

**Research Methods (HDFS 3390),
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FINAL EXAM REVIEW**

- **Multiple Choice (50 items)**
- **40 items since last midterm, 10 “big picture” cumulative**
- **Make sure to read assigned online articles!**

- **Topics**
 - **Causation**
 - **Why correlation isn't causation (multiple possibilities, e.g. reverse-causation or third variable)**
 - **Three criteria for causality**
 - **Experimentation (Way to show causation)**
 - **Independent and Dependent Variables (RAIDER)**
 - **Random Assignment (Different from Random Selection)**
 - **Experimental and Control Groups (EEEE Principle)**
 - **External and Internal Validity**
 - **Threats to Internal Validity (Also applicable to program evaluation)**
 - **Double-blind procedure**
 - **Program Evaluation**
 - **If able to randomly assign to conditions, same as experimentation**
 - **Pre-test (if no random assignment), immediate post-test, long-term follow-up**
 - **Quasi-Experimentation (like experiment, but lacks random assignment): Non-equivalent control group, time-series (pre/post)**
 - **Statistics**
 - **Descriptive**
 - **Central Tendency (Mean, Median, Mode)**
 - **Spread (Standard Deviation)**

- Testing whether two variables are related
 - Three Steps of Hypothesis-Testing
 - Statistical Significance
 - t-test (comparing means of two groups with quantitative dependent variable)
 - χ^2 (Chi-Square) (comparing frequencies when both variables are nominal)

Walk-through example that ties together the last third of the course

Determining your final course average (maximum = 100)

Midterm 1	Midterm 2	Final Exam	Media Article Paper	Anniv. Tweet Project	Journal Article Critique	Class Participation
20 possible	20 possible	35 possible	5 possible	5 possible	10 possible	5 possible
Multiply your % by 20 (if you got 80%, multiply: $.80 \times 20 = 16$)	Same as previous box	Same as previous boxes, but instead multiply your % by 35	Take how many points you got out of 5	Take how many points you got out of 5	Take how many points you got out of 10	Take how many points you got out of 5

Anything 90 and above is guaranteed to get in the A's, 80 and above in the B's, etc.

However, I typically drop the cut-off for the A's into the mid/upper 80s if relatively few students end up in the 90s, and drop the cut-off for B's into the mid/upper 70s, etc.

I look for gaps in the distribution of scores. For example, if several people have total scores around 83, 84, and 85, and then there are no scores until 88, 89, 90, etc., I would make 88 the cut-off for A's.

When I say "the A's," I mean A+, A or A-, for "the B's," I mean B+, B, or B-, etc.