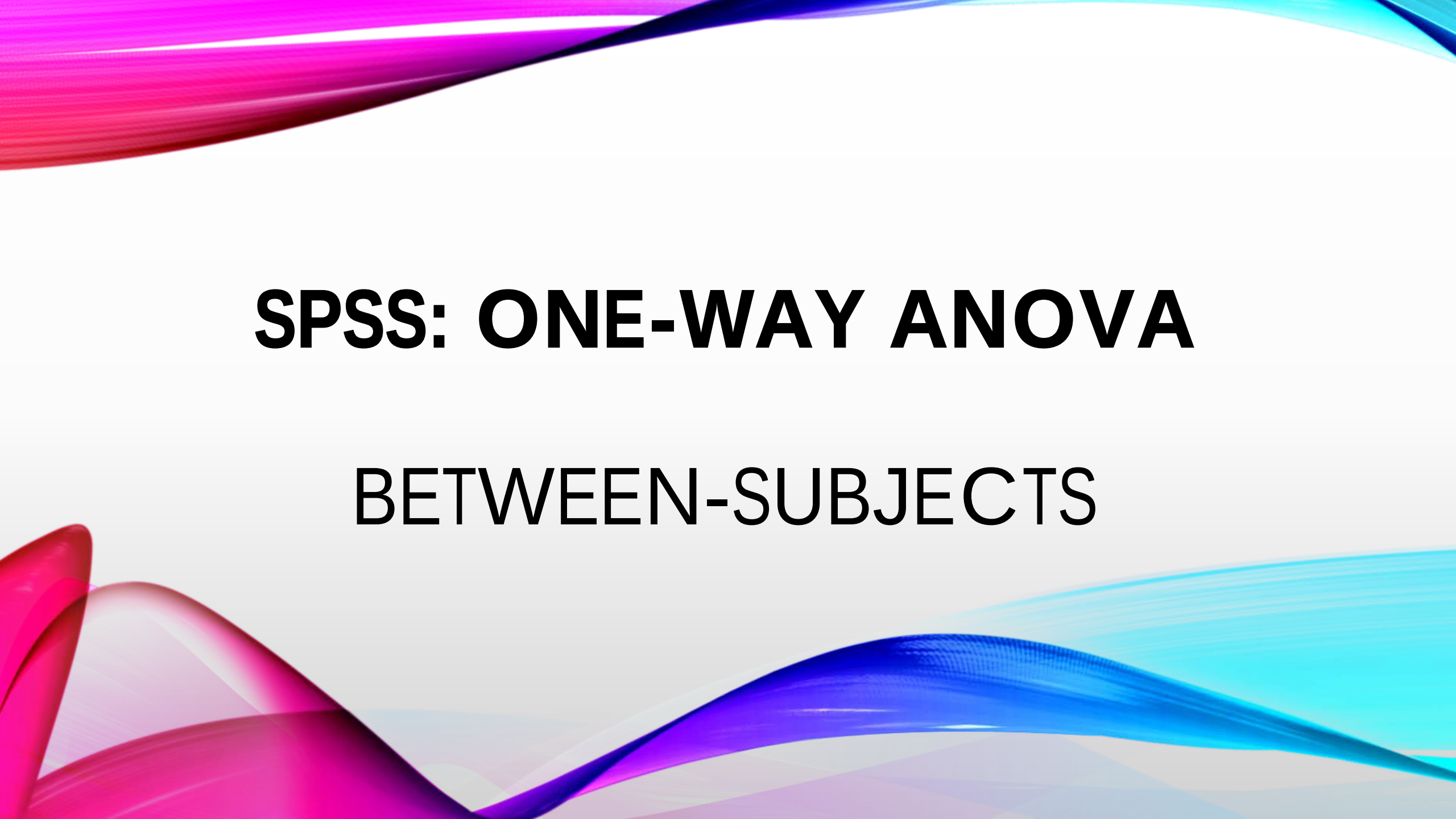




SPSS: ONE-WAY ANOVA

BETWEEN-SUBJECTS



ONE-WAY ANOVA

- Between-subjects design = between-subjects ANOVA
- Compares the mean scores on some continuous variable for ***three or more independent groups***
 - *Three (or more) **different** groups of people or conditions*

THINGS TO REMEMBER

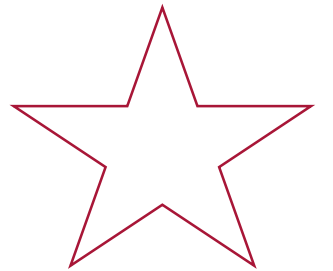
- One-way ANOVA is used when you have **three or more levels** to an independent variable.
- Parametric test – relies on a number of assumptions relating to data
- ANOVA tests the probability that the three (or more) sets of scores (for your independent groups) came from the same population.
 - A significant 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 be a distinct and independent entity
4. Normality: normal distribution of scores on the DV
 - a) Normality not necessarily needed if sample size is reasonable (advise $n > 25$)
5. Homogeneity of variance
 - a) Assumption that the variability of DV scores for each group is similar
 - b) LEVENE'S TEST!** ($p > .05$)

STUDY EXAMPLE

- Exploring the effect of age on problematic gambling behaviour (PGB)
- NOTE: we need...
 - One between-subjects **categorical** IV: age (adolescent OR emerging adult OR adult)
 - One **continuous** DV: PGB score





RESULTS

$F(df1, df2) = F\text{-value}, p < / > .05$

$F(2, 18) = .28, p > .05$

INTERPRETING RESULTS

- A one-way between-subjects ANOVA was conducted to assess the effect of age (adolescent, emerging adult or adult) on problematic gambling behaviours. Results show that there was no main effect of age [$F(2, 18) = .28, p > .05$], indicating that there was no significant difference in PGB scores across the three age groups.

RESULTS

$F(df1, df2) = F\text{-value}, p < / > .05$

$F(2, 18) = .28, p > .05$

If significant, we would need to assess
multiple comparisons!
e.g., $F(2, 18) = 3.65, p < .05$



MULTIPLE COMPARISONS

If the main effect of your IV is significant, the information in the multiple comparisons table will allow us to determine where the significant difference lies across the three groups. If needed, you should report these with the associated mean scores (where necessary) and Sig. values.