Mixable Discussion Assignments General Instructions
STAT 113: Statistics and Society
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Note: see the separate file for how to set up and use the Mixable system and files for the specific Mixable assignment.

Big picture: You will need to post 1 unique article/explanation about detailed research. You also must make 4 statistically intelligent and valid comments on other people's posts. These comments should be split among multiple posts, not 4 on the same post. *Read over the entire document to get the details of exactly what is required.* The article/explanation is worth up to 25 points, and each statistically intelligent comment that helps the discussion move forward is worth 5 points. The whole assignment is worth 45 points.

Statistics are everywhere in the media. Some are used well, and some are not. As part of the goal of STAT 113, you will become a savvy media statistics consumer. This project is not meant to be completed in one night. You are expected to be keeping your eyes open for statistics in the media over the whole semester. You will read something in a newspaper, in a magazine, and on websites. You will hear about statistics in radio reports, like on National Public Radio. You will see statistics on television and on YouTube.

Please note that the articles must be news stories—they cannot be course materials designed to teach statistical methods. The stories do not have to be recent. Your posting has to be UNIQUE. It won't count if another student has posted a link to the same story or if Ellen has used it in her lecture notes. This means a Washington Post story about a research project will count as exactly the same as an MSNBC story about the same research. You will have to read what the other students have posted and written to make sure that your posting is unique. We will check postings across sections, too, to make sure you aren't sharing posts with students in other sections.

ASK FOR HELP if you are having trouble.

Have fun with this assignment! If you work on it a little bit each day, you might actually enjoy it. Students are generally a little timid in the beginning, but once they get going and know what to look for, the assignment gets much easier. Student feedback on this assignment is generally positive at the end of the semester. One student described it as a "treasure hunt." Other students talked about how they never realized before that statistics really is all around them, and this assignment opened their eyes and showed them why they were required to take this class.

For your topic, post the following on Mixable *in the appropriate breakout group*:

- A link to the website or an upload of a relevant file.
- Post your discussion as part of the "status update." Do NOT make it a separate Word document. We want everything on the Mixable site to make it easier and quicker for people to read. Use the questions provided to create your discussion.
- Post in the appropriate breakout group for your type of graph. That way people can find all of the histogram articles in one group, all the pie charts in one group, etc. This will help you check

that nobody else has posted the same link that you have. Any posts outside of the appropriate breakout group will not be graded.

Commenting on other people's posts: You are also required to make at least 4 comments on posts from other people.   (Note: Only 1 comment per person per post will receive credit, so don't try to do 4 comments on just 1 post. The goal is to get you reading and commenting on lots of different posts.) These comments must be thoughtful, indicate that you have thoroughly read the article and any previous comments on that article, and must add to the level of discussion on the statistical concepts. Balance your comments between the different types of graphs. The instructor may post articles also, and comments on those articles are acceptable for earning your discussion points. Just as with everything we do in this course, please keep in mind that it's important to be respectful of each other and to engage in professional dialogue.

Examples of **bad** comments on posts which **did not receive credit**:
- "This was an interesting article. It reminded me of junior high days."
- "I love everything that has to do with monkeys and I find the way they act to be fascinating. It is so crazy to me that they are such an intelligent species, and act SO similarly to humans."
- "This was a great experiment." (This is an especially bad comment if the article was actually about an observational study, and you didn't catch it! Not all the students who post articles will label them correctly, and you should be on the lookout for that.)

Examples of **good** comments on posts which **did receive credit**:
- "You didn't label this post, but I'm pretty sure you meant to label it "Experiment" based on your discussion.   Anyway, this is definitely not an experiment. It is an observational study. No treatments were applied. It's true that they gave everyone a hearing test, but that was simply a method of collecting data since you can't just ask everyone if they have hearing problems and get reliable feedback. They didn't divide the people tested into groups and give them any sort of different treatment to see if there was an effect on the outcome. In other words, they were just looking for the data for a single variable as it was, as opposed to changing another variable to see what its effect on the measured variable would be."
- "This graph is interesting, but pretty hard to read. I had to look very closely to see if red was used in more than one place. I like that it is interactive, but it is difficult to put your cursor over the extremely thin red lines. I wonder why it raised back up in the 1940's? I do find it interesting how drastically the name popularity has declined over the years. It hasn't become popular again. The graph shows that for the majority, the name has been on a decline."

You should check back on your original posts periodically to see if your instructor or fellow students had questions/comments for you to answer.

Here are some websites which might be helpful to you:

www.theatlantic.com/health/category/studies   www.cnn.com   www.futurity.org

www.time.com   www.psmag.com   www.npr.org

www.sciencedaily.com   www.usatoday.com   www.nytimes.com

http://fivethirtyeight.com/

If you have questions about how your Mixable assignment was graded, please start by talking to your T.A. The T.A.s grade these assignments.

See the course schedule for the due date. It is strongly recommended that you do not wait until the last minute to try to find these links to articles. Since your article needs to be unique (stories not posted by any other student) and your comments on other students' postings need to be thoughtful, it is to your advantage to work steadily in advance on these. With the uniqueness requirement, this assignment will be much easier for the people who get an earlier start!

Mixable discussion assignment: Graphs

Choose **one** article/video/advertisement that uses a graph that we learn about in STAT 113: pie chart, bar graph, time plot, histogram, boxplot, stem plot, pictograph, means plot, or scatter plot (see the graph file on Blackboard for a review of all these types of graphs). This graph link must be accompanied with enough of the story of how that data was collected that you can answer the questions below.

Answer all of these questions in your post:
a. (10 points) Include the link to the appropriate, unique article, posted in the appropriate breakout group.
b. (2 points) Explain why this article is interesting to you.
c. (2 points) What type of graph is it? How do you know?
d. (2 points) What was/were the variable(s) measured? Is/are the variable(s) categorical or quantitative?
e. (2 points) Was the graph used appropriate for the data and executed correctly? If so, describe the good features of the graph. If not, explain what you would do differently.
f. (2 points) Was the data collected using an observational study or an experiment? How do you know?
g. (5 points) Discuss the sample. Who/what were the individuals in the sample for this data? What type of sample was used (simple random sample, stratified random sample, voluntary response/convenience sample, etc.)? How do you know? Do you feel this sample was an adequate representation of the population? Why or why not?

You need to make 4 statistically intelligent comments that furthers the discussion (worth 5 points each). Some suggestions for comments you make on other people's posts (but many other comments would work):
- Do you think the research is biased? Why or why not? Use appropriate STAT 113 terminology (nonresponse, response bias, undercoverage) and explain your reasoning.
- Are there lurking variables that should be considered? Why might they be important?
- Do you see any problems with how this research was done or presented? Explain your answer.
- If it's an experiment, were the 3 principles of good experimental design used?
- If it's an experiment, are the ethics of good experiments with people or animals being used?
- How would you extend this research in some good, statistically correct way? What other questions would you like to ask the researchers that wasn't explained in the link?
- Are there other ways to get more information about this research question?
- If it's an observational study, could this have been turned into an experiment? Why or why not?