Objective: In this poster project, students will work in teams of two (2) where each team will design and conduct an experiment to investigate the effects of response bias in surveys. Each team may choose their own topic for their respective surveys but you must design your experiment so that it can answer at least one of the following questions:

- Can the wording of a question create response bias?
- Do the characteristics of the interviewer create response bias?
- Does anonymity change the responses to sensitive questions?
- Does manipulating the answer choices change the response?

Project: each team will-

1. Write a proposal describing the design of your team’s experiment. Be sure to include:
   a. Your chosen topic and of the above questions you will try to answer.
   b. A detailed description of how you will obtain your subjects (minimum of 50). Your plan must be practical!
   c. What your questions will be and how they will be asked.
   d. A clear explanation of how you will implement your design.
   e. Precautions you will take to collect data ethically.
2. Submit your proposal to your teacher for approval; when your teacher has approved your design you may carry out your experiment and record your data in tabular form.
3. Analyze your data. What conclusions do you draw? Support your conclusion with appropriate evidence (i.e. graphical or numerical).
4. Present a poster that includes the data you collected, your analysis from Step 3, and a discussion of any problems you encountered and how you dealt with them (i.e. did you encounter confounding variables?)

Submitting proposals: each team please note that-

1. No proposal will be approved that is missing one or more of the five required elements of the design.
2. All proposals submitted must be either typed or neatly written.
3. Assuming there are no contraindications for approval, then the approval process for all submissions will take at least one (1) school day.

Deadline: each team must complete their poster and present their results to the class by October 10th. Extension to this deadline will be provided only in the case of bereavement of a family member or emergency health-related situations in the family. Please see your teacher ASAP if you are unable to meet this deadline.

Grading: each team will receive a grade based on the rubric provided. This project will count as a graded assessment equal to one (1) quiz grade.

*AP is a trademark and is owned by the College Board (www.collegeboard.com)
This project was inspired by an activity found in The Practice of Statistics, 4th ed., by Starnes, Yates and Moore.
**Response Bias in Surveys: an AP* Statistics Poster Project**

**Mr. Surprise**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>4 (Exemplary)</th>
<th>3 (Proficient)</th>
<th>2 (Developing)</th>
<th>1 (Unsatisfactory)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Elements</td>
<td>The poster includes all required elements as well as additional information.</td>
<td>Most of the required elements are included on the poster.</td>
<td>Some of the required elements are included on the poster.</td>
<td>Several required elements were missing.</td>
</tr>
<tr>
<td>Experimental Results</td>
<td>The poster accurately answers the question related to the experiment described in the poster.</td>
<td>The poster answers the question related to the experiment described in the poster.</td>
<td>The poster mostly answers the question related to the experiment described in the poster.</td>
<td>The poster does not address the question related to the experiment described in the poster.</td>
</tr>
<tr>
<td>Graphics - Originality</td>
<td>Several of the graphics used on the poster reflect a exceptional degree of student creativity in their creation and/or display.</td>
<td>One or two of the graphics used on the poster reflect student creativity in their creation and/or display.</td>
<td>The graphics are made by the student, but are based on the designs or ideas of others.</td>
<td>No graphics made by the student are included.</td>
</tr>
<tr>
<td>Design</td>
<td>The poster describes an experiment that incorporates all principles of design and addresses potential bias and confounding.</td>
<td>The poster describes an experiment that incorporates the principles of design that can make inferences about cause and effect.</td>
<td>The poster does not describe all the principles of design used in the experiment.</td>
<td>The poster does not sufficiently describe an experiment that incorporates the principles of design.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>The poster describes a conclusion that is supported by evidence and was compared to a control and is phrased in context with the experiment.</td>
<td>The poster describes a conclusion that is supported by evidence and was compared to a control.</td>
<td>The poster describes a conclusion that is supported by evidence collected from the experiment.</td>
<td>The poster describes a conclusion that is not supported by the evidence collected from the experiment.</td>
</tr>
</tbody>
</table>

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