Project 1 Rubric

Initial Assignment

This rubric is used to assess the initial project that the students turned in.

1. **(2 points) What are the researchers questioning?**

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| 2 points | The student describes this accurately and with detail. |
| 1 point | The student briefly states what the researcher is questioning, but does not give context or detail. |
| 0.5 points | The student attempted to answer the question, but their response was incorrect. The response was still somewhat based on the content of the article. |
| 0 points | The student did not answer the question or the response does not make sense in context of the article (it is not clear that the student read the article based on their response). |

1. **(6 points) Please summarize the background research discussed in this manuscript. Do this by picking at least three sources used by these researchers and summarize what those sources say in a few sentences.**

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| 6 points | 3 sources were chosen and summarized accurately. |
| 5 points | 3 sources were chosen, but only two were summarized accurately. |
| 4 points | 2 sources were chosen and summarized accurately.  3 sources were chosen, but only one was summarized accurately. |
| 3 points | 3 sources were chosen but none were summarized accurately.  2 sources were chosen, but only one was summarized accurately. |
| 2 points | 1 source was chosen and summarized accurately.  2 sources were chosen but neither was summarized accurately. |
| 1 point | 1 source was chosen, but it was not summarized accurately. |
| 0 points | This was either not completed, or none of the sources chosen were discussed in the study (made up irrelevant sources). |

1. **(1 point) What is the population discussed in this study?**

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| 1 point | The response is correct. |
| 0.5 point | The response was somewhat logical based on the study, but not correct. |
| 0 | There was no response or it did not make sense based on the study. |

1. **(1 points) What is the sample discussed in this study?**

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| --- | --- |
| 1 point | The response is correct. |
| 0.5 point | The response was somewhat logical based on the study, but not correct. |
| 0 | There was no response or it did not make sense based on the study. |

1. **(6 points) What variables are considered in this study? Classify each of these variables as qualitative or quantitative. If quantitative, discuss if the variable is continuous or discrete and give reasoning for your choice. You need to name and classify at least three variables correctly to earn full credit.**

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| --- | --- |
| 6 points | 3 variables were correctly identified and classified accurately. |
| 5 points | 3 variables were correctly identified, but only two were classified accurately. |
| 4 points | 2 variables were correctly identified and classified accurately.  3 variables were correctly identified, but only one was classified accurately. |
| 3 points | 3 variables were correctly identified but none were classified accurately.  2 variables were correctly identified, but only one was classified accurately. |
| 2 points | 1 variable was correct identified and classified accurately.  2 variables were correctly identified but neither was summarized accurately. |
| 1 point | 1 variable was correctly identified, but it was not classified accurately. |
| 0 points | This was either not completed, or none of the variables identified were discussed in the study. |
| NOTE | I generally deduct half a point (instead of a whole point) if a variable is correctly identified as quantitative, but the student did not classify it correctly as continuous or discrete. |

1. **Scroll down to the “Methods” portion of this study (p. 6). Read through the content under the headings “study design” and “study protocol”.** 
   1. **(2 points) Describe two things the researches did to make their study more substantial/valid. At least one of your descriptions must address a “gold standard” method of research.**

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| 2 points | 2 methods described, one explanation speaks specifically to a gold standard method. |
| 1 point | 2 method described, but neither speaks specifically to a gold standard method.  1 method is described and is relative to a gold standard method. |
| 0 points | Not completed or methods described are not methods that were discussed in the study. |

* 1. **(2 points) Describe two flaws you found with the methodology. You must use statistical vocabulary to identify/describe these flaws.**

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| 2 points | 2 flaws described and statistical vocabulary was used to describe both. |
| 1 point | 2 logical “layman’s” flaws were described, but no statistical vocabulary was used to identify/explain.  1 flaw was described with statistical vocabulary. |
| 0 points | Not completed or flaws described did not demonstrate statistical understanding or a logical/thorough analysis of these parts of the study. |

1. **(2 points) Skim through the “Data Analysis” portion of this study (p. 9). Describe one thing that makes sense to you. Describe one thing that seems statistical, but does not make sense to you.**

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| 2 points | One thing that made sense and one thing that did not make sense were identified and described. Both were included in the study. |
| 1 point | One thing that made sense was described. It was included in the study.  One thing that did not make sense was described. It was included in the study. |
| 0 points | Not answered or both things described were not a part of the study. |

1. (**2 points) Continue onto “Results” (p.10-13). You do not need to read through all of this, but please list each heading given by the researchers to understand components that they analyzed.**

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| 2 points | All headings accurately listed. |
| 1 point | Half of the headings accurately listed. |
| 0 points | None of the headings accurately listed. |
| Notes | I’ll typically give partial credit if less than half the headings are listed. Meaning, they will not earn a whole point, but could perhaps get half a point.  I typically use this as motivation later. Students will not understand the data analysis part of this because we haven’t covered yet. So, I use that to describe that we need to cover that. |

1. Consider the conclusion of the researchers on p. 16.
   1. **(1 points) Do you think this conclusion is reasonable considering what you have examined in the article? Explain.**

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| --- | --- |
| 1 point | Question answered thoroughly, logically, and relates to the conclusion of the study. |
| 0 points | Question not answered or does not make sense in the context of the study. |

* 1. **(1 points) Do you see potential flaws in the argument? Explain if you do.**

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| --- | --- |
| 1 point | Question answered thoroughly, logically, and relates to the contents of the study. |
| 0 points | Question not answered or does not make sense in the context of the study. |

* 1. **(1 point) What does the researcher suggest to help resolve this issue?**

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| 1 point | Correctly answers the question. |
| 0 points | Question not answered or the response is incorrect |

* 1. **(1 point) Can you think of any negative impacts resolving this issue may have on people in the area that is discussed?**

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| --- | --- |
| 1 point | Question answered thoroughly, logically, and relates to the contents of the study. |
| 0 points | Question not answered or does not make sense in the context of the study. |

* 1. (5 points) Connect the ideas in the project to the concept of climate justice. More specifically, discuss how the environmental impacts of the plants in cancer corridor may have disproportionate impacts on the population living in that corridor relative to it’s impacts on the population who may be “consuming” what is produced by these plants. In this discussion, recall from class that humans may not the only population impacted.

1. (4 points) Consider the scientific method discussed in class (https://www.sciencebuddies.org/science-fair-projects/science-fair/steps-of-the-scientific-method). Does it seem this process was followed? Take special note of the 4th step down (green box) and explain your reasoning.