BASICS OF LIKERT

T his issue deals with the use of Likert scale, biases, number of response cate-

gories, methods in analyzing Likert item responses.

Measurements in Quantitative and Qualitative Research. Both quantitative and qualitative research give useful systematic methods to gather high-quality data. The different rules in both types of research mean that the ap-

proach to the measurement process are different:

Quantitative researches contemplate and reflect on concepts before they gather data. They construct measurement techniques that would bridge concepts and data, to produce precise numerical information.

Qualitative researchers develop many flexible ongoing processes to measure data in various shapes, ideas and forms. They develop the concepts during data collection, with the new ideas giving them the direction and suggest new ways to measure, ideas and data are bridged through a continuing interactive process.

Virtually every social phenomenon can be measured directly or indirectly and produce numerical values. Table 1 shows the 4 levels of measurement: from lowest to greatest detail, with each giving a different type of information.

Table 1: Levels of measurement

<table>
<thead>
<tr>
<th>Precision Level</th>
<th>Description</th>
<th>Example of a Likert item on self-rated health status: Fig 1</th>
</tr>
</thead>
</table>
| Lowest | Nominal, A | data classified into categories. | It is a common misconception that the Likert scale is the Likert scale. It is a composite measure used only after the researcher wants to measure how an individual feels or thinks about a common topic. In practice, what is actually a Likert item (a single question) is often mistakenly referred to as a Likert item.
| Ordinal | 5 | categories that can be ranked | 1. Strongly disagree
| Continuous | 10 | data can be measured in terms of ratios, | 5. Strongly agree
| Highest | Ratio | data can be measured in terms of ratios, | 6.5 (1.6) |

Fig 1: Distribution of responses on self-rated health status in a survey

Example of a Likert item on self-rated health status: Fig 1

Statement: Staff feel like their mistakes are held against them. In this example, more than 30% of the respondents were neutral and hence not much information is gained from the question.

Fig 2: Distribution of staff responses in a survey

Central tendency bias

Respondents may avoid using extreme response categories, thereby responding neutrally. The problem often occurs in Likert scales, where respondents are forced to chose a more positive or neutral rating.

Numerical or psychological bias: The likert scale is a psychometric scale widely used in surveys and health research. It is a composite measure used only after the respondent has answered all questions which addresses a common topic. A high score is actually a Likert item (a single question) is often mistakenly referred to as a Likert scale.

Advisories of Likert scale

• Neutral rating. 5 point scale is preferred when respondents are expected to truly feel neutral about a given topic. In such situations, the absence of a neutral midpoint can introduce respondent bias as the central midpoint can introduce respondent bias as the neutral rating 5.

• Having 5 to 7 response choices is ideal. Data becomes significantly less accurate when the number of scale points drops <5, while there is little gain in reliability when the categories increase to >7.

• Vice versa holds true; i.e., older respondents self-rate better health status (scores 9.15 compared to younger respondents 4.8).

Advantages of Likert scale

• Easy to construct, administer and score

• Easy to read and complete

• Easy to collect and analyze

Number of response categories when developing Likert items

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Analyzing Likert item responses

• A Likert item is subject to value. When estimating central tendency, one should use the median or mode. Summary statistics of Fig 1 are shown in Table 2.

Table 2: Comparison of median, mode and mean self-rated health scores

<table>
<thead>
<tr>
<th>Self-rated health status score</th>
<th>Median score</th>
<th>Mode score</th>
<th>Mean score</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 64 years</td>
<td>6.9 (1.6)</td>
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September 2010