
ASSIGNMENT 1
Due by September 14, 2017 (Thursday) at 11:59pm
Percent of final grade: 10%

Course information

Course website: www.ernestoamaral.com/soci420-17fall.html

Meeting times: Section 903, Tuesday and Thursday, 9:35–10:50am
Section 904, Tuesday and Thursday, 2:20–3:35pm

Instructor information

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Submission

Assignment should be submitted through Turnitin within eCampus. Turnitin is an online database system designed to help instructors **detect plagiarism**, track citations, facilitate peer reviews, and provide paperless grading markup in written assignments.

Questions

You should watch the documentary “The Joy of Stats” with Professor Hans Rosling produced by Gapminder, available on the course website. Answer each one of the questions below with complete sentences organized in paragraphs, since this is an academic assignment. Some of the questions merely aim to gauge whether the student has watched the documentary. Other questions relate to the content of the video and classroom discussions.

1. What are the four items Sweden has most of per person in Europe, as noted in the documentary?
2. What do men usually think about their driving? Why is this belief most likely wrong?
3. What is the example Hans Rosling gives to show that statistics is far more useful than we usually like to admit?
4. Why did Hans Rosling become obsessed with statistics? Washington, D.C. is wealthy according to Hans Rosling’s analysis, but it is not as healthy as which state of which country?
5. Which city in the United States is making public data available and accessible to everyone? What is the correlation of topography and crime? What do these acronyms mean (Na, SA, AA, Ro, Va, Th)? What are citizens doing when they go to community meetings in this city? What is the dream of the government data analysis project in this city?
6. What was the original objective in collecting statistics? Where does the word “statistics” come from? When did Sweden start to systematically collect statistics? What three variables have been collected since that time?

7. Why did Sweden think they were able to rival Britain and France in 1749? Why were they wrong? What was causing this issue? Which area in England had the highest rate of bastardy in 1842?
8. Why did Charles Babbage suggest that Alfred Tennyson rewrite one of his poems? What would the changed verses be?
9. Hans Rosling said: "(...) But numbers alone don't tell you anything. You have to analyze them. And that's what makes statistics." In the course textbook, Joseph Healey suggests that: "Without an appropriate application of statistics, data are useless." Discuss how these statements are related.
10. What is the limitation of using only averages to explain populations? Explain and provide examples of the two statistical distributions discussed in the documentary.
11. What type of graph does Florence Nightingale use to show causes of mortality in the army? What do the three different colors in the diagram mean? What is the main message of her study?
12. What was the predicted cost of the Iraq war in 2003? What was the estimated total cost by the time of the documentary?
13. Life expectancy was below what number for most countries in 1810? What happened with income and life expectancy during World War I and the Spanish flu epidemic? Which nine countries does Hans Rosling highlight when he stops the graph in 1948? Why does he mention these countries? Which country has the best indicators in 2009? Which country has the worst indicators in 2009? To which three countries can each of the three Chinese provinces (indicated by Hans Rosling) be compared in terms of wealth and health?
14. Why is correlation important in statistics? Richard Doll highlighted a groundbreaking correlation between smoking and lung cancer in 1950. Other people questioned his finding in earlier discussions. What were the three alternate explanations for the incidences of lung cancer? Which study did Richard Doll conduct to verify his correlation? What was his other finding when he finalized this analysis?
15. How did Professor Michael Marmot suggest that scientists should deal with a correlation when they encounter one?
16. What is the example of a Google project that uses statistical analysis? What are the strategies and techniques used in this research? What is the next step in their research?
17. How do galaxies grow? What is the name of the survey that is collecting information for this project?
18. In reality, simulations conducted about the correlation between rain forests and the atmosphere are compared in order to see which better matches what is observed in nature. This research is considered to be data driven, instead of hypothesis driven. Why is this new paradigm controversial? How does it relate to the wheel of science described by Joseph Healey?
19. What are the more prevalent feelings among women and men, according to Professor Sep Kamvar's research? Why does the professor think this research is important?
20. How do you think a fact-based society would have less prejudice, as suggested by Hans Rosling?