

**Context of Women's Religious Disempowerment: Explaining Muslim and Non-Muslim Differences in Child Health Outcomes in India**

Sangeeta Parashar

Department of Sociology  
Montclair State University  
E-mail: [parashars@mail.montclair.edu](mailto:parashars@mail.montclair.edu)

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## **ABSTRACT**

Although post-ICPD discourse highlighted women's empowerment as a means of demographic change, there is increasing anxiety, in the current neoliberal climate, over a diminishing welfare state and an overemphasis on individual responsibility. This is especially relevant in politicized populist discussions about religion and child health outcomes among Muslims in India, that tend to focus on individual-level explanations suggesting the restrictive nature of Islam on women's empowerment, than macro-level factors such as infrastructure or socioeconomic development. By using multi-level models and data from the 2005/06 India DHS and the 2005/06 IDHS, my paper will address this macro-micro debate through the following question: are Muslim/non-Muslim differences in child health outcomes reflective of group membership or the indirect effect of discrimination *due* to group membership in a fiscally austere setting? Finally, do health differences vary from locale to locale in India and hence, must be contextualized, or are they consistent across all settings?

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### **Introduction**

A primary sociological insight—that group membership and social position (such as country, race, gender, religion, and caste) are primary determinants of individual behavior—has gained renewed interest in the past couple of decades. Reasons for this resurgence are diverse and vary from personal to socioeconomic disparities between groups within and across societies to rising fundamentalism in the face of globalization. Religious group affiliation has been particularly politicized due to events such as Hindu-Muslim riots in India, the ongoing Arab-Israel conflict, terrorist attacks of 9/11, and civil war in Sudan and Darfur region, among others.

Consequently, Muslim and non-Muslim differentials in demographic outcomes become highly charged topics in countries and communities that are marked by religious variability and that have a sizeable number of Muslims. Oftentimes, the tenor of the dialogue changes when religion is introduced in the conversation, with most explanations tending towards individual rather than structural explanations. For example, data indicates that fertility and child mortality is often higher in Muslim than non-Muslim communities, while contraceptive use is lower. Because the care of infants remains an almost exclusive domain of women in most societies, one set of researchers often argue that Islamic restrictions on women's power and autonomy often compromise women's ability to limit their fertility or secure good health for themselves and their children. Hence, Muslim societies are predisposed to high fertility, unmet need for contraception, and infant and child mortality (Caldwell 1986; Youssef 1978; Kirk 1968).

On the other hand, an emerging body of literature argues that a specifically Islamic pattern of fertility (or other demographic outcomes) solely due to religious influence is a simplistic explanation of observed health differences. In fact, according to them, contextual factors such as infrastructure (e.g. health/preventative/family planning programs), socioeconomic development, or policies play a more important role in the observed health differences than disempowerment emerging from religious strictures (Karim, 2009). Although post-ICPD discourse highlighted women's empowerment as a means of demographic change, this explanation reflects increasing anxiety, in the current neoliberal climate, over a diminishing welfare state and an overemphasis on individual responsibility.

It is this gap in the literature—the micro-macro argument—that my paper will attempt to address through the question: *do social group differences trump context or vice versa?* Using stepwise multilevel models that incorporate individual-, household-, and district-level data, this study will address the following questions:

1. Are there Muslim and non-Muslim differences in child health outcomes such as (1) malnutrition, (2) completeness of immunization, (3) and under-5 mortality across various parts of India?
2. Do Muslim women have lower autonomy in various spheres of decision-making than non-Muslim women across various parts of India? What is the effect of *different* aspects of autonomy on various child health outcomes?
3. Are poorer health outcomes experienced by Muslim children (if observed), better explained by individual-level factors such as their mother's lower autonomy or by contextual factors such as socioeconomic disadvantages (higher poverty rates) and unequal allocation of resources (lack of healthcare facilities and

infrastructure)? Is the health effect reflective of group membership or the indirect effect of discrimination *due* to group membership?

4. Finally, do Muslim/non-Muslim differences in demographic outcomes vary from locale to locale and hence, need to be contextualized, or are they consistent across all settings?

After delineating the Indian background and a literature review, I will use multilevel models to support my hypotheses. Models will be run separately for Muslims and non-Muslims, and then both combined. Model 1 estimates the effect of district-level factors on various child health statuses. In Model 2, various district-level controls are introduced to investigate if the relationship observed in Model 1 remains consistent and robust. Model 3 includes all the compositional (individual and household) as well as contextual levels to evaluate (1) the robustness of the contextual effect (by controlling for compositional factors), and (2) the extent to which compositional factors such as women's empowerment at the individual-level explain changes, if any, in the observed relationship. I then conclude the paper by discussing data limitations, relevant policy issues, and future avenues of research.

### **Relevance of the Project**

This topic will make several important contributions to the field of social inequality, women's empowerment, and child health. First, malnutrition is the largest "killer" of children globally. Hence, this topic has important policy implications because it answers two important questions: "What has a greater effect on a child's health: mother's empowerment or social context? And, how does that interplay with religion, an important basis of inequality in some settings?" Second, examining the linkages between religion, women's empowerment, and

various indicators of child health allows us to disentangle *how* different facets of women's empowerment and context affect different aspects of child health and survival, with relevant policy implications. For example, while Muslim women's children may not be malnourished (type of diet), compared to women of other religions, they may have lower immunization rates because of accessibility to health services, a structural factor. Hence, results from the analysis can be used for correcting biased public perceptions about Islam. Finally, it may highlight the effects of declining state provisions on increased ethno-religious tensions in the current neoliberal climate pervading India.

## **Data and Methodology**

### *Analytical multilevel strategy*

Until recently, higher neighborhood-, community-, or even district-level effects were not incorporated in studies pertaining to maternal education and child health (Sastry, 1996; Desai & Alva, 1998). This could be due to problems in transporting these effects into individual-level models as well as choosing the appropriate units *and* levels of analysis (Raudenbusch & Bryk, 2002). However, even when such effects are included in single-level equations, the results can be misleading due to aggregation bias, misestimated standard errors, and heterogeneity of regression (Raudenbusch & Bryk, 2002). Hierarchical linear modeling (HLM), which permits simultaneous estimation of full micro-level and macro-level models, helps correct these methodological problems. By using maximum likelihood statistical estimation, it provides relevant tools for modeling *within* and *between* social phenomena, thus allowing for the direct representation of the influence of higher-level factors on structural relations within areas. Finally, HLM adjusts for correlation errors among individuals (or children, in this analysis)

within the same geographical areas (or districts) and uses the appropriate degrees of freedom for higher-level hypotheses, making it an ideal technique to answer the questions posed here.

### *Data*

This analysis utilizes two levels of data at the individual and community level and also two sources of data to corroborate results. Data come from India's 2005/06 National Family Health Survey-3 (NFHS-3) collected by the Indian Institute of Population Studies in collaboration with Macro International, MD. The second set of data comes from the India Human Development Survey (IHDS) carried out by the University of Maryland, College Park, in conjunction with the National Council of Applied Economic Research (NCAER). It is a nationally representative, multi-topic survey of 41,554 households in 1503 villages and 971 urban neighborhoods across India. The NFHS-3 is nationally representative and samples ever-married women aged 15-49 years using a stratified, multistage area probability sample of household clusters. Both surveys also collected extensive information on children born in the three years preceding the survey; one health investigator on each survey team carefully measured the height and weight of eligible women and children.<sup>1</sup> Specific household- as well as village-level information was also collected. Overall, the dataset represents 99% of India's population residing in 26 states.

The NFHS-3 and IDHS are particularly useful because, in addition to extensive anthropometric records on the dependent variables, child stunting and infant immunization, the women's status module provides a wealth of information on the main explanatory variables,

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<sup>1</sup> Interviewers measured the height of children under two years of age with the child lying down on an adjustable measuring board, and the height of children age two years or older with the child standing up. The training of interviewers on height and weight measurement followed United Nations (1986) guidelines and height was measured to the nearest 0.1 centimeters.

women's empowerment. Questions pertaining to the respondent's as well as spouse's age and past/current labor force participation, intra-household relationships, education, respondents' attitudes towards domestic violence, freedom of movement, etc were asked of all women. Additionally, the individual and child sub-datasets contain detailed information on reproduction, maternal and child health, birth history, household possessions, and other relevant demographic variables, several of which are used as controls in this study.

#### *Dependent variables used in study*

- **STUNTED:** Whether a woman's living child born 0 to 35 months ago suffers from chronic malnutrition or stunting. A child is considered stunted if his or her height-for-age is more than two standard deviations *below* the median value of an international reference population. The international reference population used is that defined by the National Centre for Health Statistics (NCHS) and accepted by WHO. This variable has 2 values: "0" if the child is *not stunted* and is above -2 standard deviations of the reference median and "1" if the child *is stunted* and is 2 SD below the reference point.
- **IMMUNIZATION:** Whether a woman's last living child born 12 to 23 months ago has received all of the following eight immunizations; 3 DPT, 3 Polio, 1 measles, and 1 BCG. This variable has three values:
  - *NONE:* if the child did not receive *any* immunizations at the time of the survey
  - *SOME:* if the child received *at least one but not all* eight immunizations
  - *ALL:* if the child received *all* eight immunizations (1 BCG, 3 DPT, 3 oral polio, and 1 measles)
- **UNDER 5 MORTALITY:** Probability of a woman's child dying before age 5

#### *Compositional explanatory variables*

Eight explanatory variables that measure the sources, setting, and evidence of women's empowerment, are created. Table 1 lists variables according to whether they are indicators of *evidence* of empowerment, or of *sources* of empowerment, or of an appropriate *setting* for empowerment. The signs in parentheses give the hypothesized direction of the relationship of each variable with women's increased control over their lives.



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INSERT TABLE 1 HERE  
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*Structural-level explanatory variables*

District-level or structural variables in the analysis include: (1) social background: the proportion Muslims, the proportion scheduled castes, and the proportion scheduled tribes as indicators of the social composition, (2) overall wealth index, and (3) health facilities index: a proxy for health amenities and immunization programs available. In India, these minority groups are typically disadvantaged in terms of socioeconomic status as well as access to healthcare facilities, sanitation, and infrastructure (Jeffery & Basu, 1996). The wealth index serves as a proxy for the socioeconomic status of the district and averages the proportion of houses in the district with higher quality roofing, wall, and floor materials, toilets (flush/others), electricity, water (piped water/others), and clean cooking fuels. A quadratic transformation of wealth is also introduced in the analysis to test for nonlinearity, with the expectation that poor as well as wealthy districts are likely to benefit the most from health care programs. While governments are likely to organize health camps in poor areas to reduce high levels of infant and child mortality, affluent districts tend to have good immunization facilities because of the social and economic resources already present there. Finally, the health facilities index proxies health programs by measuring a district's access to trained health professionals (formal and informal) in hospitals, dispensaries, and PC sub centers; such programs are expected to positively affect child health and immunization. Unfortunately, a potential drawback of this index is the lack of information about the actual *quality* of these health centers and the facilities provided by them.

### *Control variables*

In addition, eleven control variables that, quite independently of women's empowerment, are known to affect child health are used in the analysis. While most variables are mainly categorical, 4 are continuous in nature. The control variables are (1) *socioeconomic*: index of consumption possessions (ranging from 0-8) and index of basic facilities (0-3), and (2) *bio-demographic*: child's age (a continuous measure in months), sex of child (male, female), birth order of child (one, two or three, four or higher), mother's age at childbirth (continuous measure in years), and previous birth interval (first birth/more than 24 months and less than 24 months). Dichotomous variables, mother received folic acid tablets during pregnancy and mother received two or more tetanus injections during pregnancy are included in the STUNTED models.

### **Preliminary Results**

In the case of child immunization, an interesting issue that emerges from preliminary results is the significant negative association between a child's immunization status and the proportion of Muslims as well as scheduled tribes in a district. The log odds of a child being completely inoculated reduces with an increase in the proportion of Muslims ( $\exp\{\gamma_{04} = -2.17 * 0.12\} = 0.77$ ) or scheduled tribes ( $\exp\{\gamma_{03} = -1.28 * 0.16\} = 0.81$ ) within a district. This could be partly due to the socioeconomic disadvantages (higher poverty rates, lower incomes) and unequal allocation of resources (reflected in lack of healthcare facilities and infrastructure) experienced by Muslims/scheduled tribes and their children (Jeffery & Basu, 1996). A one standard deviation (12.21) increase in the healthcare amenities index improve a child's log odds of being completely immunized by almost one and a half ( $\exp\{\gamma_{05} = 0.03 * 12.21\} = 1.44$ ).

Table 1. Main individual-level explanatory variables for women's empowered

<b>Indicators that give <i>evidence</i> of empowerment</b>	<b>Indicators that are more likely to be <i>sources</i> of empowerment</b>	<b>Indicators that are a <i>setting</i> for empowerment</b>
Financial Autonomy/Security (+)	Education (+)	Lives with mother-in-law (-)
Permission to visit market or friends/relatives (+)	Exposure to mass media (+)	Spousal communication (+)
Acceptance of wife beating (-)	Worked in the last 12 months (+)	