Example Quantitative Analysis: London Neighbourhood Safety Study

Expanded SPSS-style Output Pack

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Study overview (simulated example)

This example demonstrates a small-scale quantitative analysis based on a simulated survey of residents' perceptions of neighbourhood safety and confidence in local policing in London. The dataset represents responses from approximately 100 participants who completed a short questionnaire consisting of Likert-type items (1–5 scale). Respondents are divided into two groups: those who received regular local safety updates and those who did not. The data are synthetic but designed to reflect realistic response patterns commonly observed in community safety, public perception, and policy evaluation studies. This report is an example what you will receive if you use our Quantitative Data Analysis Service.

1. Analytical approach

The analysis follows a structured workflow similar to that used in SPSS-based quantitative research, with outputs formatted to closely mirror standard SPSS tables and figures.

The following stages are included:

Descriptive analysis

- Sample characteristics and group composition
- Data completeness and missing value checks
- Item-level descriptive statistics (means, standard deviations, ranges)
- Visual inspection of item-level and scale-level distributions

Scale construction and validation

- Construction of multi-item scale scores
- Internal consistency assessment (Cronbach's alpha)
- Item–total correlation analysis to assess scale coherence

Group comparisons

- Descriptive comparison of outcome measures by group
- Independent-samples *t*-tests (Welch) to examine group differences
- Group comparison figures with appropriate error bars

Association and prediction

- Correlation analysis between key variables
- Simple linear regression to examine predictive relationships
- Supporting diagnostic figures for model assessment

All analyses are conducted using standard, widely accepted statistical techniques appropriate for Likert-type survey data at this scale.

2. Table outputs

Table 1. Sample characteristics

Variable	Category	N	%
Gender	Female	51	51.0

Gender	Male	49	49.0
Weekly safety updates	No updates	53	53.0
Weekly safety updates	Weekly updates	47	47.0

What this table tells us

This table summarises the basic composition of the sample, showing how respondents are distributed across key demographic variables and exposure groups. It provides context for interpreting subsequent analyses and confirms that both comparison groups are adequately represented.

Table 2. Data completeness

Variable	Valid N	Missing N	Missing %
id	100.0	0.0	0.0
group	100.0	0.0	0.0
gender	100.0	0.0	0.0
age	100.0	0.0	0.0
q1	99.0	1.0	1.0
q2	96.0	4.0	4.0
q3	97.0	3.0	3.0
q4	97.0	3.0	3.0
q5	98.0	2.0	2.0
q6	99.0	1.0	1.0
q7	96.0	4.0	4.0
q8	96.0	4.0	4.0
q9	98.0	2.0	2.0
q10	95.0	5.0	5.0
scale_safety	100.0	0.0	0.0
scale_police	100.0	0.0	0.0
group_label	100.0	0.0	0.0

What this table tells us

This table reports the extent of missing data for each variable included in the analysis. It allows assessment of data quality and confirms whether levels of missingness are low enough to proceed with standard statistical analyses without imputation.

Table 3. Item descriptives: Perceived neighbourhood safety

Item	Mean	SD	Min	Max
q1	3.71	0.86	1	5
q2	2.88	0.97	1	5
q3	2.84	0.87	1	5
q4	3.35	0.99	1	5
q5	3.02	0.90	1	5

What this table tells us

This table presents descriptive statistics for individual items measuring perceived neighbourhood safety. It shows the average response, variability, and observed range for each item, highlighting which aspects of safety are rated more or less positively by respondents.

Table 4. Item descriptives: Confidence in local policing

Item	Mean	SD	Min	Max
q6	3.09	1.00	1	5
q7	3.25	0.95	1	5
q8	3.33	1.02	1	5
q9	3.04	0.97	1	5
q10	3.21	1.11	1	5

What this table tells us

This table summarises responses to individual items measuring confidence in local policing. It provides item-level detail on central tendency and dispersion, allowing identification of areas where confidence is relatively higher or lower.

Table 5. Reliability statistics

Scale	Items	Cronbach's α
Perceived neighbourhood safety	q1–q5	0.10
Confidence in local policing	q6–q10	0.37

What this table tells us

This table reports internal consistency estimates for the constructed scales. It indicates whether the items within each scale function together as a coherent measure and whether scale scores can be meaningfully interpreted.

Table 6. Item–total statistics (Safety scale)

Item	Corrected item–total corr	α if deleted
q1	0.01	0.08
q2	0.04	-0.09
q3	0.12	0.01
q4	-0.10	0.19
q5	-0.01	0.09

What this table tells us

This table shows how each safety item relates to the overall safety scale score. It allows assessment of whether any items contribute weakly to the scale and whether removing an item would materially affect scale reliability.

Table 7. Item–total statistics (Policing scale)

Item	Corrected item–total corr	α if deleted
q6	0.29	0.25
q7	0.06	0.44
q8	0.14	0.43
q9	0.41	0.19
q10	0.24	0.32

What this table tells us

This table provides item–total correlations and reliability-if-deleted statistics for the policing confidence scale. It helps evaluate the contribution of each item to the scale and supports decisions about scale refinement if required.

Table 8. Group descriptives (scale scores)

Scale	Group	Mean	SD	N
Perceived neighbourhood safety	No updates	3.03	0.44	53
Perceived neighbourhood safety	Weekly updates	3.30	0.33	47
Confidence in local policing	No updates	2.79	0.45	53
Confidence in local policing	Weekly updates	3.62	0.31	47

What this table tells us

This table reports mean scale scores and variability for each outcome by exposure group. It provides a descriptive comparison of groups prior to formal hypothesis testing and helps contextualise subsequent inferential results.

Table 9. Independent-samples t-tests (Welch)

Outcome	t	df	p

Perceived neighbourhood safety	-3.50	95.80	0.001
Confidence in local policing	-10.72	92.75	0.000

What this table tells us

This table presents the results of statistical tests comparing group means for the key outcomes. It indicates whether observed differences between exposure groups are statistically distinguishable given the variability in the data.

Table 10. Correlation matrix

	age	scale_safety	scale_police
age	1.00	-0.09	0.07
scale_safety	-0.09	1.00	0.24
scale_police	0.07	0.24	1.00

What this table tells us

This table summarises the strength and direction of associations between key variables included in the analysis. It provides an overview of how variables are related and informs the selection and interpretation of regression models.

Table 11. Regression predicting perceived neighbourhood safety

Predictor	B	SE	β	t	p
Constant	—	—	—	—	—
Confidence in local policing	0.17	0.07	0.24	2.47	0.015

What this table tells us

This table reports the results of a simple regression model examining whether confidence in local policing predicts perceived neighbourhood safety. It shows the estimated effect size, statistical significance, and overall direction of the relationship.

3. Figure Outputs

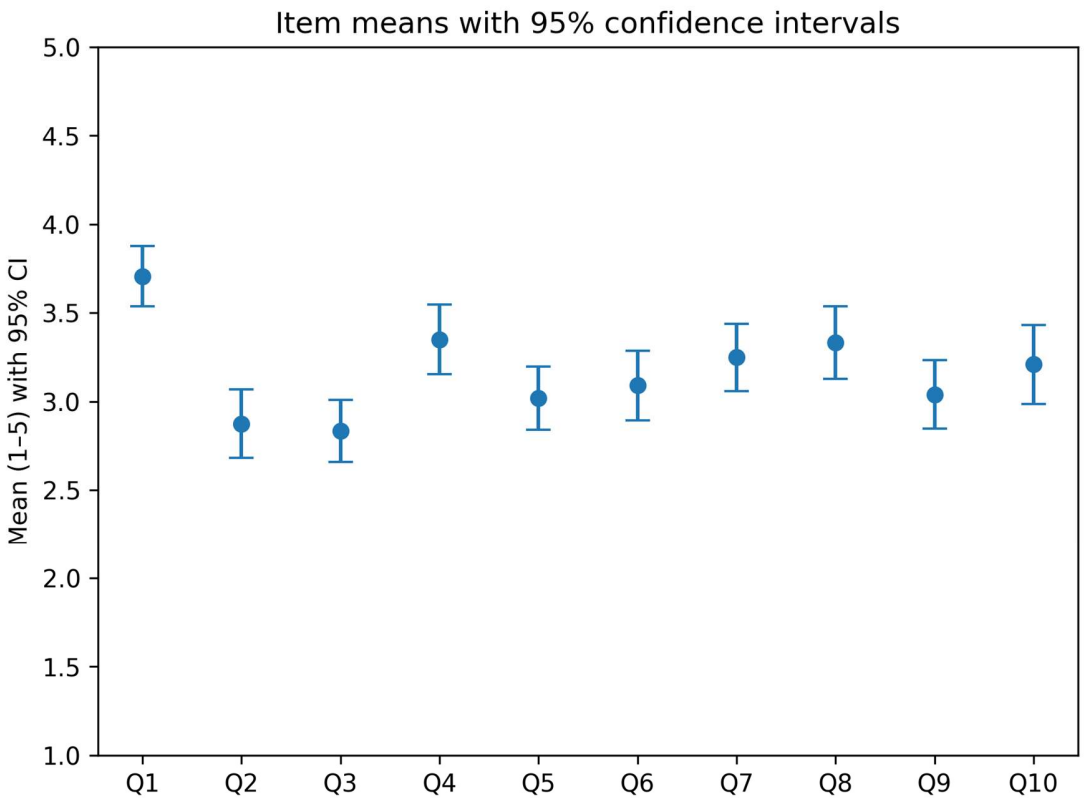

Figure 1: Mean responses for all questionnaire items (Q1–Q10), shown with 95% confidence intervals. Scores range from 1 (strongly disagree) to 5 (strongly agree).

What this figure tells us

This figure provides an overview of how respondents rated each survey statement on average. It highlights item-level variation, showing which aspects of neighbourhood safety and confidence in policing are rated relatively higher or lower, while the error bars indicate the degree of uncertainty around each mean.

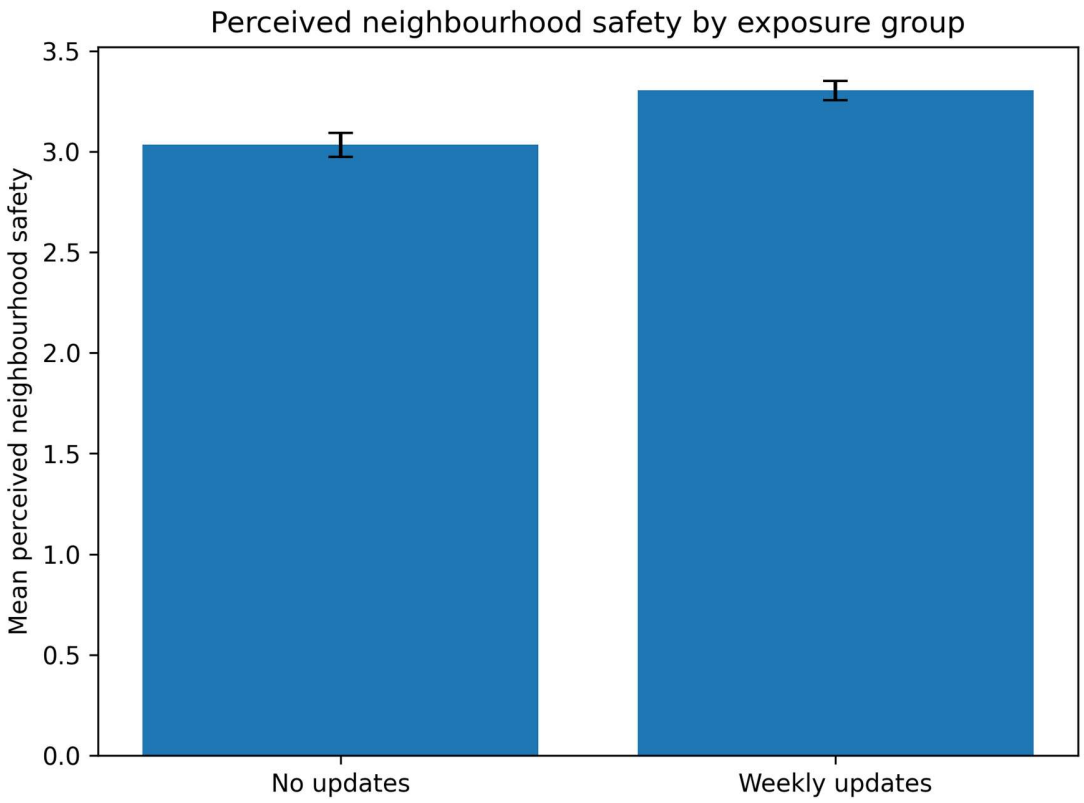

Figure 2: Mean perceived neighbourhood safety scores by exposure group, with standard error bars.

What this figure tells us

This figure compares overall perceived neighbourhood safety between respondents who did and did not receive weekly safety updates. It visually illustrates differences in average safety perceptions between the two groups and complements the corresponding group comparison tables.

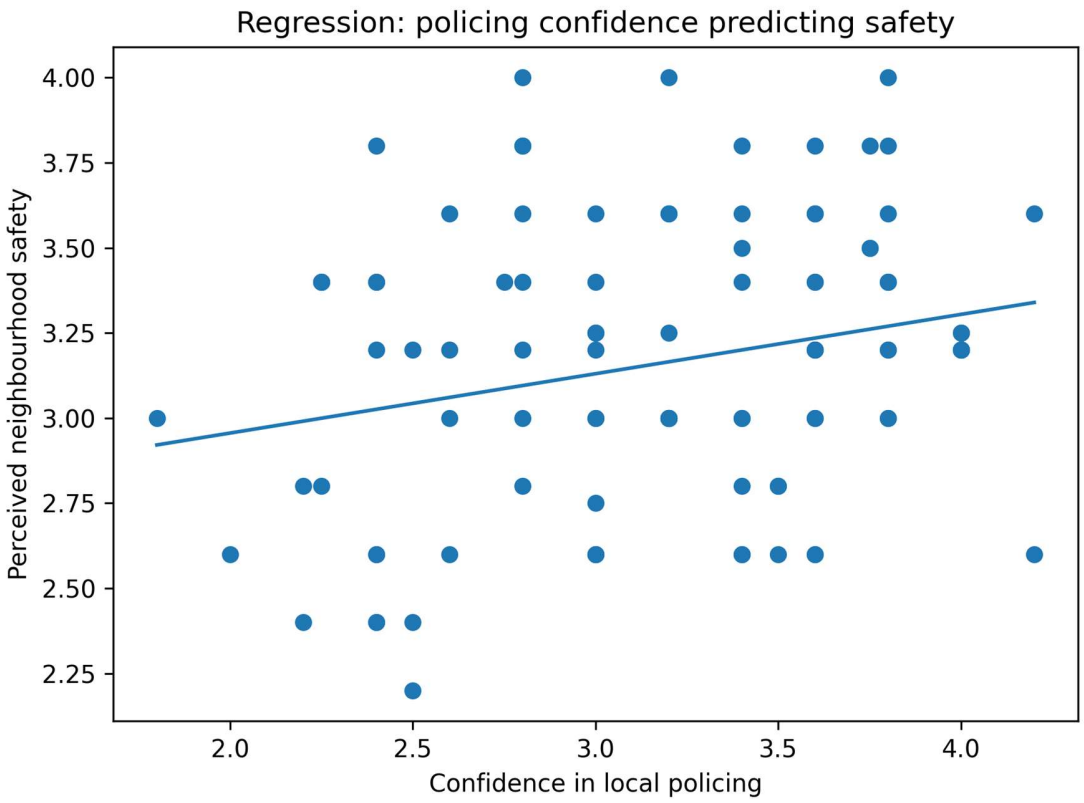

Figure 3:Scatterplot showing the relationship between confidence in local policing and perceived neighbourhood safety, with fitted linear regression line.

What this figure tells us

This figure shows the association between confidence in local policing and perceived neighbourhood safety across respondents. The fitted line summarises the direction and strength of the relationship observed in the regression analysis.

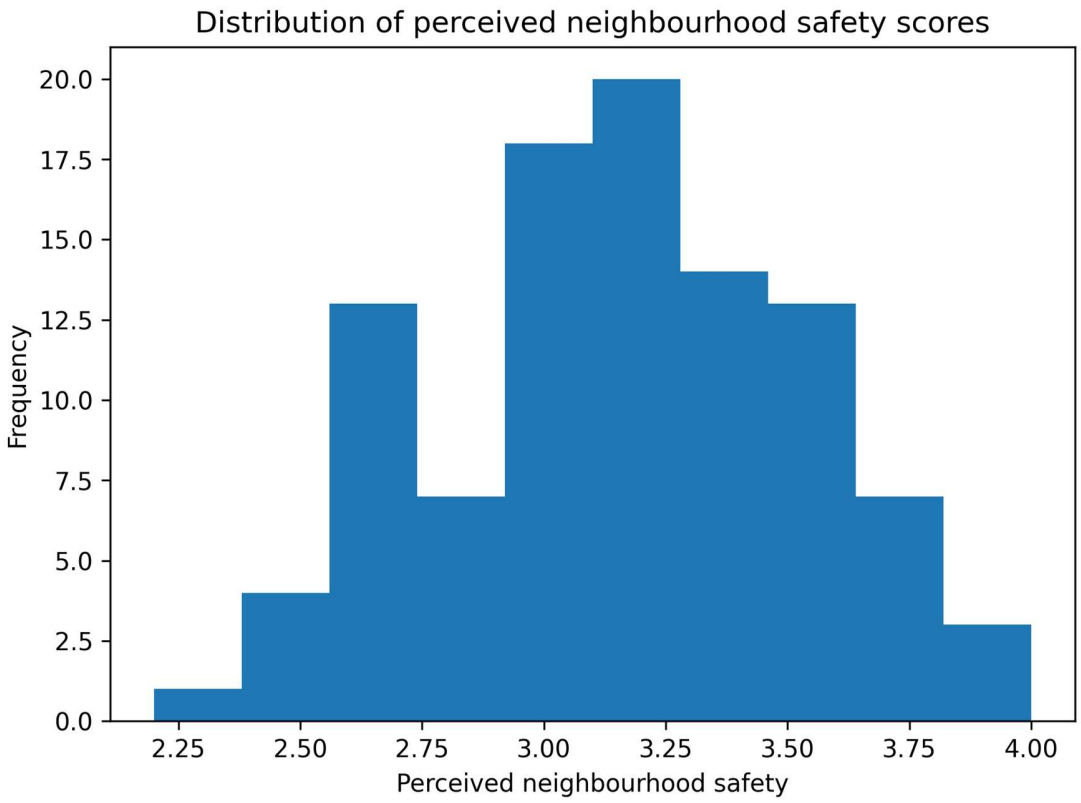

Figure 4: Histogram showing the distribution of perceived neighbourhood safety scale scores.

What this figure tells us

This figure displays how perceived neighbourhood safety scores are distributed across respondents. It allows assessment of the shape and spread of the data and provides a visual check of whether scores approximate a normal distribution.

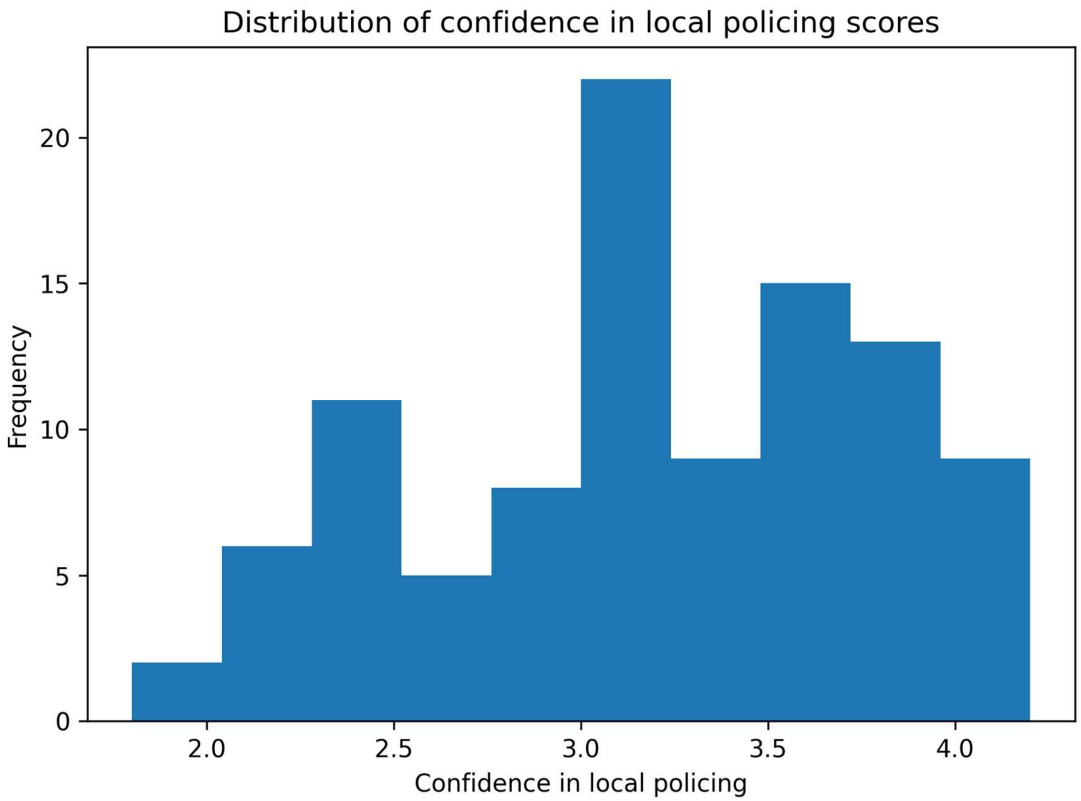

Figure 5: Histogram showing the distribution of confidence in local policing scale scores.

What this figure tells us

This figure summarises the distribution of confidence in local policing scores, indicating the overall spread of responses and the presence of any clustering or skewness in the data.

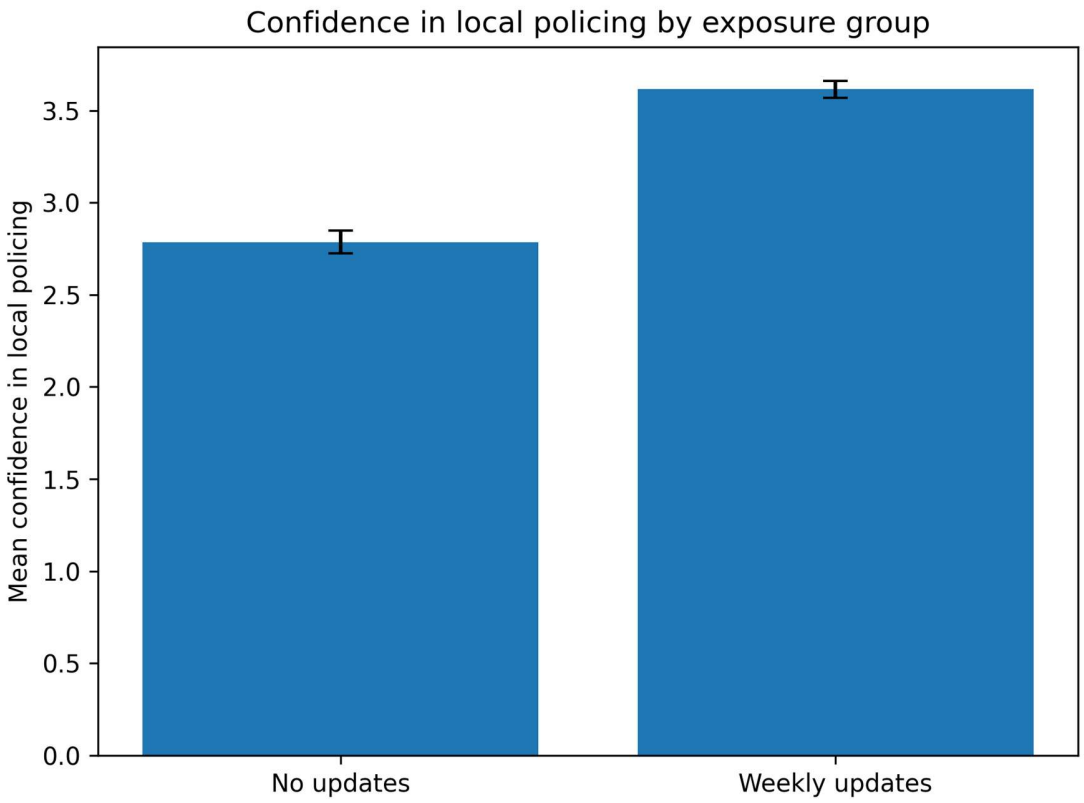

Figure 6: Mean confidence in local policing scores by exposure group, with standard error bars.

What this figure tells us

This figure compares levels of confidence in local policing between respondents who did and did not receive weekly safety updates. It visually demonstrates group differences for this outcome and supports the interpretation of the corresponding statistical tests.

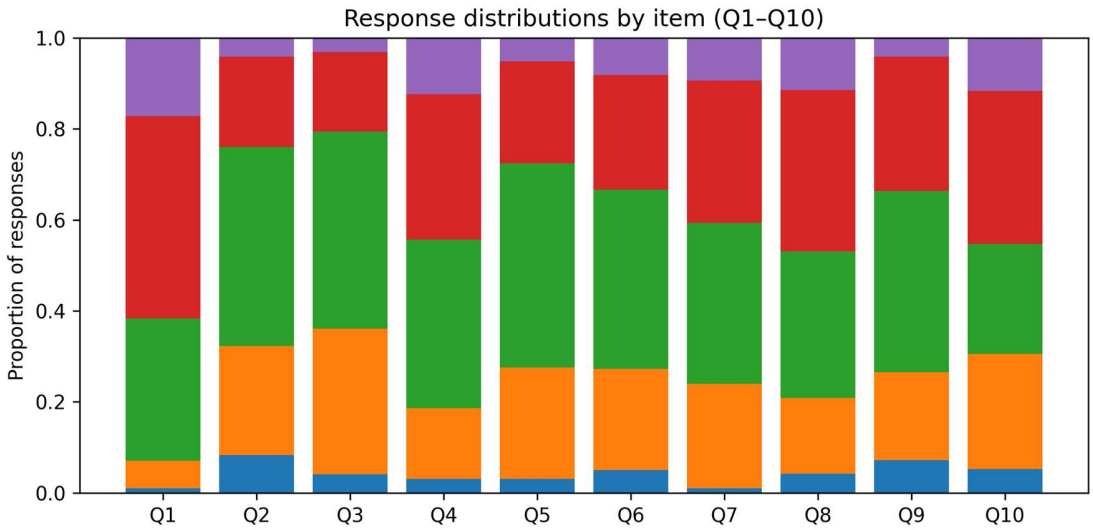

Figure 7: Stacked bar chart showing the proportion of responses for each response option (1–5) across questionnaire items.

What this figure tells us

This figure shows how responses are distributed across the full Likert scale for each item. It provides detail beyond mean scores, illustrating the balance of agreement, neutrality, and disagreement for each statement.

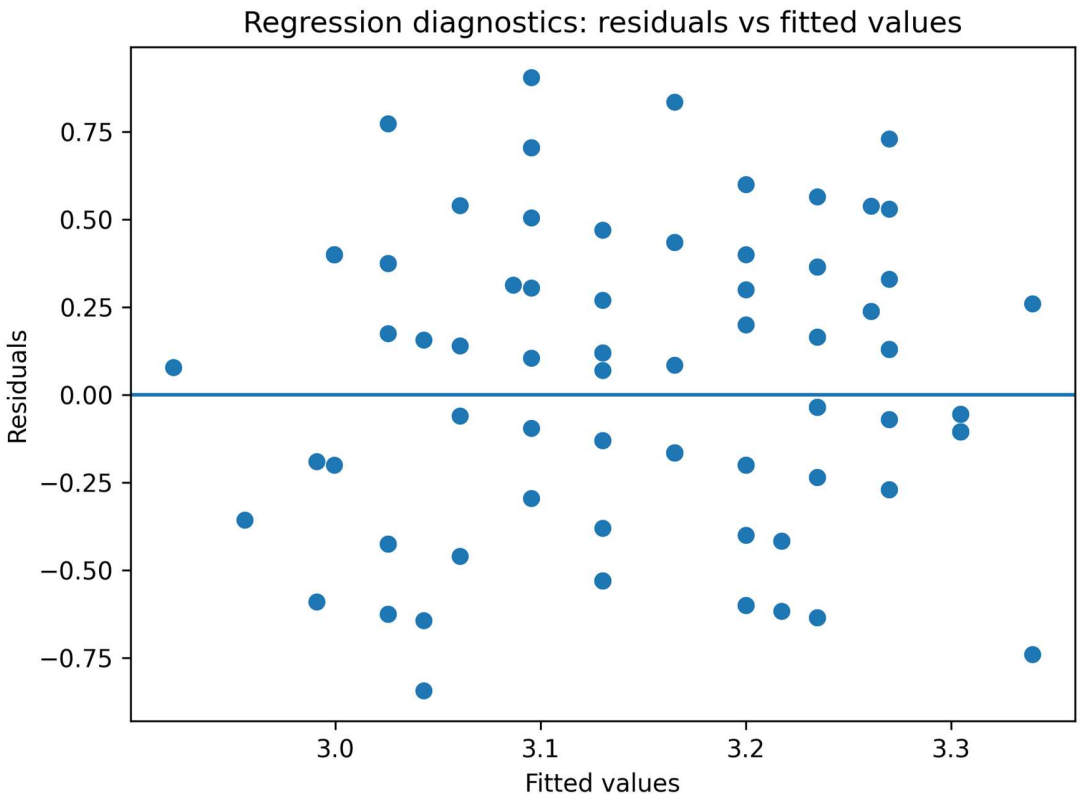

Figure 8: Plot of regression residuals against fitted values for the model predicting perceived neighbourhood safety.

What this figure tells us

This diagnostic figure allows visual assessment of model assumptions, including linearity and homoscedasticity. The absence of strong patterns in the residuals suggests that the linear regression model provides an adequate summary of the relationship.

4. How to use these outputs

How to use these outputs

The tables and figures provided in this example are designed to align with standard academic and applied research conventions. How they are used will depend on the final output format (e.g. dissertation, thesis, or journal article). The guidance below outlines typical and appropriate use.

Scenario 1: Dissertation or thesis

In a dissertation or thesis, the outputs generated through this workflow are usually split across **main chapters** and **appendices**.

Main Results chapter

The following outputs are typically included in the main Results chapter:

Tables

- Sample characteristics (Table A1)
- Group descriptives (Table D1)
- Key inferential tests (Table D2)
- Core regression results (Table E2)

Figures

- Item means with error bars (Figure 1)
- Group comparison figures (Figures 2 and 5)
- Main regression figure (Figure 3)

These outputs are referenced directly in the text to support answers to the primary research questions. The accompanying text briefly explains what each table or figure shows, without interpretation or discussion of implications.

Appendices

More detailed or technical outputs are usually placed in appendices:

Tables

- Data completeness (Table A2)
- Item-level descriptives (Tables B1 and B2)
- Reliability statistics (Tables C1–C3)
- Correlation matrix (Table E1)

Figures

- Distribution plots (Figures 4a and 4b)
- Likert response distributions (Figure 6)
- Regression diagnostic plots (Figure 7)

Appendix materials are still numbered and referenced in the main text but are not discussed in detail. Their role is to demonstrate analytical rigour and transparency rather than to carry the narrative.

Why this structure works for dissertations

- Keeps the Results chapter focused and readable
- Demonstrates appropriate methodological depth
- Aligns with common examiner expectations
- Avoids overwhelming the main text with diagnostics

Scenario 2: Research article for an academic journal

For journal articles, space constraints mean that **selectivity is essential**. The same analyses are typically conducted, but fewer outputs are included in the published manuscript.

Main article (Results section)

Most journals expect only the most essential outputs:

Tables

- A combined sample characteristics table
- One table summarising key inferential results (e.g. group comparisons or regression coefficients)

Figures

- One or two high-value figures, such as:
    - A group comparison figure, or
    - A regression plot illustrating the main relationship

Item-level descriptives and full diagnostics are usually not included in the main article unless they are central to the research question.

Online supplements or appendices

Many journals allow supplementary materials. These are the appropriate place for:

- Full item-level descriptive tables
- Reliability and item–total statistics
- Expanded correlation matrices
- Additional figures (distributions, diagnostics)

The workflow demonstrated here produces outputs suitable for both the main manuscript and supplementary files without re-analysis.

Why this structure works for journal articles

- Meets strict word and page limits
- Focuses attention on primary findings
- Retains transparency through supplementary materials
- Aligns with common editorial and reviewer expectations

General guidance (applies to both scenarios)

- Tables and figures should be **introduced in the text before they appear**
- Each output should be referenced explicitly (e.g. “see Table D2”)
- Results sections describe *what the outputs show*, not *what they mean*
- Interpretation and implications belong in the Discussion section

This example demonstrates how a single analytical workflow can generate outputs that are flexible enough to support multiple academic formats.

5. Tips on writing your Results chapter / section

The Results chapter/section presents **what the analyses show**, not why they matter. The outputs provided in this example are designed to support clear, structured Results writing across different academic formats. The guidance below highlights common good practice and format-specific considerations.

Scenario 1: Dissertation or thesis

Dissertations and theses allow more space for structured reporting, but clarity and restraint are still essential.

Focus of the Results chapter

In a dissertation or thesis, the Results chapter should:

- Follow the order of the research questions or hypotheses
- Refer explicitly to tables and figures
- Describe patterns, differences, and relationships shown by the outputs
- Avoid interpretation, explanation, or reference to prior literature

Each subsection typically corresponds to one analytical step (e.g. descriptives, group comparisons, regression).

Practical writing tips

- Begin each subsection by briefly stating **what is being examined**
  Example: "Perceived neighbourhood safety was compared between exposure groups."
- Refer to the relevant output early
  Example: "Table D2 presents the results of the independent-samples t-tests."
- Report results concisely and consistently
  - Direction of differences
  - Relative magnitude
  - Statistical significance where applicable
- Do not repeat numbers already shown in tables unless necessary
- Use figures to support, not replace, tables

Common pitfalls to avoid

- Explaining *why* differences exist (belongs in Discussion)
- Re-analysing results in the text
- Overloading the chapter with diagnostics better placed in appendices

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Why this approach works for dissertations

- Demonstrates analytical competence without over-interpretation

- Aligns with examiner expectations
- Keeps Results and Discussion conceptually distinct

Scenario 2: Research article for an academic journal
Journal Results sections are more compressed and selective, requiring tighter control over content.

Focus of the Results section

In a journal article, the Results section should:

- Address only the primary research questions
- Include a small number of high-value tables and figures
- Prioritise clarity and efficiency over completeness

Supporting analyses are often conducted but not fully reported in the main text.

Practical writing tips

- Integrate results tightly with tables and figures
  Example: "As shown in Figure 2, perceived neighbourhood safety was higher in the exposure group."
- Report only the most relevant statistics
  - Test statistic
  - Degrees of freedom (if required)
  - *p*-value or confidence interval
- Avoid item-by-item reporting unless central to the research question
- Refer to supplementary materials for additional outputs

Common pitfalls to avoid

- Including too many tables or figures
- Reporting diagnostics in the main text

- Interpreting results as implications or recommendations

Why this approach works for journals

- Respects word and page limits
- Matches reviewer expectations
- Keeps attention on the core contribution of the study

Guidance common to both formats

Regardless of format:

- Results sections **describe**, not interpret
- Tables and figures should be introduced before being shown
- Each output should answer a clear, narrow question
- Neutral language should be used throughout

The analytical outputs provided in this example are intended to support clear, well-structured Results writing while allowing interpretation and discussion to remain the responsibility of the author.