

TEST YOUR KNOWLEDGE: Two-Sample Z-test

1. A researcher is interested in comparing the happiness scores of married and single men. The data is below:

Married Men: average happiness rating = 8.7; standard deviation = 1.4; $n = 100$

Single Men: average happiness rating = 7.9; standard deviation = 1.2; $n = 80$

Test whether the difference between the means of the two groups is significant at an alpha (significance level) of .10.

(a) What are the null and alternate hypotheses?

(b) Draw the picture of the distribution of the test statistic (under H_0). Include critical value(s) and region(s) of rejection.

(c) What is the calculated (computed) value of the test statistic?

(d) What is your conclusion?

(e) Construct a 95% CIE for the difference between the happiness scores of married men and single men.