**Questions to answer for Campbell & Ramey (1994) reading:**

1. Research Questions
   1. What is/are the authors’ research question(s)? Think about the big, underlying question as well as the specific one which they are able to answer in the context of the present study.
   2. What are their answers to the research question(s)?
2. Data and Sample
   1. Describe the study’s sample (From what geographic area were participants recruited? What were the criteria for inclusion? What are some of the characteristics of the individuals in the study? To whom do these results generalize?)
   2. What are the outcomes the authors examine? How are these outcomes measured?
   3. What does one row in the researchers’ dataset represent? Can you construct a table that recreates the basics of how this dataset is structured (replace var1 and subsequent columns with the variables you would expect to see in this dataset)?

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| id | var1 |  |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |

1. Methodology
   1. Describe the research design of the study. Be prepared to explain what the EE, EC, CE and CC conditions were. What are the benefits of designing the study in such a fashion?
   2. On pg. 691, the authors describe a multivariate test of the intensity/duration hypothesis, a test of the effect of pre-school treatment, and a test of the effect of school-age treatment. Explain these tests using language we have developed in this course. What purpose do these tests serve for the authors?
      1. *The authors discuss creating two factors from the various outcome measures. It’s not critical you understand what is happening here. For now, it’s sufficient to recognize that they have collapsed most of their outcomes to a composite measure of students’ verbal achievement.*
      2. *The linear trend they describe involves creating a variable assigning different treatment durations different numbers (control=0, school-age=3, preschool=5, preschool+school-age=8) and using this to generate linear estimates*
   3. What are the null hypotheses for the analyses presented in the first panel of Table 5 (WISC-R: Verbal IQ)?
2. Results
   1. What are the magnitude of the differences in students’ full scale IQ scores (measured at age 12) across the experimental conditions?
   2. Look at the numbers 7.62 and 0.007 in the third row of Table 5. What do these numbers represent? Contrast them with the adjacent numbers 9.97 and 0.002.
   3. Review the third line in Table 6 labeled “Special education.” What do each of the numbers in this row represent?
3. Threats to validity/Methodological improvements
   1. In your mind, what are the most serious threats to internal validity in the design of this study?
   2. What about threats to external validity?
   3. Where are some instances in which our more modern toolkit of statistical analysis could use different versions of the General Linear Model to produce more easily interpretable results?