# Threats to Validity Rubric

|  | Wow! | Getting There | Needs Improvement |
| --- | --- | --- | --- |
| Statistical question | The students developed a statistical question that lends itself to many threats needing to be addressed. | The students developed a statistical question that was somewhat conducive to developing a faulty research plan. | The students developed a question that was not suited for this particular project. |
| Selection bias | The research plan lays out clearly and specifically how information will be gathered from a non-representative sample of the population. | The research plan lays out how information will be gathered from a non-representative sample of the population, but is lacking in detail and specificity. | The research plan does not address how information will be gathered from a non-representative sample of the population. |
| Bias in the study design | The study is clearly biased, with “loaded” questions that lead to misrepresentation of true opinions. | The study includes some bias, but it is unclear how the plan will lead to misrepresentation of true opinions. | The study design does not include bias. |
| Poor choice of summary data | The research plan includes extreme outliers that will shift the results of the analysis in ways that do not represent the population as a whole. | The research plan includes some outliers, but they are perhaps not adequately extreme to shift the results and misrepresent the population. | The research plan does not include extreme outliers. |
| Confounding variables | The study overlooks factors that clearly influence a relationship, leading to invalid claims. | The study overlooks factors that might influence a relationship, perhaps leading to invalid claims. | The study does not include any confounding variables. |
| Concluding discussion | Students clearly articulated how all of the threats to validity cause problems to the study’s conclusions. Students explained what changes must be made in order to minimize the threats. | The discussion of how the threats caused problems is lacking in detail and evidence / analysis. Students explained the changes that must be made to minimize threats, but need to provide more explanation. | The concluding discussion is lacking in detail and evidence. It is unclear if the students understand how threats to validity influence a study. Students do not appear to understand how to revise the study to minimize threats. |

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