

Do Storks Bring Gigabytes to Grandpa?

The Effect of Becoming a Grandparent on Internet Use

Bruno Arpino¹, Mirkka Danielsbacka², Antti O. Tanskanen²

¹University of Padua (Italy); ²University of Turku (Finland)

Introduction

The transition to grandparenthood has been defined as a counter-transition (Hagestad & Neugarten 1985) because it is not self-initiated by an individual but brought about by a child's transition to parenthood. Thus, the grandparent-to-be lacks direct control over its occurrence and timing. Nevertheless, this transition has far-reaching consequences, affecting grandparents' outcomes such as retirement, health, and well-being, also through their role in providing care to their grandchildren (Danielsbacka et al., 2019; Danielsbacka et al., 2022; Di Gessa et al., 2020; Lumsdaine & Vermeer, 2015).

This study focuses on the use of the Internet by older adults, as a potential consequence of the transition to grandparenthood. Internet use is increasingly crucial for accessing public and private services, obtaining information, and maintaining social connections. Despite the growing number of older adults who use the Internet, a significant age-related digital divide persists. Therefore, it is essential to explore factors that can help bridge this digital divide. Given the significant role that intergenerational relationships play in the lives of older adults, it is worth considering whether becoming a grandparent might encourage older individuals to embrace Internet usage. Prior studies have examined the use of digital technologies among older individuals to communicate with their grandchildren and its determinants (Arpino et al., 2022; Danielsbacka et al., 2023; Failli & Arpino 2025), but none have explored the impact of grandparenthood on Internet use.

Specifically, adopting a life course perspective, we aim to investigate to what extent the transition to grandparenthood motivates older adults to initiate Internet use or decreases their likelihood of stopping using it. The arrival of a grandchild may serve as a strong incentive for older adults to overcome their fears, challenges, and skepticism regarding Internet use, which often act as barriers for older individuals (Chang et al., 2015). The prospect of exchanging videos, photos, and text messages in real-time at a relatively low cost may encourage late adopters of the Internet to take the plunge. Moreover, for older individuals who already use the Internet, a decrease in interest may develop as they age (Peek et al., 2016). However, becoming a grandparent may counteract this trend, reducing the likelihood of stopping Internet use.

A life course approach is indispensable in this investigation. Firstly, the age at which individuals become grandparents can vary significantly, depending on their own fertility history and the timing of their children's parenthood. Younger grandparents may already be Internet users before becoming grandparents, while those who become grandparents at an older age may face greater challenges in adopting Internet use. Secondly, contextual factors may influence the impact of the transition to grandparenthood on Internet use. Living in urban areas or in highly digitalised countries may facilitate the decision to start using the Internet among grandparents.

Finally, gender and socioeconomic status significantly affect intergenerational relationships and Internet use, potentially moderating the effect of the transition to grandparenthood on Internet use.

Data and Methods

We employed data from the Survey of Health, Ageing, and Retirement in Europe (SHARE), specifically using waves 5-9, as earlier waves did not include measurements of Internet use. We build two working samples: Sample 1 estimates the probability of commencing Internet use among those who were not Internet users at their initial appearance in the dataset, while Sample 2 focuses on the likelihood of ceasing Internet use and includes only individuals who were using the Internet at their first observation. In both cases, we selected only respondents who did not have grandchildren upon entering the working sample and tracked them until they eventually became grandparents. Sample 1 and 2 consisted of 9,670 individuals (18,765 observations) and 10,045 individuals (19,893 observations), respectively. Internet use in SHARE is gauged by a single question: *"During the past 7 days, have you used the Internet, for e-mailing, searching for information, making purchases, or for any other purpose at least once?"* Our explanatory variable is a binary indicator for whether grandchildless individuals experience the transition to grandparenthood between contiguous waves.

To mitigate the risk of bias resulting from unobserved confounding, we estimated fixed-effects logistic models, removing time-invariant confounders. We controlled for a set of time-variant factors that may be associated with both the transition to grandparenthood and Internet use: age, health (activity limitations, cognition, depression), income, geographical proximity to and contact with the child who became a parent. Independent variables are lagged. Consequently, controls were measured before the potential transition to grandparenthood and before the outcome was assessed. More precisely, we measure controls at wave w , the transition to grandparenthood between wave w and wave $w+1$, and the outcome at wave $w+1$. This methodology helps avoid possible reverse causality, such as the impact of grandparenthood on health and well-being. We excluded observed time-invariant confounders (e.g., gender, education) because the fixed-effects approach eliminates all time-invariant variables. Interaction terms between each potential moderator (including time-invariant ones) and the explanatory variable were included to explore heterogeneities in the effect of the transition to grandparenthood. Robust standard errors were estimated to account for repeated measures for each individual.

Results

Table 1 displays the effect of the transition to grandparenthood on the probability of starting or stopping using the Internet in terms of Average Marginal Effects (AMEs). Becoming a grandparent is associated with a roughly 4 percentage point increase in the likelihood of initiating Internet use compared to older individuals. The effect on the probability of stopping using the Internet is statistically significant only at the 10% level and remains relatively small, around 0.1 percentage points.

Figure 1 graphically illustrates the AMEs for different sub-groups. The impact of the transition to grandparenthood varies by age: the effect is positive and statistically significant for the two younger age groups (50-59; 60-69), while for the older age groups, it is either small and statistically insignificant (70-79) or negative and statistically significant (80+). The effect is positive and statistically significant for both genders, with a stronger effect among individuals with higher education and better economic conditions.

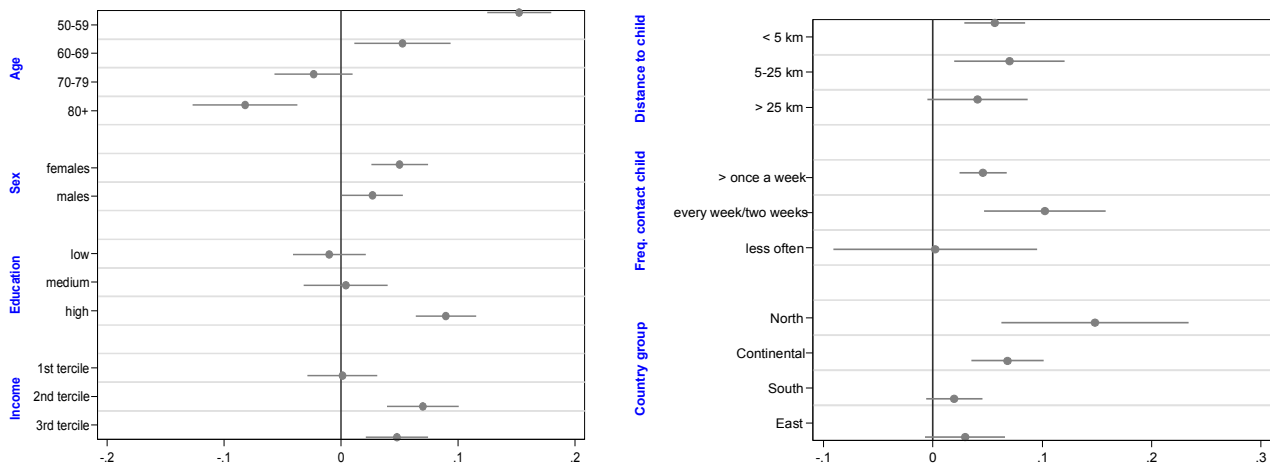
Table 1 - Transition to grandparenthood and the probability of starting/stopping using the Internet (AMEs)

	Starting	Stopping
AME / p-value	0.041***	-0.001*
95% CI	[0.020; 0.058]	[-0.017; 0.001]

Notes: all controls are included. *** p<0.01; ** p<0.05; * p<0.1

We found no significant differences based on the distance to the child who became a parent. However, regarding contact frequency, the effect was only observed for grandparents who had at least weekly contact with the child who became a parent before this transition. Finally, substantial contextual variation was identified, with positive and statistically significant AMEs in Northern and Central Europe, while they were smaller and insignificant in Southern and Eastern Europe.

Figure 1 – AMEs of transition to grandparenthood on the probability of starting using the Internet by sub-groups



Concluding Remarks

We conclude that the birth of the first grandchild has a positive and statistically significant impact on the probability of initiating Internet use. This effect, amounting to a 4 percentage point increase, has the potential to reduce the digital divide significantly. The effect is more pronounced among younger individuals (50-59), those with higher education, better economic conditions, and in countries with advanced digitalization processes (Northern and Central Europe). Conversely, a negative effect was observed among the oldest age group (80+). At very advanced ages, the motivation and capabilities required to start using the Internet may be insufficient, as

the birth of a grandchild might not provide adequate incentive. Furthermore, grandchild care commitments can potentially divert time and energy away from activities like attending digital literacy courses or meeting with family and friends to learn about internet-based technologies.

We did not find substantial effects on stopping using the Internet. This may be attributed to other significant life changes affecting the likelihood of stopping using the Internet in later life (e.g., health decline; Berner et al. 2019), which could outweigh any potential influence of the transition to grandparenthood. Importantly, the transition to grandparenthood does not appear to universally increase the likelihood of stopping using the Internet.

Our findings contribute to both the literature on intergenerational relationships and the digital divide. They suggest that intergenerational relationships can help bridge the digital divide, emphasizing the importance of family ties for older adults in adopting digital technologies.

References

- Arpino, B., Meli, E., Pasqualini, M., Tomassini, C., and Cisotto, E. (2022). Determinants of grandparents-grandchildren digital contact in Italy. *Genus*, 78, 20.
- Berner, J., Aartsen, M., & Deeg, D. (2019). Predictors in starting and stopping Internet use between 2002 and 2012 by Dutch adults 65 years and older. *Health informatics journal*, 25(3), 715-730.
- Chang, J., McAllister, C., & McCaslin, R. (2015). Correlates of, and barriers to, Internet use among older adults. *Journal of gerontological social work*, 58(1), 66-85.
- 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* (1982), 230, 194–203.
- Danielsbacka, M., Křenková, L., & Tanskanen, A. O. (2022). Grandparenting, health, and well-being: A systematic literature review. *European Journal of Ageing*, 19, 341–368.
- Danielsbacka, M., Tammissalo, K., & Tanskanen, A. O. (2023). Digital and traditional communication with kin: displacement or reinforcement?. *Journal of Family Studies*, 29(3), 1270-1291.
- Di Gessa G., Bordone V. and Arpino B. (2020) Becoming a grandparent and its effect on well-being: the role of order of transitions, time, and gender. *The Journals of Gerontology: Series B*, 75(10), 2250–2262.
- Failli, D. & Arpino, B. (2025). The Effect of Social Ties on Digitalization in Older Adults: Integrating Propensity Score Matching and Finite Mixture Models on two combined data sets. Forthcoming in *Social Indicators Research*. doi: 10.1007/s11205-025-03626-6; published on-line: 24 May 2025.
- Hagestad, G.O. and Neugarten, B.L. (1985). Age and the life course. In: Shanas, E. and Binstock, R. (eds.). *Handbook of aging and the social sciences*. New York: Van Nostrand and Reinhold: 35–55.
- Lumsdaine, R. L., & Vermeer, S. J. (2015). Retirement timing of women and the role of care responsibilities for grandchildren. *Demography*, 52, 433–454.

Peek, S. T., Luijkx, K. G., Rijnaard, M. D., Nieboer, M. E., Van Der Voort, C. S., Aarts, S., ... & Wouters, E. J. (2016). Older adults' reasons for using technology while aging in place. *Gerontology*, 62(2), 226-237.