Using a Likert-type Scale

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Topics

• Definition/Description
• Types of Scales
• Data Collection with Likert-type scales
• Analyzing Likert-type Scales
Definition/Description

• A Likert-type Scale is a type of rating scale used to measure attitudes or opinions. Respondents are asked to rate items on a level of agreement using a particular scale.
Types of Scales

• Number of rating items: 3 – 7
  • Odd number v. even number

• Item options:
  • Agreement        Strongly disagree to strongly agree
  • Frequency        Never to often
  • Quality          Very bad to very good
  • Likelihood       Never to Always
  • Importance       Unimportant to very important

• Number of Statements: 1 - 100
Developing Likert-type Scales

• Focus
  • What are you attempting to measure?
  • Likert-type scales work best with a single focus

• Generate the items and rating scale
  • Be sure they are directly related to the focus
  • Assign a rating scale that compliments the items

• Quality control
  • Have a group of subject experts review the final product for alignment
Data Collection with Likert-type Scales

• Number and complexity of items
  • More than 50 questions requires a significant time commitment
  • Time element: 30-60 seconds per question

• Complexity of rating scale
  • A rating scale of 7-10 choices might produce fatigue

• Number of participants
  • More is usually better for analysis purposes, particularly if multiple groups are involved
  • Same parameters as any other quantitative process
Analyzing Likert-type Scales Data

• Decisions to be made:
  • Ordinal v. continuous data
  • Parametric v. non-parametric
  • Other options
Analyzing Likert-type Scales Data: Ordinal

• Statistics to use:
  • The mode: the most common response.
  • The median: the “middle” response when all items are placed in order.
  • The range and interquartile range: to show variability.
  • A bar chart or frequency table: to show a table of results. (Not a histogram)

• Non-parametric tests
  • Kruskal Wallis: analyzes differences in medians for each group
  • Mann Whitney U Test: analyzes differences in medians for each group – subject to bias
Analyzing Likert-type Scales Data: Ordinal (continued)

• Other tests
  • Two categories: Chi-square, McNemar, Cochran’s Q, Friedman
  • Measures of association: Kendall’s tau, Spearman rank correlation (if groups are ordered, like age groups)
Analyzing Likert-type Scales Data: Continuous

• Statistics to use:
  • Mean
  • Standard deviation

• Parametric tests:
  • $t$ test
  • ANOVA
  • regression analysis
Sample

• Afrobarometer data set
• Variable: Country’s present economic condition
• Responses:
  • Very bad
  • Fairly bad
  • Neither good nor bad
  • Fairly good
  • Very Good
Sample: Variable treated as Ordinal

• Responses:
  • Very bad = 1
  • Fairly bad = 2
  • Neither good nor bad = 3
  • Fairly good = 4
  • Very Good = 5

• Variable treated as categorical
  • Mode
  • Median
  • Range
  • Minimum/Maximum
  • Bar chart
  • Frequency/Percent
Sample: Variable treated as Ordinal

Q3a. Country's present economic condition

- N Valid 50727
- Missing 860
- Median 2.00
- Mode 2
- Range 4
- Minimum 1
- Maximum 5
## Sample: Variable treated as Ordinal

<table>
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<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
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<td>55.6</td>
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<td>16.1</td>
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<tr>
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Sample:
Variable treated as Ordinal
Sample: Variable treated as Interval-ratio

Q3a. Country's present economic condition

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Sample: Variable treated as Interval-ratio
Questions?
References

References

Thank you!

Casanova says:
“See you next time!”

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