

## Quantitative Methods Annotated Bibliography

Lukacs, John R 2011. "Gender Differences in Oral Health in South Asia: Metadata Imply Multifactorial Biological and Cultural Causes". *American Journal of Human Biology*, 23:398:411.

For this article, the author conducted a meta-data literature survey to understand causes for gender differences in oral health. Previous studies observed a higher rate of dental caries (tooth decay) among females than males. Causes were explained in cultural and behavioral terms, for instance by anthropologists, who concluded that females had more consistent access to food and therefore more decay. The *research question* was: are gender differences in oral health caused by biological and cultural factors?

Using search engines such as the Web of Science, a *database* of oral health statistics in South Asian populations was created from over 100 reports. Organized by female and male dental patients, their age and location, the difference between cavities in males and females was calculated, and the means were compared using a Student's *t*-test.

The *conclusion* revealed that while 5 to 6-year old boys have higher rates of caries than girls, once girls turn 12 to 13-years old, the trend reverses. The author hypothesizes that this difference is due to biological factors, primarily the increase in sex hormones that occur during puberty in girls. The article's *strength* was in the large database that was assembled. The article was convincing with no notable *weaknesses*.