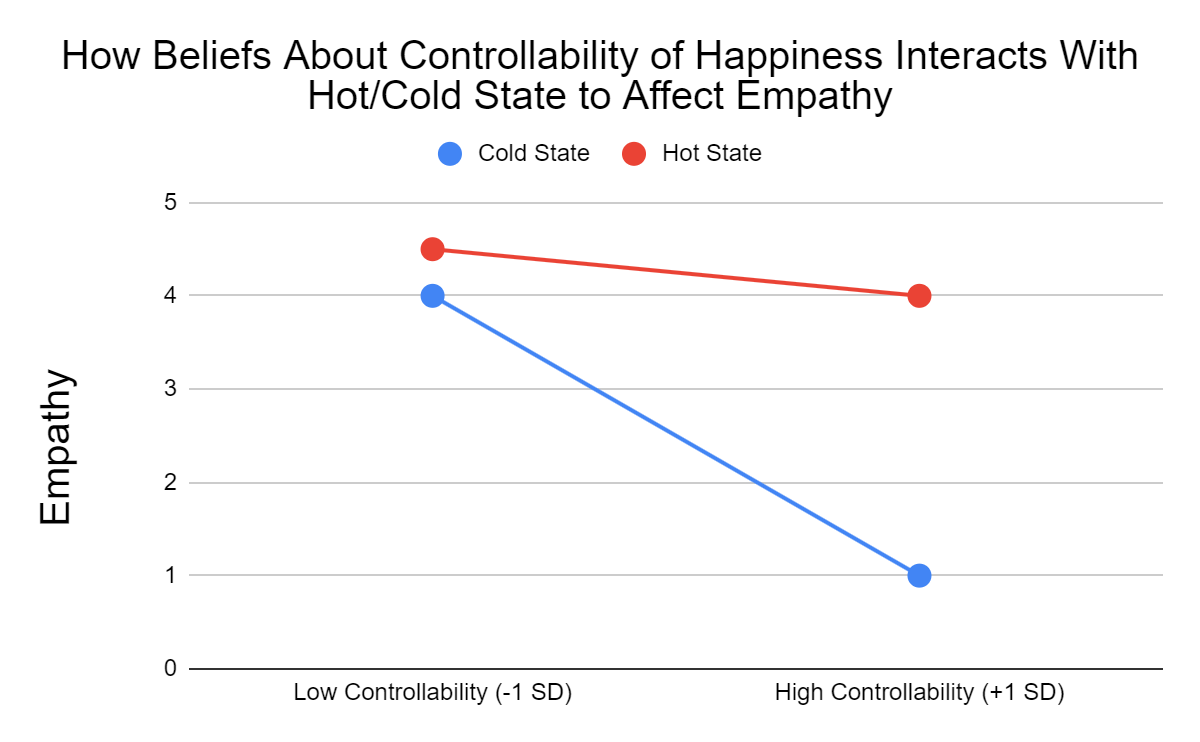
Data Analysis Prep Plan

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1. **Run frequencies and descriptive statistics**: For this step, we can dump all the variables into analysis at once (excluding non- relevant variables like text variables)
   1. Frequency Tables
      1. Analyze → Descriptive Statistics → Frequencies → *Condition* → PASTE
      2. Analyze → Descriptive Statistics → Frequencies → Empathy → PASTE
      3. Analyze → Descriptive Statistics → Frequencies → PerspectiveTaking → PASTE
      4. Analyze → Descriptive Statistics → Frequencies → Donation → PASTE
      5. Analyze → Descriptive Statistics → Frequencies → LTHS → PASTE
      6. Analyze → Descriptive Statistics → Frequencies → Manipulation → PASTE
      7. Analyze → Descriptive Statistics → Frequencies → *Gender* → PASTE
      8. Analyze → Descriptive Statistics → Frequencies → *Age* → PASTE
      9. Analyze → Descriptive Statistics → Frequencies → *Education* → PASTE
      10. Analyze → Descriptive Statistics → Frequencies → *PoliOrien* → PASTE
      11. Analyze → Descriptive Statistics → Frequencies → *FamIncome* → PASTE
      12. Analyze → Descriptive Statistics → Frequencies → *Depression* → PASTE
          1. Depression question not asked to PY-101 students
   2. Descriptive Statistics (mean, standard deviation)
      1. Analyze → Descriptive Statistics → Descriptives → *Condition* → PASTE
      2. Analyze → Descriptive Statistics → Descriptives → Empathy → PASTE
      3. Analyze → Descriptive Statistics → Descriptives → PerspectiveTaking → PASTE
      4. Analyze → Descriptive Statistics → Descriptives → Donation → PASTE
      5. Analyze → Descriptive Statistics → Descriptives → LTHS → PASTE
      6. Analyze → Descriptive Statistics → Descriptives → Manipulation → PASTE
      7. Analyze → Descriptive Statistics → Descriptives → *Gender* → PASTE
      8. Analyze → Descriptive Statistics → Descriptives → *Age* → PASTE
      9. Analyze → Descriptive Statistics → Descriptives → *Education* → PASTE
      10. Analyze → Descriptive Statistics → Descriptives → *PoliOrien* → PASTE
      11. Analyze → Descriptive Statistics → Descriptives → *FamIncome* → PASTE
      12. Analyze → Descriptive Statistics → Descriptives → *Depression* → PASTE
          1. Depression question not asked to PY-101 students
      13. Check for skew in donation measure: Dr. V said a skew is common when using monetary values.
2. **List of possible criteria on which we will consider excluding participants** 
   1. Eliminate participants/bots who failed to follow instructions on writing assignment (wrote less than 1 sentence or wrote about wrong topic)
      1. Code: Followed directions or didn’t follow directions
   2. Manipulation Check
      1. We could potentially exclude people who did not experience the desired emotion of sadness (aka scored sadness a 1 meaning not experienced at all)
      2. We could potentially exclude people who experienced sadness in the neutral condition (aka scored sadness a 3 or higher, moderately to very strongly)
3. **Variables we will need to recode/relabel. Names of new variables.**
   1. IV: Hot/Cold Condition
      1. Label cold as -1 and hot as +1
   2. DV: Empathy
      1. Calculate Cronbach’s Alpha
         1. Analyze → Scale → Reliability Analysis → *click over the items of interest (LTHS\_1, LTHS\_2, LTHS\_3a, LTHS\_4a) →* Statistics → *check box for* “Descriptives for scale if item deleted”
      2. Create a composite measure for *Empathy*  and label it *MN\_Empathy*.
         1. Transform → Compute Variable → *type name of new variable in “target variable” (MN\_LTHS)* and *create equation using variables in data set, numbers, and/or operator →* PASTE
   3. DV: Perspective Taking
      1. Calculate Cronbach’s Alpha
         1. Analyze → Scale → Reliability Analysis → *click over the items of interest (Perspective\_Taking\_1, Perspective\_Taking\_2, Perspective\_Taking\_3, Perspective\_Taking\_4)→* Statistics → *check box for* “Descriptives for scale if item deleted”
      2. Create a composite measure for *LTHS* and label it *MN\_PerspecTak*.
         1. Transform → Compute Variable → *type name of new variable in “target variable” (MN\_PerspecTak)* and *create equation using variables in data set, numbers, and/or operator →* PASTE
   4. DV: Donation
      1. Means and standard deviations of donations 1, 2, and 3 (calculate again after we exclude participants?)
   5. Subject Variable: LTHS
      1. Questions 3 & 4 need to be reverse coded (*LTHS\_3 and LTHS\_4)*
         1. Transform → Recode into Different Variables → *move LTHS\_3 into* “numeric variable -> Output variable” *box → type name of new variable in* “output variable name” *box (LTHS\_3a)→* Change → Old and New Values → *define criteria for recording* remembering to click “add” to move the criteria into the “Old --> New” box → Continue → PASTE
         2. Transform → Recode into Different Variables → *move LTHS\_4 into* “numeric variable -> Output variable” *box → type name of new variable in* “output variable name” *box (LTHS\_4a) →* Change → Old and New Values → *define criteria for recording* remembering to click “add” to move the criteria into the “Old --> New” box → Continue → PASTE
      2. Calculate Cronbach’s Alpha
         1. Analyze → Scale → Reliability Analysis → *click over the items of interest (LTHS\_1, LTHS\_2, LTHS\_3a, LTHS\_4a)→* Statistics → *check box for* “Descriptives for scale if item deleted”
      3. Create composite variable for LTHS and label it MN\_LTHS
      4. Created centered version of MN\_LTHS and label it *C.MN\_LTHS*
         1. Run descriptive stats on MN\_LTHS
            1. C.MN\_LTHS = *MN\_LTHS* - mean of each mean score on LTHS
   6. Create interaction term variable:
      1. C.MN\_LTHS x Condition = I.LTHS\_con
4. **List of hypotheses and types of statistical analyses we will run for each one.**
   1. We predict a main effect of hot versus cold emotional state on empathy, such that participants in a hot emotional state of sadness will show more empathy toward an individual experiencing clinical depression than participants in a cold state.
   2. We predict a main effect of controllability beliefs about happiness on empathy, such that participants who believe happiness is highly controllable will show less empathy towards an individual experiencing depression than participants who believe happiness is less controllable.
   3. We predict an interaction between emotional state and controllability beliefs on empathy. Specifically, we expect to find that participants who think happiness is highly controllable will show more empathy toward an individual experiencing depression when they are in a hot state compared to a cold state. Participants who think happiness is less controllable will also show more empathy toward individuals experiencing depression when in a hot state of sadness than when in a cold state; however, this difference will be significantly smaller.
      1. Run linear regression predicting empathy from C.MN\_LTHS, condition, their interaction (I.LTHS\_con).
         1. One categorical IV (hot/cold state), one continuous IV (subject variable - LTHS), and a continuous DV of empathy
         2. Analyze → Regression → Linear → *move your DV (MN\_Empathy) into the “*Dependent*” box, move the three variables described above into the* “Independent(s)” box (C.MN\_LTHS, condition, I.LTHS\_con) → PASTE
   4. We predict identical effects of hot/cold emotional state and controllability beliefs on measures of perspective taking and altruism as on empathy.
      1. Run another linear regression on perspective taking, identical to measure for empathy above.
         1. Run linear regression predicting perspective taking from C.MN\_LTHS, condition, their interaction (I.LTHS\_con).
         2. Analyze → Regression → Linear → *move your DV (MN\_PerpecTak) into the “*Dependent*” box, move the three variables described above into the* “Independent(s)” box (C.MN\_LTHS, condition, (I.LTHS\_con) ) → PASTE
      2. Run one last linear regression on donation, identical to measure for empathy above.
         1. Run linear regression donation from C.MN\_LTHS, condition, their interaction (I.LTHS\_con).
         2. Analyze → Regression → Linear → *move your DV (MN\_Donation) into the “*Dependent*” box, move the three variables described above into the* “Independent(s)” box (C.MN\_LTHS, condition, (I.LTHS\_con) ) → PASTE
   5. We predict that the effects of emotional state and controllability on altruism will be explained by altruism’s relationship with empathy, as per the empathy-altruism hypothesis.
      1. Only run if effects on empathy and altruism are identical
      2. Run above analysis and add centered empathy variable as a predictor variable
      3. If effect is not found, could just run correlation between empathy and altruism
5. **Expected graph of results**



1. **Exploratory analyses**
   1. Do results differ by gender?
      1. Categorical IV: 1 = Male, 2 = Female
      2. Continuous DV: MN\_Empathy
      3. Analyze → Compare Means → Independent Samples t-test → *test variables = DV, grouping var = IV*  → Define Groups → *type value/code (e.g., 1 & 2) for each group* → Continue → PASTE
   2. Do results differ based on whether participants have been diagnosed with clinical depression?
      1. Categorical IV: 1 = Yes, 2 = No
      2. Continuous DV: MN\_Empathy
      3. Analyze → Compare Means → Independent Samples t-test → *test variables = DV, grouping var = IV* → Define Groups → *type value/code (e.g., 1 & 2) for each group →* Continue → PASTE

One additional step I should have put in the to-do list is to run frequencies on your condition variable, gender, and run descriptive statistics on age, so that you can include this information in your Results section. You’ll want these analyses performed on the data *after* your filter is on (i.e., after you decide on and put in place your exclusions), because the goal is to describe your final sample after any exclusions were put in place. I would not mention the issue with the bots. Assume that your original sample size is everyone from PY 101, Prolific, and Mturk who were not bots. IN your Results section, you’ll then explain any exclusion criteria you used, and how many Ps were removed, and how many remain. Then you’ll run those frequencies and descriptive stats on the your final sample, so that you can report the make-up of your final sample in your Results section.

Good work on this! This is an impressive project regardless of what the results show, but I’m crossing my fingers really hard that you’ll have some interesting results to report!!