

Children were measured as they grew and the following data was obtained, shown in the table below. Conduct a hypothesis test on the relationship between age and weight to determine if this is strong evidence to support the idea that age and height are correlated. Conduct a hypothesis test to determine if a correlation exists.

Age (Years)	Weight (Kilograms)	Height (Centi-metres)	Age (Years)	Weight (Kilograms)	Height (Centi-metres)
2	12.5	85.5	9	24.9	129.0
3	13.2	93.2	10	27.3	134.6
4	15.2	102.3	11	31.3	139.8
5	17.8	102.4	12	35.0	146.3
6	19.7	113.9	13	39.6	152.1
7	20.9	119.8	14	43.8	158.1
8	22.5	123.7	15	53.0	162.8

Do these results provide evidence that the drug altered the performance of chess players during a game? Use an 0.001 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 show that height changes with age.