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Does Transition to Retirement Promote Grandchild Care?

Results from the Survey of Health, Ageing and Retirement in Europe

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Abstract: Grandparental child care is an important form of intergenerational support. This article explored first time whether the transition to retirement affects the amount of grandchild care that European grandparents provide to their descendants. The association between entry into retirement and grandchild care was studied using the longitudinal Survey of Health, Ageing and Retirement in Europe conducted in 16 countries and four regimes: Southern Europe, Central Europe, Northern Europe, and Eastern Europe. Data collected in five waves between 2004 and 2015 were utilized. We ran panel fixed-effect regression models, which consider individual's variation and person-specific changes over time, providing a test for causality in the associations between retirement and grandchild care. Transition to retirement was associated with increased grandchild care among both grandmothers and grandfathers. Grandmothers more often looked after grandchildren than grandfathers, but entry into retirement increased grandchild care more among grandfathers than grandmothers. Transition to retirement was associated with increased grandchild care in all parts of Europe, but the magnitude of the effect was strongest in Southern Europe, followed by Northern Europe, Central Europe, and Eastern Europe, respectively. This study indicated that when the role conflict as grandchild caregivers and employees disappears, the amount of grandchild care older Europeans provide to their descendants increased. The fact that at retirement older adults have more time resources to provide informal family support should be carefully acknowledge in policymaking and discussions considering the societal role of older people.

Keywords: Europe, grandparenting, intergenerational relations, retirement, SHARE

Introduction

Transition to retirement is one of the most important life course events experienced by older adults. Although retiring may be a positive and desired event from an individual's perspective, in public debate retirement has a somewhat negative image. Retirees are often considered as a social and/or economic burden to society, for instance, in recent discussions about raising the average retirement ages in Europe (European Commission, 2010). Although retirement is regularly perceived as a passive and unproductive phase of life, an increasing number of studies have shown that retired citizens can be socially active and retirement may even promote social support provided to others (Van den Bogaard, Henkens, & Kalmijn, 2014; Fischer & Müller, 2020). As European individuals are ageing rapidly and proportion of retirees is growing, it is important to comprehensively understand not just the economical but also the social effects of retirement.

In this article we consider whether transition from employment to retirement is associated with changes in the frequency of child care that European grandparents provide to their adult children's families. This question has not been explored previously with longitudinal and cross-country European data. As joint roles as grandchild caregivers and employees could be challenging for older adults due to the time conflict between these tasks, we hypothesized that the amount of grandparental child care would increase when grandparents retired because after retirement grandparents' time resources may increase substantially. Moreover, there are differences on the gender roles as one can expect that, although grandmothers tend to provide more childcare than grandfathers (e.g., Danielsbacka et al., 2011), the magnitude of retirement effect might be stronger among grandfathers than grandmothers due to divergent roles in the labor market, i.e., men tend to have more permanent positions and full-time jobs than women,

on average (OECD, 2018). We also explored the associations in different country groups, because the amount of grandparental child care has been shown to vary substantially across different European regimes (Di Gessa et al., 2016; Hank & Buber, 2009).

Grandparents' Employment Status and Grandchild Care

Grandchild care is an investment of time, care, and resources in grandchildren. According to the model of need and opportunity structures, intergenerational transfers are shaped by the recipients' need for support and givers' opportunity to provide help (Szydlik, 2016). While parents with young children tend to have need for child care help, the opportunities of older adults to provide grandchild care is often highly dependent on their labour force status (Lakomy & Kreidl, 2015). Based on the role strain theory, multiple social roles can be a source of a role conflict because one may not have enough resources, such as time, to fulfil responsibilities related to all of them (Goode, 1960). If older adults have demanding obligations, which exceed their reserves of strength and physical capacity, they are forced to choose in which social activity they will engage (Quach, 2020). Because, it could be challenging to combine roles as employees and grandchild caregivers, a role conflict may exist between these tasks. Thus, one may predict that the amount of grandchild care will increase when grandparents retire because after retirement they do not have to fulfil the demands of the employee's role anymore and they usually have more time resources for grandparenting.

Most prior studies on the association between grandparents' employment status and provision of grandchild care mostly used cross-sectional data and have shown that employed grandparents tend to provide less child care to their grandchildren compared to those grandparents out of the labor market (i.e., retired, unemployed, permanently sick etc.) (Aassve,

Meroni & Pronzato, 2012; Danielsbacka & Tanskanen, 2012; Zamarro, 2020) and retired grandparents provide more child care help than grandparents who are not retired (Di Gessa et al., 2016; Wilińska et al., 2019; Zelezná, 2018).

A pioneering study in the field used longitudinal data from 13 European countries and showed that grandparents' transition from full-time employment to unemployment or "out of the labor force" increased the frequency of provided grandparental child care within a grandparent over time (Lakomy & Kreidl, 2015). However, a crucial limitation of this investigation was that retired grandparents were not separated from other grandparents who were "out of the labor force" and thus it was unable to capture the "pure" effect of retirement on the provision of grandchild care. To date, only one study has tried to estimate whether entry into retirement is causally associated with the provision of grandchild care (Feng & Zhang, 2018). The authors were using a regression discontinuity framework and found a significant increase in the provided grandchild care after the transition to retirement in urban China among both grandmothers and grandfathers. However, it is not clear whether similar results can be found from Western countries and our study focuses on European grandparents.

Overall, grandchild care varies substantially across Europe. Intensive grandchild care is most common in Southern Europe and least common in Northern Europe whereas Eastern and Central Europe are positioned between those two regimes (Danielsbacka, Tanskanen, Jokela, & Rotkirch, 2011; Hank & Buber, 2009). Country-level variation in intensive grandparental child care is mostly due to differences in female labor market participation and the extent of formal child care provision in a given country (Di Gessa et al., 2016). In countries with limited provision of formal child care and where females are not expected to participate in paid employment, intensive child care help by grandparents is more likely than in countries

with intensive formal child care services and where a larger number of women participate in paid work. Moreover, one of the most common findings in studies on grandparental child care is that grandmothers provide more support than grandfathers (e.g., Di Gessa et al., 2016; Hank & Buber, 2009). Due to these gender and country-based differences, the transition to retirement may have different effects on grandparental child care between grandmothers and grandfathers and across European country regimes.

Design and Methods

Data and Study Sample

We used longitudinal European data drawn from the Survey of Health, Ageing and Retirement in Europe (SHARE) of people aged 50 or older who speak the official language of their country and who did not live abroad or in an institution during the fieldwork period. Computer-assisted personal interviews constituted the SHARE data collection. The sample included respondents from the first to the sixth wave of the SHARE conducted between 2004 and 2015 across 16 European countries (excluding the third wave, which entailed retrospective life history data collection, SHARELIFE). To examine potential cultural differences, the countries were classified as groups (Danielsbacka et al., 2011; Di Gessa et al., 2016), and were used instead of specific countries to avoid any loss of statistical power. The country groups were Southern Europe (Spain, Italy, Greece, and Portugal), Central Europe (Austria, Germany, France, Belgium, Switzerland), Northern Europe (Denmark, the Netherlands, Sweden) and Eastern Europe (the Czech Republic, Poland, Slovenia, and Estonia). Nine countries (Austria, Germany, Sweden, Spain, Italy, France, Denmark, Switzerland, and Belgium) participated in all five waves investigated here; two countries (Czech Republic and the Netherlands)

participated in four waves; four countries (Greece, Poland, Estonia, and Slovenia) participated in three waves; and Portugal in two waves (see Börsch-Supan et al., 2013 for methodological details of SHARE).

In performing the analyses, we selected participants with at least one grandchild and who had available data concerning all variables studied. Participants who were 80 years old or older were excluded from the sample because they are rarely working anymore and thus cannot experience the transition to retirement. Moreover, respondents who were already retired, unemployed, permanently sick, homemakers, or in other ways outside paid employment, were excluded from the study sample because they cannot undergo the changeover from employment to retirement between survey waves. Only respondents who had participated in at least two survey waves are included in the models. The final study sample consisted of 50- to 79-year-old respondents across five SHARE waves and over the 11-year follow-up period between 2004 and 2015, leaving us with the data of 46,459 person observations from 18,225 unique persons.

Measures

Grandchild care. Grandchild care was the dependent variable in the present study. SHARE respondents who had at least one grandchild were asked to report whether they had looked after their grandchildren without the presence of the grandchildren's parents during the time interval since the last interview (in follow-up waves) or during the past twelve months (in the wave a participant entry in the SHARE), and if they had, how often (ranging from 1=almost daily to 4=less than monthly). We calculated the mean grandchild care variable by summing up and averaging the answers for all adult children who are parents themselves, producing a

scale from 0 = no care (45% of all person observations), 1 = less than monthly (15%), 2 = almost every month (14%), 3 = almost every week (18%), to 4 = almost daily (8%). For instance, if a grandparent had grandchildren via four children and he/she looked after the first and second child's children almost every month and third and fourth child's children almost daily, the mean child care was thus almost every week: $(2 + 2 + 4 + 4) / 4 = 3$.

Retirement. The employment status of respondents was our main independent variable, and we selected only those older adults whose status was employed or self-employed (0 = working) and retired (1 = retired). Totally, less than 1% of the respondents reported a transition from "retirement" back to "working," and they were subsequently excluded from the sample, because our main goal is to investigate the effect of transition from employment to retirement. Finally, 5% of participants who had retired as a result of illness were excluded from the sample.

Covariates. To achieve more robust results, several time-varying factors were controlled for in the analyses. These covariates included respondent age at interview, partnership status, self-rated health (ranging from 1 = poor to 5 = excellent), difficulties with basic activities of daily living (ADL limitations) (ranging from 0 to 23, where a higher number indicates a higher number of limitations), number of children, number of grandchildren and lineage (whether grandparents had grandchildren via daughters only, via both daughters and sons, or via sons only). To avoid a drop in the number of observations, the age of the youngest grandchildren and geographical distance between grandparents and adult children were not controlled for in the basic analyses because the SHARE only collected this information systematically with regard to the respondents' four oldest children. However, we executed sensitivity analyses where we controlled for the mean age of the youngest grandchild and mean

geographical distance variables; these analyses provided similar results to those found in the main analyses (not shown in tables, but available upon request).

Analytic Strategy

We first showed descriptive details for the participants who were included in the study sample. Next, we examined how many persons experienced transition to retirement between the study waves considering also country group differences. Then, we showed the intraclass correlation of grandparental child care, which indicated the variation in the frequency of child care within a person over study waves.

To investigate whether the transition to retirement is associated with changes in grandparental child care we applied a random-intercept multilevel regression models where the repeated measures (i.e., person-observations) were nested within respondents. Total (or random effect) regression models include both between-person and within-person variance, meaning that they can rarely provide evidence for causality, because in these models the unobserved (time constant) heterogeneity is typically not appropriately considered (Jokela et al., 2018). To examine more causal associations between retirement and grandchild care, we excluded between-person variation and concentrated on within-person variation by conducting panel fixed-effect regressions (Curran & Bauer, 2011; Morgan, 2013). Within-person models consider person-specific changes and show an individual's variation over time. In the within-person models, the participants served as their own controls, and these models eliminated time-invariant factors (Allison, 2009; Brüderl & Ludwig, 2015), meaning that factors whose values do not change between the study waves were automatically controlled for in the analyses whether they were available in the SHARE data or not (e.g., gender, country of residence, many

genetic factors and other selection effects). Thus, these models provide an appropriate test of causality in the association between retirement and grandchild care.

Although our dependent variable, grandparental child care, was not normally distributed we did not use logit models because of their limitations (Mood, 2010). Instead, we executed sensitivity analyses using logistic regression models with different cut-off points, and for these models we constructed three dichotomous grandparental child care variables: 0 = no care, 1 = at least some care (including all other classes); 0 = less often than almost monthly, 1 = at least almost monthly; 0 = less often than almost every week, 1 = almost daily or every week. Findings from the sensitivity analyses are presented at the end of the Results section.

Results

Descriptive Results

Table 1 provides the descriptive statistics of the respondents who are present in the fixed-effect models. This resulted in a total of 46,459 person-observations from 18,225 unique individuals (57% women). The mean age of respondents in the sample was 67 years, and two-thirds had a spouse or a partner. On average, they considered their health as “good,” reported less than two ADL difficulties, and on average had more than two grandchildren. Based on the transition probabilities, 25% of participants experienced a transition to retirement between the study waves, the figures being 22% for women and 29% for men, respectively. There is a clear variation in the transition probabilities between country groups: in Southern Europe 18% of women and 30% of men experience transition to retirement, in Central Europe the figures are 20% for women and 30% for men, in Northern Europe 24% for women and 28% for men; and,

finally, in Eastern Europe 24% for women and 27% for men (data not shown but available upon request). Stability and change in grandchild care were measured by intraclass correlation, which show the correlation of grandparental child care within a person over time. The intraclass correlation for grandparental child care was 0.63, indicating relatively high stability of grandchild care over study waves.

< Table 1 somewhere here >

Within-Person Effects: Transition to Retirement and Grandchild Care

Using random-intercept multilevel regression models we investigated whether an individual's transition to retirement is associated with subsequent changes in grandchild care (Table 2). It was detected that transition to retirement was significantly positively associated with increased grandchild care. When we stratified our data by gender, we found a similar effect in both women ($\beta = 0.30$, $SE = 0.04$, $p < 0.001$) and men ($\beta = 0.33$, $SE = 0.04$, $p < 0.001$). Overall, grandmothers and grandfathers provide similar amounts of care to grandchildren; however, the interaction model showed that the effect of retirement on child care was stronger among grandfathers than grandmothers ($\beta = -0.27$, $SE = 0.03$, $p < 0.001$) (see Figure 1 for illustration).

< Figure 1 somewhere here >

Table 2 also shows other factors that were associated with changes in grandchild care. When the age of a grandparent increased, the amount of child care help decreased. In addition, losing a spouse was associated with decreased grandchild care. No significant associations with

grandparental child care were detected for self-rated health, ADL limitations, number of grandchild sets, or lineage.

< Table 2 somewhere here >

Given that the grandparental child care variable was not normally distributed, we also ran analyses with categorized variables using logistic regression models with three different cut-points. However, associations between entry into retirement and grandchild care were quite similar in all models. They were also in line with the main analyses, indicating that the findings can be deemed robust.

< Table 3 somewhere here >

Within-Person Effects: Country Group Differences

We also investigated the potential country differences in the associations between retirement and grandchild care, and the countries were grouped into four categories: Southern Europe, Central Europe, Northern Europe, and Eastern Europe. We included the interaction term between country group and retirement and found a significant interaction effect ($\beta = -0.11$, $SE = 0.03$, $p < 0.001$). When we stratified the data by country groups, we found that transition to retirement was associated with increased grandchild care in all country groups (see Figure 2 for illustration). The effect of magnitude was strongest in Southern Europe ($\beta = 0.52$, $SE = 0.13$, $p < 0.001$, 95% CIs 0.28–0.77), followed by Northern Europe ($\beta = 0.33$, $SE = 0.04$, $p < 0.001$, 95% CIs 0.25–0.41), Central Europe ($\beta = 0.28$, $SE = 0.04$, $p < 0.001$, 95% CIs 0.21–0.36), and Eastern Europe ($\beta = 0.24$, $SE = 0.06$, $p < 0.001$, 95% CIs 0.12–0.36), respectively.

< Figure 2 somewhere here >

Sensitivity Analyses

To confirm the correct temporal ordering between becoming retired and changes in grandchild care, we ran sensitivity tests where grandparental child care, our outcome variable, was measured one wave after the baseline, that is, when the main independent variable (transition to retirement) and covariates were measured. In this case, in addition to the covariates mentioned above, we controlled for the time span (in months) between the study waves ($M = 30.0$, within-person $SD = 7.89$, ranging from 11 to 64). Since Portugal participated only in two SHARE waves, it was not present in the sensitivity models. The sensitivity analyses with a forward-lagged child care variable provided results similar to those found in the main analyses (the Supplementary Material Table S1).

Finally, we tested the reversed causality concerning the direction of an association. The question here was: does the change in grandparental child care increase grandparents' likelihood of retiring? Theoretically, it could be that those older adults who are more inclined to look after their grandchildren are willing to retire earlier. The reversed causality hypothesis was investigated by using retirement as the dependent variable and grandparental child care as the main independent variable. In this case, to establish the correct temporal ordering, grandparental child care (and covariates) were measured one study wave before the outcome variable of retirement. It was found that grandparental child care was not a significant predictor of grandparents' entry into retirement ($OR = 1.22$, $SE = 0.26$, $p = 0.214$; $n = 2,578$ person

observations from 952 persons), and thus, support for the reversed causality was not evident (not shown in Tables, but available upon request).

Discussion

In this article we examined whether transition from paid employment to retirement is associated with changes in the frequency of child care that grandparents provide to their adult children's families. We utilized longitudinal data covering 16 European countries and employed within-person regression models to explore person-specific changes over time. Due to limited time resources, grandparents' roles as grandchild caregivers and employees are often competing among ageing individuals. Hence, we hypothesized that the amount of grandparental child care would increase when grandparents retired because after their retirement, they should have more time resources to use in grandchild care. Our findings supported this hypothesis: grandparents' transition from employment to retirement is associated with increased grandchild care in Europe. It was found that entry into retirement increased grandchild care among both women and men; however, the effect of retirement on grandchild care was stronger among grandfathers than grandmothers. The latter-mentioned finding could be based on the fact that, on average, older men tend to work more hours than older women (OECD, 2018), meaning that transition to retirement will increase older men's time resources more than that of older women.

In addition, to ascertain whether the association between retirement and grandparental child care differs according to different family policy and child care regimes, the countries were grouped into four groups: Southern Europe, Central Europe, Northern Europe, and Eastern Europe. It was found, however, that transition to retirement was associated with

increased grandchild care in all parts of Europe. The magnitude of effect varied between country groups, being strongest in Southern Europe and weakest in Eastern Europe.

To the best of our knowledge the present study is the first to explore whether transition into retirement affects the frequency of grandchild care within an individual over time using data from Western countries. In line with our findings, a prior study found an increase in provided grandchild care after entry into retirement among Chinese grandparents (Feng & Zhang, 2018). Close to our investigation, Lakomy and Kreidl (2015) found that the transition from a full-time employment to “out of the labor force” in Europe was associated with increased grandchild care over time. As the investigation Lakomy and Kreidl focused on transitions between different levels of labor market involvement and did not distinguish retirees from others who are “out of the labor force”, the study did not estimate the “pure” effect of retirement on the provision of grandchild care, nor did the study consider possible differences between country groups.

The strengths of the present study include the use of large-scale, population-based, cross-national, and longitudinal data, where the same individuals were interviewed repeatedly. To fully exploit the potential of the longitudinal data, we executed within-person regressions, which consider an individual’s variation over time and eliminate all time-invariant factors, making it possible to perform more causal inferences in the association between retirement and grandchild care. Moreover, we were able to control for several time-variant factors available in the SHARE data.

Obviously, the present study also has limitations. The SHARE does not collect information on the age of the youngest grandchildren and the geographical distance between

grandparents and adult children from all respondents, meaning that we were unable to control for these factors in the main analyses. However, sensitivity analyses with a smaller sample where these variables were controlled for provided similar results to those found in the main analyses. Although within-person models have several strengths, they are not without limitations. One potential limitation of these models concerns the small number of participants who experience changes regarding outcome and main independent variables, meaning that the sample size may decrease and given the low number of observations, within-person models may suffer from high confidence intervals. Although in the main analyses including all countries we had well enough observations in the sample, the stratified country group analyses were more likely to suffer from a lack of statistical power. Finally, a limitation of within-person models is that they do not account for time-variant unobserved characteristics. Although we controlled for a wide range of time-variant covariates in the models, practically no model can take all of them into account.

The present findings have several practical implications. Prior studies have indicated that grandparental support may positively influence the fertility decisions of adult children and the well-being of grandchildren. Based on our results, retirement can significantly help grandparents to become involved in the lives of their descendants, which, in turn, may help younger adults to fulfil their child-bearing plans (Kaptijn et al., 2010; Tanskanen, Jokela, Danielsbacka, & Rotkirch, 2014) and improve grandchildren's welfare (Sear & Coall, 2011; but see Tanskanen & Danielsbacka, 2018). From the viewpoint of the parents of small children, grandparental child care may help them to combine employment and family life: grandparental child care has been found to increase the labour force participation of mothers with small children (Aassve, Arpino, & Goisis, 2012; Arpino et al., 2014; Bratti, Frattini, & Scervini, 2017; Du, Dong, & Zhang, 2019; Kanji, 2018). Finally, taking care of grandchildren may have

desirable well-being consequences for the grandparents themselves (Arpino & Bordone, 2014; Danielsbacka, Tanskanen, Coall & Jokela, 2019). Thus, due to many potential positive outcomes grandparental child care may be not only a socially but also an economically relevant form of intergenerational support.

The policy goal in Europe has been to delay the age of retirement to cut the costs related to old age pensions (European Commission, 2010). The present study indicated, however, that when grandparents participate in paid employment, they tend to provide less grandchild care, which, in turn, may have repercussions for their descendants, as discussed above. Thus, it is important to take informal family relationships into account because policy decisions considering one generation can have unanticipated repercussions for the other generations. The fact that retired persons can be active and productive citizens should be acknowledged more carefully in policymaking and discussions considering the societal role of older people.

References

- Aassve, A., Arpino, B., & Goisis, A. (2012). Grandparenting and mothers' labour force participation: A comparative analysis using the generations and gender survey. *Demographic Research*, 27, 53–84.
- Aassve, A., Meroni, E., & Pronzato, C. (2012). Grandparenting and childbearing in the extended family. *European Journal of Population/Revue européenne de Démographie*, 28(4), 499–518.
- Arpino, B., & Bordone, V. (2014). Does grandparenting pay off? the effect of child care on grandparents' cognitive functioning. *Journal of Marriage and Family*, 76(2), 337–351.
- Arpino, B., Pronzato, C. D., & Tavares, L. P. (2014). The effect of grandparental support on mothers' labour market participation: An instrumental variable approach. *European Journal of Population*, 30(4), 369–390.
- Van den Bogaard, L., Henkens, K., & Kalmijn, M. (2014). So now what? Effects of retirement on civic engagement. *Ageing & Society*, 34(7), 1170–1192.
- Bratti, M., Frattini, T., & Scervini, F. (2017). Grandparental availability for child care and maternal labor force participation: pension reform evidence from Italy. *Journal of Population Economics*, 31(4), 1239–1277.
- Börsch-Supan, A., Brandt, M., Hunkler, C., Kneip, T., Korbmacher, J., Malter, F., ... Zuber, S. (2013). Data Resource Profile: The Survey of Health, Ageing and Retirement in Europe (SHARE). *International Journal of Epidemiology*, 42(4), 992–1001. Doi: 10.1093/ije/dyt088.

- Danielsbacka, M. & Tanskanen, A.O., Jokela, M. & Rotkirch, A. (2011). Grandparental Child Care in Europe. Evidence for Preferential Investment in More Certain Kin. *Evolutionary Psychology*, 9(1), 3–24.
- Danielsbacka, M., & Tanskanen, A. O. (2012). Adolescent grandchildren's perceptions of grandparents' involvement in UK: An interpretation from life course and evolutionary theory perspective. *European Journal of Ageing*, 9(4), 329–341.
- Danielsbacka, M., Tanskanen, A.O., Coall, D.A., & Jokela, M. (2019). Grandparental childcare, health and well-being in Europe: A within-individual investigation of longitudinal data. *Social Science & Medicine*, 228, doi: <https://doi.org/10.1016/j.socscimed.2019.03.031>.
- Di Gessa, G., Glaser, K., Price, D., Ribe, E., & Tinker, A. (2016). What drives national differences in intensive grandparental childcare in Europe? *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 71(1), 141–153.
- Du, F., Dong, X. Y., & Zhang, Y. (2019). Grandparent-provided childcare and labor force participation of mothers with preschool children in Urban China. *China Population and Development Studies*, 2(4), 347–368.
- European Commission (2010). Green Paper. Towards Adequate, Sustainable and Safe European Pension Systems. Brussels: European Commission.
- Evandrou, M., Falkingham, J., Gomez-Leon, M. & Vlachantoni, A. (2018). Intergenerational flows of support between parents and adult children in Britain. *Ageing & Society*, 38(2), 321–351. doi: 10.1017/S0144686X16001057
- Feng, J., & Zhang, X. (2018). Retirement and grandchild care in urban China. *Feminist Economics*, 24(2), 240–264.
- Fischer, B., & Müller, K. U. (2020). Time to care? The effects of retirement on informal care provision. *Journal of Health Economics*, 73, 102350.

- Geurts, T., Poortman, A-R. & van Tilburg, T. G. (2012). Older Parents Providing Child Care for Adult Children: Does It Pay Off? *Journal of Marriage and Family*, 74(2), 239–250.
- Goode W. J. (1960). A theory of role strain. *American Sociological Review*, 25, 483–496.
- Hank, K., & Buber, I. (2009). Grandparents caring for their grandchildren: Findings from the 2004 Survey of Health, Ageing, and Retirement in Europe. *Journal of Family Issues*, 30(1), 53–73.
- Jokela, M. Airaksinen, J., Kivimaki, M. & Hakulinen, C. (2018). Is within-individual variation in personality traits associated with changes in health behaviours? Analysis of seven longitudinal cohort studies. *European Journal of Personality*, 32(6), 642–652.
- Kanji, S. (2018). Grandparent care: A key factor in mothers' labour force participation in the UK. *Journal of Social Policy*, 47(3), 523–542.
- Kaptijn, R., Thomese, F., Van Tilburg, T. G., & Liefbroer, A. C. (2010). How grandparents matter. *Human Nature*, 21(4), 393-405.
- Lakomy, M., & Kreidl, M. (2015). Full-time versus part-time employment: Does it influence frequency of grandparental childcare? *European journal of ageing*, 12(4), 321–331.
- Mood, C. (2010). Logistic Regression: Why We Cannot Do What We Think We Can Do, and What We Can Do About It. *European Sociological Review*, 26(1), 67–82.
- OECD (2018) Family Database: Usual weekly working hours among men and women by broad hours groups. Internet: <http://www.oecd.org/els/family/database.htm>
- Quach, E. D. (2020). Work and the Family in Later Life: The Effects of Role Stressors, Role Enhancement, and Role Conflict on Self-Perceptions on Aging. *The International Journal of Aging and Human Development*, 90, 135–151.

- Sear, R., & Coall, D. (2011). How much does family matter? Cooperative breeding and the demographic transition. *Population and development review*, 37, 81–112.
- Szydlik, M. (2016). *Sharing lives: Adult children and parents*. London/New York: Routledge.
- Tanskanen, A. O., & Danielsbacka, M. (2018). Multigenerational Effects on Children's Cognitive and Socioemotional Outcomes: A Within-Child Investigation. *Child Development*, 89(5), 1856-1870.
- Tanskanen, A. O., Jokela, M., Danielsbacka, M., & Rotkirch, A. (2014). Grandparental effects on fertility vary by lineage in the United Kingdom. *Human Nature*, 25(2), 269-284.
- Wilińska, M., Grzenda, W., & Perek-Białas, J. (2019). Grandmothers and Non-grandmothers in the Polish Labor Market: The Role of Family Issues. *Journal of Family Issues*, 40(12), 1677-1704. doi: 10.1177/0192513X19842243
- Zamarro, G. (2020). Family labor participation and child care decisions: The role of grannies. *SERIEs*, 11, doi: 10.1007/s13209-020-00213-5
- Železna, L. (2018). Care-giving to grandchildren and elderly parents: role conflict or family solidarity?. *Ageing & Society*, 38(5), 974–994.
- Zhang, J., Emery, T., & Dykstra, P. (2018). Grandparenthood in China and Western Europe: An analysis of CHARLS and SHARE. *Advances in Life Course Research*. doi: 10.1016/j.alcr.2018.11.003

Tables

Table 1.

Descriptive Statistics of Respondents (50–79 years)

	No. of obs.	No. of persons	%	Mean	Within- person SD
Age at interview	46,459	18,225		66.6	2.30
Partnership status					
Have a spouse/partner	30,542	11,981	65.7		
No spouse/partner	15,917	6,244	34.3		
Self-rated health	46,459	18,225		3.0	0.51
ADL limitations	46,459	18,225		1.6	1.32
Number of grandchild sets	46,459	18,225		2.3	0.19
Lineage					
Grandchildren via daughters only	11,309	4,436	25.2		
Grandchildren via daughters and sons	24,731	9,701	54.9		
Grandchildren via sons only	10,419	4,088	23.5		

Source: SHARE waves 1, 2, 4, 5, and 6.

Notes: No. of obs. = Number of person-observations; No. of persons = Number of unique persons; Within-person SD = Within-person standard deviation.

Table 2.

Within-Person Model: Variables Associated with Grandparental Child Care

	Coef	SE	p	95% CI	
				lower	upper
Retirement status					
Working	ref				
Retired	0.31	0.03	< 0.001	0.26	0.36
Age at interview	-0.04	0.002	< 0.001	-0.04	-0.04
Partnership status					
Have a spouse/partner	ref				
No spouse/partner	-0.13	0.04	< 0.001	-0.21	-0.05
Self-rated health	0.01	0.01	0.129	-0.004	0.03
ADL limitations	-0.01	0.003	0.056	-0.01	0.0002
Number of grandchild sets	0.02	0.03	0.498	-0.03	0.07
Lineage					
Grandchildren via daughters only	ref				
Grandchildren via daughters and sons	0.09	0.07	0.217	-0.05	0.23
Grandchildren via sons only	0.07	0.09	0.419	-0.11	0.25

Source: SHARE waves 1, 2, 4, 5, and 6.

Notes: Coef = regression coefficient; SE = standard error; CI = confidence interval; n = 46,459 person-observations from 18,225 persons.

* p < .05, ** p < .01, *** p < .001.

Table 3.

Within-Person Models: Association Between Retirement and Grandparental Childcare with Dichotomous Childcare Variables

	OR	SE	p	95% CI	
				lower	upper
Model 1					
Grandparental child care					
No care	ref				
At least some care	2.09	0.16	< 0.001	1.80	2.43
Model 2					
Grandparental child care					
Less often than almost every month	ref				
At least almost monthly	1.96	0.15	< 0.001	1.70	2.28
Model 3					
Grandparental childcare					
Less often than almost every week	ref				
Almost daily or every week	2.18	0.18	< 0.001	1.85	2.56

Source: SHARE waves 1, 2, 4, 5, and 6.

Notes: OR = odds ratio; SE = standard error; CI = confidence interval;

Model 1: n = 16,87 person-observations from 5,848 persons;

Model 2: n = 15,835 person-observations from 5,661 persons;

Model 3: n = 13,470 person-observations from 4,829 persons.

Covariates: Age at interview, partnership status, self-rated health, ADL limitations, number of grandchild sets and lineage.

* p < .05, ** p < .01, *** p < .001.

Figures

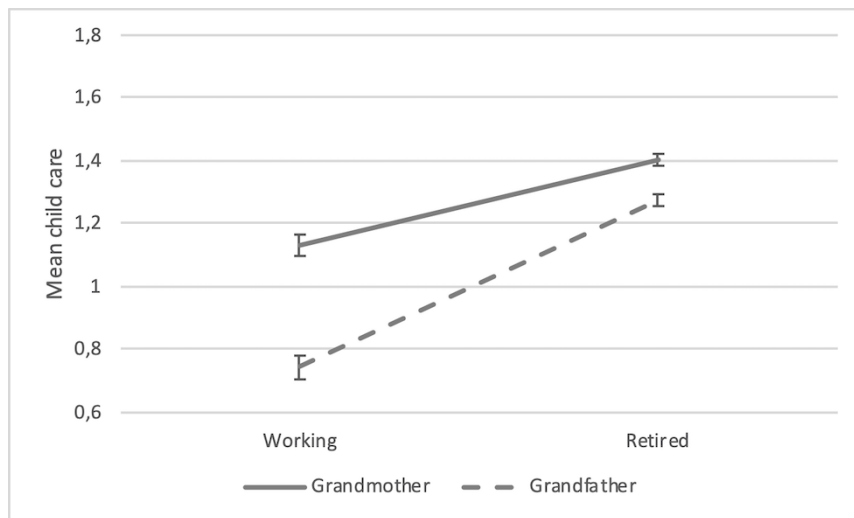


Figure 1. Within-Person Model: Association Between Grandchild Care and Retirement by Gender (predictive margins and 95% CI)

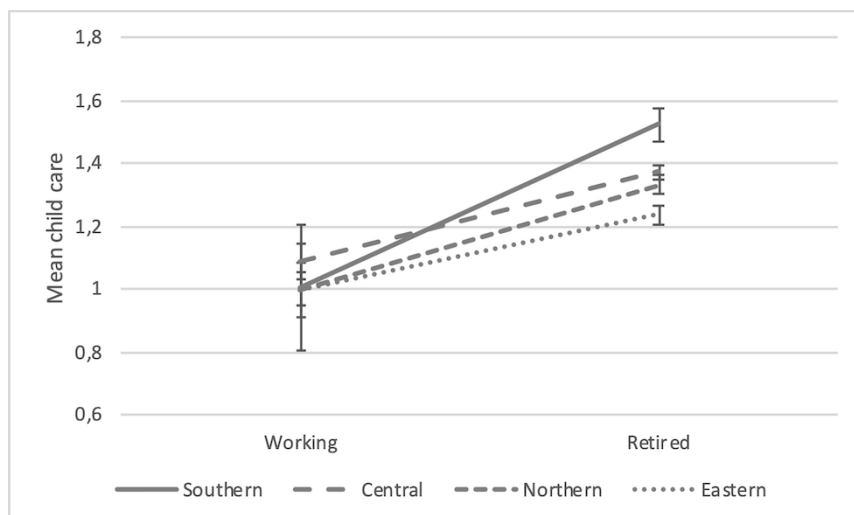


Figure 2. Within-Person Models: Associations Between Retirement and Grandchild Care by European Country Groups (predictive margins and 95% CI)