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# Adult children's education and changes to parents' physical health in Mexico



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#### ABSTRACT

The well-being of older adults is frequently tied to support from their adult children. Here, we assess whether the education of adult offspring is associated with changes to older parents' short- and long-term health in Mexico, a rapidly aging context with historically limited institutional support for the elderly. Educational expansion over the past half century, however, provides older adults with greater resources to rely on via the education of their children. Using longitudinal data from the Mexican Health and Aging Study (2001–2012), we find that offspring education is not associated with short-term changes in parents' physical functioning, but is associated with increased parental longevity, net of children's financial status and transfers. In addition, we find that mothers' longevity is more sensitive to offspring education than fathers. Our findings add to a growing body of literature that urges policy-makers to consider the multi-generational advantages of expanding educational opportunities in Mexico.

#### 1. Background

That higher education is positively associated with health is one of the most well-established findings in population science (Baker et al., 2011). At the individual level, more education is associated with better mental and physical health, lower levels of disability, fewer chronic conditions, and increased longevity (House and Williams, 2003; Hummer and Lariscy, 2011; Montez and Hayward, 2014). An emerging body of research also documents how the educational resources of *family* members may shape individual health outcomes. With regards to the health of older persons, recent work points to the positive association between adult offspring education and their parents' longevity (Friedman and Mare, 2014; Lundborg and Majlesi, 2015; Sabater and Graham, 2016; Torssander, 2013; Yang et al., 2016; Zimmer et al., 2007).

A growing share of this work investigates whether these patterns exist in low- and middle-income countries (De Neve and Harling, 2017; Yahirun et al., 2016; Yang et al., 2016; Zimmer et al., 2002, 2007). These contexts differ from high-income

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countries because they are characterized by more recent and rapid educational expansion. Perhaps more importantly, offspring education and resources may be especially important for elderly health in these countries given limited public resources to support older adults.

In this paper, we investigate whether the education of adult children influences short- and long-term health outcomes among older parents in Mexico. We also assess whether these associations are sensitive to parents' gender. Mexico is a middle-income country where educational expansion has occurred rapidly and norms of family obligation to older parents remain strong. We extend prior research by examining changes in both long-term (i.e., mortality) and short-term (preventing or overcoming) health problems. Prior research has focused largely on long-term outcomes and parents' current health status. Our focus on both long-term and short-term changes thus allows us to better understand the dynamics of parental health associated with offspring education.

#### 1.1. Institutional context and aging in Mexico

Like other low- and middle-income countries, educational attainment in Mexico expanded rapidly throughout the latter half of the 20th century. Educational reforms began in the late 1950s and were marked by sustained spending aimed at increasing



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student enrollment (Creighton and Park, 2010; Post, 2001). Gains in educational attainment were substantial throughout the 1970s and culminated in an increase in compulsory schooling at the lower grade levels in the 1990s (Creighton and Park, 2010; Santibañez et al., 2005; Torche and Costa Ribeiro, 2007).

An obvious long-term effect of these changes is that younger cohorts attained higher levels of education than older cohorts. In addition, the rapid pace of educational expansion means that these gaps are substantial. Using data from the first wave of the Mexican Health and Aging Study, we find that parents born before 1925, for example, have an average of 2.6 years of schooling. Their adult offspring, however, have approximately 7.5 years of schooling – an almost 5-year advantage over parents. While family socioeconomic background continues to play a significant role in individual educational trajectories (Cortés and Escobar Latapí, 2005; Marteleto et al., 2012; Torche, 2010), rapid schooling reforms in Mexico allow us to observe how generational increases in education might influence health outcomes among family members.

Offspring education may be a particularly important family resource in Mexico, where adult children have been traditionally responsible for parents' well-being in later life (Bridges, 1980; Gomes, 2007). Intergenerational obligations center on the expectation that offspring will provide financial and economic assistance to older parents, where offspring, especially daughters, are expected to live with or care for parents (Kanaiaupuni, 2000; Schmalzbauer, 2013). For example, nearly 60% of households with adults aged 60 and over in Mexico include offspring (de Oca et al., 2014). Here, monetary transfers move "up" the generational ladder from offspring to parents (Wong and Palloni, 2009; Wong and DeGraff, 2009) and approximately 35% of older adults' income can be attributed to transfers from kin, primarily offspring (Wong and Espinoza, 2004).

Older adults' reliance on family members to provide care and support may be shifting, however, as public resources available to the elderly increase. Until recently, Mexico had limited public resources for older adults despite its burgeoning aging population. The introduction of universal health care in 2009 through *Seguro Popular* was critical in drastically increasing the number of older adults with access to health insurance (Parker et al., 2014; Teruel et al., 2014). Yet many older Mexicans still rely on their children for financial support because they lack pensions or retirement accounts (Juarez and Pfutze, 2015); a large share of the older population worked and continues to work in the informal sector (Aguila et al., 2011; OECD, 2013; Sheehan and Riosmena, 2013).

#### 1.2. Gender, health, and intergenerational relationships

Women may rely more on the support of their offspring than men for several reasons. In Mexico, as elsewhere, the gender gap in longevity favors women: women have a life expectancy of 78 years, compared to 73 years for men (Population Reference Bureau, 2014). Despite living longer, Mexican women are more susceptible to developing chronic conditions in later life compared to men (Salinas and Peek, 2008). In addition, older women have far fewer financial resources given their loose attachment to the labor market. Only 15% of Mexican women aged 50 and older are eligible for pensions, versus 46% of men (Salinas and Peek, 2008). Finally, cultural norms in Mexico have traditionally socialized women into caregiving roles. Even in later life, mothers continue to provide invisible and unpaid care to children and grandchildren (Gomes, 2007). These roles place them in close physical proximity to offspring and potentially open up additional avenues through which mothers and children can support one another.

#### 1.3. Linking offspring education and parental health

Prior studies find a positive link between adult children's education and parents' health. Zimmer et al. (2007) pioneered this work in Taiwan, where norms of filial obligation may be similar to Mexico, but public support for the elderly is historically more pronounced, including a 20-year-old public health insurance system, an expanded public pension program, and monthly stipends for the elderly (Cheng, 2015; Kim and Choi, 2011). Despite these supports, the Taiwanese studies show that schooling of the most well-educated child is negatively correlated with the severity of parents' functional limitations (Zimmer et al., 2002) and positively associated with parental longevity (Zimmer et al., 2007). A more recent study from China found similar results, where the education of co-resident children is positively associated with parental longevity (Yang et al., 2016). Even in contexts where norms of intergenerational obligation are not as strong and older adults often rely on non-familial resources to maintain their well-being, having better-educated children also delays parents' mortality. Using Swedish registry data, Torssander (2013) found that higher levels of schooling among the eldest children are also linked to lower parental mortality.

Despite growing evidence, understanding the pathways through which children's education shapes parental health is less clear. In Sweden, Torssander (2013) suggests that highly educated children may improve parents' health by providing valuable informational support, such as knowledge about specific healthcare services and health-related behaviors. This idea is strengthened through Torssander's use of sibling fixed effects models, which control for unobserved family characteristics. In the United States, Friedman and Mare (2014) used detailed information on parents' cause of death and found that children's education is more closely associated with parental death linked to specific selfreported health behaviors. Because smoking and exercise explain part of the association between children's education and parents who died of lung cancer, for example, the authors argue that the spillover effects of offspring education cannot be overlooked.

Although the bulk of research documents a positive association between offspring schooling and parental health, identifying a causal effect is difficult given the endogeneity of children's schooling and problems of omitted variable bias. Using Swedish registry data and taking advantage of historic compulsory schooling reforms that increased education from seven to nine years, Lundborg and Majlesi (2015) applied an instrumental variable approach and found that offspring education is not significantly associated with parents' longevity. The authors (2015) suggested that their results differed from previous studies (e.g., Friedman and Mare, 2014) because of the focus on changes in education at the lower end of the educational distribution (Lundborg and Majlesi, 2015). Although their study is innovative in its use of compulsory schooling reforms, Lundborg and Majlesi's (2015) findings may not extend to other contexts with substantially different expectations surrounding obligations to older parents, fewer public supports for the elderly, and larger generational differences in achieved education.

#### 2. The current study

Using data from the Mexican Health and Aging Study (MHAS), a nationally representative survey of Mexican adults aged 51 and older, this paper asks the following questions. First, is offspring education helpful in mitigating physical health deterioration or in preventing the onset of physical decline? Second, what is the association between offspring schooling and parental mortality? Functional health and mortality are far from isomorphic concepts, Download English Version:

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