Module 4 lingo sheet

(What’s this all about? Here are some common terms that you should commit to memory. Memorizing them will make it easier for you to absorb and work with the concepts in this class, because you won’t have to spend mental energy remembering what the language is referring to.)

1. Terms related to hypothesis testing
   * **Lingo 18:** Null hypothesis
   * **Answer: T**he hypothesis under consideration.
   * **Lingo 19:** Significance level
   * **Answer:** The lowest probability of a divergence we would be willing to tolerate. The false positive rate (or % of true nulls we will reject).
   * **Lingo 20:** Test statistic
   * **Answer:** Transformation of the data, with higher values less if H0 is true.
   * **Lingo 21:** p-value
   * **Answer:** the probability of observing test statistic at least as large as our actual statistic if H0 is true.
   * **Lingo 22:** Decision rule
   * **Answer:** The rule that determines whether we reject H0 or not under certain circumstances.
   * **Lingo 23:** Confidence interval
   * **Answer:** If p-value is less than , then confidence intervals contain .
2. Terms related to power
   * **Longo 24:** Type I error
   * **Answer:** A false positive.
   * **Lingo 25:** Type II error
   * **Answer:** A false negative.
   * **Lingo 26:** power
   * **Answer:** The true positive rate (or % of false nulls we will reject)
   * **Lingo 27:** When is an effect size practically significant?
   * **Answer:** When it is large enough to justify scaling up treatment**.**
   * **Lingo 28:** What is a noisy estimate?
   * **Answer:** An estimate that is **not** statistically significant but does not rule out a practically significant effect size.
   * **Lingo 29:** When is a result a precise zero?
   * **Answer:** When it rules out a practically significant effect size.
3. Multiple testing and p-hacking
   * **Longo 30:** p-hacking
   * **Answer:** Data analysis practices that inflate statistical significance. Usually a combination of conviction and carelessness.