

Exam 1 Extra Credit

Due Friday, 12 February 2016

(up to 25 points added to exam 1 score, not to exceed 100 points)

1 (up to 12 points)

(a) Find an example of up to three of the following statistical hypothesis tests published since 2010 in peer-reviewed journals.

- (i) Paired-sample t -test
- (ii) Two-sample t -test
- (iii) Wilcoxon paired sample test
- (iv) Mann-Whitney two sample test

Copy and attach the following to your work: (1) the first page of the article(s), including the article's abstract, (2) portions of the Methods and Results sections of the article(s) that show the relevant hypothesis test.

(b) For each example, state the research question that addressed by the test.

(c) For each example, state the null (H_0) and alternative (H_A) hypotheses.

(d) For each example, explain why the statistical hypothesis test was appropriate to address the research question.

Evaluation: Four points for each test up to three, up to a maximum of 12 points.

2 (up to 8 points) Find examples of statistical hypothesis tests published in peer-reviewed journals since 2010 in which P -values were published without estimates of the quantities being compared, e.g., means, differences between means, effects sizes, regression slopes, or correlation coefficients. Copy and attach the following to your work: (a) the first page of the article, including the article's abstract, (b) all portions of the article necessary to show that no parameter estimates (means, effect sizes, etc.) were reported with associated P -values.

For each example, state the following:

(a) The research question the hypothesis test was used to address.

(b) The kind of hypothesis test used and the P -value reported.

(c) The quantity evaluated in the hypothesis test that was not reported.

Evaluation: Four points for each example up to two, for a maximum of eight points.

3 (up to 5 points) Find an example of an article in which a null hypothesis (H_0) was accepted because ($P > \alpha$). The example must have been published in a peer-reviewed journal since 2010. Explain why results of the hypothesis test did not justify accepting H_0 in that case.