ACTIVITIES AND ACHIEVEMENTS QUESTIONNAIRE

1.   Non-Technical Summary

A 1000 word (maximum) summary of the main research results, in non-technical language, should be provided below. The summary might be used by ESRC to publicise the research. It should cover the aims and objectives of the project, main research results and significant academic achievements, dissemination activities and potential or actual impacts on policy and practice and highlight where the project has been successful in building capacity.

The high rates of child mortality in developing countries today constitute one of the harshest failures of development. It is estimated that about 10 million children die each year before their first birthday and that a fourth of these deaths occur in India. A number of previous studies show that the burden of disease and death is born primarily by poorer people within poorer countries.

This project presents and analyses evidence that challenges the conventional wisdom on the overwhelming importance of socio-economic status, introducing a systematic role for culture (identified here as religion). In India, Muslims have poorer socioeconomic status (SES) than Hindus. They have higher fertility and shorter birth intervals. They are a minority group which, it has been argued, may have poorer access to public services. They nevertheless have persistently achieved substantially higher child survival rates than Hindus. This remarkable fact has escaped attention and analysis.[1] We analyse a representative sample of 0.7 million children to investigate this fact and a sequence of further questions that the investigation leads to.

The Muslim advantage in child survival is large. If child mortality rates amongst upper [lower] caste Hindus were to converge to the level exhibited by Muslims, Hindus would avert 0.13 [0.24] million under-5 deaths each year. The religion differential is larger than the more commonly analysed gender differential in child mortality in India. More than two-thirds of the Muslim survival advantage is apparent soon after birth. It is more evident amongst girls, consistent with lower son preference amongst Muslims. It is stronger in rural areas. We find no evidence that the religion differential arises because the geographical distribution of communities is such that one group faces a better local environment, whether in terms of access to public services or in terms of climate. Accounting for the characteristics that are commonly used to predict mortality leaves an "unexplained" Muslim advantage in both child anthropometrics and child survival. This is the case with respect to both low and high caste Hindus, which suggests that the omitted variables that drive the Muslim advantage are not correlated with socioeconomic status. We find that maternal height and non-vegetarian diet contribute to explaining some of the Muslim advantage and argue that closer kinship, a lower degree of son preference and healthier behaviours are further "unobservables" that favour Muslims.

We investigated the hypothesis of lower son preference amongst Muslims as compared with Hindus using two distinct approaches. The first examined adult height differences as height reflects the cumulative impact of the health environment from conception to adulthood. Gender differences in height potentially indicate gender differences in resource allocation. I find that Muslim (and Christian) women have gained height more

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[1] Muslims constituted 13.5% of the Indian population in 2001, almost 140 million people and the second largest concentration of Muslims in the world, 10.3% of all, second to Indonesia which has 12.9% of all.

rapidly than their men while the growth of Hindu women has lagged behind that of Hindu men. I argue that this is evidence of religion-denominated cultural differences in the status of women. If other factors such as income, biological differences or survival selection were driving these differences, they would have to operate very differently by religion *and* gender.

Further evidence that Hindus exercise more son preference than Muslims in India is found in an analysis of trends in conditional sex ratios. The evidence is consistent with female foeticide increasing in line with the availability of ultrasound technology. We show that sex selective abortion appears to have started earlier in and remains more prevalent amongst Hindu families as compared with Muslim families.

Muslims show no similar advantage with respect to education. In fact Muslim children show a substantial deficit in education relative to Hindus, consistent with the lower education of their parents. Lower parental education levels explain only about a third of the lower child attainment. This implies that, while Muslims were found to have unobserved traits that give their children a survival advantage, they appear to have unobserved traits that give their children an educational disadvantage. This could reflect, for example, a cultural difference in the extent to which education is valued. This could, in turn, be related to social alienation and labour market segmentation that effectively lower the returns to education even if, as other research suggests, there is limited evidence of contemporary labour market discrimination.

Analysing trends, we show that the religion gap has narrowed in the last 15 years, a period of general expansion in enrolment rates, but by less than the caste gap within the Hindu community has narrowed in the same period. The education deficit of Muslims is larger amongst boys than amongst girls. This gender gap in the Muslim community has been growing over time i.e. Muslim girls have been catching up with Hindu girls more rapidly than Muslim boys have been catching up with Hindu boys.

Our research challenges, implicitly, the popular perception that the status of women in Muslim communities is lower than that of men, showing that it is even lower in Hindu communities. It also undermines the argument that Muslims have "lower human capital" than Hindus because they have been discriminated against. It shows that they have stronger health capital and suggests that they may have stronger social capital, alongside their clearly weaker educational capital. It speaks to wider questions concerning the determinants of inequality and mobility. It ties in with a recent literature that questions the importance of income in determining health. It augments a growing literature on the role of religion or culture as encapsulating important unobservable behaviours or attitudes that influence health, indeed, enough to reverse the SES gradient that is commonly observed. It presents new evidence on topical issues concerning the causes of the Muslim education deficit, trends in sex-selective abortion and the evolution of gender inequality in health.

The research has been used and cited by the Prime Minister's Office in India and by UNESCO (Paris). It has been presented at WHO (Geneva), DFID (London), the Indian Statistical Institute (Delhi), Cambridge, Cornell, amongst other places. It has resulted in five papers that are published/in the public domain and four papers that are in preparation. A further five papers have been initiated as a consequence of this project.

The project employed two research assistants and the PI contributed significantly to their training (further details are in the research report).

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