0.269)	0.224 (0.288)	0.375 (0.263)	0.200 (0.207)
> 50 years	0.530* (0.274)	-0.0220 (0.282)	0.422 (0.303)	0.381 (0.279)	-0.230 (0.224)
Education level (ref. primary)					
Secondary	0.233 (0.206)	0.668*** (0.228)	0.330 (0.253)	0.404* (0.231)	-0.137 (0.179)

Tertiary	0.349 (0.263)	0.938*** (0.289)	-0.142 (0.327)	0.247 (0.306)	0.119 (0.236)
Constant	6.811*** (0.304)	6.029*** (0.334)	5.932*** (0.356)	6.541*** (0.326)	5.006*** (0.245)
Observations	1,013	1,018	1,005	922	993
R ²	0.022	0.045	0.024	0.024	0.017

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 9: Personal Relief – Pooled OLS Regression

VARIABLES	M6	M7
	Psychological relief	Reduction of overstrain
Programme participation	1.578*** (0.166)	0.789*** (0.222)
Female (ref. male)	0.248 (0.151)	-0.704*** (0.191)
Age group (ref. ≤ 30)		
31–50	0.170 (0.233)	0.0461 (0.321)
> 50	0.203 (0.243)	0.490 (0.337)
Education level (ref. primary)		
Secondary	-0.169 (0.196)	0.0611 (0.276)
Tertiary	-0.0432 (0.247)	0.413 (0.339)
Constant	5.489*** (0.280)	6.861*** (0.391)
Observations	959	982
R ²	0.082	0.033

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 10: Satisfaction with Living Conditions – Pooled OLS Regression

VARIABLES	M8 Material living conditions	M9a Social living conditions	M9b Social living con- ditions (excluding family life)	M10 Subjective health status
Work (ref. no work)	1.836*** (0.245)	-0.295 (0.586)	0.661** (0.290)	0.913*** (0.279)
Female (ref. male)	0.318** (0.138)	0.114 (0.210)	0.0146 (0.164)	-0.358** (0.172)
Age group (ref. ≤ 30)				
31–50	-0.0502 (0.245)	0.472 (0.447)	-0.215 (0.296)	-0.425 (0.309)
> 50	0.292 (0.251)	0.561 (0.455)	0.227 (0.304)	-0.769** (0.324)
Education level (ref. primary)				
Secondary	0.113 (0.175)	0.358 (0.293)	0.369 (0.232)	0.555** (0.243)
Tertiary	0.119 (0.229)	-0.0698 (0.360)	-0.0995 (0.301)	0.860*** (0.296)
Family situation (ref. single parent)				
Single without children	0.739*** (0.248)		0.164 (0.320)	-0.682** (0.331)
Partnership/marriage with children	1.453*** (0.230)	1.006*** (0.341)	0.814*** (0.302)	0.255 (0.318)
Partnership/marriage without children	1.608*** (0.246)	1.444*** (0.343)	1.109*** (0.316)	-0.0346 (0.350)
Other	0.693* (0.412)		0.135 (0.459)	-0.650 (0.482)
Time trend dummy	No	Yes	Yes	Yes
Constant	3.946*** (0.349)	5.609*** (0.807)	5.986*** (0.599)	6.210*** (0.657)
Observations	855	510	917	940
R ²	0.133	0.081	0.079	0.077

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1