

Preview for Exam 2

In this preview for Exam 2, we are going to investigate the relationship between personality attributes and facial appearance. These data look at personality attributes and a person's attractiveness and babyfacedness. The data contain a person's personality measured at age 16, along with their attractiveness and babyfacedness, measured as a small child and at age 16.

When you do this assignment, create an R notebook with all your commands that answer each of the bolded **steps** below as well as annotations explaining each step answering each question.

Step 1: Load the tidyverse package.

Step 2: Load the data saved as preexam2_face_personality_16ya.csv into R as the dataset **face**.

You should have 99 observations of 12 variables. The variables are as follows

- id - the face ID
- confidence - a personality measure of a person's confidence
- assertive - a personality measure of a person's assertiveness
- cognitive - a personality measure of a person's cognitive interests and openness to new ideas
- outgoing - a personality measure of a person's outgoing nature
- dependable - a personality measure of how dependable a person is, similar to conscientiousness in the Big 5
- warmth - a personality measure of how warm or hostile a person is
- sex - a person's sex (F for female, M for male)
- at.child - a person's attractiveness when they were a child
- at.adol - a person's attractiveness when they were an adolescent (16 years old)
- ba.child and ba.adol - a person's babyfacedness when they were a child and adolescent respectively

Step 3: The first thing we want to do is look at our data. When you view the data, do you see any problems, such as outliers or missing data? (You don't need any code to complete this step, but make sure you answer the question)

Step 4: Use the ggplot command to create three histograms, one of the confidence variable, the at.child variable, and the ba.adol variable. Make sure you have 15-20 bins. What kind of shape do these values have? Are there any outliers?

Step 5: The first theory we want to test is whether childhood attractiveness predicts adolescent attractiveness. Run a regression examining whether childhood attractiveness predicts adolescent attractiveness. What do you find? Include your b coefficient, your t-value, and p-value for the predictor in your answer

Step 6: Now we are going to add childhood babyfacedness as a control variable. Does this change the relationship between childhood attractiveness and adolescent attractiveness? Note how the b-value, t-value, and p-value changes? Does babyfacedness account for the relationship you found in question 3?

Step 7: Examine childhood attractiveness predicting adolescent attractiveness with gender as a moderator. Is there a significant main effect of sex? Is there an interaction?

Step 8: Pick a personality variable you think may be related to attractiveness or babyfacedness. Examine whether adolescent attractiveness or babyfacedness predicts that personality variable.

Step 9: Now, use the filter command to see whether there is an effect for females only. Make a subset of your data that has only females and re-run the same regression. What results do you find.

Step 10: Now add the other appearance variable as a control variable, so you will examine whether attractiveness and babyfacedness predict the personality variable in question 6, looking at males and females. Did anything change from Question 6?