

BIOS 600 · Global Topics Group Project II

Due 7 October 2011

Submission Instructions: This is a group project. Each group will submit 1 electronic copy of its final product by Friday, 7 October 2011. The electronic copy should be in pdf format. Please submit the electronic copy by email to tgs@email.unc.edu. You should also submit a paper copy by Tuesday, 11 October 2011.

Honor Code: Your final product should reflect the work of group members.

Project Goal: Upon completing BIOS 600, students should enjoy a basic level of statistical literacy. Hopefully, you will be able to read and identify the key aspects of journal articles and technical reports. Perhaps you will not understand all the methods or technical details, but you will be able to answer these basic questions:

- (a) What is the primary research question?
- (b) What is the study design?
- (c) What are the key variables?
- (d) What do the authors conclude?

This project is an opportunity for students to work as a group to develop basic statistical literacy skills. The project is adapted from Gelman and Nolan (2006).

This project is also part of the School of Public Health's initiative to expose you—the student—to global health topics.

Background: Researchers often report the sex ratio in one of two ways: (1) X males per 1000 females or (2) X females per 1000 males. For humans, the sex ratio at birth slightly favors males, but the sex ratio at reproductive age is essentially even.

Sex-selective abortion occurs when the responsible party chooses to terminate a pregnancy because of the fetus's predicted sex.

The widespread practice of sex-selective abortion in favor a one sex can dramatically affect the sex ratio. The article by Zhu et al. (2009) reports the author's efforts to estimate the sex ratio in China and the effect of sex-selective abortion. The article by Jha et al. (2011) addresses similar issues in India. Major news outlets reported on the publication of these journal articles: see LaFraniere (2009), Yardley (2011), and Brown (2011).

Instructions: Obtain a copy of both articles. (If you have difficulty finding the articles, please consult your helpful librarian. Librarians are highly trained individuals who can make your life very easy if you simply ask.) The newspaper articles are posted on Blackboard. Work together to answer the following questions.

Question 1: Please sign the UNC honor pledge.

Question 2: Read Zhu et al. (2009) and succinctly answer the 4 questions listed in the Project Goal section.

Question 3: Read LaFraniere (2009) and briefly answer these questions:

- (a) How accurately does the title reflect the findings of the study?
- (b) If you could change one sentence in the article, which sentence would you change, how would you change it, and what are your reasons for change it?
- (c) If you could add one paragraph to the newspaper article to give more information about the study, what would you say? Explain your reasons for choosing the information you did.
- (d) In 2 or 3 paragraphs, compare your responses in question 2 to the summary of LaFraniere (2009). Do your answers agree with LaFraniere (2009)? Does the newspaper article focus on something that you did not? You don't have to answer these questions specifically; I offer them as a way to generate discussion.

Question 4: Read Jha et al. (2011) and succinctly answer the 4 questions listed the Project Goal section.

Question 5: Briefly comment on the usefulness of the graphs or figures in Jha et al. (2011). Do you think additional figures or graphs in the article would be helpful? If so, what kind?

Question 6: Read Yardley (2011) and Brown (2011) and briefly answer these questions. (There is no right or wrong answer. I simply want to see a thoughtful response.)

- (a) Both newspaper articles are reporting on the same journal article, yet their titles are very different. In your opinion, which article title best reflects the results of the study? Explain.
- (b) Did one article do a better job clearly communicating the 4 basic questions listed the Project Goal section? Explain.

Question 7: Neither article addresses in detail the question: *So what? Why should I care if the sex ratio is unbalanced?* Find a source or two that addresses this question. You don't have to read the source in great detail; you can look at its abstract or summary. Summarize in a few sentences what your source claims is a consequence of an unbalanced sex ratio.

References

- Brown, D. (2011), "Sex-selective abortion on rise in India among couples without boys," The Washington Post. 24 May. Accessed online 20 September 2011.
- Gelman, A. and Nolan, D. (2006), *Teaching Statistics*, Oxford University Press.
- Jha, P., Kesler, M. A., Kumar, R., Ram, F., Ram, U., Aleksandrowicz, L., Bassani, D. G., Chandra, S., and Banthia, J. K. (2011), "Trends in selective abortions of girls in India: analysis of nationally representative birth histories from 1990 to 2005 and census data from 1991 to 2011," *The Lancet*, 377, 1921 – 1928.
- LaFraniere, S. (2009), "Chinese Bias for Baby Boys Creates a Gap of 32 Million," The New York Times. 11 April. Accessed online 20 September 2011.
- Yardley, J. (2011), "As Wealth and Literacy Rise in India, Report Says, So Do Sex-Selective Abortions," The New York Times. 24 May. Accessed online 20 September 2011.
- Zhu, W. X., Lu, L., and Hesketh, T. (2009), "Chinas excess males, sex selective abortion, and one child policy: analysis of data from 2005 national intercensus survey," *BMJ*, 338.