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Does grandchild care influence grandparents' self-rated health? Evidence from a fixed effects approach

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ABSTRACT

The present study aims to identify, whether and how supplementary grandchild care is causally related to grandparents' self-rated health (SRH). Based on longitudinal data drawn from the German Aging Survey (DEAS; 2008–2014), I compare the results of pooled OLS, pooled OLS with lagged dependant variables (POLS-LD), random and fixed effects (RE, FE) panel regression. The results show that there is a positive but small association between supplementary grandchild care and SRH in POLS, POLS-LD, and RE models. However, the fixed effects model shows that the intrapersonal change in grandchild care does not cause a change in grandparents' SRH. The FE findings indicate that supplementary grandchild care in Germany does not have a causal impact on grandparents' SRH, suggesting that models with between-variation components overestimate the influence of grandchild care on grandparents' health because they do not control for unobserved (time-constant) heterogeneity.

1. Introduction

Because of social changes in demography and family formation, intergenerational relationships (within and outside the family) are attracting increasing attention from both the public and academia. A relevant example of these relationships can be found in grandparent–grandchild relationships. Research shows that grandparenthood is rated as an important stage of life (Mahne and Motel-Klingebiel, 2012). Taking care of grandchildren is one special aspect of this relationship. As a result of medical and technical progress, grandparents remain active and healthy longer than in the past. Furthermore, the common lifespan between grandparents and grandchildren has increased (Lauterbach, 2002), even when the delay in grandparenthood (Leopold and Skopek, 2015) is taken into account. However, grandparents have become a significant resource by enhancing parents' job market participation, contributing to the integration of family and work life and supporting single parenthood (Brüderl and Ludwig, 2015), especially when the public childcare supply is insufficient. This phenomenon raises questions of whether and how caregiving activity affects grandparents' health and well-being.

Since the early 1990s, a growing body of literature has shed light on this question. To date, there is no clear evidence of the circumstances under which grandchild care promotes positive or negative effects on grandparents' health. One explanation is that a large part of the empirical literature is based on cross-sectional and small-scale data based on convenience samples (Grinstead et al., 2003). Another reason is that there are a variety of grandchild care arrangements and cultural differences. To understand the link between provision of grandchild care and grandparents' health and well-being, it is crucial to distinguish between different care arrangements. The first distinction is between custodial care with primary responsibility and supplementary or occasional care. Especially in the United. States, the majority of studies focus on grandparents who raise their grandchildren. The high number of grandparents who actually provide such intensive and demanding care may drive this focus. According to the 2010 U.S. census, approximately 2.7 million grandparents have primary responsibility for at least one co-residing grandchild under 18 years of age (U.S. Census Bureau, 2014). Comparable data for Germany are not available. According to the 2011 German census, there are approximately 9000 grandparent-grandchild (or grandparent–great–grandchild) households without co-residing parents (German Zensus, 2011). Although we cannot interpret this information as the frequency of custodial grandchild care, it illustrates that grandchild–grandparent care arrangements without the middle generation are not widespread in Germany. In contrast, in 2008, 24.7% of the grandparents in Germany provided some supplementary care for their grandchildren. In 2014, the share of

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caregiving grandparents increased to 30.2% (Mahne and Motel-Klingebiel, 2010; Mahne and Klaus, 2016).

Only a few studies have investigated the relationship between supplementary grandchild care and various measures of health and well-being (Muller and Litwin, 2011). The evidence produced by these studies is mixed, as some measures are positively related to supplementary grandchild care, whereas others are not. With respect to self-rated health (SRH), studies have provided robust evidence that supplementary care is positively associated with grandparents' SRH (Di Gessa et al., 2015, 2016; Hughes et al., 2007; Ku et al., 2013; Zhou et al., 2016). As previous findings on different health outcomes are already puzzling, there is sufficient reason to stay focused on SRH instead of providing new evidence for other measures of health, especially because previous studies remained unclear about the causal pathway between SRH and provision of supplementary grandchild care. Although these studies use panel data, they focus on a comparison between grandparents who provide grandchild care and those who do not. The present study aims to tackle this issue by applying panel data and comparing the results of models that consider between-unit variance (pooled OLS, POLS; pooled OLS with lagged dependant variables, POLS-LD), between- and within-unit variance (random effects, RE) and within-unit variance (fixed effects; FE).

The results show that similar to the existing literature, there is a significant but small association between supplementary grandchild care and SRH in the POLS, POLS-LD and RE models. In contrast, the FE model shows that the intra-personal change in grandchild care does not cause a significant change in grandparents' SRH. These findings indicate that neglecting unobserved (time-constant) heterogeneity could lead to overestimate the effect of grandchild care.

1.1. Theoretical framework

Role theory has been applied in numerous studies to investigate the implications of caregiving on health. Two general remarks are therefore important. First, social roles constitute a link between the individual and society (Landry-Meyer, 1999). Second, salient roles affect health more strongly than less central roles do (Muller and Litwin, 2011). On the individual level, an overwhelming proportion of grandparents perceive their grandparent role as important or very important (Mahne and Motel-Klingebiel, 2012). There is also evidence suggesting a positive association between the quality of relationship with grandchildren and the subjective well-being of grandparents (Mahne and Motel-Klingebiel, 2012; Mahne and Huxhold, 2015). As a social role, there is also a normative expectation of grandparents that becomes even stronger in ageing societies (Kivnick, 1983; Muller and Litwin, 2011; Neuberger and Haberkern, 2014). This highlights the meaning of grandparents' role on the micro and macro level.

For the primary care responsibility in particular, the time-disordered role approach assumes a negative impact of raising a grandchild on grandparents' health and well-being. It assumes that the timing of roles is associated with a sense of fit. Grandparents' expectations regarding their role differ from the parental obligations of raising a child. Grandparents may be looking forward to experiencing the empty-nest stage, and a violation of this life expectation may cause stress and isolation from their age peers who are experiencing different life circumstances (Jendrek, 1993; Landry-Meyer, 1999). Therefore, an adverse health effect seems plausible, which is also supported by the role strain approach. Demanding roles cause psychological and physical stress, especially if a person faces multiple role expectations. Raising and caring for a grandchild is a time-consuming challenge, and from a role strain perspective, it may compete with other roles, such as parenting or working (Szinovacz and Davey, 2006; Di Gessa et al., 2015). Frequent studies embed role strain theory into a wider theory of stress (Grinstead et al., 2003). Role strain represents one aspect of secondary stressors that cause adverse physical health, depression, or anxiety. Coping strategies and social support can buffer these negative effects (Pearlin et al., 1990). In contrast to role strain, role enhancement does not focus on conflicts that emerge from multiple roles but on the benefits of a "multifaced self" (Szinovacz and Davey, 2006). This approach assumes that productive roles help to promote personal identity and self-expression. Furthermore, they provide "important resources such as social support, which can reduce stress outcomes or enhance their role" (Zhou et al., 2016). Therefore, in contrast to other roles, being a grandparent caregiver can be positively associated with health.

2. Grandchild care and associations with health: previous empirical findings

2.1. Primary responsibility and custodial grandchild care

Custodial grandchild care can increase grandparents' self-esteem and purpose and may be perceived as satisfying (Jendrek, 1993; Pruchno, 1999; Pruchno and McKenney, 2002). However, studies have tended to highlight negative associations (Kelley et al., 2000; Sands and Goldberg-Glen, 2000; Musil et al., 2009). Hayslip and Kaminski (2005) concluded in a literature review that custodial care is associated with poor physical and mental health, role overload, role confusion, and isolation from age peers and noncustodial grandchildren. In contrast, a more recent study does not find substantial consequences of custodial grandchild care (Trail Ross et al., 2015). However, longitudinal analyses show that negative impacts on health appear only for grandparents who raise their grandchildren in skipped-generation households (Blustein et al., 2004; Hughes et al., 2007; Musil et al., 2011, 2013).

These effects of care arrangement are embedded in a cultural context. In the United States, multigenerational or skipped-generation households and grandparental involvement in grandchild care are most likely the result of family dysfunction (Minkler et al., 1992; Hayslip and Kaminski, 2005; Baker and Silverstein, 2008; Trail Ross et al., 2015). In contrast, co-residing with children and/or grandchildren is a common phenomenon in Chinese culture. Given this, grandparents living in multigenerational and even skipped-generation households report better psychological well-being than grandparents who live in single-generation households (Silverstein et al., 2006).

2.2. Supplementary and occasional grandchild care

Although only a small part of the relevant literature focuses on supplementary care, it is not easy to provide an overview for two main reasons. First, different studies have compared different caregiving groups, such as comparing supplementary caregivers with noncaregivers or with primary caregivers (Musil et al., 2013). Second, different outcomes have been considered, such as SRH, physical limitations, life satisfaction, depressive symptoms, or cognitive functioning. Evidence is mixed: Some researchers have reported a positive association with supplementary care, whereas others have reported a nonsignificant relationship (Hughes et al., 2007; Arpino and Bordone, 2014; Zhou et al., 2016), or a negative association with depressive symptoms (Brunello and Rocco, 2016).

SRH is one widely established and popular measure of health in large-scale health surveys (Jylhä, 2010; Layes et al., 2012). Although there are controversial debates over whether SRH captures objective health or subjective perception of health (Layes et al., 2012), there is evidence that SRH both reflects physical and mental