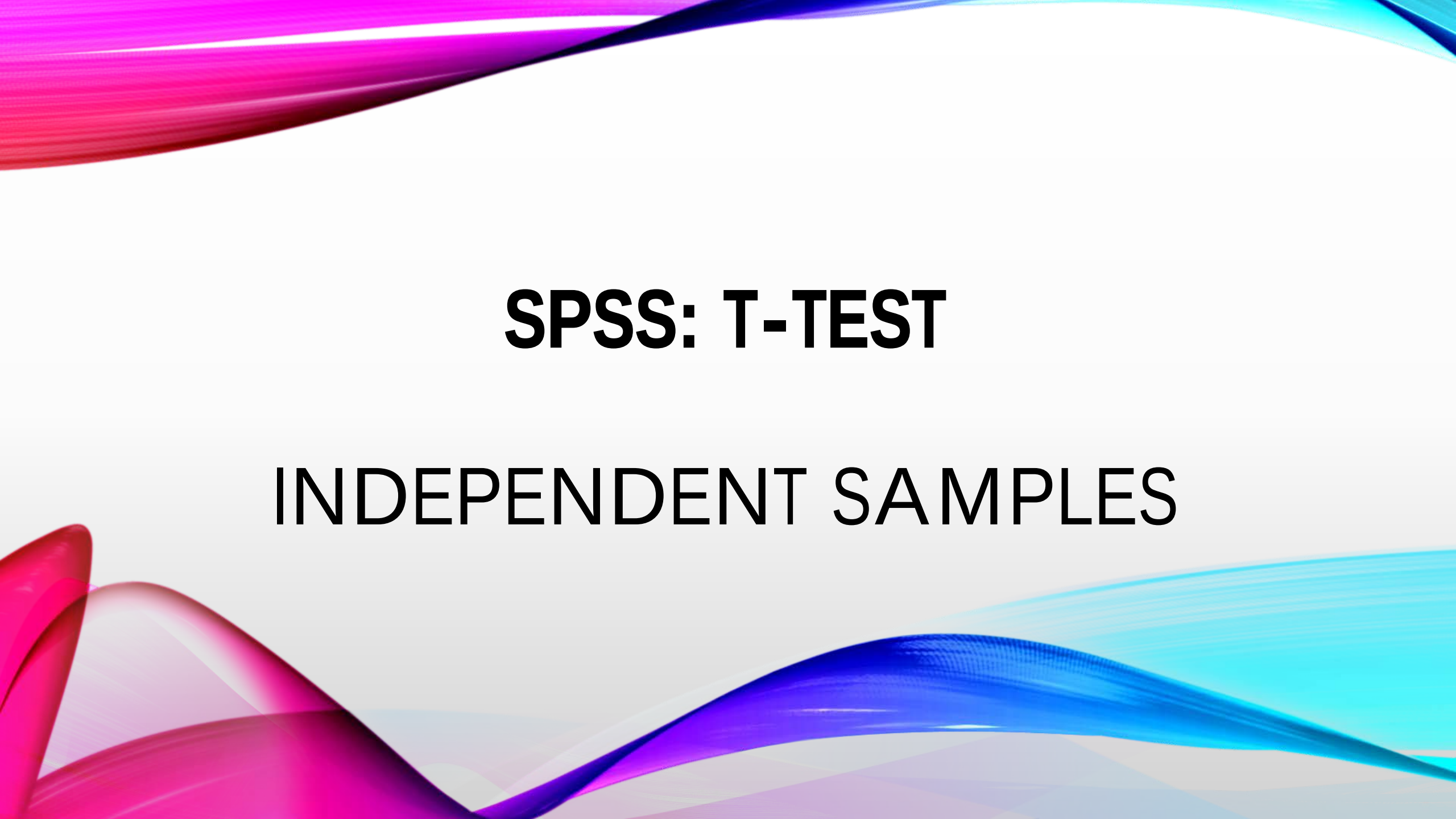




SPSS: T-TEST

INDEPENDENT SAMPLES



T-TEST ANALYSIS

- Between-subjects design = Independent samples t-test
- Compares the mean scores on some continuous variable for ***two independent groups***
 - *Two different groups of people or conditions*

THINGS TO REMEMBER

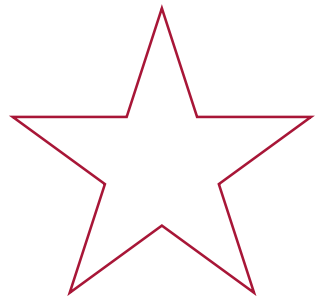
- T-tests are used when you have only **two levels** to an independent variable.
- Parametric test – relies on a number of assumptions relating to data
- The t-test tests the probability that the two sets of scores (for your two independent groups) came from the same population.
 - A significant finding ($p < .05$) allows us to determine that they did not come from the same population, and are significantly different

ASSUMPTIONS AND REQUIREMENTS FOR DATA

1. The DV should be measured on a continuous scale – interval or ratio
2. Random sampling should be employed where possible
3. Independence of observations:
 - a) Each measurement should not be influenced by any other measurement
 - b) Situations that involve group data collection, or where participants interact with one another, may require more specialist techniques.
4. Normal distribution of scores on the DV
5. Homogeneity of variance
 - a) Assumption that the variability of scores for each group is similar
 - b) LEVENE'S TEST!** ($p > .05$)

STUDY EXAMPLE

- Exploring differences in levels of self-esteem in males and females
- NOTE: we need...
 - One between-subjects **categorical** IV: gender (male OR female)
 - One **continuous** DV: self-esteem scores





RESULTS

t (df) = t-value, $p < / > .05$

t (18) = 2.17, $p < .05$

INTERPRETING RESULTS

- An independent samples t-test was conducted in order to assess the difference in levels of self-esteem between male and female participants. Results show that levels of self-esteem were significantly lower for females ($M = 21.20$, $SD = 6.71$) than males ($M = 27.50$, $SD = 6.28$); $t(18) = 2.17$, $p < .05$.