Article

Work Hazards and Social Class among ‘successful’ ALMP-Participants in Norway

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Abstract

Background and research question. Studies of the outcomes of participation in Active Labour Market Programmes (ALMP) focus primarily on employment status or earnings. Few studies address the social class and work environment that "successful" ALMP-participants transit to. Little is also known about whether participation in different types of ALMPs leads to different social classes and work environments. This is unfortunate since many ALMP participants have health challenges and reduced work ability and thus are particularly susceptible to poor working conditions. *Data and methods*: Using Norwegian register data, we examined social class and exposure to hazardous working conditions, measured by a Mechanical Job Exposure Matrix and a Psychosocial Job Exposure Matrix, that characterised the jobs of "successful" ALMP participants, compared with the general work force. *Results:* We found that both mechanical and psychosocial job exposures in male ALMP-participants were higher than those of the general work force. For female participants, mechanical exposures were higher than the average level in the general work force, while psychosocial exposures were lower. Further, job exposures differed by ALMP type, but after adjustment for age, education and social class, only negligible differences in job exposures between ALMP types remained. Social class contributed to variation in both mechanical and psychosocial job exposures, most for mechanical exposures among male participants, and least for psychosocial exposures among female participants. *Conclusion:* Compared with the general working population, former ALMP participants, regardless of what type of programmes they participated in, entered lower social classes and tended to face more hazardous work environment.

Keywords: unemployment, Active Labour Market Programmes, job exposure matrix, social class, Norway

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Introduction

Unemployment is a persistent challenge in many countries of the world (ILO, 2020). The consequences are detrimental for the individuals who are exposed, and for the societies in which they live (OECD, 2011). Active Labour Market Programmes (ALMP) are considered one of the major instruments to combat this social ill, and is a crucial ingredient in a social investment strategy to reconcile social and economic ends (Midgley et al., 2017: Morel et al., 2013). In Norway, ALMPs have been an integral part of the so-called 'Work Approach' that has dominated the social policy discourse and practice since the early 1990s. Norway, along with the other Nordic countries, have to a large extent advanced human capital development approaches and social investment strategies that aim to reinforce the capabilities of the jobless, and thereby improve their life chances in the longer run (Dahl & Lorenzen, 2017).

In recent years, activation policies have been expanded to broader groups of welfare clients, and new forms of ALMPs have been developed to target more vulnerable groups that were previously not expected to take part in the labour market, such as disabled and people with chronic health challenges (Bonoli & Natali, 2012). A likely result of this expansion is that ALMP participants have become a more vulnerable subgroup of the unemployed. They have low education, little work experience and often a reduced work ability due to poor health (Dahl & Lorenzen, 2017; NAV statistics). This increased ambition of integrating people with health problems in working life through ALMPs raises questions about the quality and the poor health compatibility of the jobs they are likely to be offered.

The OECD (2015) has acknowledged the interrelationship between employment and health, in particular mental health, so hence the need to craft policies to improve both health and employment outcomes. In Norway, two directorates, i.e., the Norwegian Directorate of Labour and Welfare and the Norwegian Directorate of Health, have followed this up in a Work-and-Health initiative aiming at enhancing collaboration and harmonising the efforts between the two sectors on all levels. A joint report from 2016 claims: 'That lack of work often has negative consequences for health, and (...) work most often promotes health' (Norwegian Directorate of Labour and Welfare & Norwegian Directorate of Health, 2016, p. 1). According to this view, the above-

mentioned Work Approach is also considered beneficial for health, not only for labour market participation. In general, this positive perspective is supported by recent research (Modini et al., 2016; van der Noordt et al., 2014; Waddell & Burton, 2006). The same line of thinking underpins approaches advocating place-then-train and Supported Employment strategies, including Individual Placement and Support, although here one emphasises the key role of the support system and the need for adapting the job and working conditions to the individual (Bond et al. 2008; Drake et al., 2012; Frøyland & Spjelkavik, 2014; Hernes, 2014). This positive view is also articulated in salutogenic perspectives on work, where one explores health-promoting paths leading from work, i.e., job resources, to positive health, e.g., fitness, joy and happiness (Jenny et al., 2017). These approaches also resonate well with the classical accounts by Jahoda (1982), emphasising five latent and benign functions of work, i.e., time structure, collective purpose, social contact, status and activity. Unemployment deprives people not only of economic resources, but also of the opportunity to fulfil basic psychosocial needs.

Yet, obviously, a one-sided 'salutogenic' view on work and health risks ignores a number of crucial nuances. It stands in contrast to an additional view supported by much evidence, for example, by occupational medicine, which directs attention to various work hazards that represent health risks (Bambra, 2011; Mehlum, 2013; Kim & Knesebeck, 2018; Antonisse & Garfield, 2018). Many aspects of work are not health promoting, and a number of workers, e.g., unskilled blue-collar workers, experience insecure employment and hazardous working conditions (Bambra, 2011). Consequently, a literature review of work and health states: '… research finds that low-quality, unstable, or poorly-paid jobs lead to- or are associated with adverse health effects' (Antonisse & Garfield, 2018, p. 5).

Hence, we argue that a claim like 'work most often promotes health' is overly positive, and needs to be nuanced and qualified when talking about the employment prospects for the unemployed. Perhaps the expression 'most often' applies generally to the work that ordinary employees hold in the labour market, but it is less obvious whether it applies to the types of work the unemployed most often enter. Considering the vulnerability and lack of labour market resources that characterise many of the unemployed, one cannot take for granted that the unemployed who have participated

in an ALMP will enter a job that promotes health and/or prevents ill health. However, little is known about the kind of work 'successful' ALPM participants transit to, whether it is hazardous or salutogenic, or something in-between. This is unfortunate, since many ALMP participants suffer from a variety of health problems, and therefore are particularly vulnerable to hazardous working conditions if they primarily access low-end jobs (NAV statistics). Furthermore, employment after exiting an ALMP is often short-lived (Nøkleby et al., 2017), and bad working conditions may play a role in this. Against this background, this paper provides novel descriptive insights into the working conditions that former ALMP participants experience, and how these relate to the broader concept of social class.

Relevant research on unemployed and ALMP participants

Studies of the trajectories of unemployed find that their subsequent careers are characterised by higher unemployment risks, interrupted employment careers, lower wages and lower-than-average status occupations (see Fervers, 2021, p. 4 for a literature review). This 'scarring' literature has focused on mechanisms within supply-side factors such as skill depreciation, or demand-side factors like signaling effects. Our interest, however, lies in a different demand-side mechanism, namely hazards pertaining to working conditions, and the risk that these may deteriorate already existing health problems and/or causing new ones.

Participants in activation and ALMPs constitute a subset of the unemployed population. This subgroup is special in the sense that they are deemed in need of measures to enhance their labour market attachment. In Norway, the Labour and Welfare Administration categorises a vast majority of ALMP participants, 77%, as having a 'reduced work ability' (NAV statistics).

Whereas there exists a large body of research on the type of employment the former unemployed are attaining, much less is known about the kind of work the subgroup of ALMP participants are facing after exiting a programme. To the best of our knowledge, no effect evaluation analysis has examined the nature and quality of the work that ALMP participants have moved to. As regards participants in activation measures, Fervers (2021, p. 4) states: '…little attention is paid to the question of

post-unemployment job quality. This constitutes an important research gap….'. Evidence of this is Card et al.'s (2017) comprehensive, systematic review of 207 impact evaluation studies. The most common labour market outcomes in the studies covered in this review by far are employment and earnings (Card et al., 2017, p. 9). In this review, there is no mention of occupation, class position or working conditions as outcomes. An updated review of the Norwegian evidence on the impact of labour market programme documents similar shortcomings (von Simson, 2023). In practice, even Ferver's term 'job quality' was rather narrowly conceived. In his paper, job quality was operationalised as wages. Although research has shown that there is an association between wages and quality indicators like job stability and occupational mobility, this approach is too limited for our purpose. We are interested in indicators of job quality that more directly reflect work hazards, and hence are potentially directly relevant for the health status of the ALMP participants. We are aware of just one study that meets this requirement. Dengler (2019) investigated outcomes in terms of employment quality, as well as work quality among German recipients of unemployment benefit. Like our study, Dengler used an occupation-based exposure index. Her overall index encompassed five dimensions, i.e., physical, environmental, mental, time and social aspects of work. Participants in four major types of ALMPs were compared with a 'control group' of non-participating unemployed. A key finding is that, compared with the control group, participants in all four programmes obtained employment and jobs of higher quality. This finding is relevant for our study, although our comparison group, the general work force, differs from Dengler's, since our research interest is with the discourse addressing healthy work in general, and not with an assessment of the effectiveness of different ALMPs.

Against this background, it appears that to a large extent researchers have ignored working conditions in terms of work hazards among ALMP participants who have made a transition to ordinary employment. An interesting addendum to this impact-oriented literature is a recent analysis of able-bodied participants in ALMPs (Nossen et al., 2021). The study examined trajectories over a five-year period among these participants by means of sequence analysis. Job quality or job exposures were not covered, but full-time and part-time employment were. The study documented that barely 60% have trajectories characterised by paid work. Almost 20% enter a trajectory that was dominated by part-time jobs, with women more likely to follow this

trajectory than men. Among the ALMP participants, there was consequently a significant proportion, around 40%, who had trajectories reflecting a weak attachment to the labour market.

Institutional background and theoretical considerations

The prime objectives of active labour market measures are to contribute to increased employment, reduced unemployment and combating exclusion from the labour market by helping people find work and keep it. Each year, the Parliament allocates about 9 billion NOK to such measures. Recent figures from 2021 show that more than 70 000 people were enrolled in a labour market measure each month. ALMPs are offered to the unemployed based on an assessment of the needs of the individual job seeker. The ALMPs are administrated by the Norwegian Labour and Welfare Administration (NAV). Employment and job quality among former ALMP participants are likely to depend on programme type (see below for a more detailed account of types). This may be due to variation in 'access bias' (Bonoli & Liechti, 2018; Bråthen et al., 2020), as well as differential programme effects (Dengler, 2019). We expect training programmes, and in particular programmes, that offer formal education, which requires a certain level of skills and competence at the outset, to attract more advantaged groups than other forms of active labour market programmes. We would therefore expect participants in Education programmes to enter jobs in the higher echelons of the occupational hierarchy, and thus to have a better work environment than other ALMP participants. But there is also reason to believe that high-quality human capital investments, e.g., programmes that offer formal education, funnel participants into 'better' jobs. Of particular interest is also the destinations of those who have participated in Supported Employment programmes. These programmes are targeted at people with mental health challenges. RCTs have shown their superior impact on work attachment, but also that such an attachment is relatively short lived (Nøkleby et al., 2017). It is hence of interest to examine more closely the class affiliations and work environment, in particular the psychosocial dimension of work environment, among those who participated in Supported Employment programmes.

A bulk of research demonstrates large variations in a multitude of work hazards by social class and occupation (Bambra, 2011). Despite the fact that working conditions in general are relatively good in Norway (Biletta et al., 2021), social class inequalities in working conditions are pronounced here as well (Mehlum, 2013; STAMI, 2021a). This implies that if ALMP participants predominately move to the lower social classes, which studies of trajectories of unemployed suggest, poorer work environment are likely to follow. ALMP participants also have a lower education than the ordinary employed, and research shows that working conditions are poorer among the lower educated (Mehlum, 2013; Texmon & Borgan, 2016). Based on this evidence, it is reasonable to assume that if ALMP participants, in comparison with the general work force, have a lower education, and, partly for that reason, end up in lower social classes with a poorer work environment. This way of reasoning implies that educational level may be perceived as a background variable influencing a achieved social class (as well as the kind of active labour market measures that are deemed necessary, ALMP type). Social class constitutes the work environment, and may thus serve as a 'mediator' between ALMP type, in addition to exposure to mechanical and psychosocial job hazards. Our empirical analytical design will be guided by this logic.

In Norway, as elsewhere, men and women tend to belong to different social classes. The Norwegian labour market is markedly gender-segregated, and with a rather stable trend. This applies to social class and occupation, as well as to industrial affiliation. Women dominate in health – and social services, education and public administration. Choice of education is an important driver of occupational segregation, as two-thirds of occupational segregation is due to education segregation, and women with a lower education hold more traditional occupations than women with a university degree (Østbakken et al., 2017, pp. 61-63, 128-129). This is likely to have consequences for which social classes of ALMP women transit to, and therefore the work environment they will face.

Based on these considerations, this paper explores three research questions: 1) To what extent do the working conditions of 'successful' ALMP participants differ from those of the general work force; and 2) To what degree do working conditions vary by the type of ALMP measure they have participated in, and are these variations

contingent on education and mediated by the social class of destination; and 3) To what extent do education and social class contribute to differences in job exposures between ALMP programme types?

Comparisons with the general workforce is justified by our interest to contribute to the general work-health discourse. Even if it may be true that 'work is good for health' for the ordinary working population, is it also true for our subgroup of unemployed? Our purpose is just to describe statistical relationships, and not to assess causal relations. Because of the gender segregated Norwegian labour market, men and women are examined separately.

Data and methods

We use data from several national administrative registers linked by means of the national individual identification number. The data consists of the entire Norwegian workforce with a valid occupational code, aged 20 to 60 years in 2014, including those participating in an ALMP in 2013. Workers in sheltered employment were excluded from the sample.

Largely following the taxonomy of the Norwegian Labour and Welfare Administration (von Simson, 2023), we have grouped the labour market programmes into seven categories. 1) *Work Assessment and Assistance Programmes* have the purpose to raise job search efforts by providing systematic assessments of individuals' capacity for work and their need for assistance, counselling and guidance in the process of job seeking. The target groups are diverse, and may include both the employed and unemployed. 2) *Labour Market Training* is mainly short-term vocational courses organised by NAV, which are offered to job seekers and the occupationally disabled, while under certain conditions employees who need qualifications. 3) *Education* in regular schools is a programme aimed at increasing human capital through courses provided by educational institutions. In 2013, the programme targeted only occupationally disabled. 4) *Work Practice Programmes* aim at increasing human capital through on-the-job-training, which are tailored to individual needs. The main target group is occupationally disabled. 5) *Supported Employment* Programmes provide follow-up and work practice, loosely based on the manualised principles of

the supported employment methodology (Bråthen et al., 2020). The target group is mentally challenged people with complex needs. 6) *Employment Incentives* are programmes that aim at altering the behaviour of the employers and/or employees, mainly through wage subsidies made available to either the participants or the employers. The target group is job seekers and the occupationally disabled and 7) *Health Assessment, Rehabilitation and Assistance* are programmes that aim to strengthen the work capacity among clients with health-related and social problems. The target group is the occupationally disabled with somatic or mental health impairments.

To measure the work environment of former ALMP participants, we have linked each individual's occupational code with two Job Exposure Matrices (JEMs) developed and validated by Hermansen and Dahl (2022) and Le et al. (2023). One is an index of eight mechanical exposures (e.g. heavy lifting, forward bending, squatting/kneeling) and the second an index of psychosocial exposures in terms of Job Strain (i.e. high demands and low control). For further details, we refer the reader to the two publications cited.

The operationalisation of social class was based on the Norwegian version of the European Socio-economic Classification (ESeC), using occupational codes collected from the NAV State Register of Employers and Employees. The register provides information reported by employers relating to jobs, where the duration of the employment spell was longer than one week, and the expected working hours was four hours or more. In a slightly simplified version, the ESeC gives eight different classes (Jensberg et al., 2012), see Table 1 below. Conceptually, this class variable is based on the well-known EGP (Erikson-Goldthorpe-Portocarero) schema. A major conceptual distinction in the schema is the type of employment contract, i.e., labour contract or service contract. The labour contract typically involves a short-term and specific exchange between employers and employees of a wage for effort. This situation applies to the working class and people in unskilled occupations.

The service contract is typical for higher managerial and professional positions. This form of contract involves a longer-term and more diffuse exchange of services and rewards. As seen from the employers' perspective, these two contract types regulate

two crucial requirements, namely that of work monitoring and human capital (Rose & Harrison, 2007). An increasing number of employees are in positions with elements of both a service- and a traditional labour contract. These mixed labour relations are typically associated with intermediate positions such as, e.g., clerical or sales jobs, or of lower-grade technicians and first-line supervisors (Leiulfsrud et al., 2010, p. 13).

The building blocks of both the ESeC class schema and the Job Exposure Matrices are occupational codes. However, the concepts underlying the two variables are fundamentally different. In ESeC, the criteria are related to *employers'* need for monitoring work and regulating human capital, which are enshrined in the employment contract. In JEMs, what counts is the sum scores of variables measuring different mechanical/physical and psychosocial job dimensions, as reported by *employees*. Furthermore, ESeC sees inequality in terms of a social relationship, and consists of rather abstract categories. The analytical unit is work, and the measurement level is categorical. In contrast, JEMs measure inequality as a distribution, are more concrete and focused on the job, and not work tasks. The JEMs are expressed as graded, continuous variables. Conceptually and empirically, ESeC and the JEMs are thus describing substantively different phenomena. In keeping with the conceptual definition, social class is entered as a categorical variable in the ordinary least squares (OLS) regression analysis.

The national education database provides information based on ISCED. Education was coded into four categories. 'University higher degree' included those who have five or more years with higher education from a university or a university college. Those who had finished a degree from a university or a university college requiring less than five years of study are found in 'university lower degree'. 'Secondary school' included those who have completed upper secondary school, or an education at an equivalent level. The last category, 'Primary school', included all those with less of a formal education than upper secondary school.

In the regressions, age was entered as a continuous variable.

Analytical strategy

The analysis relies on gender-stratified cross-tabulations, and on multiple ordinary least squares (OLS) regressions. The purpose of the multiple OLS analysis was to examine to what degree education and social class accounts for any bivariate associations between ALMP type and the two outcomes. Age is entered in the second step to control for any confounding age effect. Education is entered in the third step and social class in the fourth and final step, in keeping with the chronological order. This stepwise approach enables us to scrutinise how any bivariate relationships between ALMP type and the job exposures change, and the degree to which education and social class exert their own impacts on the two outcomes. To assist the assessment, we inspect changes in the R^2 of the models. Because the dependent variable does not vary between individuals who hold the exact same occupation, statistical dependency is present in our data. Therefore, all regression results are calculated using standard errors clustered on occupational codes. All analyses were conducted in Stata 16.

As the dependent variables have been recoded into percentiles, regression coefficients can be interpreted as positions in a relative distribution of the work force between 0 and 100, where 100 represents the 1% of the workforce experiencing the most hazardous work environment. Since no causal inference is intended or warranted, any causal lingo (e.g. effect, impact) refers to statistical associations only.

Results

Descriptive statistics

Successful ALMP participants were a select group. As indicated in Table 1, they were *negatively* selected in comparison with the general work force as regards education. Unsurprisingly, they also had worse health. A majority was registered with a ‘reduced work ability’, and they had an excess risk of becoming disabled (figures not shown). On the other hand, successful ALMP participants were *positively* selected compared with the entire population of ALMP participants in 2013. They constituted almost 40% of all participants that year, and had a much higher level of education than the rest of ALMP participants (figures not shown).

Table 1 shows that compared with the general workforce, successful *male ALMP participants* were clearly overrepresented in lower grade white-collar and unskilled occupational classes. Sixty-four percent belonged to the two classes, lower white-collar, and un- and semiskilled blue-collar workers. The equivalent percentage for the workforce was 35. Male ALMP participants were also markedly overrepresented among the lower educated; 53% had not completed secondary school compared to 24% in the remaining workforce. A comparison between successful *female ALMP participants* and the general workforce shows a similar pattern: Female ALMP participants were also overrepresented in working-class positions, in particular in non-manual lower grade positions (54% versus 36%), and among the lower educated (41% versus 18%).

Table 1: Descriptive statistics

	All ordinary employed		**ALMP participants**	
	Men	Women	Men	Women
N	1 031 150	962 104	27 286	29 720
Age mean	39.6	39.6	35.9	37.6
Distribution ALMP types (%)				
Education	N.A.	N.A.	9.5	13.9
Work Assessment and Assistance	N.A.	N.A.	20.4	18.9
Labour Market Training	N.A.	N.A.	18.1	17.7
Work Experience in Ordinary Enterprises	N.A.	N.A.	23.9	28.9
Supported Employment	N.A.	N.A.	6.9	7.9
Employment Incentives	N.A.	N.A.	12.5	5.2
Rehabilitation and Work Practice	N.A.	N.A.	8.6	7.5
Distribution ESeC (%)				
Higher salariat	13.2	8.0	2.9	2.2
Lower salariat	16.1	18.7	7.5	8.2
White collar workers	11.3	24.0	7.3	16.7
Independent	3.0	1.6	1.2	1.0
Higher grade blue-collar workers	0.5	0.3	0.3	0.2
Lower grade white collar workers	16.7	35.9	32.1	53.8
Skilled workers	20.6	0.9	16.8	1.2
Unskilled or semi-skilled workers	18.5	10.6	31.9	16.7
Distribution of highest completed education (%)				
University higher degree	9.7	8.8	2.5	4.8
University lower degree	20.5	36.0	11.0	21.3
High school	45.5	37.4	33.8	33.0
Primary/secondary school	24.3	17.7	52.7	40.8

Table 1 also shows a gendered pattern in ALMP participation. More men than women participated in employment incentives programmes, whereas women more often took part in education, and received work experience in ordinary enterprises. Moreover, the destination class of former ALMP participants was strongly structured by gender: More than half the women occupied a lower grade, white-collar class position, whereas close to 50% of men were located in blue-collar classes, most of them in un- and semiskilled positions.

Bivariate analysis

Table 2A shows that male ALMP participants moved to jobs higher on the mechanical Job Exposure Matrix distribution than those occupied in the remaining male workforce. Men who participated in an ALMP were also more exposed than female participants. Despite this lower exposure level among female ALMP participants, they hold more exposed jobs than the remaining female workforce. The highest exposure levels among male ALMP participants were found among those who participated in programmes offering rehabilitation, etc., employment incentives and programmes providing work experience in ordinary enterprises. Similarly, women who were placed in ordinary enterprises had higher JEM scores than those who participated in other types of programmes. In general, for all types of programmes with the exception of Education, women's levels of mechanical job exposure were lower than those among men.

Table 2A: Mechanical exposures by ALMP status and type of ALMP, men and women (mean percentile)

	Men	Women
Ordinary employed	50	48
ALMP participants	59	55
Education	49	53
Work Assessment and Assistance	56	53
Labour Market Training	58	56
Work Experience in Ordinary Enterprises	61	58
Supported Employment	58	55
Employment Incentives	62	46
Rehabilitation and Work Practice	66	57

Table 2B: Psychosocial exposures by ALMP status and type of ALMP, men and women (mean percentile)

	Men	Women
Ordinary employed	39	60
ALMP participants	51	62
Education	44	63
Work Assessment and Assistance	52	62
Labour Market Training	57	62
Work Experience in Ordinary Enterprises	52	61
Supported Employment	52	63
Employment Incentives	45	57
Rehabilitation and Work Practice	53	63

Table 2B shows the mean relative exposure level for psychosocial job exposures. Men who participated in an ALMP had much higher levels of psychosocial exposures than the average male employee. For women, this difference was small, although female ALMP participants in general, and for every ALMP type, had higher exposures than their male counterparts. In fact, this gender difference also applied to the general workforce. Among men, those who took part in labour market training had the worst psychosocial work environment, while those who received an ordinary education had the lowest levels. Among women, those who participated in employment incentives had the lowest levels of psychosocial exposures, whereas the differences between ALMP types were generally much smaller among women than among men.

Multivariate analysis – comparison with the workforce

To investigate to what extent age, education and social class contribute to differences in job exposures between ALMP participants and the workforce, we ran four regression models for each sex and both JEM outcomes. The first three models are presented in Table 3:

Table 3: Regression coefficients for ALMP participant (0-1) compared to the remaining workforce for Mechanical and Job Strain JEM among men (N=1 058 436) and women (N=991 824).

	Model 1	Model 2	Model 3
ALMP participant			
Mechanical JEM, Men	7.0*	1.3	0.2
Mechanical JEM, Women	6.1*	2.9*	-1.3
Job Strain JEM, Men	11.2*	8.6*	1.3
Job Strain JEM, women	1.5	1.0	-1.3
Control variables			
Age	x	x	x
Educational level		x	x
Social class			x

* p>0.05

The analysis shows that when controlled for age, there are still significant differences in the job held by former ALMP participants and those held by the remaining workforce. On average, ALMP participant of both genders enter jobs 6-7 percentiles higher in the Mechanical exposure distribution, and male participants are placed in jobs 11 percentiles higher on the Job Strain distribution than their workforce counterparts. Among women, there was no difference between previous ALMP participants and others. When we compare ALMP participants with work force members having the same level of education, small or no differences are observed for the mechanical work environment and psychosocial exposure in women, while male participants are doing worse than their workforce counterparts. Adding social class removes all differences, indicating that, on average, ALMP participants do not end up in jobs worse than those of others with similar age, education and social class.

However, it is still possible that this masks variation in work environment within social classes. To investigate this possibility, we added a fourth model, including interaction terms between ALMP participant and social class (not shown). The analysis indicated that, on average, female participants entering the higher and lower salariat entered jobs less exposed to mechanical strain compared to others in the same classes. The same seemed to be the case for male participants in the higher salariat. Female participants entering the higher salariat have somewhat worse job strain exposure than other women in that class. In conclusion though, this analysis supports the main

finding that former ALMP participants do not differ significantly from others in the workforce with a similar age, education and social class.

Multivariate analysis – ALMP type and JEM

In the multiple OLS regressions of the ALMP population (the remaining workforce is not included), we first investigated how ALMP type was related to mechanical JEM in isolation, and next how the association was affected by the inclusion of age, educational level and social class when entered in an additive fashion (see Table 4A).

Table 4A: Men, mean percentile mechanical exposures. Predicted values from OLS regression. Standard errors clustered using occupational codes. N=27 286.

Type of ALMP	Model 1	Model 2 (Model 1+ age)	Model 3 (Model 2 + education)	Model 4 (Model 3 + class)
Work Experience in Ordinary Enterprises (ref.)				
Education	-11.6*	-10.6*	-7.2*	-0.6
Work Assessment and Assistance	-4.4*	-3.7*	-3.1*	-1.1
Labour Market Training	-2.2	-1.5	-1.4	-2.4
Supported Employment	-2.4	-1.2	-1.7	-0.6
Employment Incentives	1.8	2.8	2.5	0.5
Rehabilitation and Work Practice	5.5	7.0*	5.5	3.0
Adjusted R^2	0.025	0.031	0.078	0.589

* p>0.05

Table 4A shows that few initial differences between ALPM programmes could be identified in Model 1. Compared to the most common programme used as the reference category, *Work Experience in Ordinary Enterprises*, only the coefficients for *Education* and *Work Assessment and Assistance* differed significantly, both with relatively large negative effects. Participants in the *Education* programme entered jobs located more than one decile higher in the relative exposure distribution compared to the reference category. Controlling for Age in Model 2 did not change the picture much, except that the positive coefficient for *Rehabilitation and Work Practice* reached statistical significance (p-value=0.029). Controlling for educational level in Model 3 led to somewhat smaller coefficients and the *Rehabilitation and Work Practice* coefficient became less precise (p-value = 0.079). In Model 4, which adds social class into the equation, no remaining differences between ALMP types could be observed. Inspecting the Adjusted R^2 confirms that social class by far explains the

largest chunk of the JEM variation, with an increase from an 8% explained variation in Model 3 to 59% in Model 4.

The coefficients for education and social class are shown in Appendix Table 1A (men). There were huge variations in mechanical JEM by social class in men. A telling example is that skilled workers typically occupied jobs placed near the 90th percentile in the exposure distribution, 75 percentiles higher than those who entered the higher salariat. This analysis therefore shows that participants in *Education* and, to a lesser extent, those in *Work Assessment and Assistance*, experience lower degrees of mechanical work hazards than the reference group because they move into social classes with better mechanical working conditions.

Table 4B: Women, mean percentile mechanical exposures. Predicted values from OLS regression. Standard errors clustered using occupational codes. N=29 720.

Type of ALMP	Model 1	Model 2 (Model 1+ age)	Model 3 (Model 2 + education)	Model 4 (Model 3 + class)
Work Experience in Ordinary Enterprises (ref.)				
Education	-5.1	-4.7	-2.0	4.6*
Work Assessment and Assistance	-4.7*	-4.4*	-4.2*	-2.0*
Labour Market Training	-1.6	-1.5	-1.7	-2.0*
Supported Employment	-3.4*	-2.8*	-3.4*	-1.7*
Employment Incentives	-11.7*	-11.3*	-10.5*	-3.8*
Rehabilitation and Work Practice	-0.6	0.1	-1.1	-0.3
Adjusted R^2	0.014	0.016	0.064	0.573

* p>0.05

Table 4B shows the OLS results for mechanical exposures for women. The initial associations between ALMP type and JEM differ from those of male participants. While the work hazards of participants from the *Education* programme cannot be distinguished from those who transited from *Work Experience in Ordinary Enterprises*, female participants in the *Employment Incentives, Work Assessment and Assistance* and *Supported Employment* entered more favourable jobs. On average, women participating in Employment incentives held jobs a decile lower in the exposure distribution compared with the reference category, while the effect was

smaller for the two other programmes. Controlling for Age and Education did not change the picture much, but again adding Social class severely attenuated the differences between ALMP types. Model 4 shows that female participants in the *Education* programme now have a higher risk of mechanical exposures than participants in the reference category who entered the same social class, or in other words, on average they entered social classes with better mechanical working conditions. The same was true for participants in *Employment Incentives*, although on average they still enter jobs with somewhat better working conditions than other participants that enter the same social class. For the other programmes, social class explained less of the difference; with the exception of participants in *Rehabilitation and Work Practice*, they all do slightly better than the reference category. This means that female participants in *Work Experience in Ordinary Enterprises* - almost one-third of all participants - on average enter poorer jobs than participants in most of the other programmes, even within the same social class. Again, social class contributes to explain much of the JEM variation, while R^2 increases from 0.06 in Model 3 to 0.57 in Model 4. Hence, social class accounts for about the same amount of the mechanical JEM variation between ALMP types in both women and men.

Table 5A: Men, mean percentile Job Strain, predicted values from OLS regression. Standard errors clustered using occupational codes. N=27 286.

Type of ALMP	Model 1	Model 2 (Model 1+ age)	Model 3 (Model 2 + education)	Model 4 (Model 3 + class)
Work Experience in Ordinary Enterprises (ref.)				
Education	-7.9*	-7.2*	-5.7*	0.2
Work Assessment and Assistance	0.3	0.8	1.2	1.3
Labour Market Training	4.7*	5.1*	5.2*	2.5*
Supported Employment	0.4	1.2	1.4	0.0
Employment Incentives	-7.1*	-6.5*	-6.1*	-2.1
Rehabilitation and Work Practice	1.2	2.3	2.0	-1.2
Adjusted R^2	0.022	0.025	0.037	0.451

* p>0.05

Table 5A demonstrates the OLS results for job-related psychosocial stress among men, i.e., so-called Job Strain, the combination of high demands and low control. The table shows that, on average, male participants in *Education* and in *Employment Incentives* transit to jobs that are 7-8 percentiles lower on the JEM exposure

distribution than the reference group, while participants in *Job Training* enter somewhat poorer jobs than the reference category. These associations are not much affected by the inclusion of Age and Educational level, but when controlling for social class in Model 4, makes most ALMP type differences negligible. Only for *Labour Market Training* is the coefficient still statistically significant, thereby indicating that these participants do somewhat worse than the other participants, regardless of social class. For Job Strain, social class explains the largest amount of the observed variation.

Focusing on the coefficients pertaining to social class, see Appendix Table 2A, we observe that independent workers stood out with lower Job Strain than the upper class, i.e., the higher salariat, whereas the other classes were all exposed to higher Job Strain. Unskilled workers, who by far had the poorest jobs, placed around the 78th percentile of the exposure distribution, 52 percentiles higher than ALMP participants entering the higher salariat.

Table 5B: Women, mean percentile Job Strain, predicted values from OLS regression. Standard errors clustered using occupational codes. N=29 720.

Type of ALMP	Model 1	Model 2 (Model 1+ age)	Model 3 (Model 2 + education)	Model 4 (Model 3 + class)
Work Experience in Ordinary Enterprises (ref.)				
Education	2.3	2.5	3.0	6.2*
Work Assessment and Assistance	0.6	0.8	0.9	2.0
Labour Market Training	1.4	1.5	1.4	0.7
Supported Employment	2.1	2.4	2.3	3.5*
Employment Incentives	-4.5	-4.3	-3.9	-0.2
Rehabilitation and Work Practice	1.6	2.0	1.7	1.8
Adjusted R^2	0.004	0.005	0.013	0.209

* p>0.05

Table 5B shows that the differences in Job Strain levels between ALMP types among women were generally small and statistically insignificant, and changed little from model to model. Also, R2 is consistently smaller than for mechanical exposures, and even with social class entered in the model, the independent variables do not account for more than 21% of the variation. Yet, we note that female participants in *Education* and in *Supported Employment* seem to enter jobs with a somewhat poorer

psychosocial work environment than other participants who enter jobs within the same social class. Appendix Table 2B shows that social class is much less consistently related to Job Strain among women than among men. Even so, female unskilled workers occupy jobs near the 76th percentile in the exposure distribution, close to that observed for men. Independent workers did better than those entering the higher salariat.

Summary and discussion

To the best of our knowledge, this is one of the first studies that documents social class location and work environment among ALMP participants who made a successful transition to the labour market (but see Dengler, 2019). As pointed out by Fervers (2021), this is a knowledge gap, a gap that this article has attempted to fill by exploring Norwegian register data, and applying two recently developed job exposure matrices (JEMs), one on mechanical and one on psychosocial exposures.

Alluding to the three research questions addressed in the paper, the main findings are: 1) Mechanical job exposures among 'successful' ALMP participants are worse than those of the general workforce for both genders, particularly among men. As regards job strain, men and women tend to move to jobs with higher Job Strain than the general working population. This is because ALMP participants enter social classes where mechanical and psychosocial exposures are on higher levels, and not that their exposure levels are higher within a given social class, 2) Initial variations in work environment among participants in different types of ALMP are attenuated when we adjust for age and education, and especially when we account for social class. This indicates that the reason why participants in some types of ALPM end up in hazardous work environment is that they enter social classes where the work environment is relatively poor, and 3) Age and educational level do not account for much of the variation in work environment related to type of ALMP. Nonetheless, social class does matter a lot, in particular for mechanical job exposures.

For the reasons discussed above, we have paid particular attention to both Education programmes and those providing Supported Employment. The findings, based on full models, indicated that women, but not men, who participated in Education

programmes, were actually worse off in terms of mechanical exposures than participants in the reference programme, i.e., work experience in ordinary enterprises. The same gender pattern applies to Job Strain. Regardless of social class, women have poorer psychosocial work environment than this reference category. The relationship between Supported employment programmes and Job Strain did not depart much from the reference category, with the exception that women tended to experience higher levels of Job Strain than the comparison group. Since Supported Employment is a programme especially targeted at people with mental challenges, this is a finding that policymakers and practitioners might want to pay attention to.

The only similar study that we are aware of, and which we referred to in the literature review above, found that 'participation in a programme…increases the probability of holding a high-quality job…'. (Dengler, 2019, p. 807). In other words, she has, seemingly, found exactly the opposite of what we have found. However, there is a logical explanation for these seemingly contradictory results. Since Dengler was focusing on the effectiveness of ALMP on job quality, she compared unemployed ALMP participants with a matched group of non-participating unemployed. In our study, however, we were interested in descriptively exploring whether the assertion that work generally promotes health can be extended to successful participants in ALMP. Hence, we have compared our job quality outcomes with those of the general employed population. The explanation for the discrepancy then is that due to different research questions, the two studies have very different comparison groups.

The higher Job Strain levels among women in Education programmes with a lower university education, and in the lower salariat (although not significant at the 0.05% level), seems to represent 'anomalies'. In a comparative perspective, the prevalence of Job Strain in the Norwegian labour market is among the lowest in the OECD area (OECD, 2020). We have conducted a separate analysis of the entire employed female population. This revealed exactly the same class pattern in psychosocial job exposures, as shown here. An analysis of the 2006 Survey of Living Conditions has also documented that psychosocial work environment was not poorer in the lower white-collar and working classes compared with the salariat classes (Nørbech, 2010, p. 43). Moreover, job Strain in the employed population was most prevalent in the

group with basic education *and* those with one-four years of university/college education. Consistently then, Job Strain levels are high among women with higher education and in higher social classes (lower salariat), where, e.g., nurses are located (STAMI, 2021b). That the class "lower salariat" is among the privileged in the class structure does not prevent that the Job Strain levels are high in occupations in these classes, at least among women that is. This phenomenon is therefore a reflection of the gender-segregated labour market in Norway. Men who participated in an ALMP are inclined to transit to skilled and unskilled manual working-class occupations where mechanical work exposures are prevalent. To the degree that women move to the same classes, they experience similar mechanical exposures. But larger shares of women who make a successful exit from an ALMP programme move to lower grade white-collar employment, and a considerable proportion to the more privileged classes where the mechanical work environment is relatively satisfactory, but where the psychosocial work environment is more hazardous.

A *strength* of this study is that it includes both all ALMP participants in 2013 and the entire employed population. The register information that we use is also highly reliable and accurate. Missing values are virtually non-existent, and there is no attrition bias. The social class variable is also theoretically justified and empirically validated, and so are the two Job Exposure Matrices. A possible *weakness* is that the two types of job exposures are aggregated to 250+ occupational titles. Occupation-based work exposures may be less accurate than individually reported exposures. Still, there is also an advantage in using JEMs, namely that potential reporting bias is avoided, i.e., the risk that the reporting of work environment is coloured by the idiosyncrasies of survey respondents, in a negative or positive way. In this study, we have only looked at the first job in 2014 the ALMP participants in 2013 moved to. We admit that this is a short time span, and leaves their subsequent careers in the longer term unknown. In our defense, we will hold that we have just turned the first sod, and will address such questions in future research. Moreover, whether the working conditions former ALMP participants face have salutogenic or pathogenic effects on their health will depend on a number of factors beyond their work hazard profiles, such as, e.g., duration, frequency and severity of job exposures. This issue will also be addressed in future work. As mentioned, in this article we have had no intention to identify causal effects, which some may consider to be a weakness. Even so, since

this is one of the first articles to document the relationships between ALMP participation, social class and work environment, we think that our choice to describe these patterns in some detail is justified.

Conclusion

The paper attempts to make a contribution, admittedly modest, to the existing research literature on the trajectories of unemployed and ALMP participants, and the literature on employment, work environment and health. The general claim that 'work promotes health' has some support from research, and which has been used to justify work-enhancing policy initiatives in many countries may apply less to the work 'successful' ALMPs participants enter, than the work of the general working population. Our findings show that both female and male ALMP participants move to social classes where the mechanical and psychosocial work environment is relatively hazardous. Employment conditions and work environment deserve more attention in research on unemployed people's life chances in terms of work, health and welfare.

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