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Female political representation and child health: Evidence from a multilevel analysis

Amm Quamruzzaman*, Matthew Lange

McGill University, Canada

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ABSTRACT

This article explores the impact of female political representation in national parliaments on child health through a multilevel analysis. Using available Demographic and Health Surveys, we employ both cross-sectional data for 51 low- and middle-income countries and longitudinal data for 20 countries with multiple surveys. For both the cross-sectional and longitudinal analyses, female representation is negatively related to infant mortality and positively related to measles vaccination status. To explore potential mechanisms, we control for state spending on health and analyze whether the impact of female representation depends on a critical mass of female representatives. The analysis offers evidence that state spending accounts for some of the mediation effect and that the impact of female representation on infant death depends on a critical mass.

1. Introduction

Gender equality is an extremely important developmental goal in its own right, but there is evidence that it can also have beneficial externalities. Several analyses, for example, find that increases in female education have positive effects on child health (Caldwell, 1986; Bledsoe et al., 1999; Sen, 1999). More recently, there has been growing interest in analyzing how female representation in formal politics affects child health. Different studies on local politics in India find that increased female representation is associated with policies that improve the health of children (Bhalotra and Clots-Figueras, 2011; Chattopadhyay and Duflo, 2004). In a more general study, Swiss et al. (2012) complete statistical analyses of 102 developing countries over the period 1980–2005 and find that female representation is positively related to a variety of child health indicators, suggesting that increasing female participation in formal politics can have important health benefits for children.

While these studies offer important initial insight, they have limitations. The findings on local government in India, for example, cannot be extended to other settings. The cross-national findings, on the other hand, are based on aggregate data for health outcomes and ignore important individual-level variables such as mother's age, educational attainment, household socioeconomic status, and employment status. Without taking these individual-level factors into account, cross-national ecological studies may produce inaccurate results (Granvelle et al., 2002).

In this article, we build on previous studies to explore the impact of female political representation on two child health outcomes—infant death and measles vaccination status—among a set of low- and middle-income countries (LMICs). To avoid potential problems caused by using only aggregate-level data, we complete a multilevel analysis using individual-level survey data on child health. For this, we join Inter-Parliamentary Union (2015) panel data on percentage of seats in national parliaments held by women to individual-level data from Demographic and Health Surveys (DHSs) for several LMICs. We also begin to explore potential mechanisms linking female representation to child health by testing the relationship between female political representation and state spending on health and exploring whether these effects depend on a critical mass of female representatives.

2. Female political representation and child health: a brief review

Demographic analyses commonly find that empowering women improves the health of children and suggest that a variety of mechanisms underlie the relationship. One potential mechanism

* Corresponding author. Department of Sociology, McGill University, 855 Sherbrooke Street West, Room 712, Leacock Building, Montreal, Quebec H3A 2T7, Canada.
E-mail address: amm.quamruzzaman@mail.mcgill.ca (A. Quamruzzaman).

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is through greater access to information, such as information about the causes of illnesses, whether to seek assistance for a child's illness, how to treat an illness, and where to seek treatment (Barrera, 1990; Hicks et al., 2006; Kickbusch, 2001; Vandemoortele and Delamonica, 2002). In addition, education commonly expands social networks, which are an important source of health information and support (Kawachi et al., 1999; Berkman and Glass, 2000). Female empowerment can also increase female household authority (Desai and Johnson, 2005; McGuire and Popkin, 1990; Nussbaum, 2000; Presser and Sen, 2000), and the latter affects child health through several mechanisms: It can improve female diets during pregnancy (Kishor, 2000; Osmani and Sen, 2003), increase the resources available to children (Bloom et al., 2001; Caldwell, 1986; Das Gupta, 1990; Miles-Doan and Bisharat, 1990), and give women greater influence in decisions about reproduction (Abadian, 1996; Jeffrey and Basu, 1996; Bledsoe et al., 1999; Caldwell, 1980; Visaria, 1993). Finally, female empowerment can affect the care-giving ability of women by shaping their relationships outside the household (Ahmed et al., 2010; Ahmed et al., 2005; Vissandjée et al., 1997).

At first glance, female empowerment through political representation would not appear to affect child health at a population level through any of these mechanisms, as only a minuscule fraction of the population is elected as representatives. Yet, increases in female political representation might affect the health of children at a population level in other more indirect ways. In this study, we focus on one potential mechanism related to social policy, exploring whether female representatives are more likely to support policy benefiting child health. Survey data on political attitudes suggest that women—relative to men—are more likely to support policies that seek to reduce gender inequities and improve social welfare, both of which positively affect child health (Everitt, 2002; Gidengil, 1995; Pratto et al., 1997; Shapiro and Mahajan 1986). Different studies, in turn, find that female politicians, on average, are more in favor of policies addressing gender inequities and social welfare (Bolzendahl, 2009; Bolzendahl and Brooks, 2007; Brady, 2009; Caiazza, 2004; Celis, 2007; Childs, 2002; Taylor-Robinson and Heath, 2003). Gender differences in support of female-friendly policies likely result from the fact that women experience gender inequities first-hand and are therefore more aware of their presence and consequences. Because of these differences, female representation might increase the chances of passing policy that empowers women. Similarly, gendered norms and roles about childcare might increase female concern for the well-being of children, suggesting that female politicians are more concerned than their male counterparts about child vaccination programs, pre- and ante-natal care, safe motherhood, breastfeeding, and maternity leave policies (Jones, 1997; Saint-Germain, 1989; Welch, 1985).

Although differential experience, norms, roles, and selective benefits potentially promote general differences in political attitudes between men and women, female politicians might also be more likely to support policy that directly and indirectly benefits child health because of selection effects. Most importantly, men and women might enter politics through different routes, and their different trajectories might affect their policy orientations. For example, more female politicians in the Global South enter politics via NGOs, women's movements, and community development whereas a larger percentage of male politicians come from more socially conservative backgrounds like law and business (Goetz, 1997; Sinkkonen and Haavio-Mannila, 1981). People with backgrounds in NGOs, women's movements, and community development might be more supportive of policy benefiting child health (Juusola-Halonen, 1981).

3. Data and variables

To explore whether female political representation improves child health outcomes, we complete cross-sectional and time-series analyses. Our data on female political representation come from the Inter-Parliamentary Union database on the percentage of parliamentary seats in a single or lower chamber of the national parliament held by women (Inter-Parliamentary Union, 2015). Similar to Swiss et al. (2012), we use a 5-year lag of this variable because the implementation of policy affecting child health would likely take time to have its effects. We also test additional lags (e.g., 3-year, 8-year and 10-year). Using 3-year lag, we find similar results. As we increase the lag, however, we lose a large number of observations, which make the results somewhat inconsistent. Due to this, we report only the results obtained from the 5-year lag. All missing data have been dropped from the regression equations, using equal sample in Stata. In addition to using the 5-year lag, to look into a possible threshold effect, we also create three dummy variables measuring the levels of female representation: between 0 and 9.9 percent, between 10 and 19.9 percent, and 20 percent and greater, with 0–9.9 percent female representation as the reference category.

For control variables, we include several country-level controls that commonly affect child health and female empowerment. Four such variables come from the World Bank's (2016) World Development Indicators (WDI) database, and we use the natural logarithm of these variables: GDP per capita in 2011 constant international dollars (PPP adjusted), net official development assistance (ODA) per capita in current US dollars, female labor force participation rate as a percentage of the female population aged 15 and older, and female secondary gross enrollment ratio. We also include a dummy variable to indicate whether a left-leaning party controls the national parliament, as the orientations of leftist parties might promote both female representation and policy improving child health (Htun and Powers, 2006). The dummy variable is coded as 1 if the political orientation of the largest government party is left of center and 0 otherwise, and is based on data from the Development Research Group at the World Bank (Beck et al., 2001). Next, we control for a country's extent of democracy because female representatives might be less able to influence policy affecting child health when the level of democracy is low (Ballington and Karam, 2005). We measure the extent of democracy along a scale that ranges from 0 to 10, where 0 is least democratic and 10 most democratic. This variable is an average of Freedom House political rights and civil liberty and Polity IV modified polity measure, both transformed to a scale 0–10 and missing values are imputed. Finally, to explore our hypothesis that female representation affects child health through policy, we include a variable measuring public spending on health as a percentage of GDP. Specifically, we add this variable to see if its inclusion transforms the relationship between female representation and child health. The data come from the WDI database (World Bank, 2016).

In addition to these country-level variables, we also control for individual-level factors that shape child health. All data on these variables come from Demographic and Health Surveys (2015) of LMICs. These individual-level controls include: sex of the child (male = 1), year of child birth, mother's highest level of education, mother's age at the child birth (less than 20 years, 20–39 years and 40 years and above, with the age 20–39 years as the reference category), area of residence (urban = 1), and socioeconomic status (SES). Following the method suggested by Filmer and Pritchett (2001), DHS has constructed the SES index using available information on a household's ownership of selected assets (e.g., bicycle, radio, and television), type of water source and sanitation facilities