



Guidelines for Likert Survey Questions

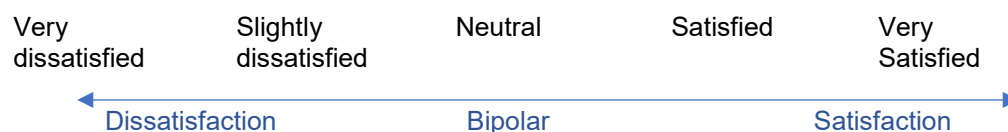
Likert response survey questions are ubiquitous in assessment, evaluation, and research. In particular, Likert survey questions are commonly used in the field of higher education. There are important considerations for determining when this response method is appropriate and if so, how to formulate questions and responses to mitigate bias and produce valid, reliable results.

What is a Likert Survey Question?

A **Likert survey question** is a specific type of question that collects rank ordered responses to assess levels of satisfaction, quality, importance, agreement, disagreement, or frequency. Often, we are interested in concepts that cannot be easily captured in a dichotomous variable (yes/no) or in a strictly quantitative way (# of visits, SAT scores). Instead, we expect there is a range of possible levels of our concept of interest (i.e., self-confidence, satisfaction, agreement, sense of belonging).

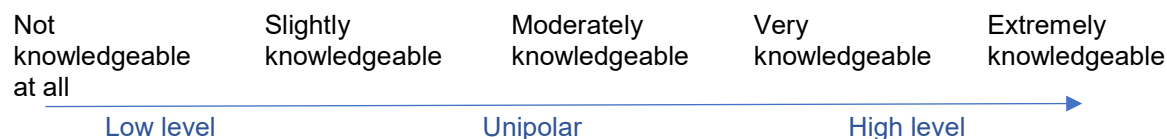
Likert survey questions often use a declarative statement followed by a rating scale. Scales can capture two directions of values, such as the bipolar example below.

Option 1: Rate your level of satisfaction with the instructor's knowledge of the course content.



Other response scales capture values of a concept in a single direction (such as low to high).

Option 2: Rate the instructor's knowledge of the course content.



Expanded style questions are also an effective question format that reduces bias since survey takers must consider their choices more carefully. A drawback is if you have too many expanded style questions it may take more time for respondents to process and answer them. This has the potential to elicit invalid responses and lower completion rates.

Option 3: Which of the following best describes how you feel about the instructor's knowledge of the course content:

- I am very satisfied with the instructor's knowledge of the course content.
- I am satisfied with the instructor's knowledge of the course content.
- I am dissatisfied with the instructor's knowledge of the course content.
- I am very dissatisfied with the instructor's knowledge of the course content.

Writing Effective Survey Questions

It is best practice to pre-test your survey, ideally with your intended target population, to ensure questions are not misleading or misinterpreted. This checklist can help when developing any survey instrument, including Likert style questions.

- ✓ Why are we asking this question?
- ✓ What are we trying to measure?
- ✓ What is the best way to measure that construct?
- ✓ Are there existing scales or measures used in similar projects we can use?
- ✓ How will we analyze the data?

| Guidelines ¹ | No | Yes |
|--|---|---|
| Ask about one idea at a time. | The new policy has reduced <i>crime</i> and <i>violence</i> on campus. | The new policy has reduced <i>crime</i> on campus. |
| Use unambiguous language. | Do you <i>usually</i> attend class? | How many times did you attend class during the past week, if at all? |
| Be specific when asking about frequency. | Very Often, Often, Sometimes, Rarely, Never | 1 or more times a day, 2-3 times per week, 1 time per week, less than 1 time per week |
| Avoid leading, non-neutral or culturally specific wording. | How <i>positive</i> was your experience in this course? Do you <i>agree</i> that the policy should be revoked? | How would you rate your experience in this course? Which best describes your view on the policy? |
| Omit qualifying statements that confuse results. | Single religion schools have <i>better</i> quality of education than other schools. Strongly agree to strongly disagree <i>Does someone marking disagree think education quality is no better or worse?</i> | Compared to other schools, the quality of education at single religion schools is: Much better, somewhat better, the same, somewhat worse, much worse. |
| Use scales with 4-7 categories. | Fewer than 4 may not cover all options. | Strongly agree, agree, undecided, disagree, strongly disagree. |
| Make sure answer options are mutually exclusive | More than 7 is too complex. | Never, 1, 2-3, 4-5, 5+times |
| Keep scale categories clear for respondents. | Low —————> High High —————> Low | Low —————> High Low —————> High |
| In some cases, it may be useful to include reverse-worded questions or scales to avoid the bias that occurs when respondents check "agree" to all questions. This strategy should be used thoughtfully to ensure that survey takers notice when questions or response categories are reverse worded. | | |
| Use neutral midpoints when necessary | Use neutral responses such as Not Applicable or Neutral, when appropriate. Survey takers may choose this option out of ease, especially on controversial topics, so omit if you want to force them to lean slightly positively or negatively. | |

¹ Adapted from [Selecting Scales for Survey Questions from UW Platteville](#).

Sample Likert Response Scale Categories²

| | | | |
|----------------------------|---|---|---|
| Agreement/ Disagreement | Strongly Agree Agree Undecided Disagree Strongly Disagree | Agree Strongly Agree Moderately Agree Slightly Disagree Slightly Disagree Moderately Disagree Strongly | Completely Agree Mostly Agree Slightly Agree Slightly Disagree Mostly Disagree Completely Disagree |
| Importance | Very Important Important Moderately Important Not Important | Very Important Moderately Important Not Important | Not Important at All Of Little Importance Of Average Importance Very Important Essential |
| Quality | Very Good Good Acceptable Poor Very Poor | Excellent Above Average Average Below Average Very Poor | Good Fair Poor |
| Likelihood | To a Great Extent Somewhat Very Little Not at All | Almost Always True Usually True Often True Occasionally True Rarely True Usually Not True Almost Never True | Not Likely Somewhat Likely Very Likely |
| Satisfaction | Very Satisfied Satisfied Neither Dissatisfied Very Dissatisfied | Much Better Somewhat Better Stayed the Same Somewhat Worse Much Worse | Very High Above Average Average Below Average Very Low |

Additional Tutorials and Resources

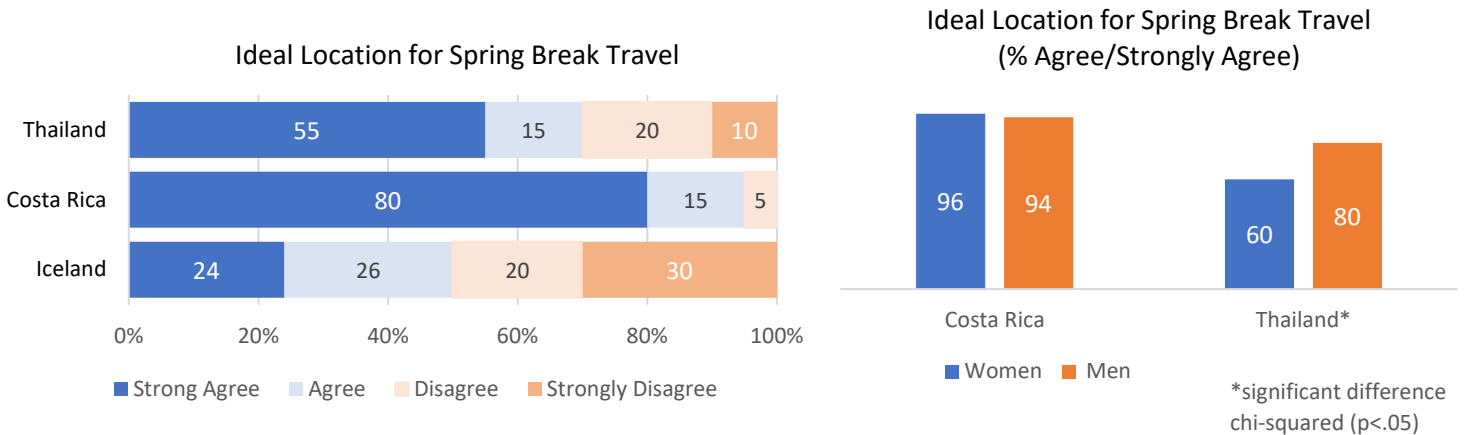
- [Survey Design Best Practice Guidelines](#)
- [Three Tips for Effectively Designing Rating Scales](#)
- [Choosing the Correct Statistical Test in SAS, STATA, SPSS, and R](#)
- [The 4, 5, and 7 Point Likert Scale](#)
- [Visualizing Data using Divergent Stacked Bar Chart](#)

² Adapted from [Likert Scale Examples for Surveys from Iowa State University Extension](#) (Brown, 2010).

Analyzing and Reporting the Data

Likert style questions produce ordinal variables which are ranked categorical measures. This means the distance between responses is not numerically meaningful, strictly speaking, even when there are numbers assigned to responses.

In practice, Likert style items with fewer than 5 categories are typically reported as percent frequencies. Depending on the question and the distribution of the data, it may make sense to further collapse categories (% Strongly Agree/Agree). Categorical tests, such as a chi-squared test, can also be used to examine if percentage differences between groups are statistically significant.



There are also instances where means, standard deviations, t-tests, ANOVA, and other parametric statistics can be used on Likert style questions and scales. Strictly speaking, interval measures have numerically meaningful differences between values (e.g., number of visits, scores on the SAT test). However, in practice, it can sometimes be useful to include means and standard deviations for Likert questions.

| Survey Items | Valid Percent | | | | Mean | SD |
|--------------|---------------|-----------------|----------|-----------------|------|-----|
| | Very Much (4) | Quite a Bit (3) | Some (2) | Very Little (1) | | |
| Question 1 | 48.0 | 33.1 | 15.8 | 3.1 | 3.26 | .83 |
| Question 2 | 59.2 | 31.1 | 8.0 | 1.8 | 3.48 | .72 |

You may also see traditional Likert scales treated as interval data. These scales come from multiple questions developed together to measure a single concept or idea (e.g., self-esteem, depression) which are then scored and collapsed into a single numeric score.

The strongest recommendation is ultimately that the choice of any survey question, statistical test, data graphic or reporting methodology should be guided by the research context and objectives.³ The office of [Assessment and Research](#) can provide consultation support in the development and analysis of survey-based data.

³ Additional Sources and References:

- de Winter, Joost C. F., and Dimitra Dodou. 2010. "Five-Point Likert Items: t test versus Mann-Whitney-Wilcoxon." *Practical Assessment, Research, and Evaluation* 15(11): 1-16.
- Harpe, Spencer E. 2015. "How to Analyze Likert and Other Rating Scale Data." *Currents in Pharmacy Teaching and Learning* 7:836-850.
- Kam, Chester Chun Seng. 2020. "Expanded Format Shows Better Response Consistency than Likert-Scale Format in the Measurement of Optimism." *Personality and Individual Difference* 152(1): 1-5