

More boys than we bargained for? - Is a preference for sons skewing the sex ratio in India?

Suzanne Maguire, 120078655, Institute of Ageing and Health, Newcastle University.

Introduction

Developed countries typically exhibit a female biased sex ratio whereas, the sex ratio in India and other developing countries is male biased. Sen (1992) suggested that a male bias is the result of a strong preference for sons. This preference can result in practices such as gender selective abortion and infanticide of females or nutritional deprivation of females. There is some support for this e.g. Corsi (2011).

A strong preference for sons could affect the length of time between successive births. In particular we may predict that the birth interval after a son will be longer than that after a female. This occurs either because of high parental satisfaction that a son has been born as opposed to a daughter, so there is no rush to conceive again, or because there will be more parental investment in a son than a daughter, (for example, longer time spent breastfeeding, which will increase the interval before another child is born) (Mace *et al* 1997).

A male biased sex ratio is not evident in all parts of India and varies between states. If son preference is affecting this variation, we might predict a relationship between sex ratio bias and the length of the inter-birth interval after a son is born.

Education provides individuals with broader views making it more likely that they develop values that give no particular preference to either sex. If this is the case we might expect indicators of son preference to be dependent on the proportion of educated women.

Aims and Objectives

- To test whether there is a relationship between the sex ratio for each Indian state and the mean difference in inter-birth intervals between male first birth and female first birth.
- To test whether variation in inter-birth intervals among states is dependent upon the proportion of educated women.

Methods

- Using the SPSS statistical programme, we analysed *DHS data for several states in India and calculated the sex ratio for the first 2 births in each family for 2005.
- We calculated the length of time between first and second births and computed 2 different variables (male-? and female-?) based on whether the first born in the family was a male or female and the subsequent interval length regardless of the sex of the next birth
- We looked at the successive birth interval lengths for male-? and female-? and calculated the mean difference in this length between the 2 variables.
- In addition, we calculated the percentage of uneducated women in each state.
- We performed the non parametric correlation Spearman's RHO test using the mean difference and the sex ratio as well as a test statistic.

*DHS: Demographic and Health Surveys.

Results

- We found a highly significant positive correlation between the mean difference in length of inter-birth interval when the first birth is a male or female and the sex ratio for births 1 and 2 in a state (Fig 1).
- There was a positive but non-significant correlation between the mean difference in length of inter-birth intervals when the first birth is a male or a female and the percentage of uneducated women in that state. (Fig 2)

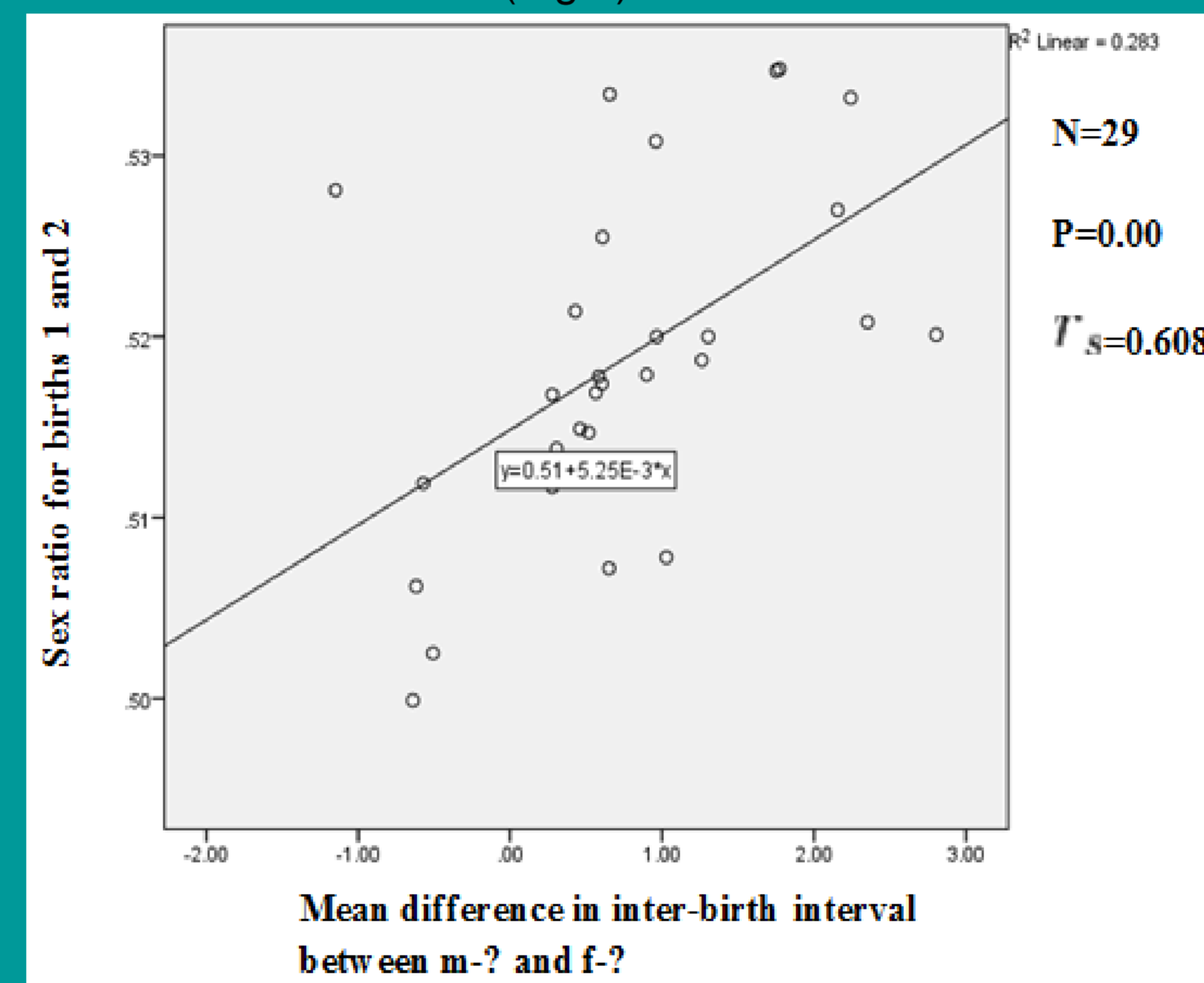


Fig.1. The sex ratio in a state for births 1 and 2 against the mean difference in length of inter-birth intervals (months) when the first birth is male or female.

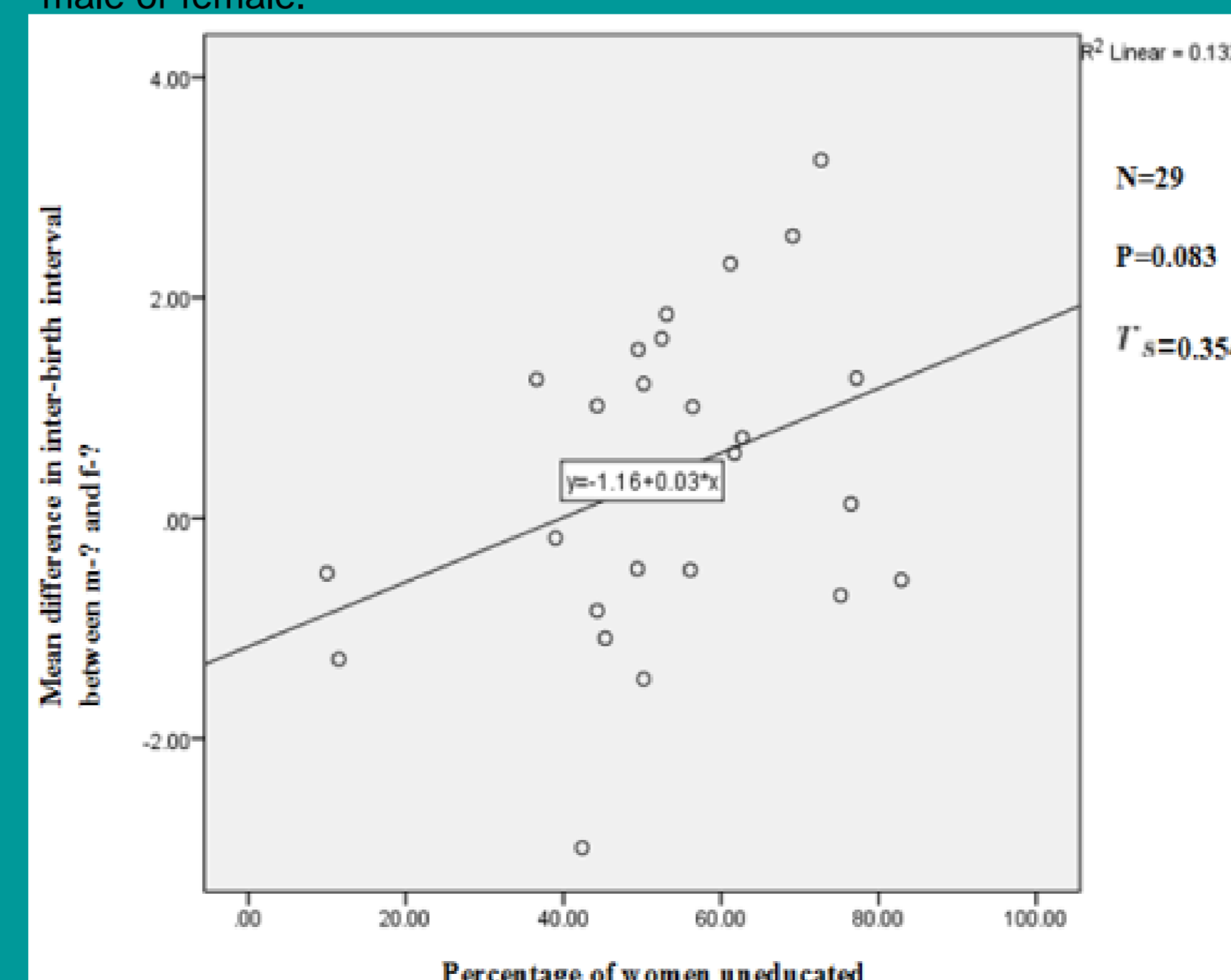


Fig.2. The mean difference in length of inter-birth intervals (months) when the first birth is male or female against the percentage of women uneducated in a state.



Discussion & Conclusion

- We used the difference in the length of the birth interval after the birth of a son relative to that of a daughter as an indicator of the strength of son preference and found that this was a significant predictor of the variation in sex ratio across the states in India.
- We have thus found support for the hypothesis that a preference for sons can result in a male biased sex ratio.
- This conclusion is dependent upon the assumption that the length of the birth interval after a child can be used as an indicator of a preference. Others have also found a longer inter-birth interval after a son and have suggested that it is an indicator of the level of parental investment e.g. (Mace *et al* 1997).
- Echávarri *et al* (2010) suggested that education may be viewed as an “instrument of preference change” which can broaden viewpoints and allow individuals to reassess their views on sex preference. In India, they found a non-linear relationship between sex ratio and literacy rate, which can be ultimately linked to formal education. Here, we have found a weak relationship between our indicator of son preference and the proportion of uneducated women.
- However, this is likely to be a complicated relationship. Many authors have indicated that educated parents can also have sex preferences and may use screening technologies to select sex. Education can be alternatively viewed as having the power to give individuals freedom of choice and ease of access to these sex determining technologies.

References & Acknowledgements

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