

-----Original Message-----

From: XXX YYY<xxx@yyy.zzz>

Sent: Mon, Nov 24, 2014 at 8:42 PM

To: Managing Editor

Subject: Re: Request for Editorial decision for manuscript number 2014_IJTDH_14429

You can find below my comments about the paper "Population stress, civil unrest and the male to female ratio at birth in Chile, Argentina, Brazil, Australia and Finland"

The manuscript has still two major pitfalls:

Statistical methods should be revised

Some possible explanations of the findings are difficult to justify or inconsistent.

The authors used the chi-square test in order to test trends and to compare the sex ratios. In case of a large sample size (the annual number of births are more than 50,000 in any studied country) the chi-square test tends to provide statistical significant results, even though the population effect size is negligible. E.g. In Chile the maximum annual change in the sex ratio is 1%, the average annual change is 0.4%, however from the results of the chi square test the authors deduce a "significant decline". Statistical significance tells how sure you are that a difference or relationship exists. To say that a significant difference or relationship exists only tells half the story. After finding a significant relationship, it is important to evaluate its strength. Significant relationships can be strong or weak. Significant differences can be large or small. It just depends on your sample size.

I suggest to use more suitable statistical tools such as the ARIMA model, used in one of the cited studies (Bruckner, 2010) or the joinpoint regression analysis (see Kim HJ, Fay MP, Feuer EJ, Midthune DN. Permutation tests for joinpoint regression with applications to cancer rates. Stat Med 2000;19:335-51 for details).

About possible explanations, as one of the referees cited, "the proposal that in Australia one individual (Mr. Vladimir Petrov) single handedly changed the male to female birth ratio seems unlikely, and impossible to support". I did not find any convincing passage in the manuscript in reply to this observation.

Another inconsistent explanation concerns Argentina. The authors made the hypothesis that the high sex ratio observed in 1978 may be due to the victory of Argentina in the 11th soccer World Cup, that was held in June 1978. Timing is inconsistent, the babies conceived after the victory will have born in 1979, so the effect would have been apparent only in 1979.

Finally, the paper can be reconsidered after major revisions concerning statistical methods and explanations.

Editor's Details:

Dr. Aldo Rosano

Agency for Public Health, Lazio Region, Rome, Italy

Note: Modification was done in this document ONLY to hide the email id and some comments, which are against the SDI peer review guidelines.