Gender, Time Use, and Health Outcomes in Rural India

Dates of Study Period: 7/1/2011-8/31/2011 (eight weeks)
Location: Vellore District, Tamil Nadu, South India
Foreign Institution: Christian Medical College, Vellore, India
Brown Faculty Mentor: Professor Nancy Luke, Department of Sociology, Population Studies and Training Center, nancy_luke@brown.edu

For this research initiative I will work under the guidance of Professor Nancy Luke. Professor Luke is a social demographer and faculty affiliate with the Population Studies and Training Center at Brown. Professor Luke’s research focuses on the role of social solidarity and social interaction in shaping health outcomes in developing countries like Kenya and India.

My previous research experience in India, as well as my interest in gender, health inequality, and development naturally aligns with the work of Professor Luke. Since my arrival at Brown, I have worked closely with Professor Luke to refine my research questions, and simultaneously sought opportunities to strengthen my methodological and theoretical understanding of health inequality in the Global South. I have taken foundational courses in survey research methods and international development theory, and plan to take courses next year on population studies, demographics and health, and demographic analysis. To further my understanding of contemporary global health issues, I plan to become a Population Studies and Training Center trainee, which will allow me to strengthen my knowledge of the complexities of global health, while also engaging in an interdisciplinary dialogue about the best practices to understanding and addressing these complexities.

Goals and Objectives

Disparities in health access and health outcomes are often closely related to larger patterns of political, socioeconomic, and gender inequalities within a society. In India, disadvantaged populations like women, members of lower castes, and the poor generally have poorer health literacy and face limited access to health care and higher health care costs than those with greater material and social resources (Sen et al. 2002; Marmot 2005). For those living in rural areas of India, social inequalities are compounded by spatial differentials in health access; rural areas are often characterized by poor health care infrastructure, insufficient numbers of health care practitioners, and poorer quality as opposed to urban areas (Sen et al. 2002; Husain 2002).

In rural India, women’s traditionally disadvantaged social standing, greater susceptibility to poverty, limited access to the political sphere, and lower levels education have led to significant disparities in health access compared to men (Raj 2011). These social indicators of health are important measures of the underlying causes of health inequalities that women experience. Despite their utility, these indicators often overlook some of the complexities of how gender, and specifically how women spend their time, can influence health outcomes. In some cases, a close examination of how women spend their time can actually present evidence that contradicts traditional measures of health equality and overall wellbeing (Basu 1991). By surveying women’s daily activities – like the time spent engaging in remunerated work, unpaid work, leisure activities, and social interaction – I will examine how patterns of women’s time use impact broader health
outcomes for women and their children in a rural district in India.

To understand the relationship between women’s time and health outcomes, this study will rely on a time use survey method. In the past, social scientists have primarily used time use surveys to examine patterns of work, leisure, social interaction, and how these vary by social group. When time use surveys have been employed to examine health outcomes, they have tended to focus less on the social determinants of health and more on time of exposure to environmental hazards, exercise time versus sedentary time, and patterns of contact related to the transmission of diseases (Mrkić 2008). More importantly, time use surveys are more commonly employed in studies of populations in industrialized nations (Bianchi et al. 2006; Chesley and Poppie 2009), leaving a large gap in the study of time use for populations in developing nations (Esquivel et al. 2008; Wittenberg 2008). The larger goal of this project is to attempt to fill these research gaps by examining the relationship between time use, gender, and health outcomes in the rapidly developing nation of India.

To achieve the goal of this research project, I will conduct a pilot time use study of women’s daily activities and examine the relationship between women’s time use and health outcomes for women and their children. Specifically, my objective is to administer a time use survey to a random sample of 200 women from 16 villages in the Vellore District in Tamil Nadu, India. This survey will record women’s activities in 15-minute increments during a 24-hour period. As one module in a larger, NIH-funded survey – the South India Community Study (SICS) – the findings from the time use survey will ultimately be linked to self-reported health data, anthropometric measures, and demographic data collected from households in the same villages. By connecting the data from the pilot survey to the larger community survey, I will be able to closely examine how women’s daily activities impact self-reported health and the health conditions of women and their children.

**Specific Aims**

My proposed research project is nested within a five-year community study that collects data on self-reported health, anthropometric measures, and demographic data in rural communities in the Vellore District of Tamil Nadu, South India. My specific aims are as follows:

**Specific Aim #1:** To determine whether there is a relationship between patterns of work, leisure, social interaction and self-reported health and health conditions for women and their children.

**Specific Aim #2:** To link patterns of women’s time use and daily activities with other indicators of women’s wellbeing such as: greater autonomy and freedom of movement, social networks and social capital, and economic independence. I plan to explore how these indicators relate to patterns of health access and self-reported health outcomes for women.

**Specific Aim #3:** To validate the time use survey instrument and prepare the instrument for integration into the larger SICS survey on demographic and health information from 12,000 households within the Vellore District in Tamil Nadu.
To achieve these aims, I will draw from my past research experience examining gender inequalities in India, my methodological training at Brown, and the expertise of Professor Luke and our community partners at the Christian Medical College in Vellore, India.

**Background and Significance**

As a result of economic liberalization in the early 1990s, India has experienced rapid economic growth coupled with significant improvements to livelihoods and wellbeing throughout the country. Despite overall improvements in many social and economic indicators, India’s economic growth has not resulted in increasing health equality in all areas of the country. Social determinants of health such as income, caste, and gender still largely determine health access and health outcomes for many Indians (Deshpande 2002). For many women living in India, equity in health access and care is still not within reach, and some argue that the “absolute gender gap” in health coverage in India has actually grown since the country’s economic liberalization in the early 1990s (Balarajan et al. 2011).

Previous research on gender and health disparities in India has focused primarily on the relationship between social determinants of health and larger demographic trends. Few have undertaken a detailed examination of women’s time use patterns and the relation between women’s time and health outcomes. Time use studies can provide valuable insights into women’s economic activities, their relative autonomy, freedom of movement, and social interconnectedness (Bird 1991; Sayer 2005). These indicators can then be linked to broader health outcomes and help explain the role that women’s activities, occupations, and social networks have on self-reported health and health conditions. Time use surveys are also incredibly valuable instruments to explore how inadequate health infrastructure or health access impacts women’s time; without proper access, women may spend more time caring for others and traveling to and from health clinics or major medical facilities (Esquivel et al. 2008). The detailed nature of the time use survey allows for an in-depth understanding of the relationship between gender and health outcomes, while also highlighting broader health inequalities in rural India.

**Methods and Data Collection Procedures**

This research project will employ a time use survey instrument that is similar to the American Time Use Survey. This survey will record primary and secondary activities in 15-minute increments during a 24-hour period. Each activity will include supplemental information about the duration of the activity, whether the activity was paid or unpaid, the location of the activity, and the other individuals present during the activity. To select survey respondents, I will randomly sample 200 women from 16 villages in the Vellore District. I will utilize household lists from the 12,000 households within the Vellore District that have been collected for the SICS. With each time use survey, I will also administer a short questionnaire about women’s demographic characteristics, recent health conditions (e.g. gynecological conditions, disabilities, chronic health problems, etc.) and general health concerns. I also plan to ask women about their children’s recent health conditions and health concerns.

Once the data is collected, I will analyze the preliminary findings to ensure that the pilot time use instrument is fit for integration into the larger SICS. The final time use instrument will be included
within a large household survey (N=12,000 households) as part of the ongoing South India Community Study (SICS). This instrument will be administered to men, women, and children, and will provide detailed information about time use patterns, how these differ by demographic characteristics, and how this impacts broader health outcomes for individuals and communities. The overall goal of the SICS is to examine the role of community effects (including caste and village networks) in providing social and economic support during health and other household crises. The time use data will provide detailed information about these community effects and will ultimately be linked to health conditions and other important social and economic outcomes for individuals and households.

Because this pilot initiative is part of a larger survey, the Institutional Review Board (IRB) approval for this project will be included in the IRB approval for the South India Community Study (SICS) survey. The principal investigators of the SICS will submit IRB approval to the Brown IRB by spring 2011 and they anticipate approval before June 2011.

### Analysis

The primary data collection will occur in the summer of 2011. Working closely with Professor Nancy Luke, I will conduct a preliminary descriptive analysis of women’s time use patterns in the fall of 2011. In the spring of 2012, I will conduct multivariate regression analysis to examine the relationship between time use patterns, demographic characteristics, and self-reported health. The dependent variables in the regression analysis will be self-reported health, specific health conditions, and reports of children’s health. Some of the key independent variables dealing with time include: time spent in physical labor per day (overall and by specific activities like agricultural work, house work, child care, etc.), time spent in sedentary activities (e.g. leisure, traveling, etc.), and time spent in social interactions. Future analyses of this data will include linking the time use data with other health measures (such as body mass index) to further explore the relationship between patterns of activity and measurable health indicators like weight and height.

### Plan for Dissemination

The findings from this time use survey will inform a series of presentations and papers during the 2011-2012 academic year. Professor Luke and I plan to present the data collected from the pilot study at the International Perspectives on Time use Conference at the University of Maryland in the summer of 2011. We also plan to present the methodology and data from this pilot study at major social demography and sociological conferences like the Population Association of America Annual Conference and the American Sociological Association Annual Conference.

### Detailed Budget

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roundtrip Airfare (Providence, RI to Chennai, India)</td>
<td>$2000</td>
</tr>
<tr>
<td>Housing and Food (estimated at $20 per diem for 60 days)</td>
<td>$1200</td>
</tr>
<tr>
<td>Transportation to and from field sites within the Vellore District, Tamil Nadu</td>
<td>$300</td>
</tr>
<tr>
<td><strong>Total Budget</strong></td>
<td><strong>$3500</strong></td>
</tr>
</tbody>
</table>
References


