DISCUSSION PAPER SERIES

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ABSTRACT

Parental Unemployment, Social Insurance and Child Well-Being across Countries*

Based on a unique repeated cross-sectional data set of school-aged children in Europe, the Middle East and North America, we analyze how children's subjective well-being is related to parents' employment status, depending on the institutional context. We find that parental unemployment is strongly negatively related to children's life satisfaction across countries and years. The effect is thereby moderated by the generosity of unemployment benefits. Exploiting across- and within-country variation, our results suggest that a higher benefit replacement rate alleviates the negative effects of fathers', but not mothers', unemployment. We further test the robustness of our results considering unemployment benefits jointly with social work norms. While the buffering effect of unemployment insurance remains, the spillover effects of paternal unemployment seem to be more pronounced in environments with stricter social work norms.

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1 Introduction

How can children and adolescents, some of the most vulnerable members of our society, be protected from economic shocks that hit them via their parents' unemployment? This question is – unfortunately – of heightened topicality with unemployment on the rise in many countries due to the corona virus pandemic.

While any contemporaneous effect of paternal or maternal unemployment on children's well-being is highly relevant per se, recent evidence indicates that there might be long-term consequences. Layard et al. (2014), for example, emphasize children's emotional health as "the most powerful childhood predictor of adult life-satisfaction" (p. 720). Related work emphasizes the importance of early years experiences in building up capabilities which foster well-being across the life-cycle (e.g., Knudsen et al., 2006; Heckman, Stixrud and Urzua, 2006). Given the evidence of child well-being as a predictor of economic outcomes and well-being in adult life, it is important to understand potential spillover effects of macroeconomic conditions on children and how these potentially can be alleviated.

We study external effects of parental unemployment on their children's subjective well-being as direct proxies of their individual welfare in a cross-country setting to identify potential moderating effects of policies and contextual factors.[1] Precisely, we analyze to what extent the generosity of unemployment benefits moderates potential negative effects of parent's unemployment. The generosity of unemployment benefits might alleviate the burden of parental unemployment directly through a smaller reduction in consumption opportunities for the household (and consequently also for the children); but also indirectly through less (financially) distressed parents. We are not aware of any existing systematic evidence on this potential capacity of a central institution of social security. With this approach, we complement the line of research that studies interventions and policies which are immediately directed at child well-being (e.g., Heckman et al., 2010, Heckman, Pinto and Savelyev, 2013). We further consider whether the strength of the social norm to work potentially alleviates the experience of parental unemployment for children. By considering both formal and informal

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[1]There is an enormous body of literature that is concerned with understanding people's well-being in terms of their reported life satisfaction as well as positive and negative affects. In economics, there are a series of monographs including, e.g., Frey and Stutzer (2002a); Frey (2008); Layard (2011) and Graham (2017), as well as review articles including, e.g., Frey and Stutzer (2002b), Stutzer and Frey (2010) and Clark (2018). For contributions from a psychological perspective, see, e.g., the collections in David, Boniwell and Ayers (2013), Sheldon and Lucas (2014), or the handbook by Diener, Oishi and Tay (2018). Different measures to capture child well-being are reviewed in Ben-Arieh et al. (2014).

institutional factors jointly, we complement existing literature by acknowledging a potential correlation between the generosity of unemployment benefits and social work norms that might drive any observed correlations.

For our analysis we rely on a unique repeated cross-sectional data set of school-aged children in Europe, the Middle East, the US and Canada, 33 countries in total, for the years 2001/02, 2004/05, 2009/10 and 2013/14 and combine it with data on labor market institutions and social norms. For the identification of the interaction effect between parental unemployment and the generosity of unemployment benefits, we rely on variation in the benefit level between and within a country over time while controlling for country- and year-specific levels of well-being.

We first document that parental unemployment is negatively related to child well-being and that there are sizeable between-country differences in this effect. Second, we provide evidence that generous unemployment benefits, on average, alleviate the burden of father's unemployment. However, we find no such effect for mother's unemployment. Third, we consider social work norms as informal institutional factors that might drive any observed correlation with unemployment benefits due to a potential endogeneity between the two factors. We indeed observe that social norms and paternal unemployment seem to interact. The evidence suggests that the negative effects for children are more pronounced in environments with stricter injunctive work norms. Importantly, the moderating effect of unemployment benefits for paternal unemployment is robust to including any proxy for descriptive and injunctive work norms. Our analysis extends a rich literature on the consequences of unemployment on people's well-being. As this existing work serves as an important foundation for our theoretical arguments and empirical approach, we refer to it in more detail in Section 2. Section 3 describes the dataset "Health Behavior in School-aged Children" and the appended macro-level data that we use in our analysis. In Section 4, we lay out our empirical strategy. In Section 5, we present the main effect of parental unemployment on child well-being. Section 6 shows the results of our analysis concerning a moderating effect of unemployment insurance and provides two robustness tests for this. Section 7 concludes.

2 Unemployment and individuals' subjective well-being

In the following, we document that unemployment has various effects that relate to people's well-being in the short and in the long run. While the accumulation of some findings have

turned them to stylized facts, there is other evidence which looks rather inconclusive. We conjecture that some of the effect heterogeneity might be understood if contextual factors are more systematically taken into account. Our partial review starts with the effects of personally experiencing unemployment, before proceeding to the spillover effects on relatives and children in particular. We then refer to the moderating factors of the well-being costs of unemployment in terms of particular policies as well as informal institutions, i.e. social work norms.

2.1 Effects on unemployed persons

The personal experience of unemployment is one of the most detrimental events for an individual's subjective well-being. Research in economics and other social sciences has provided substantial evidence that there is a causal negative relationship between unemployment and life satisfaction. Moreover, the effect seems long-lasting, i.e., life satisfaction does not only drop significantly upon entry to unemployment, but also does not recover completely to its initial level upon re-employment (for reviews, see, e.g., Frey and Stutzer, 2002b; Winkelmann, 2014). The loss in income thereby cannot fully account for the disutility of unemployment, meaning that the negative effects of unemployment are still found in statistical estimates when income is considered as a control variable. The non-pecuniary costs rather seem to outweigh the pecuniary costs (e.g., Kassenboehmer and Haisken-DeNew, 2009). The empirical evidence indicates that employment - apart from income - provides individuals with several latent benefits, such as time structure, social contacts, activity, purpose, and, importantly, status and identity (aspects that were first prominently emphasized in Jahoda, 1981). The social costs of unemployment thus substantially exceed the costs of an economy operating below its potential, both through the non-pecuniary costs of unemployment for the individual, and, as we emphasize here, also through negative externalities for spouses and children.[2]

2.2 Effects on spouses and children

Similar as the affected individual, relatives have to cope with reduced household income but presumably also with a partner or parent who is suffering psychologically. Several studies

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[2]Moreover, higher unemployment also affects the employed as it increases the negative anticipatory feelings related to economic insecurity (Luechinger, Meier and Stutzer, 2010.)

provide corresponding evidence for a decrease in subjective well-being following the partner's job loss, which, in line with traditional gender roles, was found to be particularly pronounced for women (e.g., Winkelmann and Winkelmann, 1995; Esche, 2020). Previous studies on intergenerational spillover effects have primarily focused on the effects of parental labor force status on children's educational and labor market outcomes and found quite mixed evidence. Müller, Riphahn and Schwientek (2017), for example, find, using data from Germany, that paternal unemployment has no effect on children's youth employment status, though daughters, on average, tend to invest more in their education upon father's unemployment. Fradkin, Panier and Tojerow (2019) find that children of unemployed parents in Belgium increase their labor supply and work by around 9 % more in the first three years following labor market entry compared to children whose parents lose their job after the child's labor market entry. Mörk, Sjögren and Svaleryd (2019), on the other hand, find that childhood health, GPA or employment are not negatively affected by the experience of parental unemployment in childhood in Sweden.

Specific Effects on Child Well-Being – Evidence on the effects of a parent's job loss for child well-being is scarce. As for spouses, the well-being of children may be affected by the pecuniary consequences of parental unemployment, i.e., through a reduction in consumption opportunities due to a lower disposable household income; but also through non-pecuniary mechanisms. First, children might be negatively affected by their unemployed parent's reduced psychological well-being. Powdthavee and Vignoles (2008), for example, provide evidence that there is a significant correlation between parents' mental distress (particularly the one of fathers) and the subjective well-being of children. Second, children themselves might be exposed to stigmatization in their environment either directly due to parents' labor market status or due to reduced consumption opportunities that lead to feelings of envy and possibly to fewer social interactions (e.g., Schneider et al., 2000). Unemployed parents, on the other hand, spend significantly more time with their offspring (Knabe et al., 2010). As childcare positively relates to the formation of human capital for children (Becker and Tomes, 1986), increasing parenting time due to unemployment might as well be beneficial for the children, particularly for younger ones. Powdthavee and Vernoit (2013) find, at least partly in line with that, that parental unemployment in the UK is, on average, not statistically significantly related to child well-being unless age differences are considered, as the effect is positive at young age and gets more negative the older the children are when they

experience a parent's job loss. Furthermore, they find that the overall effect is particularly negative for girls, whereas the effect of maternal unemployment is worse for boys. Using data from the German Socio-Economic Panel (SOEP), Haisken-DeNew and Kind (2012) find no effect of parental unemployment on daughter's subjective well-being. A negative effect on son's well-being was only found if the father, but not the mother, became involuntary unemployed. Investigating mental health outcomes, Bubonya, Cobb-Clark and Wooden (2017) look at spillover effects of unemployment for spouses and children in the Australian household survey (HILDA). They, reversely, find no direct support for the hypothesis that a father's job loss affects mental health of the children negatively, though they find such an effect for maternal unemployment. Moreover, they do find that the effects are stronger for girls than boys. Nikolova and Nikolaev (2018) additionally provide evidence that negative well-being effects of parental unemployment are long lasting: Considering only exogenous unemployment shocks and controlling for an array of individual, parental and family characteristics, they report a strong negative effect of maternal unemployment between the age of 0 and 5 and of paternal unemployment between the age of 10 and 15 on the life satisfaction of the offspring when they are between 18 and 31 years old.

Taken together, existing evidence generally suggests a rather negative effect of parental unemployment on child well-being though the results are not congruent across countries - an aspect we take up in our cross-country study.

2.3   Policies moderating the well-being costs of unemployment

The negative well-being effects of personal unemployment have also been found to differ widely across countries (see, e.g., Gallie and Russell, 1998; Ahn, García and Jimeno, 2004; Caroll, 2007). Several studies have consequently investigated potentially moderating factors of the well-being costs of unemployment. As economic strain is an important determinant of psychological distress, most studies have focused on passive labor market programs in terms of unemployment benefits which compensate at least part of the loss in income that is associated with unemployment. Though the evidence is not completely unambiguous, the majority of recent studies suggests a substantial moderating effect of the generosity of unemployment benefits on the life satisfaction of the unemployed (e.g., Ochsen and Welsch, 2012; Wulfgramm, 2014; O'Campo et al., 2015; Voßemer et al., 2018) mainly through increased

financial satisfaction (e.g., Ahn, García and Jimeno, 2004).[3] Active labor market programs, such as training or job creation measures, which may re-provide unemployed individuals at least with a part of the latent benefits that are associated with the non-pecuniary costs of unemployment, were, however, not shown to be alleviating the negative effects of job loss but, if anything, rather to aggravate them (e.g., Voßemer et al., 2018).[4]

Little is known on whether moderating effects translate to how children are affected from their parents' unemployment. Of the few studies, Regmi (2019) exploits variation in unemployment insurance benefits over US states and time and finds that an increase of 1 % reduces the likelihood that a child has to repeat a grade by around 1.1 %. Lindemann and Gangl (2019) similarly find that contexts which provide more generous unemployment insurance alleviate the adverse effects of parental unemployment on entry to post-secondary education. Mörk, Sjögren and Svaleryd (2019), studying health, educational and job-related spillover effects of parental job loss in Sweden, also emphasize the importance of their study setting in a Nordic country, with generous welfare institutions and strong dual-earner norms which are potentially "able to cushion and insure against negative shocks to the family environment" (p.6). Hence, next to potentially buffering policies, the authors hint at informal institutions which might similarly work as moderating factors, which we will discuss in the following subsection.

2.4   The moderating role of social work norms

On the side of informal institutions, social work norms have been proposed as another moderator of the well-being costs of unemployment (and relatedly also people's job search behavior). Several studies find that the well-being costs of unemployment are less severe in areas with higher unemployment (e.g, Clark (2003) for the UK, Powdthavee (2007) for South Africa and Shields, Wheatley Price and Wooden (2009) for Australia), arguing that a higher unemployment rate might reduce the normative pressure to work, as more people deviate from

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[3]Di Tella, MacCulloch and Oswald (2003) find that the generosity of publicly provided unemployment insurance positively correlates with subjective well-being, but find no significant interaction with personal employment status. Eichhorn (2014) finds no robust relationship between log expenditures of unemployment benefits payments per capita and life satisfaction for the whole population and also no significant moderating effect for the unemployed.

[4]We refrain from testing the moderating effect of active labor market policies for spillover effects on children's well-being not only because previous evidence suggests no such moderating effects on the personal level, but mainly because of the difficulty that children whose parents are taking part in active labor market programs might no longer report their parents as unemployed.

the norm to make one's own living. Schwarz (2012) and Chadi (2014), however, find no such relationship using data from Germany and some cross-country studies were not able to replicate the earlier findings either (e.g., Stavrova, Schlösser and Fetchenhauer, 2011). While a higher unemployment rate might reduce the normative pressure to work, as more people deviate from the norm to make one's own living and thus leading to the norm to deteriorate, it cannot be distinguished from the potentially countervailing effect of worse labor market prospects, which might explain why the evidence on the moderating potential of descriptive norms is not unambiguous.[5] Further research accordingly deployed measures of injunctive norms, which, compared to descriptive norms, do not describe group behavior, but rather shared beliefs of how one ought behave (Cialdini, Reno and Kallgren, 1990).

Stavrova, Schlösser and Fetchenhauer (2011), for example, take country-averages on statements from the World Value Survey (WVS) as a proxy measure of the societal injunctive norm to work and report greater life satisfaction gaps between the employed and the unemployed where such norms are stronger. Stutzer and Lalive (2004) use outcomes from a popular vote on the support of generous unemployment benefits as a proxy measure for the regional strength of work norms and provide evidence that individuals in municipalities with stronger work norms (and less support of generous benefits) do not only experience larger drops in life satisfaction upon unemployment, but that the social pressure also prompts them to find a job again more quickly. With their empirical approach to measuring social work norms, Stutzer and Lalive (2004) stress the endogeneity of social norms and unemployment benefits as an electorate will rather support political parties favoring more generous unemployment benefits in areas with less strict social norms to work.[6]

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[5]In our setting, this difficulty might be aggravated as it does not only signal labor market prospects for the parents, but also future labor market prospects for the adolescents themselves.

[6]Considering the co-evolution of policies and norms even further, higher unemployment benefits might weaken work norms in the long-term (e.g., Lindbeck, 1995). In a welfare state setting, social work norms constrain the influence of economic disincentives of unemployment insurance by preventing individuals to apply for benefits to avoid disutility from norm violation by stigmatization and a loss of reputation. With sufficiently generous unemployment benefits relative to after-tax wages, the conflict between social norms and economic incentives may gradually lead more individuals to stop obeying with the norms, thus increasing the number of beneficiaries. Assuming that the disutility from norm deviation is decreasing with the number of people not complying with the norms, work norms might be endogenous to the generosity of unemployment benefits themselves (e.g., Lindbeck, 1995; Ljunge, 2012). This co-evolution might be particularly relevant in intergenerational contexts as generous social insurance might weaken parents' incentives to instill stronger work ethics in their children (e.g., Bisin and Verdier, 2005; Lindbeck and Nyberg, 2006). Though the generosity of unemployment benefits should mostly affect the pecuniary costs of unemployment, Wulfgramm (2014), for example, finds a statistically significant moderating effect of unemployment benefits on the well-being of the unemployed, also after income is controlled for. In line with a potential endogeneity between unemployment benefits and social norms, she concludes that the effect of the generosity of unemployment

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Work norms might, moreover, act gender-specific. According to the gender identity hypothesis by Akerlof and Kranton (2000), people derive identity utility from conforming to social norms which are related to one's gender. Previous research finds significantly stronger negative well-being effects of unemployment for men than for women (see, e.g., Frey and Stutzer, 2002b) and attributes this to the fact that men suffer more from an identity loss than women, as the social norm prescribes men to be the breadwinner. Roex and Rözer (2018), accordingly, find that the moderating effect of social work norms is stronger for men than for women.

3 Data

Our empirical analysis is based on the four latest waves of the Health Behavior in School-aged Children (HBSC) survey. To consider contextual differences which might reinforce or buffer the effects of parental unemployment on child well-being, we combine the HBSC data with data on labor market institutions, economic conditions and social norms. Details on the main data set and these measures are provided in subsections 3.1, 3.2 and 3.3. Subsection 3.4 shows the correlations between the country-level explanatory variables. Table A2 in the Appendix further provides an overview of the data availability by country and HBSC wave.

3.1 Parental unemployment and child well-being in the HBSC

The HBSC is a repeated cross-sectional survey on health and health behavior of adolescents between the age of 11 and 17 years from 43 countries in Europe, the Middle East and North America. The HBSC data offers the opportunity to study child well-being in a repeated cross-sectional setting as, since the third wave (2001/2), respondents from all participating countries are asked to rate their life satisfaction on the 11-point scale of the Cantril Self-Anchoring Striving Scale (Cantril, 1965), often referred to as the "Cantril ladder". Children are asked: *"Here is a picture of a ladder. Suppose the top of the ladder represents the best possible life for you and the bottom of the ladder the worst possible life. Where on the ladder do you feel you stand at the present time?"*. As an evaluative measure of subjective well-being, the Cantril ladder has been used for both adults and children and was shown to have good convergent validity and reliability for samples of adolescents (Bradshaw et al., 2013,

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benefits is thus not strictly pecuniary, but may reflect less stigmatization and loss of self-confidence for the unemployed in countries where benefits are more generous.

Levin and Currie, 2014).[7] Next to life satisfaction, the HBSC data provides information on child characteristics (e.g., age, gender), health behavior, social environment and family situation. Among that, children are asked about both their mother's and father's occupations, which allows us to construct a measure of parental unemployment. The information on fathers', respectively mothers', occupations are classified into six socio-economic status (SES) groups, and six further categories, i.e., "home working", "looking for a job", "sick, retired, student", "don't know", "don't have or see parent" or "not classifiable". For our measure of unemployment, we consider all job categories (SES 1-6) as "occupied". "Looking for a job" is considered involuntarily unemployed, whereas all other categories - except for "home working" - are coded as missing. Due to the possibility that children indicate their *unemployed* mother or father as "home working", either because they do not know their true employment status or because they are ashamed of referring to them as unemployed, we create a third category for "home working" parents.

Compared to previous studies using national household surveys (e.g., Haisken-DeNew and Kind, 2012; Powdthavee and Vernoit, 2013; Bubonya, Cobb-Clark and Wooden, 2017), the HBSC allows measuring the effect of parental unemployment, irrespective of whether the child lives in the same household or not, as the questionnaire asks for both parents' employment statuses as well as the household type. Figure A1 in the Appendix graphically depicts the coding scheme of the parental employment status variable. Next to their parents' occupation, children are asked whether they live with both parents, their father or their mother. For those children whose parents live in separate households, we deploy the information on whether they are in contact with the parents. Thus, we consider any biological/legal parent that the child indicates to be in contact with and not only parents living together with the child. All observations, for which the parental occupation status is missing for a parent that the child is in contact with, are dropped. For those children, who live with either mother or father and indicate that they are not in contact with the other, we code this parent's employment status as "not in contact with". This allows us to estimate the relationship between maternal, respectively paternal, unemployment, conditional on the other parent's employment status, without dropping children who are raised by a single parent.

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[7]Levin and Currie (2014) show that the test-retest reliability is slightly weaker for teenagers than for younger children. Yet, they ascribe the lower test-retest reliability to a reduced stability of life satisfaction of teenagers, i.e., mood swings in puberty, rather than to a reduced reliability of the scale with increasing age.

Table 1: Parental employment status

	Maternal employment status		Paternal employment status	
	Observations	Share	Observations	Share
Working	403,155	81.89%	449,800	91.37%
Home working	64,452	13.09%	3,929	0.80%
Unemployed	21,635	4.39%	13,774	2.80%
Not in contact with	3,048	0.62%	24,787	5.04%
Total	492,290		492,290	

Note: The table shows the distribution of maternal and paternal employment statuses for our main sample. "Working" contains all job categories (SES 1-6). "Home Working" is based on the occupsesmo/occupsesfa category *"Home working"*, unemployed on the category *"looking for a job"*. "Not in contact with" is based on the question *"How easy is it for you to talk to the following persons about things that really bother you"*, where one possible answer is *"Don't have or see this person"*.

Table 1 displays the distribution of maternal and paternal employment statuses for our sample. From the two separate indicators for mother's and father's status, we then generate a variable of parental unemployment, coding 1 if at least one parent is looking for a job (N=32,736 (6.65%), of which N=2,673 (0.54%) have both parents unemployed) and 0 otherwise (N=459,554). The unemployment rate indicated by children per country and year strongly correlates (r=0.82, p=0.000) with the official unemployment rate of the OECD. Yet in the level, the unemployment rate is mostly smaller in our sample than in the official statistics (see Figure A2 in the Appendix). The positive difference could, on the one hand, be due to higher employment rates of adults with dependent children in comparison to national averages. On the other hand, children might under-report parental unemployment because of social stigma. Assuming that those children who are ashamed to report their parents' unemployment are likely to suffer strongly in terms of well-being from their parents' lot, this would mean that our results for any negative correlation of unemployment with child well-being are downward biased. If those children who suffer from shaming for their parents' unemployment report their parents as being employed, those children would, in our case, end up in the "non-treated" group, depressing this group's estimates towards the "treated" group. Otherwise they would fall into the missing category, which would reduce any potential negative correlation due to those missing observations in the "treated group".[8]

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[8]The only scenario that we could think of which would potentially upward bias our estimates is that the indication of home working parents removes those with relatively privileged financial situations from the group of unemployed.

3.2   Unemployment benefits

The generosity of unemployment benefits in any given country and year is based on data on average replacement rates from the OECD. The OECD releases data on the country net replacement rates for the unemployed as a proportion of the previous in-work income which is maintained after 1, 2, ..., T months of unemployment. As our data is cross-sectional and does neither indicate the employment status before, nor the duration of parental unemployment, we cannot match specific replacement rates, which consider unemployment duration and eligibility, to the individual-level data set. We therefore calculate a more general measure of the generosity of unemployment benefits, taking the arithmetic mean of six different replacement rates, i.e., for two different unemployment durations (six and twelve months) and three family types (couple with two children and average earnings for the partner, couple with two children and partner out of work, and single parent with two dependent children). Due to the nature of our research question, we do not consider replacement rates for individuals without dependent children. Figure A3 in the Appendix displays the average replacement rate by country and survey year for the countries in our sample.

3.3   Social work norms

We employ measures of descriptive as well as injunctive norms regarding the importance of pursuing paid work. As a descriptive measure of the social norm to work, we use annual national unemployment rates from the OECD (see Figure A4 in the Appendix for details). As a gender-specific variant, we consider the share of women actively participating in the labor market. Specifically, we use data on the ratio of female-to-male labor force participation rates from the Worldbank (see Figure A5 in the Appendix for details).

As a measure of the societal injunctive norm to work, we combine and average answers to five statements from the World, respectively European, Value Survey (WVS) separately for each country[9]: (1) *"To fully develop your talents, you need to have a job.",* (2) *"It is humiliating to receive money without working for it.",* (3) *"People who don't work become lazy.",* (4) *"Work is a duty towards society."* and (5) *"Work should always come first, even if it means less free time.".* The scale (Cronbach $\alpha = 0.71$) thus describes the extent to which work is a moral duty, respectively the strength of the norm to provide for oneself

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[9]We thus follow the strategy pursued in van Oorschot (2006), Stavrova, Schlösser and Fetchenhauer (2011), or Stam et al. (2016).

as opposed to live off others. For the resulting measure, higher values denote a stronger social norm to work. As a measure for gender-specific injunctive work norms, we use answers to a question in the WVS where respondents indicate their agreement with the statement *"When jobs are scarce, men should have more right to work than women"* on a 3-Point scale with answer options *"Disagree"*, *"Neither nor"* and *"Agree"*. We recode answers such that country averages can be interpreted as the share of respondents in a country agreeing with the statement. As social norms tend to be rather stable and as the WVS is conducted in different years than the HBSC survey, we make no attempt to exploit within-country variation in the strength of norms over time. Instead, we calculate mean scores by country over all available waves of the WVS and thus consider the strength of norms as constant over time.[10] In a robustness analysis, we consider that the strength of norms within the own generation might be particularly relevant for the spillover effects on children. Accordingly, we might introduce a bias by applying population-wide averages, instead of focusing on the relevant reference group. We therefore additionally calculate a measure of average norms in the younger generation (i.e., the respondents below the age of 25 at the time they are surveyed). Figure A6 in the Appendix displays averages for both the general population and the population under 25 by country.

3.4 Correlations between the country-level explanatory variables

Figure 1 shows the correlations between the variables capturing the contextual factors that potentially moderate the effect of parental unemployment on child well-being. As expected, social security policies are to some extent correlated with labor market conditions and norms. We take this up in our empirical analysis when isolating the interaction effect of unemployment benefits. In panel 1a, we observe that the correlation between the average replacement rate and the unemployment rate, as a descriptive measure of the general norm to work, is rather low ($r = -0.22$, n.s.). Panel 1c further indicates a slight negative correlation between the generosity of unemployment benefits and general work norms ($r = -0.13$, n.s.). Panels 1b and 1d demonstrate distinct correlations between unemployment benefits and gender-specific work norms. Panel 1b shows a positive correlation with higher female labor force participation ($r = 0.42, p < 0.01$) that is partly driven by the two observations

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[10]While we cannot test this explicitly, we argue that the assumption of stable norms within the short time-frame of our data (i.e., 2001 to 2014) is not far-fetched. Previous evidence suggests that norms and values evolve rather slowly over generations (e.g., Mannheim, 1964).

on the left and Panel 1d a negative correlation with injunctive gender-specific work norms $(r = -0.39, p < 0.01)$, which is measured such that higher values denote more traditional gender norms.[11] Countries with stronger social norms to work as opposed to living off benefits and stronger male bread-winning norms thus tend to feature lower replacement rates. This observation reinforces the need to test the robustness of our results in a joint model later in the empirical analysis.

Figure 1: Correlations between unemployment benefits and work norm measures

(a) **Descriptive general work norm**

(b) **Descriptive gender-specific work norm**

(c) **Injunctive general work norm**

(d) **Injunctive gender-specific work norm**
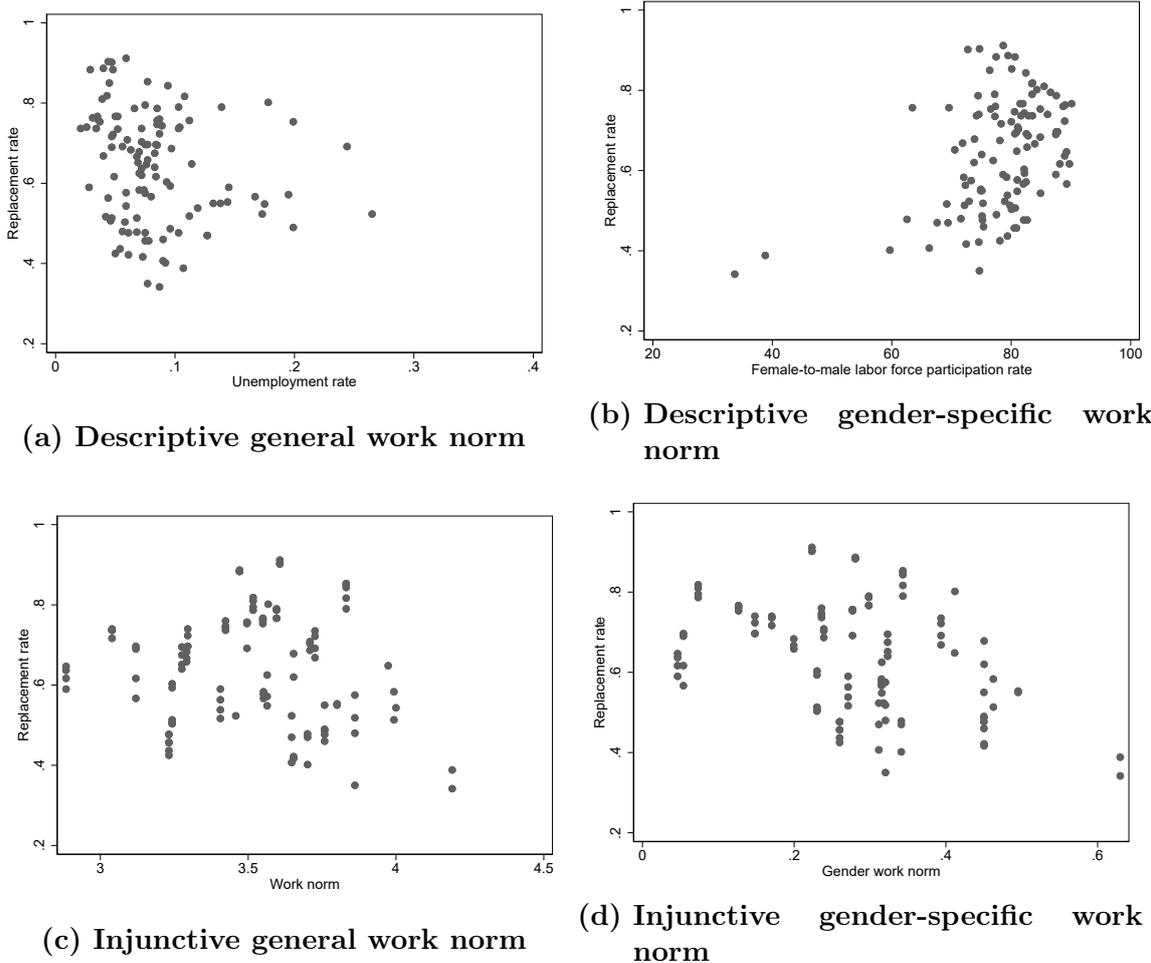
Note: The figures present the correlations between unemployment benefits and our measures of social work norms. Panel 1a shows the correlation between the unemployment rate and the generosity of unemployment benefits ($r = 0.22$, n.s). Panel 1b displays the correlation between the ratio of female-to-male labor force participation rates ($r = 0.42, p < 0.01$ and $r = 0.34, p < 0.01$ when excluding the two observations with a very low female labor force participation) and unemployment benefits. Panel 1c and 1d show the correlations between general injunctive work norms and ($r = -0.13$, n.s.) and injunctive gender-specific work norms ($r = -0.39, p < 0.01$) and average replacement rates.

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[11]Though not shown here, additional analyses further showed a strong correlation between the survey measures for the general social work norm and the gender-specific one ($r = 0.77, p < 0.01$).

4 Empirical Strategy

The identification of the effect of unemployment on well-being is challenging. This holds in particular for analyses based on cross-sectional data. They potentially suffer from reversed causality as it cannot be ruled out that inherently dissatisfied individuals are more likely to be laid off, or from omitted variable bias as there might be unobserved common determinants of both (low) life satisfaction and unemployment. We have singleton observations of each child and hence do not observe them before and after experiencing the mother or father losing their job. We think that reverse causality is less threatening in our case as the relation between a child's life satisfaction and their parents' employment status is to a lesser extent obvious than the relation between personal life satisfaction and employment status. However, unobserved common drivers of a child's life satisfaction and parental unemployment, such as, for instance, living in a poor neighborhood, cannot be ruled out easily. In order to minimize the omitted variable bias, we adopt a specific control strategy taking into account proxy measures for parents' wealth. Subsection 4.1 explains the construction of the main control variables and the specification of the baseline estimation model.

For the identification of the moderating effect of the main contextual factor, i.e., the generosity of unemployment benefits, we rely on variation between and within countries over time. We can thus apply a rigorous control strategy to capture the interaction effect between parents' unemployment and benefits. Subsection 4.2 introduces the corresponding extended estimation model with the interaction term.

4.1 Baseline estimation model

In our baseline estimation model for the correlation between parents' unemployment and a child's subjective well-being, we stepwise control for the family's financial resources using two different measures. First, we use proxy measures of family wealth included in the family affluence scale (FAS), a brief assets-based measure of family wealth developed by Currie et al. (1997) for the HBSC. The FAS includes four items, which are simple to answer and reflect family ownership or access to goods and services that are relevant to family circumstances. Precisely, children are asked whether they have their own bedroom, about the number of cars the family owns, the number of computers in the household and the number of holidays the family spends per year. Furthermore, the survey includes a question on the child's perception of its family's socio-economic circumstances, asking them to answer "*How well do*

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you think your family is off?" on a scale from (1) *"Not at all well off"* to (5) *"Very well off"*. Though a rigorous statistical control of the family's ex-ante income situation is not possible, we use the indicators on whether the child has its own bedroom, the number of family cars and the number of computers as a rough measure of the family's wealth. With this control variable, we aim at reducing potential selection effects. The two other items, i.e., the well-off indicator and the number of holidays per year, we expect to be more responsive to changes in household income due to parental unemployment and thus to vary in the short-run. Accordingly, we introduce these measures in a subsequent step to not only further reduce any selection bias, but to also isolate the non-pecuniary costs of parental unemployment for their children.[12]

Specifically, we estimate the following linear regression for child i, living in country c, interviewed in survey year t:

$$LifeSatisfaction_{ict} = \beta_1\ ParentalUE_{ict} + \beta_2 X'_{ict} + \tau_c * \delta_t + \varepsilon_{ict} \qquad (1)$$

where $LifeSatisfaction_{ict}$ is the child's well-being measured using the Cantril Self-Anchoring Striving Scale. $ParentalUE_{ict}$ is a dummy variable indicating whether at least one parent is unemployed, such that β_1 is our main coefficient of interest. Alternatively, we use dummy variables for both father's and mother's unemployment. When splitting the parental unemployment variable into maternal and paternal unemployment, we additionally control for whether both parents are unemployed.[13] X'_{ict} is a matrix of individual covariates, that includes dummies for gender, age, as well as their interaction, as prior research shows that life satisfaction profiles of girls develop differently over puberty than those of boys (e.g., Bradshaw et al., 2013). Furthermore, we control for whether the respondent is an only child, and whether the child lives with the mother, the father, or with both parents (the latter serves as reference category).[14] Importantly, we add measures for family wealth and current income proxies in subsequent steps. $\tau_c * \delta_t$ represents country-specific year fixed effects to control for common shocks that might affect all children in a given country in a given survey year. ε_{ict}

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[12]For more details on the measures of family wealth and income see Appendix A.1.2.

[13]Either individual coefficient for maternal and paternal unemployment can then be interpreted as the partial correlation as if the other parent is employed.

[14]Previous studies have shown that unemployment increases the probability of divorce (e.g., Jensen and Smith, 1990), which in turn negatively affects a child's well-being (Amato and Cheadle, 2005).

is an idiosyncratic error term, with two-way standard errors clustered at the country-survey year level to account for possible correlation of the individual-level residuals within the same country and survey year.

For the statistical analysis, the ordinal variable life satisfaction is treated as a cardinal measure in an ordinary least square regression. Previous research has shown that this simplification seems to matter little for the qualitative as well as the quantitative results (e.g., Ferrer-i Carbonell and Frijters, 2004). Further, our following analyses using interaction terms would not allow for an intuitive interpretation of ordered logit or probit models (e.g., Ai and Norton, 2003).

4.2 Extended estimation model with interaction terms

Taking a cross-national comparative perspective, we identify potential moderating effects of contextual factors. Specifically, we exploit variation within countries over time[15] using country τ_c and time fixed effects δ_t to control for time-invariant heterogeneity at the national level, as well as time-specific shocks across the sample:

$$
\begin{aligned}
LifeSatisfaction_{ict} = \beta_1 \; ParentalUE_{ict} + \beta_2 \; Macro_{ct} + \\
\beta_3 \; ParentalUE_{ict} * Macro_{ct} + \beta_4 X'_{ict} + \tau_c + \delta_t + \varepsilon_{ict}
\end{aligned}
\tag{2}
$$

where $Macro_{ct}$ is one or more of the variables average replacement rate ($Benefits_{ct}$), unemployment rate (UER_{ct}) as a general measure of the descriptive work norm, ratio of the female to male labor participation rate ($FemaleLabor_{ct}$) as an approximation of gender-specific work norm, or the country-level averages on injunctive work norms from the WVS. To control for current labor market conditions, we hold the unemployment rate constant throughout all our estimations which include interaction terms with contextual factors. We normalize all moderating macro-level variables using the mean and the standard deviation of the respective variables in our sample of interest.

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[15]As explained in subsection 3.3, we refrain from exploiting variation in the WVS norm measures over time and thus only estimate the interaction effect with parental unemployment for those indicators. The coefficients for the main effects of the norm variables are dropped due to perfect collinearity with the country fixed effects.

5   The effect of parental unemployment on child well-being

Table 2 presents the results of our baseline model 1. When simply comparing levels of subjective well-being in column 1, we find that children in households with at least one parent unemployed are, on average, less satisfied with their life. However, this difference might be due to factors other than parents' unemployment. To reduce potential omitted variable bias, we take proxy measures for household wealth into account, i.e., the number of family cars, computers at home and whether the child has its own bedroom. The results in column 2 show that the partial correlations for these control variables are as expected: Children in families with more cars, computers and their own bedroom are, on average, more satisfied with their lives. Controlling for family wealth, we still find a sizable and statistically significant correlation between parental unemployment and child well-being. On average, children with at least one unemployed parent report a 0.223 point lower level of satisfaction with life (measured on the 11-point scale). This is a substantial difference, similar to the one of living in a relatively more wealthy household with one or more computers. In column 3, a decomposition of the effect with regard to pecuniary and non-pecuniary costs of parental unemployment is pursued. For this, we additionally control for proxies of the household's current income situation. We find these measures, based on self-reports, to have substantial predictive power for child well-being: Compared to children who indicate their family's financial situation to be "average", children who state their family to be "not at all well off" have, on average, a one point lower life satisfaction. Regarding the correlation with parental unemployment, a negative relationship with children's life satisfaction remains, suggesting consequences of parental unemployment on child well-being that go beyond the pure pecuniary costs of joblessness. Turning to columns 4 to 6, we find through all models that having an unemployed father seems to affect child well-being significantly more negatively than having an unemployed mother.[16]

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[16]The coefficients of maternal and paternal unemployment in columns 4 to 6 are weighted averages over the different employment statuses of the respective other gender. As we otherwise might underestimate the effects by children who have both parents unemployed, we additionally use a dummy variable to control for the possibility that both parents are unemployed. The results for all control variables which are not shown in Table 2 can be found in Table B2 in the Appendix.

Table 2: Parental unemployment and child well-being

Dependent Variable:	Life Satisfaction					
	(1)	(2)	(3)	(4)	(5)	(6)
At least one parent unemployed	-0.289***	-0.223***	-0.073***			
	(0.018)	(0.016)	(0.015)			
Mother unemployed				-0.219***	-0.166***	-0.054***
				(0.018)	(0.018)	(0.016)
Father unemployed				-0.384***	-0.307***	-0.104***
				(0.028)	(0.024)	(0.022)
Proxies for family wealth						
		Reference category: No family car				
One car		0.196***	0.098***		0.185***	0.093***
		(0.016)	(0.014)		(0.016)	(0.014)
Two or more cars		0.301***	0.099***		0.287***	0.093***
		(0.016)	(0.014)		(0.016)	(0.014)
		Reference category: No computer at home				
One computer		0.188***	0.082***		0.184***	0.083***
		(0.022)	(0.018)		(0.022)	(0.018)
Two computers		0.223***	0.053**		0.218***	0.053**
		(0.024)	(0.021)		(0.024)	(0.021)
More than 2 computers		0.198***	-0.040*		0.193***	-0.039*
		(0.026)	(0.022)		(0.025)	(0.022)
		Reference category: No own bedroom				
Own bedroom		0.206***	0.106***		0.207***	0.107***
		(0.014)	(0.010)		(0.014)	(0.010)
Proxies for current income situation						
Not at all well off			-1.026***			-1.023***
			(0.088)			(0.088)
Not very well off			-0.809***			-0.807***
			(0.024)			(0.024)
		Reference category: Average				
Quite well off			0.465***			0.465***
			(0.015)			(0.015)
Very well off			0.921***			0.920***
			(0.027)			(0.027)
		Reference category: No holiday/year				
One holiday/year			0.239***			0.239***
			(0.015)			(0.015)
Two holidays/year			0.332***			0.333***
			(0.019)			(0.019)
More than two holidays/year			0.447***			0.447***
			(0.023)			(0.023)
Individual controls	✓	✓	✓	✓	✓	✓
Country-year FE	✓	✓	✓	✓	✓	✓
Observations	492,290	492,290	492,290	492,290	492,290	492,290
R-squared	0.071	0.076	0.134	0.072	0.077	0.134

Note: The table shows the relationship between parental unemployment (columns 1-3), respectively maternal and paternal unemployment (columns 4-6), and child life satisfaction using OLS, subsequently adding measures for family wealth (columns 2 and 5) and current income proxies (columns 3 and 6). Standard errors are two-way clustered by country and survey year and displayed in parentheses. Further individual controls include gender, age, only child and family status (for details see Table B2 in the Appendix). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

In a supplementary analysis, we also test whether the well-being effects of parental unemployment differ by the age and the gender of the child. In previous work, Haisken-DeNew and Kind (2012) find that boys suffer significantly more from paternal unemployment than girls. Bubonya, Cobb-Clark and Wooden (2017), reversely, find that the negative effect seems greater for girls. Our results are provided in Tables B3 and B4 in the Appendix. We find no significant differences in the effects of parental, respectively maternal and paternal, unemployment for boys' and girls' well-being across countries. Regarding differences by age, we find, similar to Powdthavee and Vernoit (2013), that older children are significantly more affected by parental unemployment than younger children. We do, however, still find a statistically significant negative effect also for younger children when controlling for family wealth, but not when also considering the reported current income situation.

Figure 2: Parental unemployment and child well-being across countries
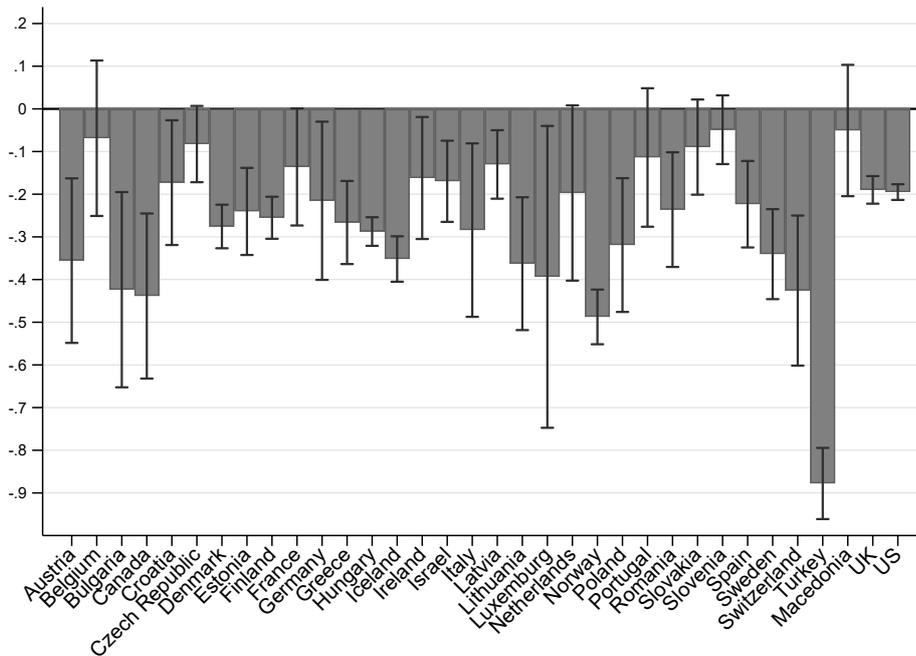
Note: The figure indicates the average difference in life satisfaction for children with at least one parent looking for a job (including 95% confidence intervals) relative to children with employed parents by country. The coefficient estimates are based on an OLS regression as in column 2 of Table 2 that interacts parental unemployment with the country dummies.

In a further analysis, we study the well-being difference between children with employed and children with unemployed parents by country. For this, the specification underlying the OLS regression in column 2 of Table 2 is extended with interaction terms between the indicator

for parental unemployment and the country dummies. Figure 2 presents the corresponding results for the country-specific differences (including 95% confidence intervals). We observe statistically significant differences in child well-being due to parental unemployment in almost every country. Moreover, there is substantial variation in the size of these differences. Figure B1 in the Appendix presents additional descriptive evidence showing that also the separate differences for maternal and paternal unemployment vary strongly between countries. In a next step, we investigate whether this variation is to some extent due to moderating factors at the country level.

6   Child Well-Being and Unemployment Insurance

6.1   The moderating role of unemployment benefits

We analyze the potentially moderating effect of more or less generous unemployment benefits in the extended estimation model 2. The focus is now on the interaction between parental unemployment and the average replacement rate. This captures whether the negative correlation between parental unemployment and child well-being is smaller in countries with more generous benefits. The estimation results are presented in Table 3. We additionally depict the marginal effects of parental, paternal and maternal unemployment as a function of the average replacement rate in Figure 3.

Considering parental unemployment overall (columns 1 and 2, respectively panel 3a), we find no statistically significant main effect and no moderating effect of more generous unemployment benefits on child well-being. Interestingly, once the perceived income situation is taken into account, children's subjective well-being seems positively correlated with the rate of unemployment. Splitting the analysis for maternal and paternal unemployment yet reveals that the insignificant interaction term in columns 1 and 2 might be driven by counteracting moderation effects for paternal and maternal unemployment. Whereas the effect is not statistically significant at conventional levels, we find a negative interaction between maternal unemployment and more generous unemployment benefits in column 3 (see also panel 3b). In contrast, generous unemployment insurance seems to buffer the negative well-being effects of father's unemployment substantially. Panel 3c shows that in an environment with a comparatively low replacement rate for the unemployed (around 34 %), the life satisfaction of children whose fathers are unemployed is, on average, 0.49 points lower on the 11-point scale

than the life satisfaction of children who indicate their father as working. This difference is significantly reduced to about 0.3 points at the average replacement rate of about 63 % and diminishes further in environments with a comparatively high replacement rate (around 91 %).

Figure 3: Effect of parental unemployment on child well-being depending on the level of unemployment benefits
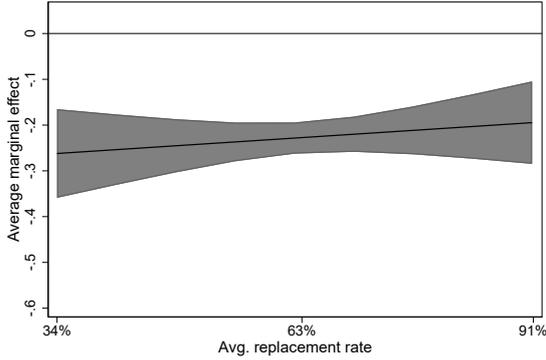
(a) **Parental unemployment**
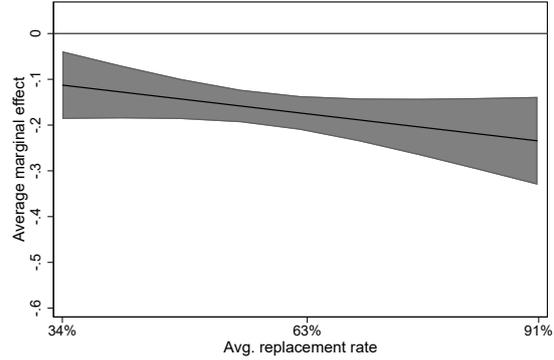
(b) **Maternal unemployment**
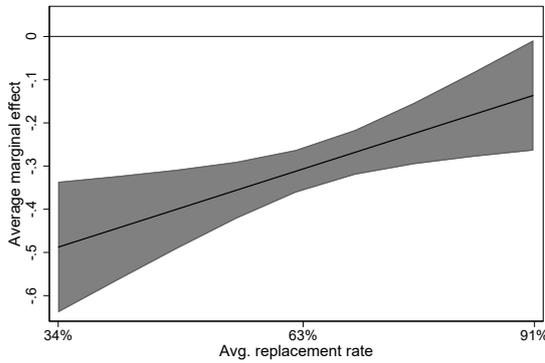
(c) **Paternal unemployment**

Note: The figures show the marginal effects of parental (panel 3a), maternal (panel 3b) and paternal (panel 3c) unemployment on child well-being at different levels of benefit replacement rates based on OLS regressions controlling for family wealth, with 90% confidence intervals. Standard errors are two-way clustered by country & wave. Specification 2 in Table 3 shows the full regression output.

When we additionally consider the proxy measure for the household's current income in the extended model, not surprisingly, the interaction terms get smaller. The coefficient for the interaction between paternal unemployment and unemployment benefits is reduced by about 23 %. Yet, it remains positive and statistically significant. We thus find that the buffering effect of more generous government transfers seems to not only reduce the pecuniary costs felt by the children, but to some extent also the non-pecuniary costs of paternal unemployment. Unemployed fathers might be less stressed with more generous benefits affecting children over and above any changes in consumption. Alternatively, the finding might also hint at an

underlying relationship between the generosity of unemployment benefits and social norms.[17] We study this alternative mechanism in Section 6.3 by testing the robustness of our results in a joint analysis taking social norms into account.

Table 3: Parental unemployment, unemployment benefits and child well-being

Dependent variable:	Life Satisfaction			
	(1)	(2)	(3)	(4)
At least one parent unemployed	-0.227***	-0.080***		
	(0.017)	(0.016)		
Mother unemployed			-0.175***	-0.064***
			(0.019)	(0.018)
Father unemployed			-0.307***	-0.108***
			(0.025)	(0.023)
Unempl. benefits	-0.013	-0.001	-0.012	-0.001
	(0.047)	(0.056)	(0.047)	(0.056)
At least one parent unemployed × Unempl. benefits	0.016	0.015		
	(0.021)	(0.018)		
Mother unemployed × Unempl. benefits			-0.029	-0.018
			(0.019)	(0.018)
Father unemployed × Unempl. benefits			0.084***	0.064**
			(0.032)	(0.026)
Unempl. rate	0.014	0.065**	0.017	0.066***
	(0.027)	(0.025)	(0.027)	(0.025)
Individual controls	✓	✓	✓	✓
Proxies family wealth	✓	✓	✓	✓
Proxies for current income		✓		✓
Country FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Observations	440,567	440,567	440,567	440,567
R-squared	0.070	0.126	0.071	0.127

Note: The table shows the estimated effects of parental unemployment (columns 1-2), respectively maternal and paternal unemployment (columns 3-4) in interaction with average replacement rates on child well-being using OLS. Standard errors are two-way clustered by country and survey year and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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[17]Such an alternative interpretation might also be applied to the finding for the interaction between unemployment benefits and maternal unemployment. The finding that the differences are slightly larger in countries with a higher average replacement rate (even though not statistically significantly) might be due to weaker male bread-winning norms and hence stronger obligations for women to actively participate in the labor market in these countries.

6.2 Robustness: Sensitivity to the sample composition

We identify the moderating effect of unemployment benefits based on within and between country variation of the average replacement rate. We therefore test whether our main results for the buffering effect of unemployment benefits are driven by observations from a single country. Figure 4 displays the coefficients for the interaction term between paternal and maternal unemployment and the average replacement rate from separate estimations, each time excluding observations from a different country. Detailed regression outputs can be found in Table C1 in the Appendix.

Figure 4: Moderating role of unemployment benefits for parental unemployment: Sensitivity to sample composition

(a) Paternal unemployment   (b) Maternal unemployment
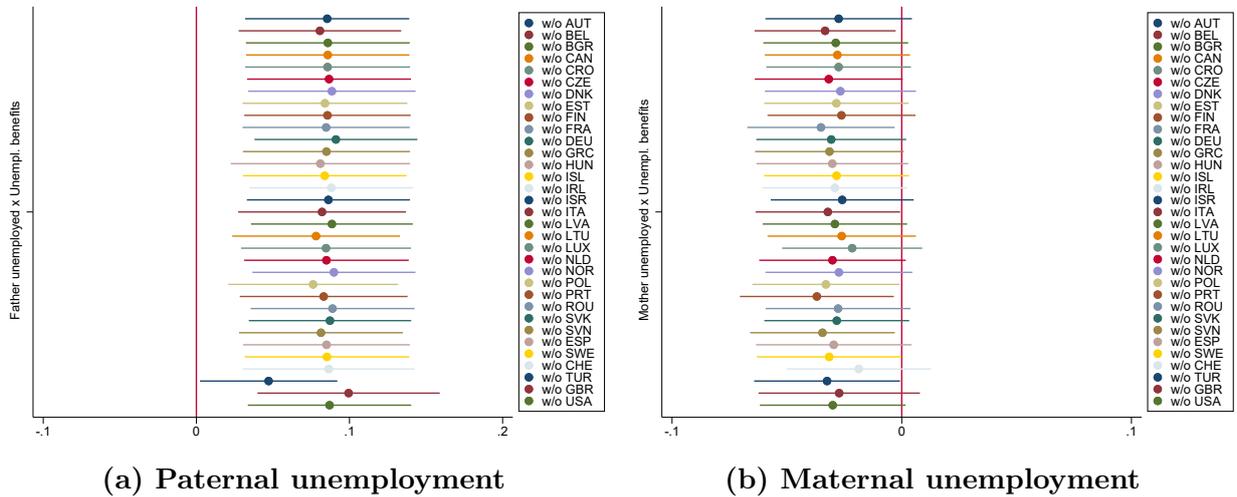
Note: The figure displays the coefficient (including 90 % confidence intervals) for the interaction term between paternal (panel 4a), respectively maternal (panel 4b) unemployment and the average replacement rate based on the specification in column 3 of Table 3, excluding observations from one country at a time. Detailed regression outputs are reported in Table C1 in the Appendix. AUT: Austria; BEL: Belgium; BGR: Bulgaria; CAN: Canada; CRO: Croatia; CZE: Czech Republic; DNK: Denmark; EST: Estonia; FIN: Finland; FRA: France; DEU: Germany; GRC: Greece; HUN: Hungary; ISL: Iceland; IRL: Ireland; ISR: Israel; ITA: Italy; LVA: Latvia; LTU: Lithuania; LUX: Luxembourg; NLD: Netherlands; NOR: Norway; POL: Poland; PRT: Portugal; ROU: Romania; SVK: Slovakia; SVN: Slovenia; ESP: Spain; SWE: Sweden; CHE: Switzerland; TUR: Turkey; GBR: Great Britain; USA: United States of America.

In most estimations but two, the coefficient for the interaction with paternal unemployment is rather stable. These two refer to samples excluding either Turkey or Great Britain. When excluding Turkey, a smaller coefficient is estimated, though it remains positive, i.e., 0.047 instead of 0.084, and statistically significant ($p<0.1$). Reversely, when excluding Great Britain

from the sample, a larger coefficient for the interaction term is estimated, i.e., 0.099 (p<0.01) instead of 0.084 (p<0.01). The changes reflect that the difference in life satisfaction between children whose father is unemployed rather than employed differs between both countries even though the average replacement rate is relatively low in both countries ($\overline{x}_{TUR} = 36.5\%$ and $\overline{x}_{GBR} = 45.5\%$, compared to the sample average of $\overline{x}_{All} = 64.1\%$). In Turkey, the raw difference amounts to 1.29 points, the largest across the countries in our sample. In contrast, in Great Britain, the difference is, on average, 0.38 and therewith falls below the sample average difference of about 0.42.[18] While we thus observe some sensitivity with regard to the sample composition, the main finding of a buffering effect of benefits in the case of paternal unemployment seems robust. For the interaction coefficient between maternal unemployment and unemployment benefits, we find no clear picture for a significant influence of one country.

6.3 Robustness: The complementary influence of social work norms

We analyze whether social work norms affect the relationship between parental unemployment and child well-being and potentially explain part of the moderating relationship between parental unemployment and unemployment benefits, considering proxy measures for *descriptive* norms as well as *injunctive* norms. Table 4 displays the results of the analysis, where we add interaction terms with variables approximating social norms.

The specifications in columns 1 and 2 include the additional interaction terms between the national unemployment rate and mother's, respectively father's, unemployment. With this we test whether the effect of parental unemployment on child well-being is smaller in an environment in which more people are unemployed and parents, as well as children, suffer less from social pressure. We do not find any systematic correlations for the interaction terms between parental unemployment and the national unemployment rate. As before, we find a statistically significant correlation between the unemployment rate and child well-being when controlling for the household's current income situation. The coefficient for the interaction between paternal unemployment and the replacement rate remains sizeable and statistically significant. This also holds when proxies for households' current income are added.

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[18]The comparatively small negative effect of parental unemployment on child-well being in Great Britain seems though to be congruent with the results by Powdthavee and Vernoit (2013).

As the pressure on unemployed fathers and mothers might differ depending on women's integration on the labor market, we include the female-to-male labor force participation rate as a gender-specific descriptive work norm in columns 3 and 4. We find that the negative effect of paternal unemployment is smaller in countries with a higher female labor force participation, suggesting less mental distress for unemployed fathers in environments in which they are less exposed to a male bread-winning obligation. The positive correlation between liberal descriptive gender norms and unemployment benefits is reflected in a smaller coefficient for the interaction term between paternal unemployment and unemployment benefits. However, this latter coefficient remains positive and statistically significantly different from 0. Once we additionally consider how children perceive the current income situation of the household, the descriptive gender norm does no longer add systematically to the prediction of their well-being.

In columns 5 to 8, we analyze whether children are affected less by their parents' lot, if unemployed mothers and fathers experience less of a moral obligation to work due to weaker *injunctive* norms. The results in columns 5 and 6 suggest that work norms, as measured in the WVS, systematically moderate the effect of paternal unemployment on child well-being. In countries with stricter norms, children suffer systematically more from paternal unemployment (but not from maternal unemployment). For a one standard deviation increase in this measure, the life satisfaction of a child is reduced by approximately 0.07 points more if the father is unemployed. This is about a 20 % increase of the spillover effect of paternal unemployment on child well-being. That mothers' and fathers' unemployment is moderated differentially is congruent with the gender identity hypothesis and also with existing evidence by Roex and Rözer (2018) who find a more pronounced effect of work norms for unemployed men than for unemployed women. The generosity of unemployment benefits remains an economically and statistically significant moderating variable for the effect of paternal unemployment on child well-being. This indicates that the effect of unemployment insurance as a formal institution goes beyond the expression of a norm. In columns 7 and 8, we consider the alternative survey-based measure for gender-specific work norms referring to the expressed priority that should be given to men on the labor market when jobs are scarce. Similarly as for the tests which included the ratio of female-to-male labor force participation, we find that paternal unemployment seems to have slightly more severe and maternal unemployment slightly less severe effects on child well-being in environments with a stronger

Table 4: Parental unemployment, unemployment benefits, social norms and child well-being

Dependent Variable:				Life Satisfaction				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mother unemployed	-0.181***	-0.066***	-0.180***	-0.064***	-0.181***	-0.065***	-0.182***	-0.065***
	(0.020)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.018)
Father unemployed	-0.309***	-0.110***	-0.314***	-0.112***	-0.307***	-0.109***	-0.308***	-0.110***
	(0.025)	(0.022)	(0.024)	(0.023)	(0.024)	(0.023)	(0.024)	(0.023)
Unempl. benefits	-0.012	-0.002	-0.022	-0.003	-0.012	-0.001	-0.013	-0.003
	(0.047)	(0.056)	(0.049)	(0.057)	(0.047)	(0.056)	(0.047)	(0.056)
Mother unemployed × Unempl. benefits	-0.026	-0.017	-0.025	-0.016	-0.025	-0.017	-0.019	-0.013
	(0.019)	(0.018)	(0.020)	(0.019)	(0.019)	(0.018)	(0.021)	(0.019)
Father unemployed × Unempl. benefits	0.086***	0.065**	0.050*	0.053*	0.073***	0.056**	0.077***	0.066**
	(0.032)	(0.025)	(0.029)	(0.028)	(0.027)	(0.024)	(0.029)	(0.025)
Unempl. rate	0.019	0.068***	-0.001	0.065**	0.018	0.066***	0.018	0.066***
	(0.027)	(0.026)	(0.030)	(0.031)	(0.027)	(0.025)	(0.027)	(0.025)
Mother unemployed × Unempl. rate	-0.000	0.008						
	(0.014)	(0.017)						
Father unemployed × Unempl. rate	-0.000	-0.001						
	(0.027)	(0.032)						
Female/male labor force participation			0.066	0.007				
			(0.088)	(0.099)				
Mother unemployed × Female/male labor force participation			-0.004	-0.007				
			(0.022)	(0.019)				
Father unemployed × Female/male labor force participation			0.064**	0.022				
			(0.027)	(0.020)				
Mother unemployed × Country work norm					0.006	0.011		
					(0.023)	(0.022)		
Father unemployed × Country work norm					-0.070**	-0.045*		
					(0.032)	(0.026)		
Mother unemployed × Country gender work norm							0.022	0.017
							(0.020)	(0.018)
Father unemployed × Country gender work norm							-0.023	0.002
							(0.037)	(0.029)
Individual controls	✓	✓	✓	✓	✓	✓	✓	✓
Proxies family wealth	✓	✓	✓	✓	✓	✓	✓	✓
Proxies for current income		✓		✓		✓		✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Observations	436,804	436,804	436,804	436,804	436,804	436,804	436,804	436,804
R-squared	0.071	0.126	0.071	0.126	0.071	0.126	0.071	0.126

Note: The table shows the estimated effects of maternal, respectively paternal, unemployment and their interaction with the unemployment rate (columns 1-2), the female-to-male labor force participation rate (columns 3-4), injunctive general work norms (columns 5-6) and injunctive gender-specific work norms (columns 7-8) on child well-being using OLS, meanwhile controlling for the interaction between maternal/paternal unemployment and the average replacement rate using OLS estimations. Standard errors are two-way clustered by country and survey year and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

traditional male bread-winning norm, though the effect is not statistically significant at conventional levels.

In a supplementary analysis, we test whether these results are sensitive to considering norms from individuals under the age of 25, as opposed to the whole population. Figure A6 in the Appendix depicts average values for these two groups. While general work norms seem to differ only slightly across age groups, younger individuals in almost all countries exhibit significantly lower traditional gender norms. The results for the interactions between parental unemployment and injunctive norms of individuals under the age of 25 are overall very similar to the ones using norms across all age groups (see Table C2 in the Appendix). The negative interaction between general work norms and father's unemployment is slightly stronger (though the difference in coefficients is not statistically significantly). Furthermore, we observe that the coefficient for the interaction term between maternal unemployment and the gender work norm is weaker when we consider the norm expressed by younger generations. This might indicate that the moderating effect of gender-specific work norms is rather driven by indirect spillover effects of parental well-being rather than direct effects on the well-being of children with unemployed parents.

7   Conclusions

Based on a unique repeated cross-sectional data set of school-aged children in Europe, the Middle East and North America, we study how parental unemployment affects the life satisfaction of their offspring. Our analysis offers a novel comparative view on inter-generational effects of unemployment. Specifically, it relates the negative consequences on children's well-being to formal and informal institutions. In line with existing evidence, we find that the experience of parental unemployment, irrespective of the parents' gender, has strong adverse effects on children's subjective well-being. Thereby, the spillover effects of paternal unemployment are significantly worse than the one's of maternal unemployment in the majority of countries in our study.

We argue that a better understanding of the origins of such differences can help in designing effective policy responses, not only to reduce the costs of unemployment for the people personally affected, but also potential externalities for relatives. In our study, we emphasize the generosity of unemployment benefits as such a potential moderating factor. Our results indicate that generous insurance against the financial consequences of unemployment can

not only mitigate the negative effects for the unemployed individuals (for a review, see e.g., O'Campo et al., 2015), but also reduce the negative spillover effects of paternal unemployment on their children's well-being.

Prior research on personal unemployment has shown that this status relates to less severe well-being consequences in environments with weaker social work norms. We therefore test the robustness of our results considering general and gender-specific measures for descriptive and injunctive work norms. While unemployment benefits and social norms have seldom been statistically studied together, we argue that the joint analysis of these two factors is crucial, as both theoretical (e.g., Lindbeck, 1995; Bisin and Verdier, 2005) as well as empirical studies (e.g., Ljunge, 2012) suggest an endogeneity of work norms and the generosity of the unemployment insurance systems, which could potentially bias the result of either separate analysis. Our results show that parental unemployment is a larger burden for children's well-being in environments with a stronger injunctive work norm and that the differences in the spillover effects of maternal and paternal unemployment are partly explained by the relative strength of the traditional male bread-winning norm. The moderating effect of more generous unemployment benefits for paternal unemployment is, however, robust against the inclusion of all norm proxies. Our findings suggest that programs targeting unemployed individuals might not only help to alleviate the burden for them, but also to reduce the burden for their offspring.

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Parental Unemployment, Social Insurance and Child Well-Being across Countries

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Online Appendix

Contents

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A Data

A.1 Individual-level data

A.1.1 Parental unemployment

Figure A1: Coding scheme of family status and parental employment status
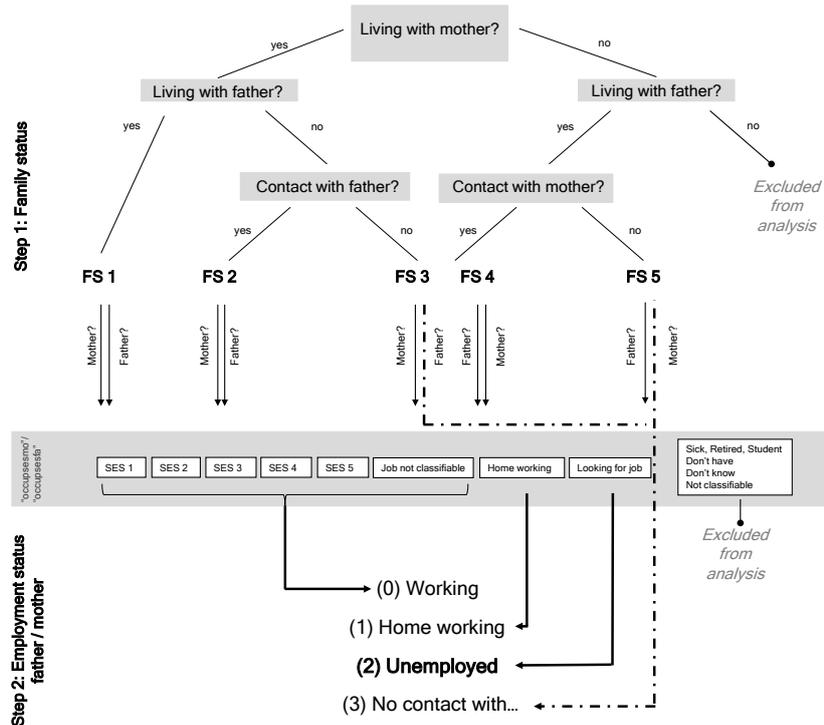
Note: The flowchart depicts the derivation of the employment status variable for mothers and fathers. The areas shaded in gray denote questions from the HBSC questionnaire. In a first step, we determine the child's family status (FS), where children can live either with both parents (FS1); with the mother and be in contact with the father (FS2) or not (FS3); or live with the father and be in contact with the mother (FS4) or not (FS5). We base this on information from the questions *"All families are different (for example, not everyone lives with both their parents, sometimes people live with just one parent, or they have two homes or live with two families) and we would like to know about yours. Please answer this first question for the home where you live all or most of the time and tick the people who live there."* and *"How easy is it for you to talk to the following persons about things that really bother you"* where one possible answer is *"Don't have or see this person"*. Children who do not live with either parent are excluded from the analysis. In a second step, we generate a variable for the parents' employment status, based on the variables occupsesfa/occupsesmo from the HBSC data. For this, we only consider parents that the child is in contact with, hence for FS1, FS2 and FS4, we consider both parents, whereas we automatically code the parent that the child is not in contact with in FS3 and FS5 as "no contact with" in order to not lose observations from children who are only raised by one parent. All children whose parents (they are in contact with) cannot be classified as either working, home working or unemployed, are also excluded from the analysis.

1

Figure A2: **Correlation between parental unemployment rates and official unemployment rates**
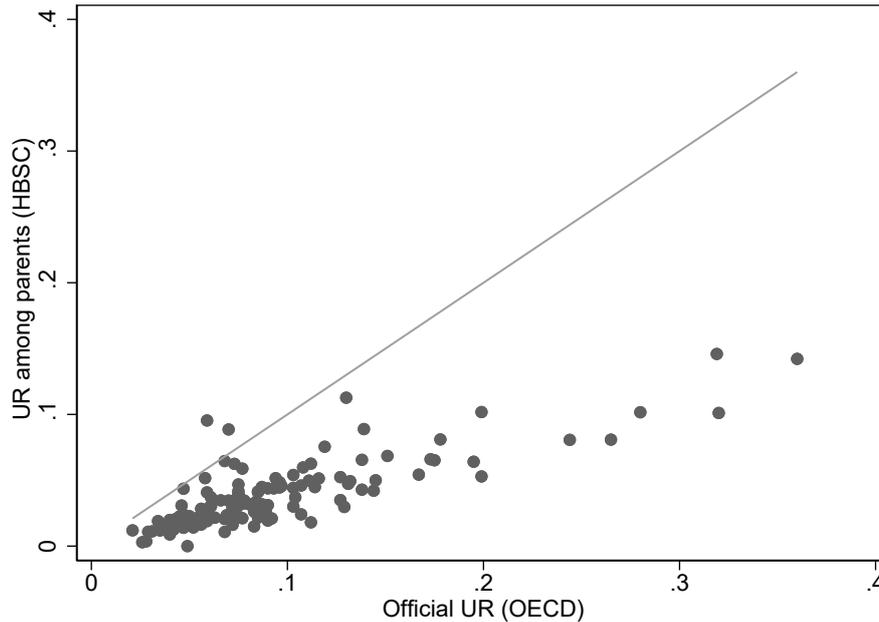
Note: The graph depicts the relationship between yearly country level unemployment rates based on the information of the parents' employment statuses in the HBSC data and the official unemployment rates in the respective countries published by the OECD. The correlation is r=0.82 (p<0.01).

A.1.2 Measures of family wealth and income situation

We approximate the wealth and income situation of the family based on two different measures that were developed specifically for the HBSC survey in order to collect information on the socio-economic background of children.

Family Affluence Scale — The Family Affluence Scale (FAS) includes a set of items that are simple to answer for children, non-intrusive and non-sensitive, and supposed to reflect assets and consumption patterns which are relevant to family circumstances. The scale was validated, both concerning its external criterion validity on the national (Boyce et al., 2006) and regional level (Hobza et al., 2017), and indicates high concurrent validity in terms of relationships with cohesive outcomes (Currie et al., 2008) and also moderate internal validity (e.g., Torsheim et al., 2016).

Children are required to report on family ownership of goods and access to services, using the following questions[1] (Currie et al., 1997):

---

[1]These questions are valid since the third wave in 2001/2 and thus the first wave of data that is used here. The scale has been adjusted in order to reflect changing societal patterns of consumption and lifestyle patterns. The computer item, for example, was only added in the 2001/2 wave and replaced the item of whether the family has a phone in their house (Currie et al., 2010).

- "Does your family own a car, van or truck?"
  [No; Yes, one; Yes, two or more]

- "Do you have your own bedroom for yourself?"
  [No; Yes]

- "During the past 12 months, how many times did you travel away on holiday (vacation) with your family?"
  [Not at all; Once; Twice; More than twice]

- "How many computers does your family own?"
  [None; One; Two; More than two]

Perceived socio-economic situation — In addition to the FAS, children in the HBSC are further asked about their perception of their own family's socio-economic circumstances, respectively perceived social status, using the following question:

- "How well off do you think your family is?"
  [Very well off; Quite well off; Average; Not so well off; Not at all well off]

We consider the number of family cars, the number of computers and the availability of an own bedroom as measures of family wealth, and the number of holidays and the statement about being more or less well off as measures of the current income situation. The correlation between the five measures and parental unemployment are presented in Table A1.

Table A1: Parental unemployment and family affluence

Dependent variable:	Family Cars	Computers	Own Bedroom	Holidays	Welloff
Parental Unemployment	-0.244***	-0.225***	-0.072***	-0.247***	-0.265***
	(0.006)	(0.010)	(0.005)	(0.009)	(0.010)
Country-Year FE	✓	✓	✓	✓	✓
Observations	482,561	482,467	481,539	481,829	484,677
R-squared	0.157	0.344	0.087	0.087	0.141

Note: The table displays correlation coefficients between parental unemployment and the three measures of family wealth (number of family cars - column 1; number of computers - column 2; own bedroom - column 3) and the two measures of current income proxies (number of holidays last year - column 4; welloff - column 5) using OLS estimations. Standard errors are two-way clustered by country and survey year and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

A.2 Data availability across datasets

Table A2: Data availability by HBSC wave and country

	Wave 1 (2001/2)			Wave 2 (2004/5)			Wave 3 (2009/10)			Wave 4 (2013/4)			All
	UEB	UER	% Fem labor	UEB	UER	% Fem labor	UEB	UER	% Fem labor	UEB	UER	% Fem labor	WVS
Austria	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Belgium	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bulgaria	-	-	-	✗	✓	✓	-	-	-	✓	✓	✓	✓
Canada	✓	✓	✓	✓	✓	✓	-	-	-	-	-	-	✓
Croatia	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	-	✓
Czech Republic	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Denmark	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Estonia	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Finland	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
France	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Germany	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Greece	-	-	-	✓	✓	-	-	-	-	✓	✓	✓	✓
Hungary	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Iceland	-	-	-	✓	✓	-	✓	✓	✓	-	-	-	✓
Ireland	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Israel	✗	✓	✓	-	-	-	-	-	-	✓	✓	✓	✗
Italy	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Latvia	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lithuania	✗	✓	✓	-	-	-	✓	✓	✓	-	-	-	✓
Luxembourg	-	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Netherlands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Norway	✓	✓	✓	-	-	-	✓	✓	✓	✓	✓	✓	✓
Poland	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Portugal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Romania	-	-	-	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
Slovakia	-	-	-	-	-	-	✓	✓	✓	✓	✓	✓	✓
Slovenia	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spain	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sweden	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Switzerland	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	✓
Turkey	-	-	-	-	-	-	✓	✓	✓	-	-	-	✓
Macedonia	✗	✓	✓	✗	✓	✓	✗	✓	✓	✗	✓	✓	✓
UK	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
USA	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	✓

Note: UEB: Average net replacement rate (Data source: OECD); UER: Unemployment Rate (Data sources: OECD); % Fem labor: Ratio of female-to-male labor force participation rate in % (modeled ILO estimate) (Data source: Worldbank); WVS: World Value Survey (as we generate country averages over all WVS waves, this measure is constant over waves).

Legend: ✓: Macro data available; ✗: Macro data not available; -: No HBSC data (HBSC data might be missing either because the survey was not conducted in the respective country in this wave, or because data on the parents socio-economic status was not gathered.)

A.3 Macro-level data

Figure A3: Unemployment benefits by country

(a) Austria   (b) Belgium   (c) Canada   (d) Canada

(e) Croatia   (f) Czech   (g) Denmark   (h) Estonia

(i) Finland   (j) France   (k) Germany   (l) Greece

(m) Hungary   (n) Iceland   (o) Ireland   (p) Israel

(q) Italy   (r) Latvia   (s) Lithuania   (t) Luxemburg
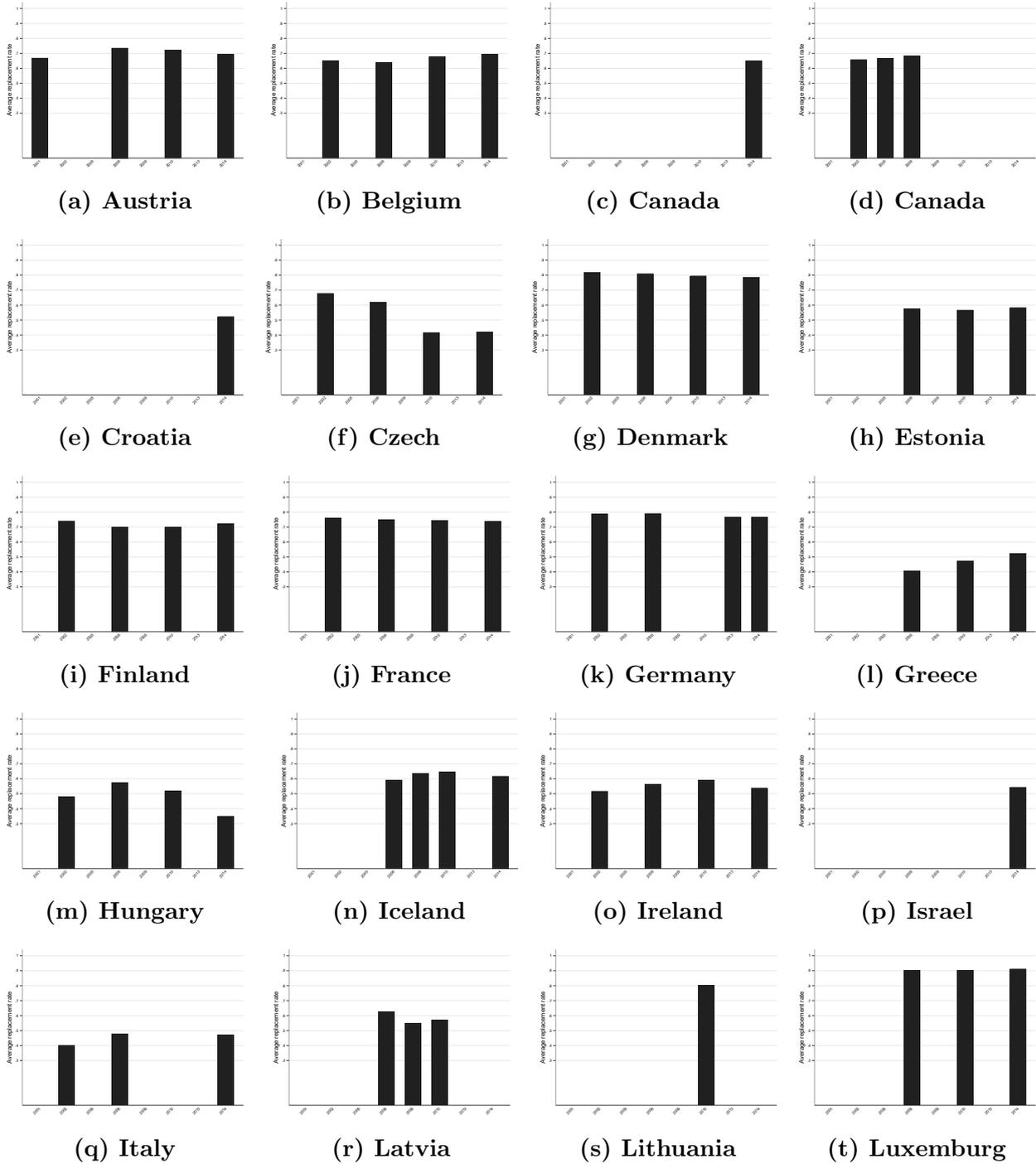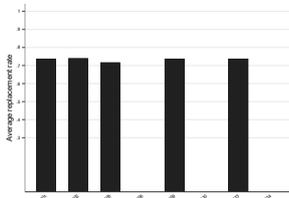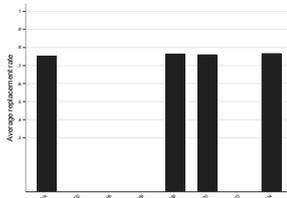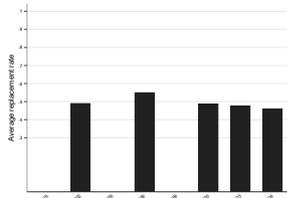
(u) Netherlands   **(v) Norway**   **(w) Poland**   **(x) Portugal**
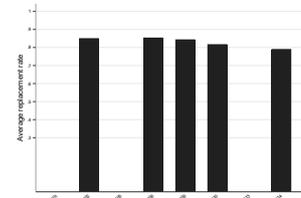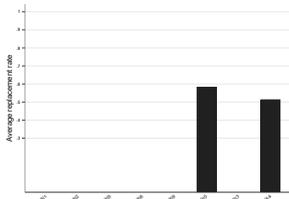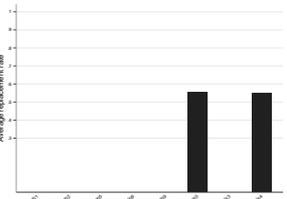
(y) Romania   **(z) Slovakia**   **(aa) Slovenia**   **(ab) Spain**
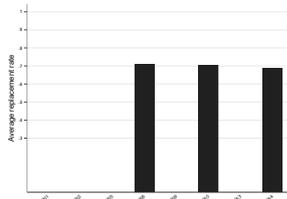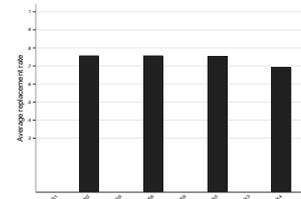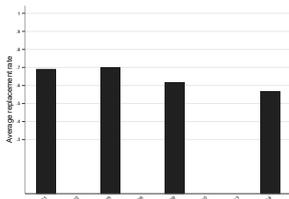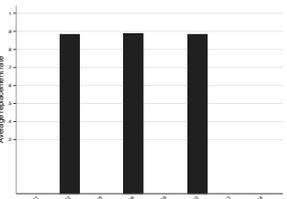
(ac) Sweden   **(ad) Switzerland**   **(ae) Turkey**   **(af) UK**
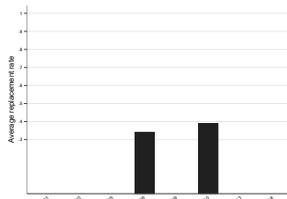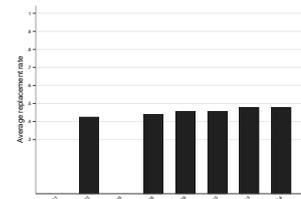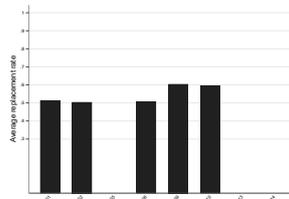
(ag) US

Note: The figure shows the average unemployment replacement rate by survey year and country. The value represents the mean of six different replacement rates, i.e., for two different unemployment durations (six and twelve months) and three family types (couple with two children and average earnings of the partner, couple with two children and partner out of work, and single parent with two dependent children.

Figure A4: Unemployment rates by country and year
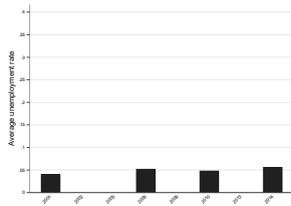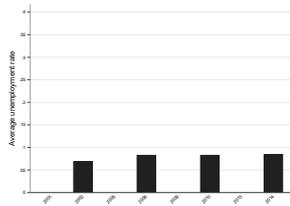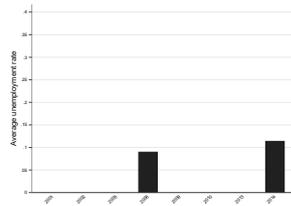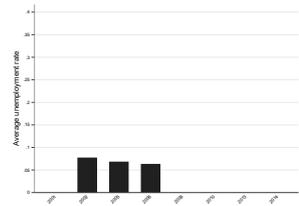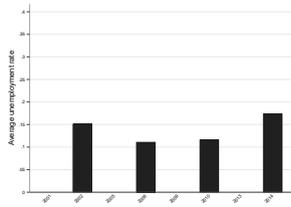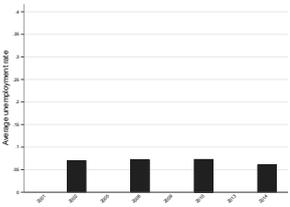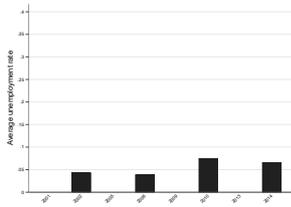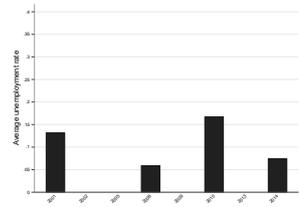
(a) Austria

(b) Belgium

(c) Canada

(d) Canada

(e) Croatia

(f) Czech

(g) Denmark

(h) Estonia

(i) Finland

(j) France

(k) Germany

(l) Greece

(m) Hungary

(n) Iceland

(o) Ireland

(p) Israel

(q) Italy

(r) Latvia

(s) Lithuania

(t) Luxemburg

7
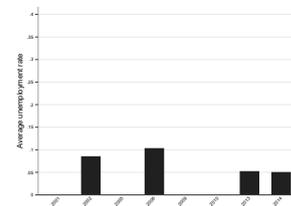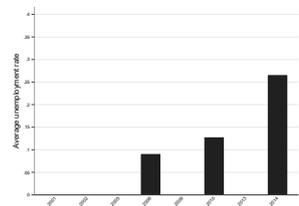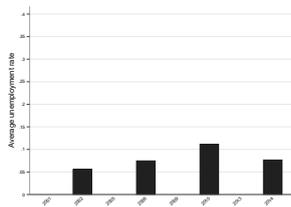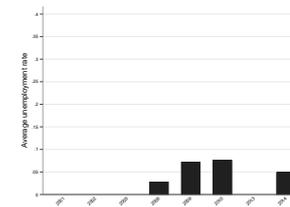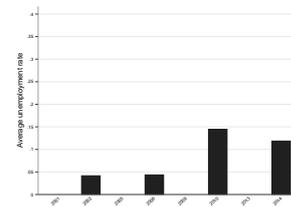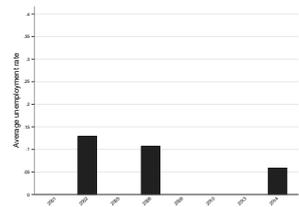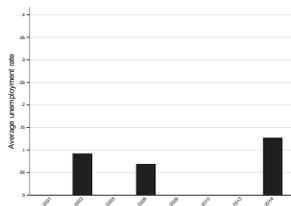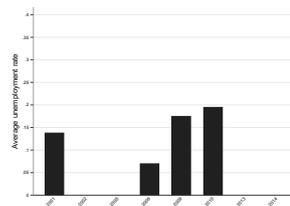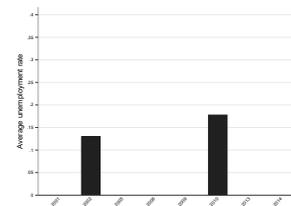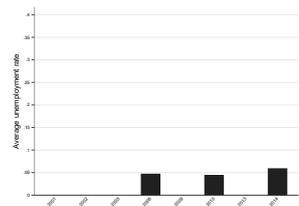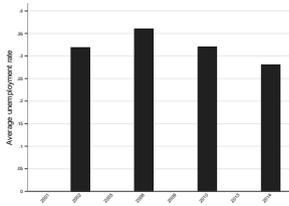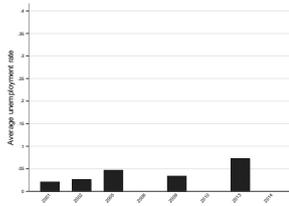
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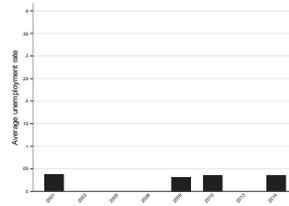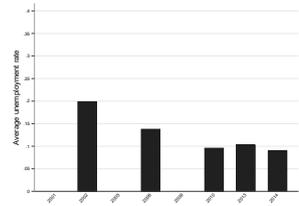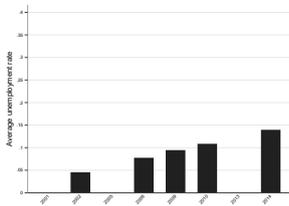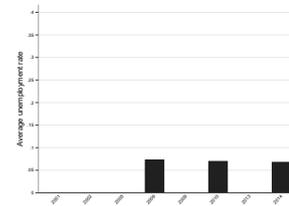
(y) Portugal   **(z) Romania**   **(aa) Slovakia**   **(ab) Slovenia**
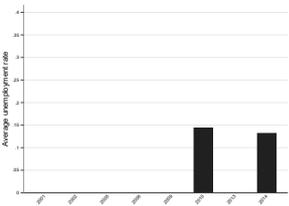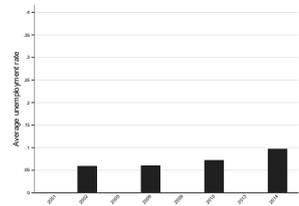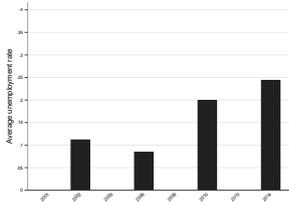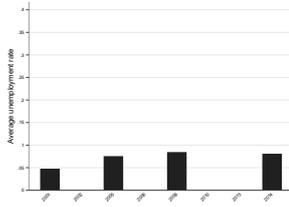
(ac) Spain   **(ad) Sweden**   **(ae) Switzerland**   **(af) Turkey**
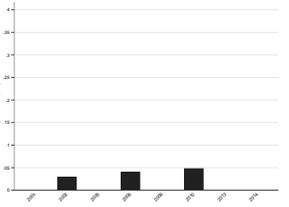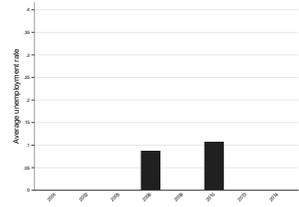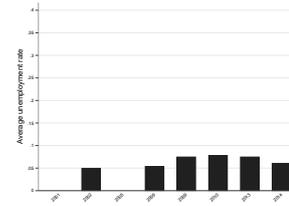
(ag) UK   **(ah) US**
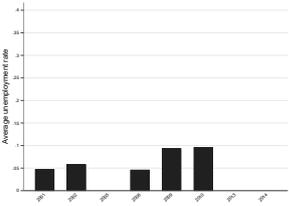
Note: The figure shows the official unemployment rate by survey year and country.

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Figure A5: Ratio of the female-to-male labor force participation rate by country and year
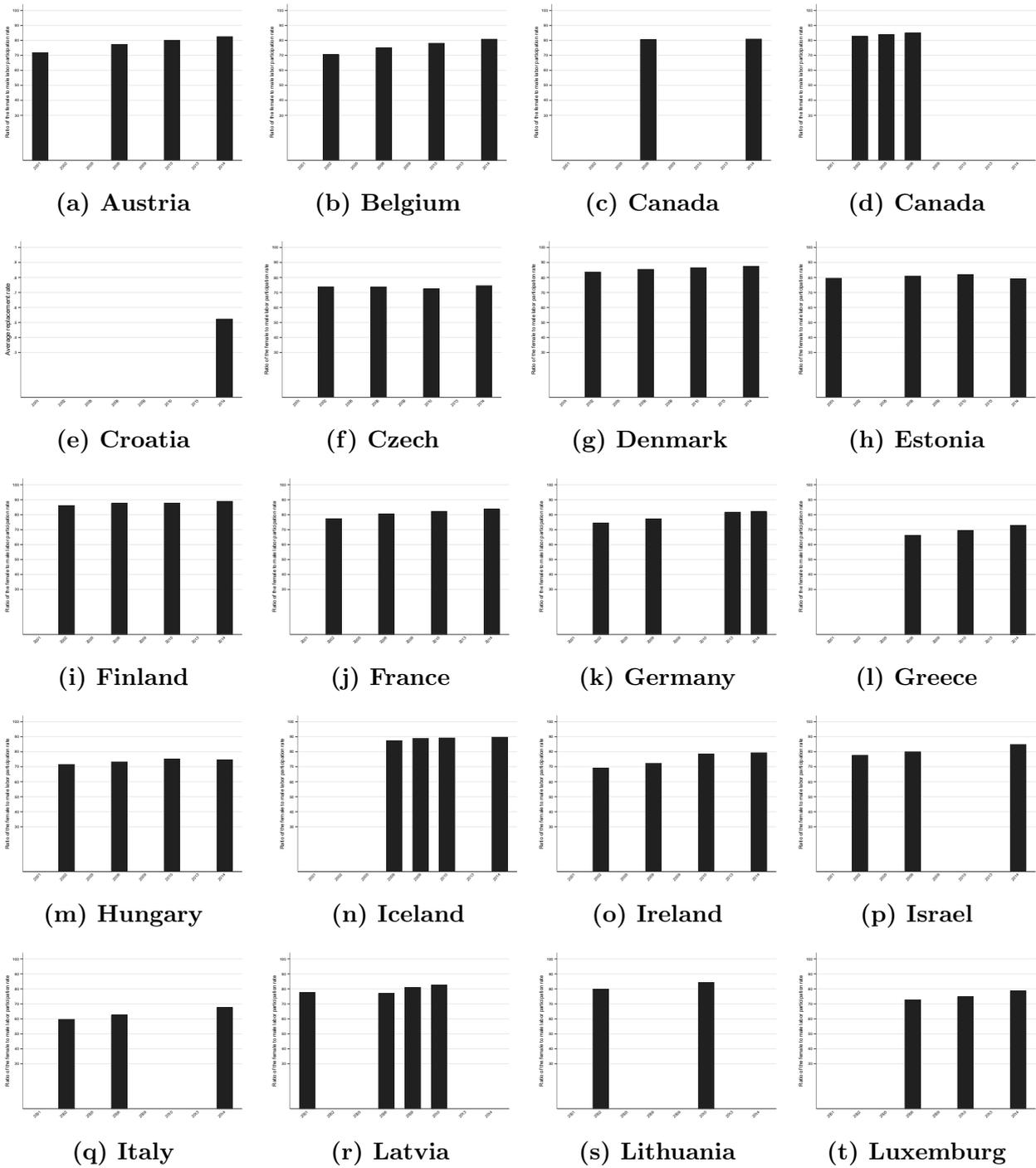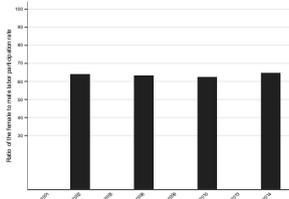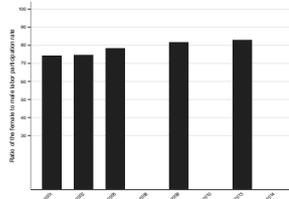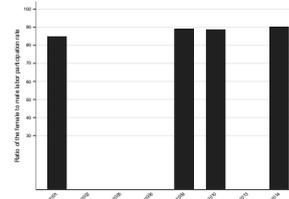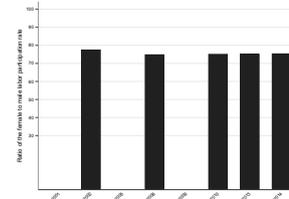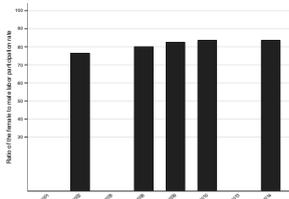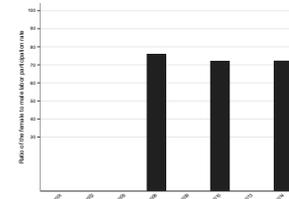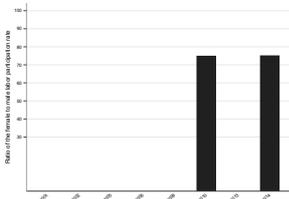
(a) Austria

(b) Belgium

(c) Canada

(d) Canada

(e) Croatia

(f) Czech

(g) Denmark

(h) Estonia

(i) Finland

(j) France

(k) Germany

(l) Greece

(m) Hungary

(n) Iceland

(o) Ireland

(p) Israel

(q) Italy

(r) Latvia

(s) Lithuania

(t) Luxemburg

9

(u) Macedonia **(v) Netherlands** **(w) Norway** **(x) Poland**

(y) Portugal **(z) Romania** **(aa) Slovakia** **(ab) Slovenia**
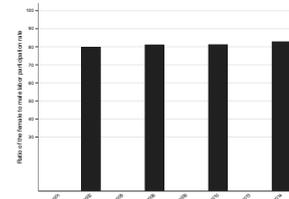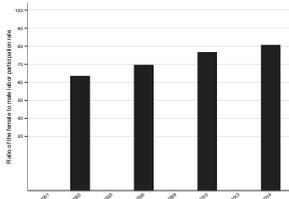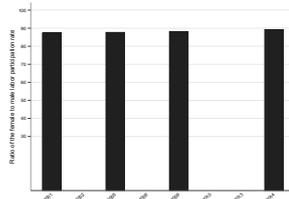
(ac) Spain **(ad) Sweden** **(ae) Switzerland** **(af) Turkey**
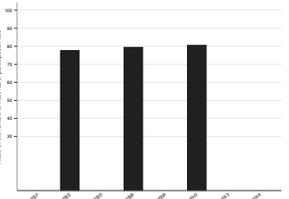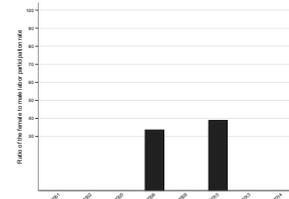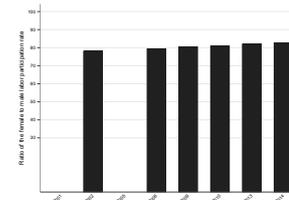
(ag) UK **(ah) US**
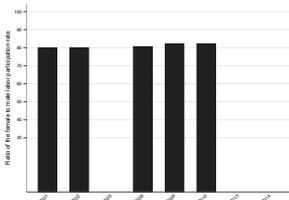
Note: The figure shows the ratio of the female-to-male labor force participation rate by survey year and country. At a ratio of 100, equally many women participate in the labor market as men.

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Figure A6: Injunctive work norms by country
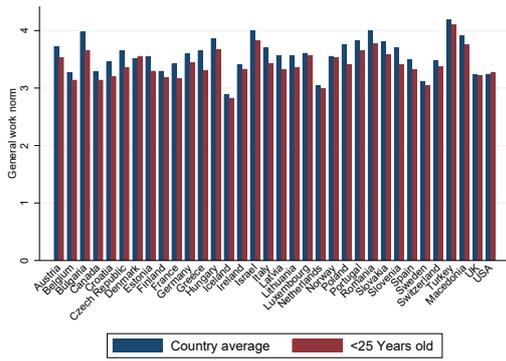
(a) General work norm
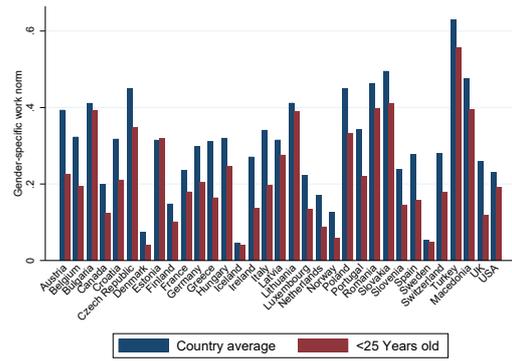
(b) Gender-specific norm

Note: Panel A6a shows the general injunctive work norm by country. This measure is derived by combining and averaging over the five following statements from the World Value Survey: (1) *"To fully develop your talents, you need to have a job."*, (2) *"It is humiliating to receive money without working for it."*, (3) *"People who don't work become lazy."*, (4) *"Work is a duty towards society."* and (5) *"Work should always come first, even if it means less free time."*. The blue bars represent the country average over all age groups, the red bar represent country averages of individuals under the age of 25. Panel A6b shows the gender-specific work norm by country. It captures the fraction of the population agreeing with the statement *"When jobs are scarce, men should have more right to work than women."* The blue bars represent the country average over all age groups, the red bar represent country averages of individuals under the age of 25.

B Additional Results

B.1 Summary statistics

Table B1: Summary statistics

	All		Employed parents		Unemployed parents[a]			
	Mean	Std. dev	Mean	Std. dev	Mean	Std. dev	Diff	P-Value
Life satisfaction	7.65	1.85	7.67	1.84	7.38	2.04	-0.30	0.000
Female	0.52	0.50	0.51	0.50	0.54	0.50	0.02	0.000
Age	13.65	1.68	13.66	1.68	13.64	1.68	-0.01	0.181
Living with siblings	0.73	0.45	0.73	0.44	0.70	0.46	-0.03	0.000
Only Child	0.13	0.33	0.12	0.33	0.15	0.35	0.02	0.003
Living with both parents	0.81	0.40	0.81	0.39	0.77	0.42	-0.03	0.000
Living with mother	0.17	0.38	0.17	0.38	0.20	0.40	0.03	0.000
Living with father	0.02	0.15	0.02	0.15	0.03	0.16	0.01	0.000
Parental employment status								
Mother employed	0.82	0.39	0.86	0.35	0.25	0.44	-0.60	0.000
Mother homeworking	0.13	0.34	0.13	0.34	0.08	0.27	-0.06	0.000
Mother unemployed	0.04	0.20	-	-	0.66	0.47	0.66	0.000
No contact with mother	0.01	0.08	0.01	0.08	0.01	0.07	0.00	0.004
Father employed	0.91	0.28	0.94	0.23	0.52	0.50	-0.42	0.000
Father homeworking	0.01	0.09	0.01	0.09	0.00	0.07	0.00	0.000
Father unemployed	0.03	0.16	-	-	0.42	0.49	0.42	0.000
No contact with father	0.05	0.22	0.05	0.22	0.05	0.23	0.00	0.000
Proxies family wealth								
No car	0.08	0.27	0.07	0.26	0.20	0.40	0.13	0.000
One car	0.39	0.49	0.39	0.49	0.47	0.50	0.08	0.000
Two or more cars	0.51	0.50	0.52	0.50	0.31	0.46	-0.21	0.000
No Own bedroom	0.21	0.40	0.20	0.40	0.31	0.46	0.12	0.000
Own bedroom	0.77	0.42	0.78	0.41	0.66	0.47	-0.12	0.000
Proxies for current income								
Not at all well off	0.01	0.10	0.01	0.09	0.03	0.16	0.02	0.000
Not very well off	0.05	0.22	0.05	0.21	0.12	0.33	0.08	0.000
Average	0.39	0.49	0.38	0.49	0.44	0.50	0.06	0.000
Quite well off	0.35	0.48	0.36	0.48	0.27	0.44	-0.09	0.000
Very well off	0.18	0.39	0.19	0.39	0.13	0.33	-0.06	0.000
No holiday/year	0.18	0.39	0.17	0.38	0.29	0.45	0.12	0.000
One holiday/year	0.29	0.45	0.29	0.45	0.29	0.45	0.00	0.913
Two holidays/year	0.23	0.42	0.23	0.42	0.18	0.38	-0.05	0.000
More than two holidays/year	0.28	0.45	0.29	0.45	0.22	0.41	-0.07	0.000
N	492,290		459,554 (93.35%)		32,736 (6.65%)			

Note: a: At least one parent unemployed

B.2 Individual-level covariates

Table B2: Parental unemployment and child well-being - further covariates

Dependent variable:	Life Satisfaction					
	(1)	(2)	(3)	(4)	(5)	(6)
Girl	0.050**	0.058***	0.065***	0.051**	0.058***	0.065***
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.021)
			Reference category: Age 11 and younger			
12	-0.037*	-0.039**	-0.027	-0.037*	-0.039**	-0.027
	(0.019)	(0.018)	(0.018)	(0.019)	(0.018)	(0.018)
13	-0.326***	-0.338***	-0.267***	-0.325***	-0.337***	-0.267***
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
14	-0.383***	-0.400***	-0.311***	-0.382***	-0.399***	-0.310***
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
15	-0.611***	-0.631***	-0.470***	-0.609***	-0.629***	-0.470***
	(0.028)	(0.028)	(0.030)	(0.028)	(0.028)	(0.030)
16 or older	-0.633***	-0.657***	-0.479***	-0.631***	-0.655***	-0.479***
	(0.030)	(0.030)	(0.030)	(0.030)	(0.030)	(0.031)
			Reference category: Girl x 11			
Girl × 12	-0.040*	-0.038*	-0.036	-0.039*	-0.037	-0.035
	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
Girl × 13	-0.249***	-0.247***	-0.212***	-0.248***	-0.247***	-0.212***
	(0.026)	(0.026)	(0.027)	(0.026)	(0.026)	(0.027)
Girl × 14	-0.309***	-0.304***	-0.267***	-0.307***	-0.303***	-0.267***
	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Girl × 15	-0.426***	-0.423***	-0.369***	-0.423***	-0.421***	-0.368***
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
Girl × 16 or older	-0.405***	-0.401***	-0.361***	-0.403***	-0.400***	-0.360***
	(0.025)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
			Reference Category: Living with siblings			
Only Child	0.092***	0.063***	0.047***	0.096***	0.067***	0.051***
	(0.012)	(0.011)	(0.011)	(0.012)	(0.011)	(0.011)
			Reference category: Living with both parents			
Living with mother only	-0.458***	-0.416***	-0.296***	-0.402***	-0.377***	-0.269***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.012)
Living with father only	-0.624***	-0.601***	-0.517***	-0.551***	-0.537***	-0.461***
	(0.025)	(0.025)	(0.023)	(0.028)	(0.028)	(0.025)
Further parental working statuses						
			Reference category: Working			
Mother homeworking				0.008	0.043***	0.051***
				(0.011)	(0.010)	(0.010)
Mother unemployed				-0.219***	-0.166***	-0.054***
				(0.018)	(0.018)	(0.016)
No contact with mother				-0.248***	-0.215***	-0.188***
				(0.051)	(0.050)	(0.052)
Father homeworking				-0.248***	-0.176***	-0.074**
				(0.037)	(0.036)	(0.036)
Father unemployed				-0.384***	-0.307***	-0.104***
				(0.028)	(0.024)	(0.022)
No contact with father				-0.201***	-0.140***	-0.091***
				(0.019)	(0.019)	(0.018)
Both parents unemployed				0.157***	0.163***	0.086*
				(0.058)	(0.058)	(0.051)
Parental unemployment	✓	✓	✓			
Paternal unemployment				✓	✓	✓
Maternal unemployment				✓	✓	✓
Country-Year FE	✓	✓	✓	✓	✓	✓
Observations	492,290	492,290	492,290	492,290	492,290	492,290
R-squared	0.071	0.076	0.134	0.072	0.077	0.134

Note: The table displays the OLS-coefficients of the individual level covariates from Table 2. Standard errors are two-way clustered by country and survey year and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

B.3 Differential effects of paternal and maternal unemployment on child well-being

Figure B1: Paternal and maternal unemployment and child well-being across countries

(a) Austria

(b) Belgium

(c) Canada

(d) Canada

(e) Croatia

(f) Czech

(g) Denmark

(h) Estonia

(i) Finland

(j) France

(k) Germany

(l) Greece

(m) Hungary

(n) Iceland

(o) Ireland

(p) Israel

(q) Italy

(r) Latvia

(s) Lithuania

(t) Luxemburg

(u) Macedonia   **(v) Netherlands**   **(w) Norway**   **(x) Poland**

(y) Portugal   **(z) Romania**   **(aa) Slovakia**   **(ab) Slovenia**

(ac) Spain   **(ad) Sweden**   **(ae) Switzerland**   **(af) Turkey**

(ag) UK   **(ah) US**
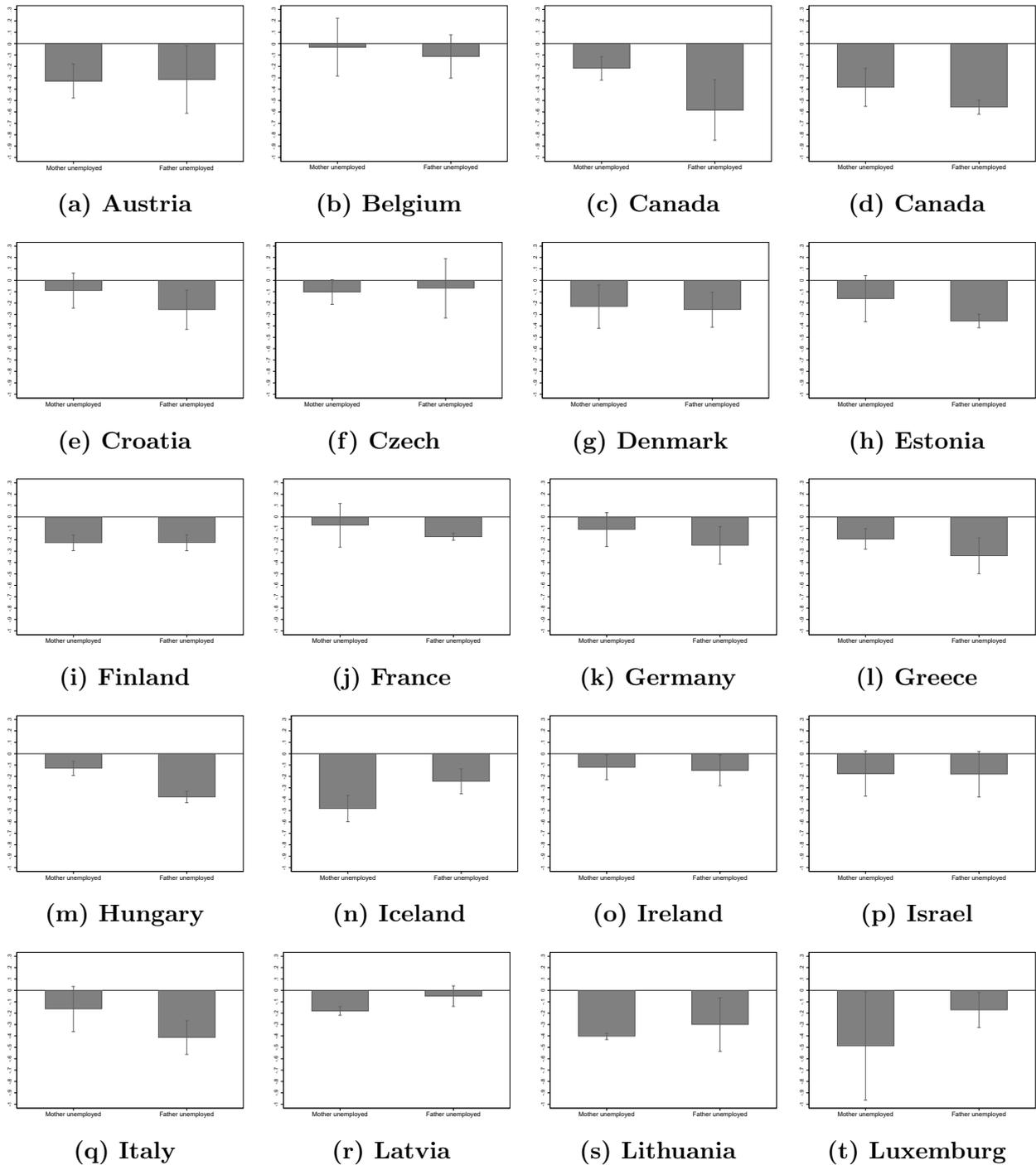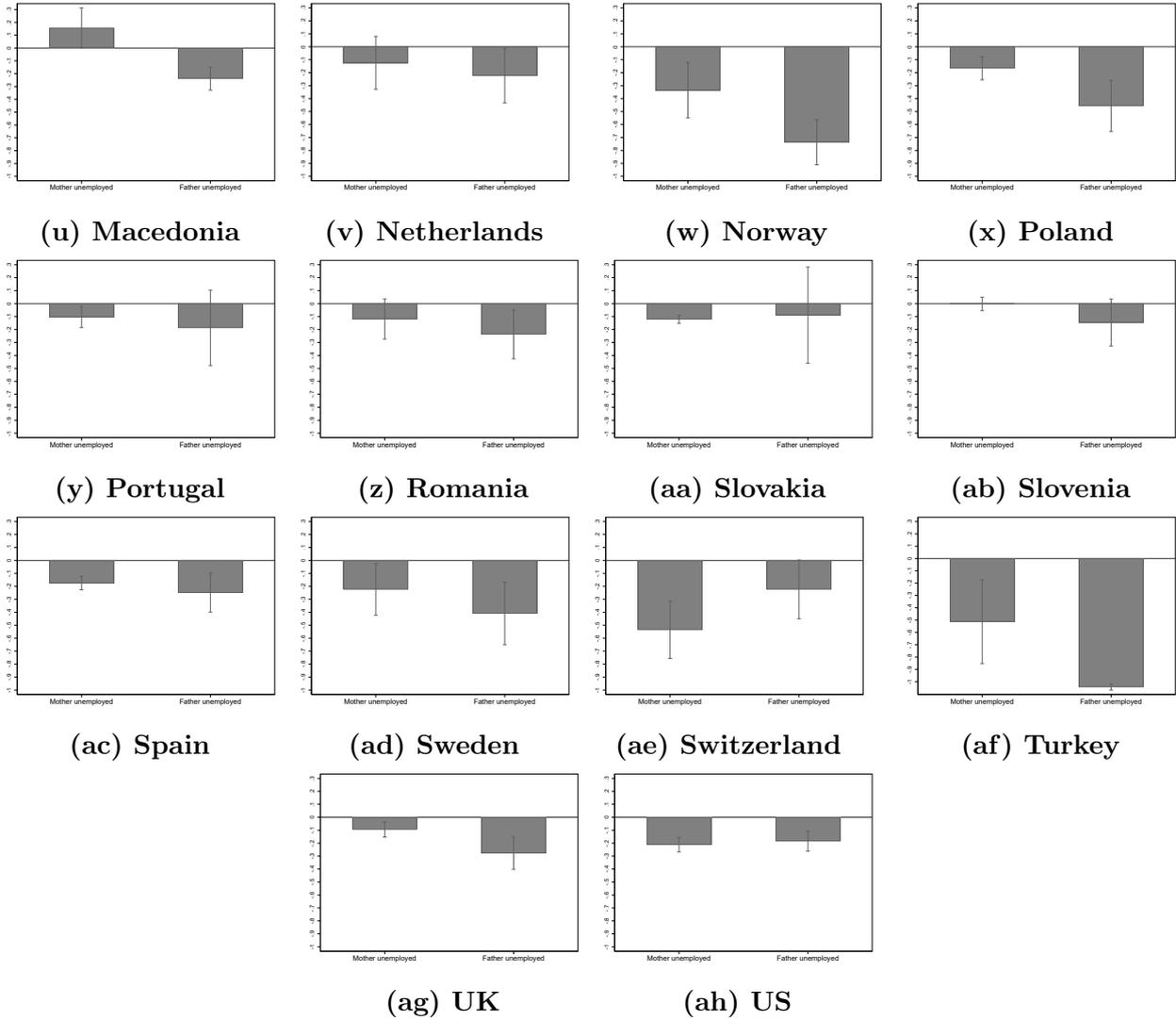
Note: The figures indicates the average difference in life satisfaction between children with working parents and children with either mother or father unemployed, including 95% confidence intervals, by country. The coefficient estimates are based on from OLS regression as in column 5 in Table 2 that interacts maternal and paternal unemployment with the country dummies.

B.4 Individual-level heterogeneity

Table B3: Parental unemployment and child well-being by gender

Dependent variable:	Life Satisfaction			
	(1)	(2)	(3)	(4)
At least one parent unemployed	-0.211***	-0.065***		
	(0.019)	(0.017)		
Mother unemployed			-0.160***	-0.051**
			(0.022)	(0.021)
Father unemployed			-0.297***	-0.100***
			(0.032)	(0.030)
At least one parent unemployed × Girl	-0.021	-0.014		
	(0.022)	(0.022)		
Mother unemployed × Girl			-0.008	-0.002
			(0.027)	(0.027)
Father unemployed × Girl			-0.018	-0.008
			(0.040)	(0.039)
Individual Controls	✓	✓	✓	✓
Country-Year FE	✓	✓	✓	✓
Observations	492290	492290	492290	492290
R-squared	0.074	0.132	0.075	0.133

Note: The table shows heterogeneity in the relationship between parental unemployment (columns 1 & 2), respectively maternal and paternal unemployment (columns 3 & 4), and child life satisfaction by gender using OLS. Standard errors are two-way clustered by country and survey year and displayed in parentheses. Further individual controls include age, only child and family status. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B4: Parental unemployment and child well-being by age

Dependent variable:	Life Satisfaction			
	(1)	(2)	(3)	(4)
At least one parent unemployed	-0.136***	-0.045		
	(0.037)	(0.036)		
Mother unemployed			-0.099**	-0.023
			(0.044)	(0.043)
Father unemployed			-0.215***	-0.092
			(0.062)	(0.055)
12	-0.063***	-0.051***	-0.063***	-0.053***
	(0.016)	(0.016)	(0.017)	(0.016)
13	-0.464***	-0.378***	-0.462***	-0.376***
	(0.021)	(0.022)	(0.022)	(0.022)
14	-0.554***	-0.449***	-0.545***	-0.443***
	(0.023)	(0.024)	(0.023)	(0.024)
15	-0.842***	-0.659***	-0.826***	-0.648***
	(0.028)	(0.030)	(0.028)	(0.030)
16 or older	-0.851***	-0.659***	-0.829***	-0.642***
	(0.030)	(0.032)	(0.030)	(0.031)
At least one parent unemployed × 12	0.017	0.045		
	(0.046)	(0.042)		
At least one parent unemployed × 13	-0.055	-0.004		
	(0.048)	(0.048)		
At least one parent unemployed × 14	-0.081*	-0.015		
	(0.044)	(0.043)		
At least one parent unemployed × 15	-0.161***	-0.075		
	(0.052)	(0.053)		
At least one parent unemployed × 16 or older	-0.221***	-0.113**		
	(0.048)	(0.048)		
Mother unemployed × 12			0.045	0.050
			(0.057)	(0.052)
Mother unemployed × 13			-0.061	-0.026
			(0.057)	(0.056)
Mother unemployed × 14			-0.066	-0.024
			(0.056)	(0.054)
Mother unemployed × 15			-0.148**	-0.086
			(0.058)	(0.057)
Mother unemployed × 16 or older			-0.177***	-0.107*
			(0.059)	(0.059)
Father unemployed × 12			-0.023	0.032
			(0.075)	(0.067)
Father unemployed × 13			0.035	0.088
			(0.080)	(0.075)
Father unemployed × 14			-0.080	-0.000
			(0.068)	(0.065)
Father unemployed × 15			-0.145	-0.041
			(0.089)	(0.087)
Father unemployed × 16 or older			-0.250***	-0.109
			(0.078)	(0.072)
Individual Controls	✓	✓	✓	✓
Country-Year FE	✓	✓	✓	✓
Observations	492290	492290	492290	492290
R-squared	0.075	0.133	0.075	0.133

Note: The table shows heterogeneity in the relationship between parental unemployment (columns 1 & 2), respectively maternal and paternal unemployment (columns 3 & 4), and child life satisfaction by age using OLS. Standard errors are two-way clustered by country and survey year and displayed in parentheses. Further individual controls include age, only child and family status. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

C Additional Robustness Checks

Table C1: Parental unemployment, unemployment benefits and child well-being - Sensitivity analysis

Dependent variable:	Life Satisfaction											
	w/o AUT	w/o BEL	w/o BGR	w/o CAN	w/o CRO	w/o CZE	w/o DNK	w/o EST	w/o FIN	w/o FRA	w/o DEU	w/o GRC
Mother unemployed	-0.172***	-0.183***	-0.173***	-0.173***	-0.177***	-0.179***	-0.174***	-0.178***	-0.172***	-0.182***	-0.176***	-0.175***
	(0.020)	(0.018)	(0.019)	(0.019)	(0.019)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Father unemployed	-0.304***	-0.315***	-0.300***	-0.303***	-0.308***	-0.312***	-0.303***	-0.307***	-0.304***	-0.304***	-0.300***	-0.310***
	(0.025)	(0.025)	(0.024)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.026)	(0.026)	(0.024)	(0.025)
Unempl. benefits	-0.009	0.011	-0.012	-0.012	-0.012	-0.034	-0.012	-0.016	-0.009	-0.010	-0.012	0.008
	(0.048)	(0.047)	(0.047)	(0.047)	(0.047)	(0.061)	(0.047)	(0.048)	(0.048)	(0.048)	(0.048)	(0.047)
Mother unemployed × Unempl. benefits	-0.027	-0.033*	-0.029	-0.028	-0.027	-0.032	-0.027	-0.028	-0.026	-0.035*	-0.031	-0.031
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.020)	(0.019)	(0.019)	(0.019)	(0.020)	(0.020)
Father unemployed × Unempl. benefits	0.085***	0.081**	0.086***	0.086***	0.086***	0.087***	0.089***	0.084**	0.086**	0.085**	0.091***	0.085**
	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.033)	(0.032)	(0.033)	(0.033)	(0.032)	(0.033)
Unempl. rate	0.014	0.012	0.017	0.017	0.017	0.016	0.017	0.024	0.010	0.017	0.023	0.031
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.026)	(0.027)	(0.029)	(0.027)	(0.027)	(0.029)	(0.030)
Individual Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Proxies Family Wealth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Proxies for Current Income	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	427,877	417,808	437,467	431,909	436,785	423,488	429,410	429,114	421,728	417,804	424,937	429,760
R-squared	0.071	0.072	0.071	0.072	0.071	0.072	0.072	0.071	0.071	0.072	0.072	0.070

Note: The table displays the results of the OLS regression interacting paternal, respectively maternal, unemployment with the generosity of unemployment benefits as in Table 3, excluding observations from one country at a time. Standard errors (two-way clustered by country and wave) are displayed in parentheses. AUT: Austria; BEL: Belgium; BGR: Bulgaria; CAN: Canada; CRO: Croatia; CZE: Czech Republic; DNK: Denmark; EST: Estonia; FIN: Finland; FRA: France; DEU: Germany; GRC: Greece; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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Table C1: Parental unemployment, unemployment benefits and child well-being - Sensitivity analysis - contd.

Dependent variable:	w/o HUN	w/o ISL	w/o IRL	w/o ISR	w/o ITA	w/o LVA	w/o LTU	w/o LUX	w/o NLD	w/o NOR	w/o POL
					Life Satisfaction						
Mother unemployed	-0.175***	-0.172***	-0.175***	-0.181***	-0.174***	-0.174***	-0.173***	-0.172***	-0.176***	-0.174***	-0.172***
	(0.020)	(0.019)	(0.020)	(0.019)	(0.019)	(0.019)	(0.020)	(0.019)	(0.020)	(0.019)	(0.020)
Father unemployed	-0.304***	-0.306***	-0.313***	-0.310***	-0.305***	-0.313***	-0.312***	-0.307***	-0.306***	-0.302***	-0.299***
	(0.026)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Unempl. benefits	0.014	-0.024	-0.013	-0.012	-0.014	-0.002	-0.012	-0.014	-0.027	-0.019	-0.010
	(0.049)	(0.049)	(0.047)	(0.047)	(0.049)	(0.048)	(0.047)	(0.048)	(0.048)	(0.047)	(0.048)
Mother unemployed × Unempl. benefits	-0.030	-0.028	-0.029	-0.026	-0.032*	-0.029	-0.026	-0.022	-0.030	-0.027	-0.033*
	(0.020)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.018)	(0.019)	(0.019)	(0.019)
Father unemployed × Unempl. benefits	0.081**	0.084**	0.088***	0.086***	0.082**	0.089***	0.078**	0.085**	0.085**	0.090***	0.076**
	(0.035)	(0.032)	(0.032)	(0.032)	(0.033)	(0.032)	(0.033)	(0.033)	(0.032)	(0.032)	(0.033)
Unempl. rate	0.020	0.013	0.019	0.017	0.018	0.005	0.017	0.019	0.021	0.024	0.001
	(0.027)	(0.026)	(0.028)	(0.027)	(0.027)	(0.026)	(0.027)	(0.027)	(0.027)	(0.027)	(0.028)
Individual Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Proxies Family Wealth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Proxies for Current Income	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	426,986	415,815	427,500	436,804	430,095	433,538	436,375	431,164	427,907	430,502	425,258
R-squared	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.071	0.070	0.071	0.070

Note: The table displays the results of the OLS regression interacting paternal, respectively maternal, unemployment with the generosity of unemployment benefits as in Table 3, excluding observations from one country at a time. Standard errors (two-way clustered by country and wave) are displayed in parentheses. HUN: Hungary; ISL: Iceland; IRL: Ireland; ISR: Israel; ITA: Italy; LVA: Latvia; LTU: Lithuania; LUX: Luxemburg; NLD: Netherlands; NOR: Norway; POL: Poland; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

(continued on next page)

Table C1: Parental unemployment, unemployment benefits and child well-being - Sensitivity analysis - contd.

Dependent variable:	Life Satisfaction									
	w/o PRT	w/o ROU	w/o SVK	w/o SVN	w/o ESP	w/o SWE	w/o CHE	w/o TUR	w/o GBR	w/o USA
Mother unemployed	-0.181***	-0.177***	-0.177***	-0.183***	-0.173***	-0.172***	-0.170***	-0.175***	-0.176***	-0.174***
	(0.020)	(0.020)	(0.020)	(0.020)	(0.021)	(0.020)	(0.019)	(0.019)	(0.020)	(0.020)
Father unemployed	-0.309***	-0.309***	-0.311***	-0.311***	-0.303***	-0.301***	-0.306***	-0.294***	-0.316***	-0.312***
	(0.025)	(0.026)	(0.025)	(0.025)	(0.026)	(0.025)	(0.025)	(0.024)	(0.027)	(0.025)
Unempl. benefits	-0.011	-0.001	-0.011	-0.012	-0.011	-0.036	-0.011	-0.009	-0.046	-0.010
	(0.047)	(0.046)	(0.047)	(0.047)	(0.047)	(0.051)	(0.047)	(0.047)	(0.044)	(0.049)
Mother unemployed × Unempl. benefits	-0.037*	-0.028	-0.028	-0.035*	-0.030	-0.032*	-0.019	-0.033*	-0.027	-0.030
	(0.020)	(0.019)	(0.019)	(0.019)	(0.020)	(0.019)	(0.019)	(0.019)	(0.021)	(0.019)
Father unemployed × Unempl. Benefits	0.083**	0.089***	0.087***	0.081**	0.085**	0.085***	0.086**	0.047*	0.099***	0.087***
	(0.033)	(0.032)	(0.032)	(0.032)	(0.033)	(0.032)	(0.034)	(0.027)	(0.036)	(0.032)
Unempl. Rate	0.016	0.017	0.017	0.017	0.014	0.018	0.016	0.016	0.024	0.017
	(0.027)	(0.027)	(0.027)	(0.026)	(0.026)	(0.027)	(0.027)	(0.027)	(0.026)	(0.027)
Individual Controls	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Proxies Family Wealth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Proxies for Current Income	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	430,800	434,296	433,856	427,295	414,810	422,676	426,366	434,746	394,358	428,910
R-squared	0.071	0.071	0.071	0.072	0.069	0.070	0.071	0.068	0.072	0.072

Note: The table displays the results of the OLS regression interacting paternal, respectively maternal, unemployment with the generosity of unemployment benefits as in Table 3, excluding observations from one country at a time. Standard errors (two-way clustered by country and wave) are displayed in parentheses. PRT: Portugal; ROU: Romania; SVK: Slovakia; SVN: Slovenia; ESP: Spain; SWE: Sweden; CHE: Switzerland; TUR: Turkey; GBR: Great Britain; USA :United States of America. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table C2: Parental unemployment, injunctive work norms of the younger generation and child well-being

Dependent Variable:	Life Satisfaction			
	(1)	(2)	(3)	(4)
Mother unemployed	-0.182***	-0.065***	-0.181***	-0.065***
	(0.019)	(0.018)	(0.019)	(0.019)
Father unemployed	-0.309***	-0.110***	-0.307***	-0.110***
	(0.024)	(0.023)	(0.024)	(0.023)
Unempl. benefits	-0.012	-0.002	-0.013	-0.003
	(0.047)	(0.056)	(0.047)	(0.056)
Mother unemployed × Unempl. benefits	-0.026	-0.018	-0.024	-0.017
	(0.019)	(0.018)	(0.020)	(0.019)
Father unemployed × Unempl. benefits	0.070***	0.053**	0.074**	0.061**
	(0.026)	(0.024)	(0.029)	(0.025)
Unempl. rate	0.017	0.066***	0.018	0.066***
	(0.027)	(0.025)	(0.027)	(0.025)
Mother unemployed × Work norm (<25)	-0.014	-0.012		
	(0.026)	(0.024)		
Father unemployed × Work norm (<25)	-0.084***	-0.060***		
	(0.031)	(0.022)		
Mother unemployed × Gender work norm (<25)			0.010	0.006
			(0.018)	(0.017)
Father unemployed × Gender work norm (<25)			-0.035	-0.011
			(0.037)	(0.028)
Individual controls	✓	✓	✓	✓
Proxies family wealth	✓	✓	✓	✓
Proxies for current income		✓		✓
Country FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Observations	436,804	436,804	436,804	436,804
R-squared	0.071	0.126	0.071	0.126

Note: The table shows the estimated effects of maternal, respectively paternal, unemployment and their interaction with the general work norm of individuals younger than 25 years old (columns 1-2) and the gender-specific work norm of individuals younger than 25 years old (columns 3-4) on child well-being using OLS, meanwhile controlling for the interaction between maternal/paternal unemployment and the average replacement rate. Standard errors are two-way clustered by country and survey year and displayed in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$