

One sample and Two Independent Samples t-test Exercise

Instructions

Present results in APA style using table format.

1. Is there any evidence that leadership style (as measured by the amount of controlling behavior) differs between principals in urban and rural areas in Georgia? Data are provided in Table 1 below.

Table 1: Leadership Style Scores for Two Groups

Urban		Rural	
88	87	53	82
55	88	75	36
91	79	86	82
45	88	45	81
86		92	59

Note. Higher scores indicate more controlling behavior.

2. Using just the urban data in Table 1, address the following research question.

Research Question: Do urban principals in Georgia show levels of controlling behavior that differ from urban principals nationwide? Prior research in this areas shows that nationally urban principals average about a 73 on this measure of controlling behavior.

3. Laser toner cartridges for the Hewlett-Packard LaserJet 1200 series, which cost \$75 each, are estimated to last approximately 2000 pages per cartridge assuming 5% coverage per page. To test this advertising claim, 15 toner cartridges were purchased and installed in 15 HP LaserJet 1200 printers throughout a school district. Secretaries were asked to record the number of pages printed with each cartridge and stop recording once visible lines of non-print became apparent. Below are the number of pages recorded. Is there any evidence that the advertisers' claim of 2000 pages is supported?

Number of pages recorded: 1985, 1675, 1548, 1756, 1865, 1235, 1498, 1195, 1611, 1754, 2056, 1454, 1332, 1444, and 1669

4. Do children diagnosed with depression demonstrate differing levels of intelligence from students not diagnosed with depression? Data are provided below in Table 2.

Table 2: IQ scores for Depressed and Non-depressed Children

Depressed		Non-depressed	
100	118	81	105
91	127	118	119
96	103	118	111
108	86	106	85
90	118	115	106

Note. Higher scores indicate higher levels of intelligence.

5. Children in 3rd grade are asked to participate in an experimental study to learn whether use of interactive storyboards result in increased academic reading interest. The experimental group participates for 10 weeks while control group does not have access to interact storyboards. At the end of 10 weeks a measure of academic reading interest is administered to both groups are scores are recorded below. Is there any evidence academic reading interest differs between these two groups at the end of 10 weeks? Academic reading interest scale ranges from 1 = low to 25 = high. Perform this test with Type 1 error rate controlled at the 5% level.

	Storyboards			No Storyboards	
25	23	18	4	12	
16	19	19	17	21	
17	24	21	7	14	
21	18	20	20	25	

6. Is there a difference in age of spectators at football games based upon which section of stadium is sampled? Spectators beneath the luxury boxes had a mean age of 34.9 (sd = 19.3, n = 33) while those near the band had a mean age of 24.7 (sd = 9.1, n = 16). Control Type 1 rate at 5%.