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Original Article

Parental unemployment and adolescents' subjective wellbeing—the moderating role of educational policies

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Crossover effects of parental unemployment on subjective wellbeing of children attract growing attention in research on social inequalities. Recent economic crises call for identifying policies that mitigate the adverse effects of unemployment. Building on the theoretical insights from Capability Approach, we examine the relationship between parental unemployment and subjective wellbeing of adolescents across countries with different educational policies. We use multilevel modelling and data from the European Union Statistics on Income and Living Conditions (EU-SILC). We combine microdata on 45,992 adolescents in 32 countries with macro-level indicators of educational policies. We find that parental unemployment is associated with lower subjective wellbeing among adolescents, but the magnitude of this association varies depending on access to financial support for participation in education. Adolescents who receive educational allowances and who live in countries with broader access to such support are less harmed by parental unemployment.

Introduction

Intergenerational crossover effects of parental unemployment on health and wellbeing of children attract growing attention in research on social inequalities. While some empirical studies have demonstrated such effects, especially among adolescents (Brand and Simon-Thomas, 2014; Moustgaard, Avendano and Martikainen 2018), little is known about variations across countries and institutional contexts. What is known, though, is that consequences of unemployment, as well as systems to support families in adverse circumstances, vary across contexts (Lindemann and Gangl, 2020). Comparative analyses may therefore be well suited for uncovering mechanisms pertaining to societal conditions and contextual characteristics that vary little or not at all within single countries.

In this study, we investigate how parental unemployment is related to subjective wellbeing of adolescents across European countries, and if these associations are moderated by countries' educational policies. To this end, we combine intergenerationally linked and cross-country harmonized microdata from the ad hoc modules from European Union Statistics on Income and Living Conditions (EU-SILC) on about 45,992 adolescents aged 16–24, with institutional data on educational policies. We focus on educational policies, as this is of particular importance given the developmental stages characteristic of adolescence, and since existing research suggests that intangible resources, such as educational opportunities, may be central for explaining intergenerational crossover effects (Peter, 2016; Moustgaard, Avendano and Martikainen 2018).

We contribute to the literature on the consequences of unemployment in several ways. First, we provide novel evidence of the cross-country variability in subjective wellbeing among adolescents with unemployed parents, thereby allowing us to determine whether the crossover effects are universally present within Europe or if they are bounded in space. Second, by linking this cross-country variability to differences in institutional contexts, we provide theoretical insights that help us understand the mechanisms generating heterogeneity

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in intergenerational crossover effects. Specifically, drawing on Amartya Sen's capability approach (Sen, 2006), we develop a conceptual framework and provide evidence for the role of educational policies at two distinct levels of the analysis: individual- and country-level. We explain how, at the individual level, receiving educational allowances may weaken the otherwise negative relationship between parental unemployment and subjective wellbeing. At the level of countries, we discuss arguments on how the benefits from educational policies extend to adolescents who do not receive this support at a specific time point but might have access to it *should they need and want it*. Our research speaks to broader debates emphasizing how social policies can be viewed as a 'collective resource' which supports not only the direct beneficiaries, but also generates externalities for broader societal groups (Sjöberg, 2010; Carr and Chung, 2014; Högberg, 2019a; Haushofer et al., 2020). Third, while adverse intergenerational crossover effects have been documented previously, research on the role of institutional characteristics in shaping these effects is scarce. By investigating the role of educational policies, we provide specific policy relevant knowledge with regard to the effectiveness of support for adolescents affected by parental unemployment. Such knowledge is imperative for designing interventions to ensure an equitable start in life for all adolescents.

Background and previous research

Crossover effects of parental unemployment on subjective wellbeing

Parental unemployment may have negative crossover effects on subjective wellbeing (Brand and Thomas, 2014; Moustgaard, Avendano and Martikainen 2018). Such crossover effects can arise through a number of interconnected mechanisms. First, unemployment is a stressor. Parental unemployment may have detrimental impact on parental wellbeing and mental health, it may also lead to a change in behaviours, communication style, and parent-child interactions, and these changes may cause a disruption of parent–child relationships. As a result, relations between parents and children may become less supportive, with negative consequences for subjective wellbeing. Second, unemployment reduces household income, and since adolescents often lack independent sources of income, this affects their economic standing as well. In turn, financial strain cause stress and constrain access to goods and services (Masarik and Conger, 2017). Third, parental unemployment can affect the future outlook, perceived opportunities, and expectations of adolescent children. Since parents act as role models, the status loss associated with unemployment can undermine adolescent's sense of opportunities and their aspirations concerning, for instance, education (Andersen, 2011; Lehti, Erola and Karhula, 2019; Mooi-Reci et al., 2019), with negative consequences for subjective wellbeing (Buchmann and Kriesi, 2011). Fourth, parental unemployment can have adverse consequences for adolescent's social relations. According to the family stress model, financial strain increases the risk of inter-parent and child–parent conflict, which in turn harms subjective wellbeing (McLeod and Shanahan, 1993; Ponnet *et al.*, 2015). A similar argument may be made with regard to the status loss and shame associated with unemployment (Brand and Simon-Thomas, 2014). Moreover, unemployment often leads to residential mobility as parents search for a job, which in turn can disrupt children's social networks (Brand, 2015). Since adolescence is a period where nonfamily relationships become more salient, this may negatively affect their socio-emotional development. Finally, adolescent children may, through empathic responses, be indirectly affected by the distress experienced by an unemployed parent. Such emotional crossover effects, whereby emotional states are transmitted across family members, are well established in psychology (Bakker and Demerouti, 2013).

Parental unemployment and agency

Given that the main contribution of this study concerns the moderating role of education policies, we will focus in the following two of the aforementioned mechanisms that are most directly relevant from the perspective of education policy: income loss and perceived opportunities. We will here draw on David Fryer's agency restriction model (Fryer, 1986; see also Andersen, 2008) and Amartya Sen's capability approach (Sen, 2006). According to the agency restriction model, both income loss and constrained sense of opportunities harm subjective wellbeing as they restrict one's ability to exercise personal agency and control one's life course. Likewise, a central tenet of the capability approach is that capabilities—what people are able to do *should they want to*—has intrinsic value. In other words, opportunities to choose different paths in life are valuable over and above the value of the path that is chosen. In this sense, capabilities are closely related to agency (Steckermeier, 2021), but we will use the term agency throughout this study for brevity.

These theoretical frameworks are particularly relevant given the distinctiveness of adolescence as a stage in life, since agency—understood as autonomy and control over one's life course—grows increasingly salient during adolescence, while simultaneously being fragile as adolescents control few resources that can be used to underpin it (see also Kalil and Ziol-Guest, 2005; Billari, Hiekel and Liefbroer, 2019). Indeed, research shows that parental unemployment disrupts important life

course transitions for adolescents, by limiting educational achievements (Layte, 2021), constraining opportunities to enrol in education (Lindemann and Gangl, 2020), and form an autonomous household (Iacovou, 2010). Moreover, some research also suggests that the negative effects of parental unemployment are amplified for adolescents (Brand and Simon-Thomas, 2014).

The moderating role of educational policies

If an essential mechanism through which parental unemployment reduces children's subjective wellbeing is the constraints it imposes on their agency, policies that support adolescents' agency should remove at least a part of this negative influence. Given the developmental stage of adolescents in the focal age category of this study, educational policies are essential in this regard. In post-industrial societies, economic independence and employment is strongly tied to educational attainment, especially for young workers with little work experience (Blossfeld, 2005). However, parental unemployment constrains adolescents' educational opportunities in multiple ways, with demonstrated negative effects on grades (Rege, Telle and Votruba, 2011; Lehti, Erola and Karhula, 2019; Layte, 2021), educational ambitions (Andersen, 2011), completion of secondary education (Kalil and Ziol-Guest, 2008; Brand and Simon-Thomas, 2014), post-secondary enrolment (Lehti, Erola and Karhula, 2019; Lindemann and Gangl, 2019), and overall educational attainment (Mooi-Reci *et al.*, 2019).

Combining these insights—that education is key for exercising agency in post-industrial societies, but that parental unemployment reduces both agency and educational opportunities—we can expect that educational policies that support adolescents' participation in education can foster agency and thereby reduce adverse crossover effects. To understand the role of educational policies in this process, we again take Amartya Sen's capability approach as a point of departure. The capability approach allows us to conceptualize how educational policies, specifically financial support for students in the form of allowances, can moderate intergenerational crossover effects of unemployment on the individual as well as the contextual level. At the individual level, financial support can make education affordable, lessen adolescents' dependence on parental resources, and thereby counteract constraints on agency caused by parental unemployment. Consistent with this, financial support and lower out-of-pocket expenditure for education increase enrolment in post-secondary education for adolescents with unemployed parents (Lindemann and Gangl, 2020), as well as for adolescents who are themselves unemployed (Högberg, 2019b). Such support may then, in extension, lessen the constrains on agency caused by parental unemployment, not only by opening access to education, but also by enabling adolescents to leave the parental home as they become students with an independent income. This leads to our first hypothesis:

> *Hypothesis 1: The negative association between parental unemployment and subjective wellbeing is smaller for adolescents who receive educational allowances.*

The moderating role of support at the individual level is thus related to individuals' realized outcomes, that is, becoming a student. However, the intrinsic value of opportunities postulated by the capability approach implies that the above-described benefits also operate at the contextual level, as characteristic that affect all *prospective* students. If individuals are forward-looking, their beliefs about what they can realistically do in the future, their perceived opportunities, shape their assessment of, and subjective wellbeing in, the present (Seligman *et al.*, 2013). Thus, educational policies can have externalities that apply also for those who currently do not receive educational allowances (and are not students), but for whom the mere knowledge that education is a realistic opportunity provides comfort. Moreover, broad welfare state support for participation in education not only grants future perspectives to those who have not yet enrolled in education, but it also socially legitimates the fact that everyone has the right to do so. Such externalities have previously been found for educational policies (Högberg, 2019a; Högberg *et al.*, 2019), but also for active labour market and lifelong learning policies (Carr and Chung, 2014; van Oorschot and Chung, 2014), unemployment insurance (Sjöberg, 2010), and health insurance (Haushofer *et al.*, 2020). The intrinsic value of opportunities, moreover, tends to be relatively greater for vulnerable groups such as adolescents with low education or working class background (Sjöberg, 2010; Högberg, 2019a; Högberg et al., 2019; Steckermeier, 2021). This leads to our second hypothesis:

> *Hypothesis 2: The negative associations between parental unemployment and subjective wellbeing are smaller in societies with broader access to educational allowances.*

Note that, while we have framed the discussion of moderating effects in terms of agency, we expect that educational allowances are particularly relevant for two of the more specific aforementioned mechanisms: income loss and constrained sense of opportunities.

Research design

We use cross-sectional data from two European Survey on Income and Living Conditions (EU-SILC) ad-hoc

modules carried out in 2013 and 2018, which provide information on life satisfaction among household members aged 16 or more (De Smedt, 2013). The data includes 32 countries, including all EU members, as well as Norway, Serbia, Switzerland, and United Kingdom. The EU-SILC has been designed with a standard methodology to yield comparable information across European countries on several features. Nevertheless, the data collection varies somewhat across countries, for instance, Nordic countries use registers and information which cannot be derived from registers is collected only from selected respondents. One of the features which make this dataset particularly useful for the purposes of this study is that in each household, family members are assigned personal identity numbers, and individual records include also identification numbers of family members. Hence, we are able to link data on adolescents with information about mothers and fathers who co-reside in the same household.

We focus on adolescents aged 16–24 living with at least one of their parents. The term adolescence is derived from the Latin *adolescere* meaning 'to grow up', and encompasses elements of both biological growth and major social role transitions. The timing of these development patterns has changed substantially in recent decades, not least due to delayed timing of completion of education, starting working life, and leaving parental home. Our study follows calls for adopting a more inclusive definition of adolescence understood as a life stage of a growing individual who is increasingly able to take more responsibility, but who still needs more protection and support compared to an adult (Sawyer *et al.*, 2018). Such expanded definition is suitable especially for comparative studies that look at adolescents across a variety of societal contexts and consider policies intended to support and empower adolescents. The sample is restricted to observations with non-missing information in the background and outcome variables. Our total sample includes 45,992 adolescents.

The dependent variable is life satisfaction of adolescents measured on a scale of 0 (completely dissatisfied) to 10 (completely satisfied). The key explanatory variable measures parental labour market status. We distinguish the following categories: parental employment, unemployment, inactivity, and we include an additional category of a parent who is absent in the household. Parental inactivity and absence are residual categories in this study, whereas the theoretical and empirical focus in our analysis is on comparisons between adolescents with employed and unemployed parents. The labour market status together with the absence of a parent operationalized this way allows examining separately the role of mother's and father's unemployment, while including adolescents living with lone parents. The former is important because some studies suggest that the relationships between a mother's and a father's unemployment and subjective wellbeing differ in magnitude. Building on previous research showing gendered crossover effects of parental unemployment (see e.g. (Powdthavee and Vernoit, 2013)), we estimate separate models to examine the role of maternal and paternal unemployment. Including adolescents living with lone parents ensures that we do not exclude families where the absence of a parent might trigger most drastic scarcity of resources. We acknowledge that since the labour market status of parents is measured cross-sectionally, it is not possible to examine the effects of long- and short-term unemployment or lagged and anticipatory effects.

The key moderator variables measure educational policies, and in particular, the access to educational allowances. EU-SILC provides measures of individual receipts of educational allowances, and we create a dummy variable identifying adolescents who receive educational allowances versus those who did not. In addition, following the capability approach outlined in the previous section, we also examine the role of the opportunity for all adolescents to participate in education *should they want to do so*. Therefore, we generate an aggregate measure of the coverage of these allowances in the whole population of students (defined as individuals participating in education and aged less than 26) in a given country. Next to the measure of the country-level coverage of the allowances, we also add a recently developed indicator of the generosity of this support. This measure is the sum of all types of support, minus tuition fees divided by net average production worker's wage. The types of support include: non-repayable grants or scholarships, publicly financed repayable student loans, and family benefits (e.g. tax allowances and credits related to tuition fees). All benefits and fees are calculated after taxes and social security contributions (for details of how this measure is constructed, see Czarnecki, Korpi and Nelson 2020). This step incorporates insights from the research debates on how both the coverage and generosity of financial support targeting the unemployed may be relevant for health and wellbeing among the adults (Sjöberg, 2010; Voßemer *et al.*, 2018).

We include a battery of individual and family-level control variables, which are likely to determine parental labour market status and simultaneously are correlated with adolescent life satisfaction. We do not include variables that may be determined by parental labour market status or which mediate the impact of parental labour market status on subjective wellbeing in order to avoid the over-control bias (Elwert and Winship, 2014). For the same reason, we only control for labour market status of one of the parents,

without adding the labour market status of another parent as a covariate. Given the insights from research on the interdependence of labour careers within couples (Bröckel, Busch-Heizmann and Golsch, 2015; Vandecasteele and Esche, 2015), including employment status of both parents would raise the risk of having collider variables in our regression models. We control for adolescents' age (with dummies for one year age groups), sex (with a dummy variable distinguishing between men and women), and suffering from any chronic illness (a dummy coded one in case of the presence of illness). We control for parental level of education attainment, which follows ISCED classification categories: primary education or less, lower secondary education, upper secondary education, post-secondary non-tertiary education, and tertiary education. This variable is equal to mother's or father's education attainment, whichever is higher. In case of adolescents living with single parents, the level of education is equal to the non-absent parents' education attainment. We distinguish between adolescents, whose both parents were born in the same country where they live, and distinguish them from families where at least one parent was born outside of the country of residence. In addition, we control for survey wave in order to capture the differences in subjective wellbeing across time. The distribution of the control variables is presented in Table A1 in Appendix.

We also include a set of macro-level variables that may be correlated with both parental unemployment status and subjective wellbeing of adolescents. Specifically, we control for aggregate country-year specific unemployment rate, because it raises risk of job losses among parents and has negative impact on subjective wellbeing of adolescents (Johansson *et al.*, 2019). We control for country-level inequality measured with Gini inequality index. Both these measures are derived from the World Bank Databank. We control for the share of services in a country in order to capture the structural differences between countries. Growth in the service sector has been argued to create jobs that are less stable, with higher flexibility but also less employment security. Services typically offer jobs for young people which may imply opportunities for financing participation of education. We construct a measure of the services based on the proportion of employment in service sector based on NACE classification in EU-SILC. We consider additionally both coverage and generosity of out of work benefits that are available at the country level for the unemployed adults (Nelson *et al.*, 2020) for robustness checks. The macro-level indicators refer to 2012 and 2017, that is income reference periods in EU-SILC data. All macro-level covariates were standardized, hence the regression coefficients measure the change in association after a change in a covariate equal to one standard deviation. The distribution of the unstandardized values of the macro-level variables is included in Table A2 in Appendix.

Our data have a hierarchical structure, with observations on adolescents nested within higher level units, that is country-years, which are seen as nested in years. This corresponds to the modelling framework shown to reduce the risk of underestimating standard error (Schmidt-Catran and Fairbrother, 2016). We estimated three-level linear multilevel models, where we control for individual characteristics such as having an unemployed parent or receiving educational allowances, and country-year-level characteristics such as coverage of educational allowances, as well as the interactions between these variables. To test hypotheses about how maternal and paternal unemployment are associated with adolescent life satisfaction, we use models without interactions (Models 1 and 2 in Table 1). Next, in we test whether the associations between parental unemployment and adolescent life satisfaction are moderated by receiving educational allowances by including interactions (Models 3 and 4 in Table 1). Finally, in Table 2 we present the evidence on the moderating role of country-level coverage of the educational allowances and the way it reduces the effects of parental unemployment on life satisfaction among adolescents. The models in Table 2 include cross-level interactions, measuring the combined influence of individual-level and contextual-level factors. These models include random slopes for parental employment status, so that coefficients are allowed to vary across country-years. This approach also enables us to make more robust inferences regarding the interactions between the type of parental labour market status and the coverage of educational allowances (Heisig and Schaeffer, 2019). Additional analyses summarized at the end of the next section address concerns related to cross-sectional nature of our measurements, heterogeneity in the associations between policies and adolescent wellbeing or measurement error in the policy indicators as well as the selectivity of the sample.

Empirical results

The first step in our analysis comprises of descriptive evidence on the variation in adolescent wellbeing according to parental labour market status in a pooled sample for all European countries. Figure 1 compares the means of life satisfaction scores according to maternal and paternal labour market status, respectively. Compared to adolescents with employed mothers, those with unemployed mothers have 0.77 scores

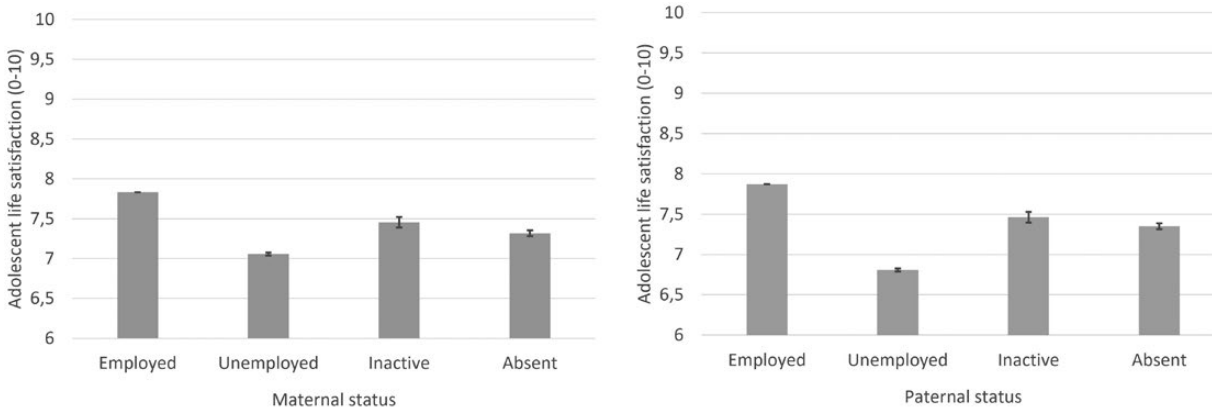

Figure 1 Adolescent life satisfaction according to maternal (left panel) and paternal (right panel) status (with 95 per cent confidence intervals).

Source: EU-SILC Wellbeing Modules 2013 and 2018.

lower life satisfaction. Maternal inactivity is associated with much smaller reduction in life satisfaction by 0.38 scores. Adolescents in household where a mother is absent report life satisfaction lower by 0.51 scores as compared to adolescents where a mother is present and involved in paid work. Regarding paternal status, the pattern is similar. Compared to adolescents with employed fathers, those with unemployed fathers have 1.02 scores lower life satisfaction. Father's inactivity is associated a decrease in life satisfaction, by 0.37 scores. An absent father is related to a reduction in life satisfaction by 0.48 scores.

In the next step, we present evidence from multilevel models. After controlling for confounders, the associations between parental unemployment and adolescent wellbeing become somewhat weaker. The results presented in Table 1 indicate that maternal unemployment is related to a 0.47 score decrease in life satisfaction of adolescents (Model 1). Adolescents in households where a mother is inactive or absent report life satisfaction lower by 0.19 and 0.34 scores, respectively, compared to adolescents whose mothers are employed. Regarding the role of paternal employment status, adolescents with unemployed fathers report life satisfaction lower by 0.66 scores compared to adolescents with employed fathers (Model 2). Paternal inactivity and absence are related to reductions in life satisfaction by 0.25 and 0.43 scores, respectively. The results from Model 1 and Model 2 related to Hypothesis 1 are visualized on Figure A1 in Appendix (we used the -coefplot- Stata routine for graphing interactions based on multilevel models developed by Jann, 2013).

Further, we examine how receiving educational allowances moderates the negative association between parental unemployment and adolescent wellbeing. The results from models including interactions (Models 3 and 4) suggest that receiving these allowances does not seem to play a role for adolescents with employed parents, but only for those, whose families have reduced resources due to parental joblessness or absence. While adolescents with unemployed mothers have life satisfaction lower by 0.49 scores when not receiving educational allowances, this negative association is mitigated by 0.23 scores if they receive educational allowances (Model 3). We also observe that receiving educational allowances reduces the otherwise negative association between maternal inactivity or absence with adolescent wellbeing. Similarly, while adolescents whose fathers are unemployed have life satisfaction lower by 0.71 scores when not receiving educational allowances, receiving educational allowances diminishes this association by 0.54 scores (Model 4). The association between father's absence and adolescent wellbeing is reduced when adolescents receive educational allowances, but we do not observe such moderating role in case of paternal inactivity.

The relationships between the control variables and adolescent wellbeing are consistent with previous research and similar across specifications. In brief, we observe negative associations between age and wellbeing among adolescents, we find that female adolescents report higher life satisfaction, whereas adolescents with chronic illness report lower life satisfaction. We also observe positive associations with parental education and negative associations with parental immigrant status. At the macro level, we find that unemployment rate and higher inequality are related to lower life satisfaction among adolescents.

We have argued that educational policies matter not only for adolescents who directly benefit from these policies, that is who are currently receiving educational allowances, but also to other adolescents

Table 1 Life satisfaction among adolescents according to parental status and receiving educational allowances

	Model 1 X = Mother's labour market status		Model 2 X = Father's labour market status		Model 3 X = Mother's labour market status		Model 4 X = Father's labour market status	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Parental labour market status (ref. employed)								
Unemployed	−0.47***	(0.03)	−0.66***	(0.03)	−0.49***	(0.03)	−0.71***	(0.04)
Inactive	−0.19***	(0.02)	−0.25***	(0.03)	−0.23***	(0.02)	−0.26***	(0.03)
Absent	−0.34***	(0.04)	−0.43***	(0.02)	−0.37***	(0.04)	−0.45***	(0.02)
Educational allowances					0.04	(0.03)	0.07**	(0.03)
Parental labour market status # Educational allowances								
Unemployed # allowances					0.23**	(0.10)	0.54***	(0.11)
Inactive # allowances					0.32***	(0.06)	0.09	(0.10)
Absent # allowances					0.22*	(0.12)	0.15**	(0.06)
Control variables								
Age (ref. age 16)								
Age 17	0.42***	(0.08)	0.40***	(0.08)	0.47***	(0.09)	0.43***	(0.09)
Age 18	0.32***	(0.08)	0.30***	(0.08)	0.37***	(0.09)	0.33***	(0.08)
Age 19	0.20**	(0.08)	0.17**	(0.08)	0.24***	(0.09)	0.20**	(0.08)
Age 20	0.12	(0.08)	0.10	(0.08)	0.16*	(0.09)	0.13	(0.08)
Age 21	0.04	(0.08)	0.03	(0.08)	0.08	(0.08)	0.05	(0.08)
Age 22	−0.10	(0.09)	−0.11	(0.09)	−0.06	(0.09)	−0.09	(0.09)
Age 23	−0.06	(0.09)	−0.07	(0.09)	−0.02	(0.09)	−0.04	(0.09)
Age 24	−0.11	(0.09)	−0.12	(0.09)	−0.06	(0.09)	−0.09	(0.09)
Women	0.08***	(0.02)	0.09***	(0.02)	0.08***	(0.02)	0.08***	(0.02)
Chronic illness	−0.55***	(0.02)	−0.53***	(0.02)	−0.55***	(0.02)	−0.53***	(0.02)
Parental immigrant status	−0.11***	(0.03)	−0.10***	(0.03)	−0.11***	(0.03)	−0.10***	(0.03)
Parental education (ref. elementary)								
Lower secondary	0.18***	(0.04)	0.16***	(0.04)	0.18***	(0.04)	0.16***	(0.04)
Upper secondary	0.58***	(0.04)	0.53***	(0.04)	0.57***	(0.04)	0.52***	(0.04)
Postsecondary	0.60***	(0.05)	0.57***	(0.05)	0.60***	(0.05)	0.56***	(0.05)
Tertiary	0.77***	(0.04)	0.72***	(0.04)	0.77***	(0.04)	0.71***	(0.04)
Wave: 2018	0.18***	(0.04)	0.18***	(0.04)	0.18***	(0.04)	0.18***	(0.04)
Unemployment rate	−0.11**	(0.06)	−0.12**	(0.06)	−0.11**	(0.05)	−0.11**	(0.05)
Gini coefficient	−0.10**	(0.04)	−0.10**	(0.04)	−0.10**	(0.04)	−0.10**	(0.04)
Share of services	−0.05	(0.06)	−0.05	(0.06)	−0.04	(0.06)	−0.04	(0.05)
Constant	7.11***	(0.12)	7.22***	(0.12)	7.06***	(0.12)	7.19***	(0.12)
St. Dev. (country)	0.39***	(0.05)	0.39***	(0.05)	0.39***	(0.05)	0.38***	(0.05)
St. Dev. (country-year)	0.15***	(0.02)	0.15***	(0.02)	0.14***	(0.02)	0.14***	(0.02)
St. Dev. (residual)	1.68***	(0.01)	1.68***	(0.01)	1.68***	(0.01)	1.67***	(0.01)
N	45,992		45,992		45,992		45,992	

Notes: $P < 0.05$, $^{**}P < 0.01$, $^{***}P < 0.001$, standard errors in parentheses.
Source: EU-SILC Wellbeing Modules 2013 and 2018.

who may have potential access to such support. We have expected that the mere possibility to benefit from these policies may weaken the otherwise negative association between parental unemployment and adolescent wellbeing, and we address these hypotheses based on results from multilevel models with cross-level interactions (Table 2). Our results indicate that macro-level indicators of availability of educational allowances are not related to weaker relationship between maternal unemployment and

Table 2 Life satisfaction among adolescents according to parental status and the moderating role of the macro-level coverage of educational allowances

	Model 1 X = Mother's labour market status		Model 2 X = Father's labour market status		Model 3 X = Mother's labour market status		Model 4 X = Father's labour market status	
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Parental labour market status								
Unemployed	−0.46***	(0.07)	−0.51***	(0.08)	−0.49***	(0.07)	−0.48***	(0.09)
Inactive	−0.16***	(0.03)	−0.22***	(0.04)	−0.16***	(0.03)	−0.24***	(0.04)
Absent	−0.31***	(0.05)	−0.41***	(0.03)	−0.30***	(0.05)	−0.42***	(0.03)
Coverage of educational allowances	0.01	(0.07)	0.01	(0.07)	−0.05	(0.08)	−0.05	(0.07)
Generosity of educational allowances					0.09*	(0.05)	0.10**	(0.05)
Parental employment status # Coverage of educational allowances								
Unemployed # coverage	0.06	(0.09)	0.27***	(0.10)	0.04	(0.10)	0.17	(0.11)
Inactive # coverage	0.14***	(0.03)	0.13***	(0.04)	0.12***	(0.04)	0.13***	(0.05)
Absent # coverage	0.15***	(0.05)	0.08***	(0.03)	0.11**	(0.06)	0.09***	(0.03)
Parental employment status # Generosity of educational allowances								
Unemployed # generosity					0.11	(0.07)	0.19**	(0.09)
Inactive # generosity					0.04	(0.03)	0.02	(0.05)
Absent # generosity					0.08	(0.05)	−0.02	(0.03)
Control variables								
Age (ref. age 16)								
Age 17	0.39***	(0.09)	0.38***	(0.08)	0.39***	(0.09)	0.38***	(0.09)
Age 18	0.29***	(0.09)	0.29***	(0.08)	0.28***	(0.09)	0.28***	(0.09)
Age 19	0.16*	(0.08)	0.16*	(0.08)	0.17*	(0.09)	0.16*	(0.09)
Age 20	0.08	(0.09)	0.09	(0.08)	0.07	(0.09)	0.08	(0.09)
Age 21	0.00	(0.08)	0.01	(0.08)	−0.00	(0.08)	0.00	(0.08)
Age 22	−0.13	(0.09)	−0.12	(0.09)	−0.12	(0.09)	−0.11	(0.09)
Age 23	−0.10	(0.09)	−0.09	(0.09)	−0.10	(0.09)	−0.09	(0.09)
Age 24	−0.15*	(0.09)	−0.14	(0.09)	−0.14	(0.09)	−0.13	(0.09)
Women	0.08***	(0.02)	0.08***	(0.02)	0.08***	(0.02)	0.08***	(0.02)
Chronic illness	−0.54***	(0.02)	−0.53***	(0.02)	−0.57***	(0.03)	−0.56***	(0.03)
Parental immigrant status	−0.11***	(0.03)	−0.11***	(0.03)	−0.14***	(0.03)	−0.13***	(0.03)
Parental education (ref. elementary)								
Lower secondary	0.19***	(0.04)	0.18***	(0.04)	0.18***	(0.04)	0.17***	(0.04)
Upper secondary	0.58***	(0.04)	0.54***	(0.04)	0.56***	(0.04)	0.51***	(0.04)
Postsecondary	0.61***	(0.05)	0.58***	(0.05)	0.57***	(0.05)	0.55***	(0.05)
Tertiary	0.77***	(0.04)	0.73***	(0.04)	0.74***	(0.04)	0.70***	(0.04)
Wave: 2018	0.17***	(0.04)	0.17***	(0.04)	0.17***	(0.05)	0.17***	(0.05)
Unemployment rate	−0.12**	(0.06)	−0.11**	(0.05)	−0.05	(0.06)	−0.05	(0.06)
Gini coefficient	−0.10**	(0.04)	−0.10**	(0.04)	−0.07	(0.05)	−0.08*	(0.05)
Share of services	−0.04	(0.06)	−0.04	(0.06)	−0.10	(0.06)	−0.09	(0.06)
Unemployment benefit generosity					0.04	(0.06)	0.03	(0.06)
Unemployment benefit coverage					0.06	(0.07)	0.06	(0.07)
Constant	7.13***	(0.12)	7.22***	(0.11)	7.19***	(0.12)	7.28***	(0.11)
St. Dev. (country)	0.37***	(0.05)	0.36***	(0.05)	0.33***	(0.05)	0.32***	(0.05)
St. Dev. (unemployed)	0.37***	(0.06)	0.49***	(0.07)	0.38***	(0.06)	0.48***	(0.07)
St. Dev. (inactive)	0.16***	(0.03)	0.17***	(0.04)	0.14***	(0.04)	0.17***	(0.05)
St. Dev. (absent)	0.13***	(0.09)	0.12***	(0.03)	0.13***	(0.10)	0.11***	(0.03)
St. Dev. (country-year)	0.14***	(0.03)	0.15***	(0.03)	0.15***	(0.03)	0.15***	(0.03)
St. Dev. (residual)	1.68***	(0.01)	1.67***	(0.01)	1.68***	(0.01)	1.68***	(0.01)
N	45,992		45,992		40,608		40,608	

Notes: $P < 0.05$, $^{**}P < 0.01$, $^{***}P < 0.001$, standard errors in parentheses.
Source: EU-SILC Wellbeing Modules 2013 and 2018.

adolescent wellbeing (Model 1). However, associations between maternal inactivity or absence and adolescent wellbeing are weaker in countries where adolescents can count on financial support for participation in education. For instance, while adolescents with inactive mothers have wellbeing lower by 0.16 scores as compared to adolescent with employed mothers when the macro-level availability of educational allowances is at the mean level, one standard deviation increase in macro-level availability of educational allowances reduces this gap by 0.14 scores. The negative relationship between maternal absence and wellbeing is almost halved when the macro-level availability of educational allowances increases by one standard deviation. Regarding paternal unemployment, we observe quite strong mitigation (Model 2). While adolescents with unemployed fathers have wellbeing lower by 0.51 scores as compared to adolescent with employed fathers when the macro-level availability of educational allowances is at the mean level, one standard deviation increase in macro-level availability of educational allowances reduces this gap by 0.27 scores. We also observe the moderating role of educational policy with respect to parental inactivity or absence, as the cross-level interactions suggest reductions in otherwise negative associations by 0.13 and 0.08 scores, respectively. The results from Model 1 and Model 2 from Table 2 are visualized on Figure A2 in Appendix.

Models 3 and 4 in Table 2 show additionally to what degree our results reflect the generosity of educational allowances, and whether they are robust when we control for coverage and generosity of out-of-work benefits that are available to adults. We can observe three interesting patterns. First, while the degree of coverage of educational allowances is not related to wellbeing of adolescents with employed parents, the generosity measures show some positive associations, although they are not very strong (0.09–0.10 scores). Second, after controlling for generosity of educational allowances, their coverage turns out to be less strongly related to life satisfaction among adolescents, suggesting that both these policy dimensions play an important role. Finally, the interactions with maternal unemployment remain similar in this model specification, but the associations with paternal unemployment change in a way indicating that both coverage and generosity of allowances matter when it comes to mitigating father's unemployment.

We carried out a range of additional analyses to check the robustness of the results. First, given the cross-sectional nature of the key explanatory variable, we tested whether lagging parental employment status affects our results. To this end, we derived the retrospective measures of parental employment status and used them instead of contemporaneous measures. The methodological details of this step as well as the results are presented in Supplementary Table S1. This analysis confirmed that our conclusions regarding the associations between parental unemployment and adolescent wellbeing remain unchanged, but the interactions between maternal unemployment and educational allowances turned out to be weak and not statistically significant. Note that this analysis excluded Nordic countries because retrospective information on parental labour market status was not available in those countries.

In further sensitivity analyses, we considered the fact that our measure of coverage of educational allowances may be measured with some error. Using errors-in-variables models (Wooldridge, 2010), we showed that the measurement error might attenuate our estimates, as the interactions between parental status and policy indicators are somewhat stronger than in our main analysis (Supplementary Table S2).

Since we argue that educational policies can have externalities that apply also for those who currently do not receive educational allowances (and are not enrolled in education), we tested if the results related to coverage of educational allowances change after controlling for individual receipts of educational allowances (see Supplementary Table S3). Our results are similar compared to the results presented in the main analysis.

Finally, our analyses exclude individuals who live without their parents, because when young adults live independently, it is not possible to observe the labour market status of their parents. This step is also relevant from the theoretical perspective. As young people establish their own households, financial mechanisms behind the intergenerational crossover effects no longer hold. The mechanisms related to deterioration of parent–child relations after parental job loss also may not apply, because when young adults move out of parental home, joint interactions become less common. Hence, the effects of parental unemployment may be weak or non-existent for non-resident adolescents. However, the literature on leaving parental home recognizes that this process often takes many steps, and often involves the stage where adolescents live temporarily away, for instance in a student dormitory (Nilsson and Strandh, 1999) but still remain members of parental household. During such stage adolescents may continue to receive financial support from parents, and the frequency of interactions between parents and children might be relatively more frequent. Hence, this in-between stage might be quite relevant for assessment of intergenerational crossover effects (Kalmijn and Liefbroer, 2011). We estimated Heckman selection models in order to examine (i) whether the probability of living

temporarily outside of parental home is associated with parental unemployment and (ii) how correction for sample selection changes the estimates. Our results in Supplementary Table S4 show that correcting for the potential selection bias renders estimates that go in the same direction as reported in our main analysis. The associations are stronger and statistically significant both for maternal and paternal unemployment as well as for the interactions between parental unemployment and educational policies.

Discussion

Negative consequences of parental unemployment on the wellbeing of children and youth have long raised concerns (Powdthavee and Vernoit, 2013; Brand and Simon-Thomas, 2014; Andersen, 2021; Nikolova and Nikolaev, 2021). As the pandemic has simultaneously triggered increases in employment uncertainty among parents, and posed threats to wellbeing and mental health among adolescents (Cowie and Myers, 2021), advancing knowledge on how to buffer families against such changes has become even more urgent. The variation in the European institutional settings that play a protective function for families calls for comparative studies (Lindemann and Gangl, 2020). Our study contributes to the literature by bringing comparative evidence on how policies may moderate the associations between parental unemployment and adolescent wellbeing. Building on the theoretical insights from the capability approach (Sen, 2006), we examine the wellbeing of adolescents across countries with different educational policies.

Our results indicate that, on average, both maternal and paternal unemployment are negatively associated with adolescent wellbeing in Europe. However, we also find that there is scope for reducing such negative associations through policies that support adolescents' participation in education and foster agency reduce the intergenerational crossover effects. Receiving educational allowances is related to relatively weaker reductions in wellbeing among adolescents with unemployed parents. These interactions are statistically significant in case of paternal unemployment, but less consistently so in case of maternal unemployment. Furthermore, when adolescents live in a country with a high level of coverage of educational allowances, the negative association between paternal unemployment and adolescent wellbeing is weaker.

The extent to which policies can mitigate the associations between parental unemployment and adolescent wellbeing require some further comments in relation to parental gender. On the one hand, our findings suggest that public resources thought to foster adolescents' agency compensate less for maternal than for paternal unemployment. On the other hand, some of our sensitivity analyses suggest that the associations with maternal and paternal unemployment are both statistically significant and somewhat stronger than it appears from our main analyses. If we consider the fact that adolescents who receive educational allowances are less likely to live with their parents, and they also benefit more from such support in terms of wellbeing, the interactions between parental unemployment and receiving educational allowances are even stronger. The same applies to the estimates of the interactions between parental unemployment and the coverage of educational allowances. All in all, our findings call for more in-depth, longitudinal investigations on how the process of leaving parental home alters the relationship between parental resources and adolescents' wellbeing, and how policies increasing youth economic and residential autonomy might benefit the youngest generations.

In addition to examining the associations between parental unemployment and adolescent wellbeing, we also provide evidence on the wellbeing among adolescents whose parents are economically inactive or who were absent from the household. Both situations refer to the experience of growing up in a family deprived from the benefits offered by parental income from paid work. Distinguishing between inactivity and parental absence and their consequences lead to interesting comparisons. Parental economic inactivity may be driven by permanent disability, a decision to give up work or business, or involvement in domestic tasks and care responsibilities. Thus, it reflects situations when parents have to some degree accepted the fact that they are not involved in paid work or got discouraged from searching for it. Families with absent parents may reflect more substantial and permanent scarcity of resources, although they may also mean less exposure to harmful interactions related to unemployment that may otherwise affect wellbeing of family members. Of course, we need to keep in mind that parents who are absent from the household due to prior separation, may still contribute financially to raising children and might still have regular meetings with their children (even if less frequent as compared to parents who are present in the household). Generally, the associations between parental economic inactivity a well as parental absence and adolescent wellbeing operate in the same direction and interact similarly with policies, as in case of parental unemployment. However, these associations are not always statistically significant, which may be to some degree related to heterogeneity of reasons why parent are economically inactive or absent in the households. Future research should follow up on the insights from our study and examine the benefits from educational policies for more specific categories of families, such as

adolescents with parents who suffered from some debilitating illness or adolescents with divorced parents.

Our study has limitations. Unemployment can be short-term or long-term, for some parents it may be a recurring experience whereas for others just a single episode. There is a growing body of research suggesting that these different patterns of how unemployment fits into the whole parental labour market career trajectory may have diverging repercussions for the wellbeing of the unemployed and their family members (Blom and Perelli-Harris, 2021; Cheng *et al.*, 2020). Our study also cannot take into account all the aspects of parental economic uncertainty or insecurity that typically precedes a job loss and may be relevant for wellbeing. However, while our data give us the advantage for international comparisons, due to their cross-sectional nature, it is not possible to scrutinize simultaneously the longitudinal aspects. Our study focuses more on the international comparative dimensions than on the processual dimension. Likewise, we cannot control for all individual- or macro-level factors that may affect individual receipts of educational allowances (such as conscientiousness of an adolescent) or the coverage of allowances in a country (such as the administrative burden of claiming benefits that are available from the state). Additionally, while our analysis incorporates different forms of institutionalized support of which families benefit, we cannot consider multiple forms of informal support, such as material and non-material transfers from relatives. These transfers may intensify when parental resources get more restricted, and the degree of these compensatory responses within families may vary across cultures and contexts.

Notwithstanding these limitations, our paper makes a number of important contributions. The solid evidence on the existing relationships between parental unemployment and the wellbeing of children, calls for a better assessment of the societal costs of unemployment. The variation in these relationships across countries with diverse educational policies strongly points at the need of designing multidimensional policy measures to alleviate the negative effects of parental unemployment. The margin of action of labour market policies can be augmented with thoughtful educational policies addressing the youth. We explore the role of the educational policies at two levels: individual- and country-level, and we show that both levels are relevant for understanding the role of the educational policies for adolescent wellbeing. Like we did for educational policies, future research shall include the interaction of policies in other life course relevant domains for youth wellbeing, such as housing policies. More generally, our empirical evidence urges the need to move from a fragmented and compartmentalized welfare action to holistic welfare policies targeting the life course as a complex process with multiple interactions across life domains and individuals (Bernardi, Huinink and Settersten, 2019).

Supplementary Data

Supplementary data are available at *ESR* online.

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Data availability

The data underlying this article were provided by Eurostat by permission RPP 19/2019-EU-SILC. Data will be shared on request to the corresponding author with permission of Eurostat.

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Appendix

Table A1 Descriptive statistics

Variable	Mean or %	(Std. Dev.)
Life satisfaction	7.7	(1.80)
Age	20.2	(2.26)
Women	48%	
Chronic illness	12%	
Parental immigrant background	14%	
Parental elementary education	5%	
Parental lower secondary education	13%	
Parental upper secondary education	44%	
Parental postsecondary education	5%	
Parental tertiary education	33%	
Mother employed	67%	
Mother unemployed	8%	
Mother inactive	21%	
Mother absent	4%	
Father employed	66%	
Father unemployed	6%	
Father inactive	8%	
Father absent	20%	
Educational allowances	12%	

Source: EU-SILC Wellbeing Modules 2013 and 2018.

Table A2 Distribution of maternal and paternal labour market status within countries

	Maternal status, %				Paternal status, %			
	Employed	Unemployed	Inactive	Absent	Employed	Unemployed	Inactive	Absent
AT	77	4	16	4	69	3	7	22
BE	64	5	23	8	57	4	9	31
BG	74	12	9	6	64	11	6	19
CH	73	1	22	3	75	1	5	19
CY	64	12	22	2	68	11	6	15
CZ	82	5	10	3	73	3	3	21
DE	77	3	15	4	71	2	8	20
DK	86	5	5	5	68	2	5	25
EE	80	5	12	2	67	4	6	22
EL	50	11	36	3	63	11	13	13
ES	55	18	23	4	61	12	7	20
FI	85	4	6	5	72	3	9	17
FR	70	6	16	8	65	3	6	26
HR	59	18	18	4	56	11	16	17
HU	70	8	18	4	58	6	10	26
IE	52	9	36	4	55	9	9	27
IS	77	1	18	3	80	1	1	18
IT	59	6	33	3	68	4	10	18
LT	78	9	10	3	63	5	7	25
LU	64	3	30	4	61	2	15	23
LV	74	10	10	6	48	4	6	42
MT	43	0	55	3	72	1	11	15
NL	76	2	18	4	80	1	5	14
NO	78	2	13	7	71	1	6	22
PL	71	8	18	2	67	5	9	19
PT	67	14	16	3	61	10	7	22
RO	67	1	29	4	77	1	9	12
RS	56	24	15	5	59	21	6	14
SE	81	4	9	6	72	3	5	21
SI	78	9	8	4	67	6	6	20
SK	79	9	10	2	70	5	6	19
UK	71	1	25	3	58	2	9	30
Total	67	8	21	4	66	6	8	20

Source: EU-SILC Wellbeing Modules 2013 and 2018.

Table A3 Distribution of country-year-level covariates, country-level means

Country	Unemployment rate	Gini coefficient	Share of services	Coverage of educational allowances	Generosity of educational allowances	Coverage of out-of-work benefits	Generosity of out-of-work benefits	Financial aid for students
AT	5.2	30.1	5.0	10.3	0.4	63.6	115.8	15.6
BE	7.3	27.5	6.3	0.9	n.a.	90.6	111.8	16.4
BG	9.3	38.1	4.7	4.9	–0.4	77.0	33.3	17.5
CH	4.6	32.0	6.6	8.3	n.a.	72.6	59.4	9.9
CY	11.5	33.3	6.6	12.6	0.1	61.0	33.9	11.3
CZ	5.7	25.7	5.0	5.6	0.3	77.0	36.7	12.1
DE	4.5	14.9	5.8	12.3	0.6	59.0	222.1	27.6
DK	6.9	28.2	6.7	49.8	0.7	85.4	60.9	95.2
EE	8.1	31.8	5.0	16.8	0.5	54.6	40.5	19.1
EL	22.4	35.0	5.5	0.6	0.1	38.1	27.0	1.0
ES	20.9	35.0	6.1	17.2	0.4	78.0	49.5	27.5
FI	8.1	27.2	5.8	38.7	0.5	67.6	154.7	87.3
FR	9.4	32.4	6.0	17.0	0.4	68.5	99.6	31.2
HR	13.6	31.4	5.6	9.2	n.a.	75.5	21.0	4.7
HU	8.7	30.7	5.1	15.3	0.7	68.7	20.5	39.3
IE	10.7	32.2	6.0	13.2	0.4	55.5	126.9	43.0
IS	6.0	26.8	6.8	9.0	0.6	81.0	193.0	n.a.
IT	11.0	35.6	5.8	5.6	0.1	72.9	42.6	10.9
LT	11.6	35.7	5.2	10.2	0.5	84.5	24.4	16.6
LU	5.4	34.4	7.3	29.8	1.0	83.6	46.1	67.2
LV	12.9	35.3	5.9	22.0	0.0	67.4	27.1	6.3
MT	4.6	29.3	7.1	87.4	0.5	44.8	42.9	94.8
NL	5.4	28.0	6.5	43.7	0.7	73.6	66.8	39.8
NO	3.6	26.3	6.0	78.1	0.5	69.5	60.6	52.3
PL	8.6	32.0	4.4	6.6	0.4	71.0	19.7	23.1
PT	11.8	34.8	5.8	11.3	0.7	75.0	42.9	19.9
RO	6.1	36.3	3.1	2.3	0.0	44.3	41.2	32.7
RS	18.1	37.8	4.9	4.5	n.a.	n.a.	9.0	n.a.
SE	7.4	28.2	6.8	86.8	0.7	68.2	62.8	75.2
SI	7.8	14.1	5.7	49.2	0.3	84.5	36.8	24.4
SK	11.6	25.0	4.9	2.7	0.3	62.4	12.2	12.4
UK	5.6	34.1	6.7	10.6	0.6	50.7	57.7	20.6

Source: Unemployment rate and Gini coefficient World Bank; Share of services in the economy and Coverage of educational allowances: own estimates based on EUSILC microdata; Generosity of educational allowances: The Student Support and Fees Dataset (SSFD), SPIN database. Coverage of out-of-work benefits and Generosity of out-of-work benefits: OECD. Financial aid for students: Eurydice 'National Student Fee and Support Systems in European Higher Education' report series, own compilation.

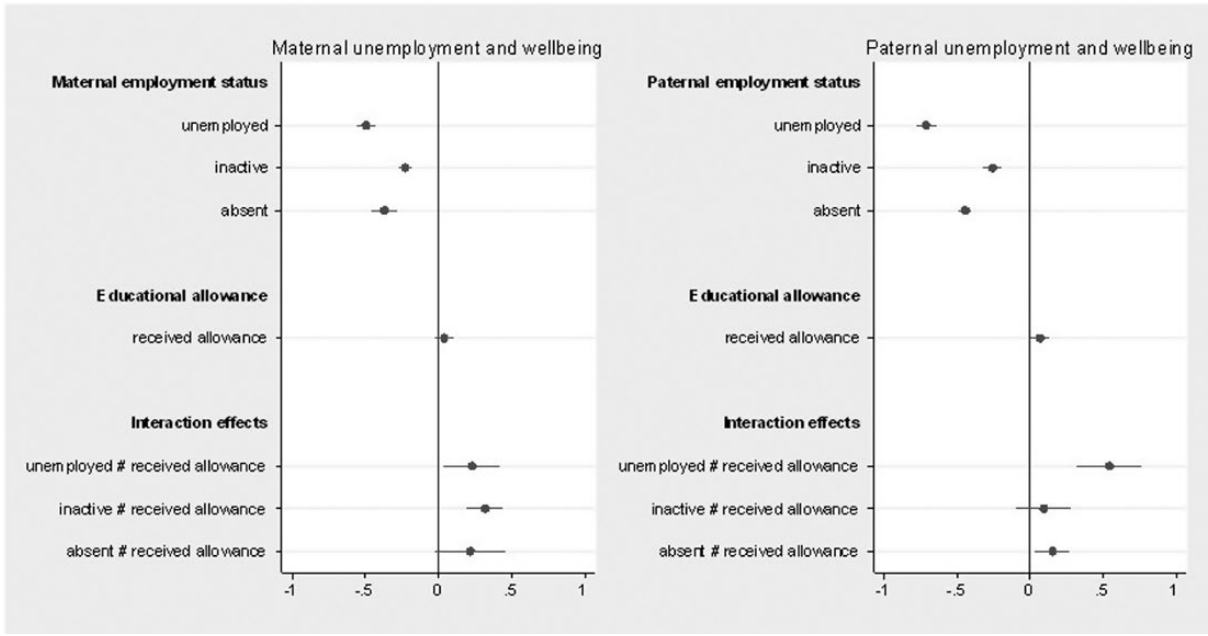

Figure A1 Parental labour market status, receipts of educational allowances and adolescent wellbeing.
Source: EU-SILC Wellbeing Modules 2013 and 2018. Control variables as in Models 1 and 2 in Table 1.

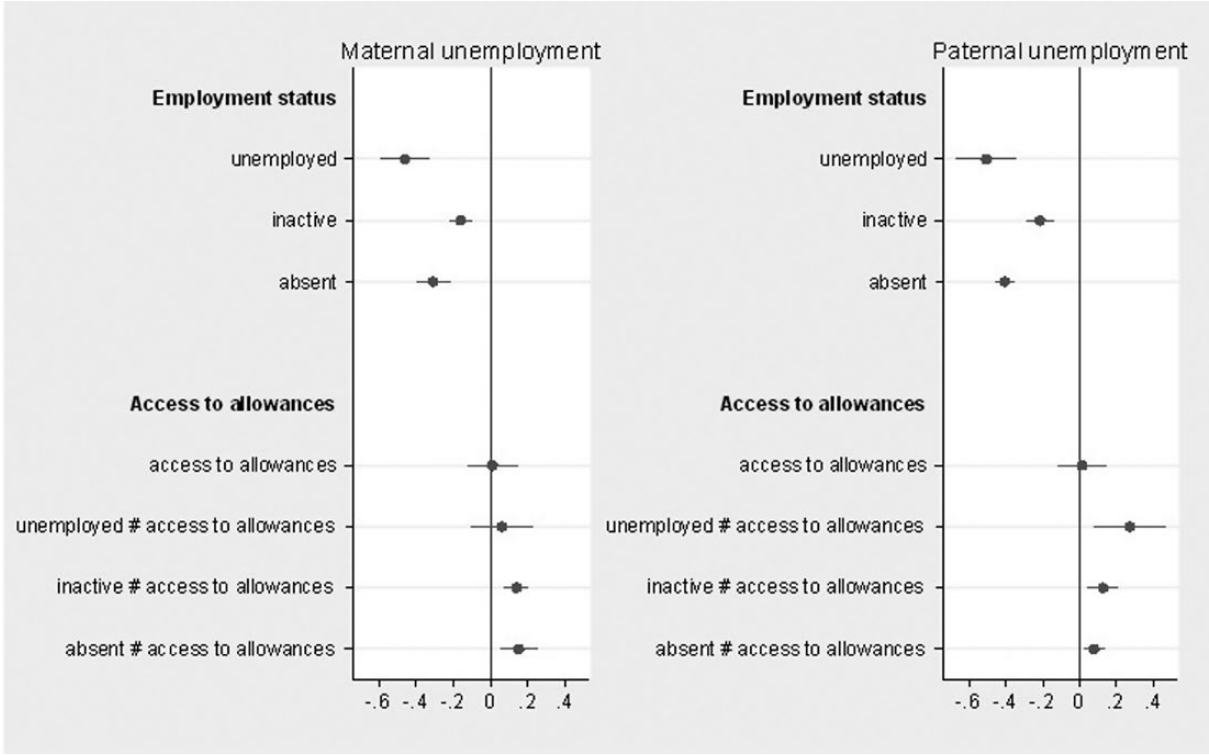

Figure A2 Parental labour market status, access to educational allowances and adolescent wellbeing.
Source: EU-SILC Wellbeing Modules 2013 and 2018. Control variables as in Models 1 and 2 in Table 2.