

A study was conducted to determine if a particular drug improved or impaired cognitive performance of chess players during a game. The results of 70 rounds of play is shown below. Conduct a hypothesis test to determine if the drug changed performance for the players in the study.

Condition	Win	Loss	Draw	Total
Experimental Group: Applied with Drugs	12	18	10	40
Control Group: Not applied with Drugs	13	7	10	30
Total	25	25	20	70

Do these results provide evidence that the drug altered the performance of chess players during a game? Use an 0.10 level of significance. Assume that the mean differences are approximately normally distributed.

1. State the Type of Hypothesis or the TI calculator function to be used (and any settings):

2. State the Null and Alternative Hypotheses:

$H_0$ :

$H_a$ :

3. List all the data entered into your calculator to find the test statistic, or state the formula used if solving by hand.

4. Provide the output of the calculator. If solving by hand, find the test statistic and convert this value to a P-value using your calculator or the table.

5. Graph the critical values and the test statistic on the normal distribution.

6. What is your conclusion based on the critical values/test statistic, or the significance levels/p-values? Do you reject the null or fail to reject the null?

7. Restate your conclusion in the context of the problem (circle your choice):

There IS/IS NOT sufficient evidence the sample DOES/DOES NOT alter the performance of chess players during a game.