

SPSS Data Entry and Analysis

Overview

This guide provides a comprehensive explanation of how to perform data entry and conduct statistical analysis using SPSS for a survey-based quantitative research project. It includes advanced tests such as ANOVA (one-way and two-way), T-tests, and linear regression, alongside correlation and reliability analysis.

Step 1: Survey Design Using Scale Questions

Topic: The Influence of Social Media on Purchase Behavior

Aim: To examine whether trust in social media ads and time spent on social media influence online buying behaviors.

Survey Statements (5-point Likert scale: 1=Strongly Disagree to 5=Strongly Agree):

- Q1. I trust the advertisements I see on social media. (trust_ads)
- Q2. I often purchase products promoted on social media. (buy_social)
- Q3. I believe influencers affect my buying decisions. (influencer_impact)
- Q4. I often compare products after seeing them on social media. (compare_products)
- Q5. I spend more than two hours per day on social media. (social_media_time)

Step 2: Data Entry in SPSS

In Variable View:

- Define variables: trust_ads, buy_social, influencer_impact, compare_products, social_media_time

- Set Measure to 'Ordinal'

- Assign Value Labels: 1=Strongly Disagree to 5=Strongly Agree

Example Data for 10 Participants:

ID	trust_ads	buy_social	influencer_impact	compare_products	social_media_time
1	4	5	5	4	5
2	3	4	3	4	4
3	2	3	2	2	3

4	4	4	4	3	4
5	5	5	4	5	5
6	3	3	3	3	3
7	1	2	1	1	2
8	4	5	5	4	5
9	2	3	3	2	2
10	5	5	5	5	5

Step 3: Data Analysis in SPSS: (These results are not accurate just as an example)

3.1 Reliability Test (Cronbach's Alpha)

Analyze → Scale → Reliability Analysis → Add all 5 items → Choose Cronbach's Alpha

Result: Cronbach's Alpha = 0.86 → Good reliability (≥ 0.8)

3.2 Descriptive Statistics

Analyze → Descriptive Statistics → Descriptives → Add variables

Example: Mean of trust_ads = 3.3, Std. Dev = 1.3

3.3 Correlation Analysis

Analyze → Correlate → Bivariate → Pearson Correlation

Example: trust_ads & buy_social → $r = 0.79$, $p = 0.007$ → Strong, significant correlation

3.4 Linear Regression

Analyze → Regression → Linear → Dependent: buy_social, Independent: trust_ads

Example Result: $R^2 = 0.624$, $p < 0.05$ → trust_ads predicts 62.4% of buy_social

3.5 Independent Samples T-Test

Use case: Compare mean buying behaviour between high vs. low social media users.

Steps: Analyze → Compare Means → Independent Samples T-Test

Group variable: social_media_time (coded into 2 groups: ≤ 3 = low, > 3 = high)

Result: $p = 0.02$ → Significant difference in buy_social between low and high users.

3.6 One-Way ANOVA

Use case: Compare buy_social across 3 trust levels (Low, Medium, High)

Steps: Analyze → Compare Means → One-Way ANOVA

Result: $F(2,7) = 4.5$, $p = 0.04$ → Significant difference in purchase behaviour by trust level.

3.7 Two-Way ANOVA

Use case: Interaction between trust_ads and social_media_time on buy_social

Steps: Analyze → General Linear Model → Univariate → Add both factors

Result: Interaction $p = 0.03$ → Combined influence is statistically significant.

Summary Table of Hypothesis Testing

Hypothesis	Test Used	Result	Conclusion
Trust in ads → Buy on social media	Pearson Correlation	$r = 0.79$, $p = 0.007$	Supported
Social media time → Buying behavior	Correlation	$r = 0.58$, $p = 0.03$	Supported
High vs. Low social media users	T-Test	$p = 0.02$	Significant difference
Trust level groups → Buy_social	One-way ANOVA	$F = 4.5$, $p = 0.04$	Supported
Interaction: trust × time	Two-way ANOVA	$p = 0.03$	Significant interaction

Final Notes

Explain each result clearly in relation to your research questions and objectives. Always interpret p-values and R-squared values. Include visuals where possible.