Partnership Histories Shape the Grandparenting Happiness Bonus

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Online Appendix

Appendices

A. Appendix Tables

Appendix Table 1 Descriptive statistics of control variables

Education		
	Pre-. primary. lower secondary	38.5
	Upper secondary education	34.9
	Post-secondary non-tertiary education	4.6
	Tertiary education	22.1
Health	Activities in Daily Living (ADL)	0.24 (0.8)
Wave	2	8.7
	4	1.4
	5	6.3
	6	19.4
	7	17.7
	8	46.7
Country		
	Austria	4.5
	Germany	6.2
	Sweden	5.0
	Netherlands	2.6
	Spain	6.7
	Italy	6.9
	France	5.5
	Denmark	5.1
	Greece	4.9
	Switzerland	3.8
	Belgium	7.6

Israel	2.2
Czech Republic	6.2
Poland	4.8
Ireland	0.8
Luxembourg	1.5
Hungary	1.2
Portugal	1.4
Slovenia	4.7
Estonia	6.2
Croatia	2.8
Lithuania	1.8
Bulgaria	1.4
Cyprus	0.8
Finland	1.6
Latvia	1.1
Malta	1.3
Slovakia	1.6

Appendix Table 2 Partnership history by grandparental status, adjusted for age (n=72 970)

	1st union	2nd union	3+ union	LAT	Divorced	Widow	Single
No child or grandchild	7.0	9.1	12.6	19.9	8.9	8.6	69.7
Child(ren), no grandchild	22.5	25.8	27.4	22.0	26.5	22.5	10.8
Grandchild(ren)	70.6	65.1	60.0	58.7	64.6	68.3	19.4
Total	100	100	100	100	100	100	100

Source: SHARE.
Note: LAT refers to living apart together.

Appendix Table 3 Partnership history by grandparental investment, adjusted for age (n=48 522)

Grandparental care	1st union	2nd union	3+ union	LAT	Divorced	Widow	Single
No care	53.7	72.1	75.6	57.1	66.0	65.6	58.1
Less than monthly	10.0	9.2	9.1	14.5	10.1	7.2	8.8
Almost every month	9.8	7.2	6.1	10.9	7.6	6.2	10.5
Almost every week	17.3	9.2	8.4	15.1	12.2	11.1	17.2
Almost every day	9.2	3.0	2.1	2.9	4.8	7.8	5.5

Source: SHARE. Respondents with children of biological and adopted children.

Note: When a respondent has several grandchildren, we have here selected the adult child whose child(ren) the grandparent looks after the most. LAT refers to living apart together.

Appendix Table 4 Happiness by partnership history type, full regression models

	M1 CASP b (se)		M2 CASP b (se)		Women CASP b (se)		Men CASP b (se)		M1 Life satisfaction b (se)		M2 Life satisfaction b (se)		Women Life satisfaction b (se)		Men Life satisfaction b (se)	
Partnership history (*Ref.* 1. union)																
2. union	-0.17	*	-0.27	*	-0.43	*	-0.091		-0.085	***	-0.067		-0.062		-0.063	
	(0.079)		(0.130)		(0.199)		(0.171)		(0.024)		(0.039)		(0.060)		(0.050)	
3. union	-0.762	***	-0.9	***	-0.711	*	-0.926	***	-0.15	***	-0.203	***	-0.204	*	-0.187	*
	(0.139)		(0.205)		(0.323)		(0.263)		(0.042)		(0.061)		(0.098)		(0.077)	
LAT	-0.377	*	-0.528	*	-0.704	*	-0.357		-0.311	***	-0.212	**	-0.198		-0.222	*
	(0.157)		(0.234)		(0.343)		(0.320)		(0.047)		(0.070)		(0.104)		(0.094)	
Separated	-1.597	***	-1.87	***	-1.835	***	-1.938	***	-0.628	***	-0.704	***	-0.641	***	-0.778	***
	(0.089)		(0.142)		(0.189)		(0.216)		(0.027)		(0.043)		(0.057)		(0.064)	
Widowed	-0.927	***	-1.4	***	-1.502	***	-1.076	***	-0.461	***	-0.608	***	-0.619	***	-0.516	***
	(0.064)		(0.125)		(0.152)		(0.239)		(0.019)		(0.038)		(0.046)		(0.070)	
Single	-1.219	***	-1.272	***	-1.189	***	-1.33	***	-0.578	***	-0.585	***	-0.524	***	-0.634	***
	(0.095)		(0.111)		(0.160)		(0.155)		(0.028)		(0.033)		(0.049)		(0.046)	
Care (*Ref.* No grandchildren)																
No care			-0.363	***	-0.36	***	-0.345	***			0.008		0.006		0.018	
			(0.069)		(0.100)		(0.095)				(0.021)		(0.030)		(0.028)	

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Yes	0.708 ***	0.636 ***	0.796 ***		0.228 ***	0.236 ***	0.227 ***	
	(0.066)	(0.094)	(0.093)		(0.020)	(0.028)	(0.027)	
Interaction: Partnership history X care								
2. union#No care	0.389 *	0.611 *	0.194		0.007	-0.01	0.014	
	(0.184)	(0.280)	(0.244)		(0.055)	(0.085)	(0.072)	
2. union#Yes	0.132	0.051	0.271		-0.003	-0.043	0.037	
	(0.197)	(0.280)	(0.280)		(0.059)	(0.085)	(0.082)	
3. union#No care	0.771 *	0.17	1.167 **		0.208 *	0.091	0.28 *	
	(0.324)	(0.503)	(0.421)		(0.097)	(0.153)	(0.124)	
3. union#Yes	0.088	-0.168	0.155		0.099	0.075	0.109	
	(0.344)	(0.480)	(0.512)		(0.103)	(0.146)	(0.151)	
LAT#No care	0.49	1.049	0.114		-0.108	-0.026	-0.153	
	(0.372)	(0.568)	(0.490)		(0.112)	(0.173)	(0.144)	
LAT#Yes	0.329	0.269	0.566		-0.167	-0.22	-0.089	
	(0.385)	(0.513)	(0.604)		(0.116)	(0.156)	(0.178)	
Separated#No care	0.554 **	0.176	1.185 ***		0.163 **	0.124	0.195 *	
	(0.202)	(0.261)	(0.324)		(0.061)	(0.079)	(0.095)	
Separated#Yes	0.707 **	0.459	1.672 ***		0.176 **	0.067	0.474 ***	
	(0.224)	(0.271)	(0.466)		(0.067)	(0.082)	(0.137)	
Widowed#No care	0.691 ***	0.785 ***	0.358		0.237 ***	0.301 ***	-0.017	
	(0.145)	(0.176)	(0.287)		(0.044)	(0.054)	(0.085)	
Widowed#Yes	0.917 ***	1.013 ***	0.747		0.186 ***	0.218 ***	-0.046	
	(0.177)	(0.206)	(0.404)		(0.053)	(0.063)	(0.119)	
Single#No care	1.125 ***	0.62	1.834 ***		0.397 ***	0.175	0.695 ***	
	(0.314)	(0.414)	(0.485)		(0.094)	(0.126)	(0.143)	
Widowed#Yes	0.419	0.224	0.602		0.354 ***	0.331 *	0.309	
	(0.339)	(0.436)	(0.544)		(0.102)	(0.133)	(0.160)	
Age	-0.042 ***	-0.03 ***	-0.036 ***	-0.024 ***	0.015 ***	0.017 ***	0.016 ***	0.017 ***
	(0.003)	(0.003)	(0.004)	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)
Male (*Ref.* Female)	0.25 ***	0.299 ***			-0.029 *	-0.013		
	(0.042)	(0.043)			(0.013)	(0.013)		
Education (*Ref.* Lower secondary or less)								
Upper secondary	1.393 ***	1.351 ***	1.461 ***	1.197 ***	0.235 ***	0.231 ***	0.259 ***	0.199 ***
	(0.053)	(0.053)	(0.071)	(0.079)	(0.016)	(0.016)	(0.021)	(0.023)
Post-secondary, non-tertiary	1.748 ***	1.721 ***	1.692 ***	1.71 ***	0.265 ***	0.267 ***	0.267 ***	0.256 ***
	(0.106)	(0.106)	(0.143)	(0.159)	(0.032)	(0.032)	(0.043)	(0.047)
Tertiary	2.214 ***	2.158 ***	2.24 ***	2.025 ***	0.387 ***	0.385 ***	0.406 ***	0.36 ***
	(0.060)	(0.060)	(0.083)	(0.088)	(0.018)	(0.018)	(0.025)	(0.026)
Area (*Ref.* A big city)								
Suburbs	-0.314 ***	-0.346 ***	-0.357 **	-0.329 **	-0.039	-0.051 *	-0.04	-0.064

	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)	
	(0.083)		(0.083)		(0.112)		(0.123)		(0.025)		(0.025)		(0.034)		(0.036)	
Large town	-0.193	**	-0.199	**	-0.258	**	-0.126		-0.012		-0.019		-0.028		-0.008	
	(0.073)		(0.072)		(0.097)		(0.109)		(0.022)		(0.022)		(0.029)		(0.032)	
Small town	-0.053		-0.077		-0.088		-0.06		0.01		-0.004		0.028		-0.044	
	(0.068)		(0.068)		(0.092)		(0.102)		(0.020)		(0.020)		(0.028)		(0.030)	
Rural area	-0.161	*	-0.179	**	-0.221	*	-0.114		-0.04	*	-0.052	**	-0.029		-0.077	**
	(0.065)		(0.065)		(0.088)		(0.097)		(0.020)		(0.020)		(0.027)		(0.029)	
ADL	-1.891	***	-1.863	***	-1.812	***	-1.919	***	-0.416	***	-0.41	***	-0.416	***	-0.397	***
	(0.025)		(0.025)		(0.033)		(0.039)		(0.008)		(0.008)		(0.010)		(0.012)	
Employed (*Ref.* Non-employed)	1.003	***	1.142	***	0.953	***	1.341	***	0.365	***	0.403	***	0.328	***	0.477	***
	(0.062)		(0.063)		(0.087)		(0.091)		(0.019)		(0.019)		(0.027)		(0.027)	
Constant	42.019	***	41.064	***	41.603	***	40.823	***	7.148	***	6.974	***	7.044	***	6.897	***
	(0.232)		(0.238)		(0.321)		(0.361)		(0.069)		(0.071)		(0.098)		(0.106)	
N	72970		72970		40547		32423		72970		72970		40547		32423	

B. Supplementary analyses: alternative operationalizations

Appendix Figure 1a-b. Quality of life and life satisfaction by grandparental status and investment (no grandchild, has grandchild and less intensive care or not looking after, has grandchild and intensive care)

Predicted means and 95% CI of linear regressions controlling for sex, age (respondents are aged 50+), level of education, employment, health, area, country, N=72970, SHARE data. Note: in case a respondent has several grandchildren, the adult child whose child(ren) the grandparent looks after the most was selected. LAT refers to living apart together.
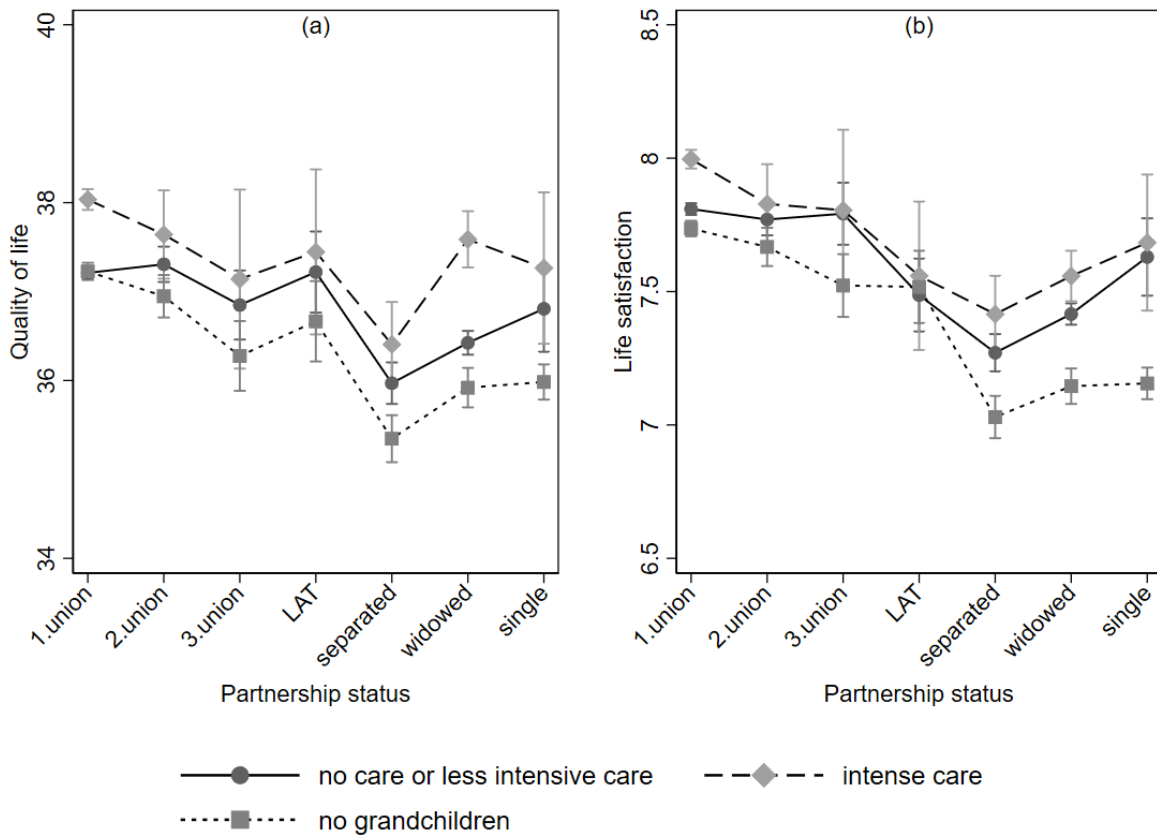
C. Supplementary analyses: alternative estimation strategies

As previous research has shown, partnership histories and childbearing are selective in that married individuals and parents differ from their unmarried and childless counterparts both by observed and unobserved characteristics (e.g., Ludwig & Brüderl, 2018). To explore whether the patterns detected in the main (cross-sectional) analyses hold when taking time-invariant, unobserved selection into consideration, we estimate assymetric fixed-effects models (Allison, 2019).

Specifically, we explore how the happiness of grandmothers and grandfathers change in response to increased care. We then investigate whether the association between increasing care and happiness

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varies by partnership history type. Following Alison (2019) 'increased care' measures the accumulation of all increases in intensity of grandparental care (e.g., from none to weekly, or from weekly to daily grandchild care) between two data collection waves. As we also include a covariate capturing the end of grandparental care giving, our analyses acknowledge that the implications of increased and reduced care for happiness may be asymmetrical (Allison, 2019).

We limit our analyses to years in which respondents already have grandchildren, excluding any transition to grandparenthood and conflating increases in care with becoming a grandparent. We also focus on years with no changes in partnership histories and exclude respondents who were 90 years or older. Two separate models are estimated: We first analyse whether increased care is associated with happiness overall and then interact increases in caregiving with the time-constant measure of partnership history. These interactions reveal whether the change in happiness prompted by an increase in care is stronger for some partnership types than others. Overall, results on the interactions are inconclusive, which is likely due to small sample sizes.

Results are illustrated in appendix Figure 2a-b. Increases in grandparental caregiving are associated with a higher quality of life and life satisfaction overall (*All*), and notably for respondents in their first or second union and those who are separated or widowed. Differences between partnership groups are not statistically significant, likely due to small case numbers and high uncertainty of estimates.

Appendix Figure 2 a-b. The effect of increases in grandparental care on happiness by partnership history and gender. Women to the left (a, c), men to the right (b, d)
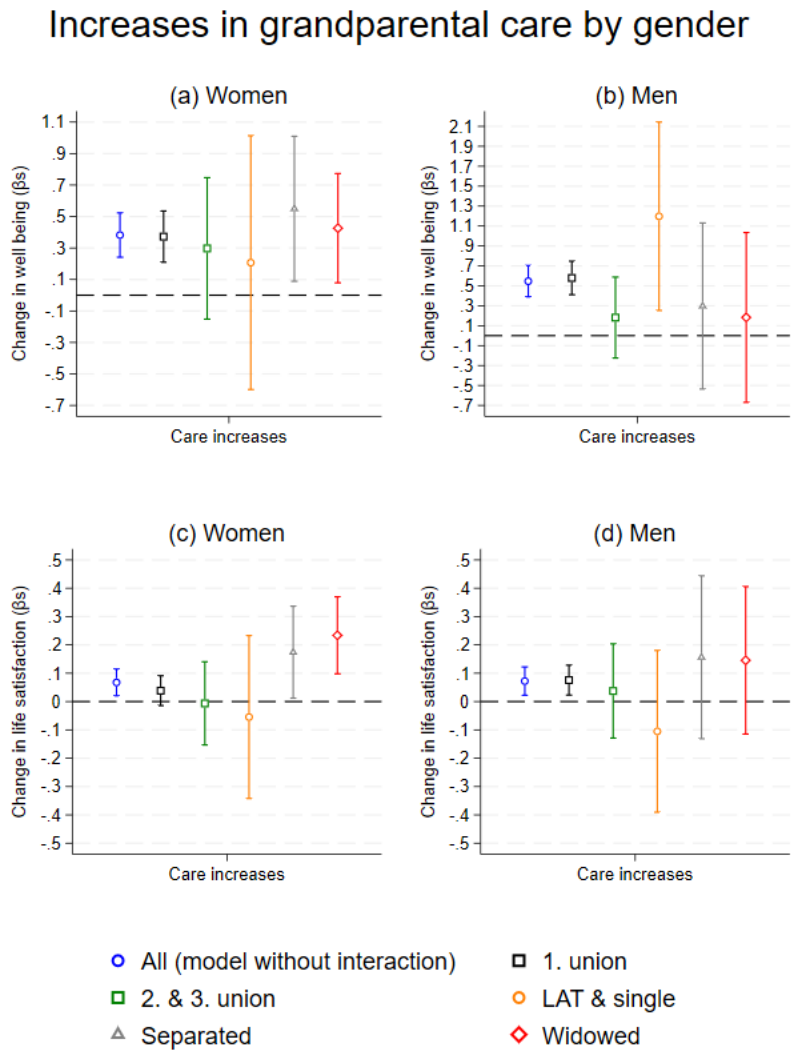
The effect of grandparental care on well-being (95% CI) of asymmetric fixed-effects linear regression models for women (left) and men (right). Models control for age (respondents are aged 50+), employment, health, and whether grandparents stop taking care of grandchildren. Education and country were not included since they vary only little over time. Due to the very small numbers of cases for the rarer partnership groups, we combined the groups "second and third union" and "Living apart together (LAT) and Single".

Note: In case a respondent has several grandchildren, the adult child the child(ren) of which the grandparent looks after the most was selected. We display results for increases in care in interaction with the time-constant partnership status, while simultaneously controlling for decreases in grandchild care provision.