**Unit 2 Student Instructions**

**Map Your Hazards!   
Combining Natural Hazards with Societal Issues**

**Unit 2: Perception of hazards, vulnerability and risk**

**Learning Goal for Unit 2:** Students will gain a better understanding of the factors that control risk perception and preparedness by analyzing the survey data to assess knowledge, perception and preparedness of the community. Students will also learn how to pose research questions and test them with the data.

**Necessary Materials:** Access to computers with Excel and Word.

The class will begin with an initial analysis of a subset of the survey data (Part A Worksheet) and a discussion of research questions followed by a more in-depth analysis of the entire survey data (Part B Worksheet). Work is to be completed in the same groups created in Unit 1.

**Part A**

Complete the Part A Worksheet (one per group) using the subset of graphs provided by your instructor. You will turn in one set of answers per group. Please be careful to answer these questions with respect to the data you have been given, *not* from your own perspective. **Be prepared to summarize your Part A worksheet findings for the class by being able to answer the discussion prompts below!**

**Class Discussion – to be held after answering questions in Part A Worksheet:**

* What was the most interesting graph(s) and why?
* What are you curious to learn about this population? What additional factors might influence results of each graph (e.g., age, gender)? Why?
* Come up with several research questions to explore with the dataset (As a class, we will refine these research questions).

**If class time permits students will start on Part B.**

**Part B (start in class and finish as homework)**

Complete the Part B Worksheet (one per group) using the full set of graphs and raw survey data provided by your instructor. The full set of graphs will include an electronic copy of the full, raw data set (Google frequencies, Excel file) and a full set of graphs. The graphs include Google-produced plots and the four research questions graphed by your instructor.

* For full credit, you should answer the questions in Part B worksheet using the *entire* survey data provided.
  + Answers and interpretations should be supported with survey data (reference or include plots as instructed and interpret appropriate graphs).
  + Interpretation should include terms such as “correlate,” “trend” and “correspond.”
* Come up with or refine a research question to test with the data set.
  + Create a graph from the raw data to assess and explain the research question. **Make sure each group member has a saved copy of your group research question and graph.** **You will need present your research question in Unit 3!**
    - Reference the Help for Excel PowerPoint file and Help for Google Docs PowerPoint file for how to create graphs in Excel or Google docs.

**Part A Worksheet (due at the end of the class period)**

**Be prepared to summarize Part A worksheet findings for class according to the discussion prompts above!**

**Task 1:** You have been given a packet of graphs. Please write the question and provide a *brief* summary of the results for each graph. Summaries should be 1–5 sentences in length.

**Graph 1**:

**Graph 2:**

**Graph 3:**

**Graph 4:**

**Task 2:** Assign each graph to the *most* appropriate category by checking a box. State your reasoning for assigning each category.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Knowledge** | **Risk Perception** | **Preparedness** | **Reasoning** |
| **Graph 1** |  |  |  |  |
| **Graph 2** |  |  |  |  |
| **Graph 3** |  |  |  |  |
| **Graph 4** |  |  |  |  |

**Task 3:** You have been given one research question graph in your packet. Write down the assigned research question. Assess and explain the results from the graph as applied to the research question.

**Task 4:** List 1–3 additional factors that might influence results of each graph (e.g., age, gender) and provide reasoning.

**Graph 1:**

**Graph 2:**

**Graph 3:**

**Graph 4:**

**Part B Worksheet**

For full credit, support your answers and interpretations with survey data. Reference or provide plots as indicated and interpret appropriate graphs. Interpretation should include terms such as “correlate,” “trend” and “correspond.”

**Question 1:** Use the data results to test the following research questions on knowledge and risk perception of hazards:

1. Longer residence time in the region results in a more accurate knowledge and level of risk perception.
2. Past experience with a natural hazard results in a more accurate knowledge and level of risk perception.
3. Participation in drills and/or education programs results in a more accurate knowledge and level of risk perception.
4. The more educated portion of the population has a more accurate knowledge and level of risk perception.

**Question 2:** Where does the public get their knowledge or prefer to get their knowledge about local risk from natural hazards?Copy and paste appropriate graph(s) into worksheet answer and use them to explain your reasoning.

**Question 3:** Who does the public feel is responsible for individual safety? Copy and paste appropriate graph(s) into worksheet answer and use them to explain your reasoning.

**Question 4:** Based on the data you have, come up with or refine a research question to test with the data set. Create and save a graph from the raw data. Assess and explain the results from the graph as applied to the research question. You can reference the PowerPoint tutorial for how to create graphs in Excel or Google docs. Include graph(s) in submitted answers. *Make sure each group member has a copy of group-created research question graph.*

**Question 5:** Based on the survey data and the answers to previous questions, which factors increase vulnerability and put communities at higher risk? Copy and paste appropriate graph(s) into worksheet answer and use them to explain your reasoning.

**Question 6:** Choose three graphs that represent the level of knowledge in your community. Based on these graphs, how would you rank the level of knowledge (poor, fair, good, very good, excellent)? For full credit you must copy and paste the appropriate graph(s) and use them to explain your reasoning (3–6 sentences).

**Question 7:** Choose three graphs that represent the accuracy of risk perception in your community. Based on these graphs, how would you rank the accuracy of risk perception (inaccurate, partially accurate, accurate)? For full credit you must copy and paste the appropriate graph(s) and use them to explain your reasoning (3–6 sentences).

**Question 8:** Choose three graphs that represent the level of preparedness in your community. Based on these graphs, how would you rank the level of preparedness (poor, fair, good, very good, excellent)? For full credit you must copy and paste the appropriate graph(s) and use them to explain your reasoning (3–6 sentences).