Suggestions for the Project Proposal:

1. If you are going to do linear association between two variables X and Y, then X and Y both have to be quantitative. Linear association involves regression, which requires numbers.

2. Try to gather some quantitative data, even if it is based on opinion.

   For example,

   - How much would you consider yourself a conservative, with 1 being the lowest?

     $\circ\ 1 \quad \circ\ 2 \quad \circ\ 3 \quad \circ\ 4 \quad \circ\ 5$

   (This doesn't have to be a 5 point scale.) Using numbers will allow you to find some type of linear association between some of the things that interest you.

   If you used the options

   $\circ$ Poor $\quad \circ$ Fair $\quad \circ$ Good $\quad \circ$ Very Good $\quad \circ$ Excellent

   then you do not get any numbers, and so you cannot do any regression.

3. If you only have 10 options, go ahead and use

   $\circ\ 1 \quad \circ\ 2 \quad \circ\ 3 \quad \circ\ 4 \quad \circ\ 5 \quad \circ\ 6 \quad \circ\ 7 \quad \circ\ 8 \quad \circ\ 9 \quad \circ\ 10$

   instead of

   $\circ\ 1-2 \quad \circ\ 3-4 \quad \circ\ 5-6 \quad \circ\ 7-8 \quad \circ\ 9-10$

   If you have more than 10 options, then you will have to use

   $\circ\ 1-5 \quad \circ\ 6-10 \quad \circ\ 11-15 \quad \circ\ 16-20 \quad \circ\ 21-25 \quad \circ\ 26-30$

   During the survey, the results of these options can be saved as the average of the ranges:

   $3, \quad 8, \quad 13, \quad 18, \quad 23, \quad 28$

4. The idea behind Tests of Significance and Hypothesis Testing:

   Ex: Is there a difference between men and women regarding height? Let h_m denote the mean height of the population of men and h_w denote the mean height of the population of women. True or False: $h_m - h_w \neq 0$. We run a statistics test to answer this question.

   Ex: There is also a Hypothesis Test for percentages: Let p_1 be a percentage for one population and p_2 be a percentage for another population. Are the two population percentages different? True or False: $p_1 - p_2 \neq 0$.

   Ex: Question about one population mean: Is the population mean height h of pygmy goats less than 16 inches? True or False: $h < 16$.

   Click here for a pygmy goat