

Likert Scale

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Primary Disciplinary Field(s): Psychology, Social Sciences, Market Research, Education, Psychometrics

1. Core Definition

The **Likert scale** is a widely recognized and extensively utilized psychometric response scale primarily employed in questionnaires to measure attitudes, opinions, and perceptions. Developed by American social psychologist Rensis Likert in 1932, it is a unidimensional scale that requires respondents to indicate their level of agreement or disagreement with a series of statements. Unlike simple binary "yes/no" questions, a Likert scale provides a spectrum of choices, allowing for a more nuanced measurement of a respondent's position along an attitudinal continuum. This method is fundamental to quantitative research, enabling researchers to quantify subjective experiences and attitudes, thereby transforming qualitative judgments into a format amenable to statistical analysis.

At its essence, a Likert scale is characterized by a series of statements, each accompanied by a fixed set of ordinal response categories. These categories typically range from one extreme to another, such as "Strongly Agree" to "Strongly Disagree," "Very Satisfied" to "Very Dissatisfied," or "Never" to "Always." Respondents select the option that best represents their personal attitude or feeling towards the given statement. The individual responses to a set of Likert items (statements) are often summed or averaged to create a composite score, which is then used to represent an individual's overall attitude towards the construct being measured. This aggregation is a key feature that distinguishes a Likert scale from other types of rating scales, providing a more robust measure than a single item could.

The power of the Likert scale lies in its ability to capture the intensity of feelings or beliefs, not just their direction. For instance, knowing that someone "agrees" with a statement is less informative than knowing they "strongly agree." This graduated response system is crucial for discerning subtle differences in attitudes across individuals or groups, making it an invaluable tool for researchers in various disciplines. Its intuitive nature and ease of administration contribute significantly to its pervasive use in academic research, public opinion polling, customer satisfaction surveys, and educational assessments.

2. Etymology and Historical Development

The concept of the Likert scale emerged from the work of Rensis Likert, who first described it in his 1932 article, "A Technique for the Measurement of Attitudes," published in the Archives of Psychology. Likert developed this method as part of his doctoral dissertation at Columbia University, aiming to improve upon existing methods for measuring attitudes. Prior to Likert's

innovation, attitude measurement often relied on Thurstone scales or Guttman scales, which were more complex to construct and administer. Likert sought a simpler yet equally effective approach that could be widely applied in social research, recognizing the need for an efficient way to quantify subjective data.

Likert's primary contribution was the development of a "summated rating scale." This approach involved presenting respondents with a series of statements related to a specific attitude object. Each statement was designed to be either clearly favorable or clearly unfavorable towards that object. Respondents would then indicate their level of agreement or disagreement on a symmetrical five-point scale. The initial five-point scale typically included options such as "Strongly Approve," "Approve," "Undecided," "Disapprove," and "Strongly Disapprove." The numerical values assigned to these responses (e.g., 1 to 5) would then be summed across all relevant items to yield a total score, providing an overall measure of the respondent's attitude.

The adoption of Likert scales quickly spread due to their practicality and psychometric robustness. Researchers appreciated the method's relatively straightforward construction compared to its predecessors, as it did not require the pre-testing by judges to determine item weights, which was characteristic of Thurstone scales. Over time, while the core principle of a summated rating scale remained, variations in the number of response options (e.g., 4-point, 7-point, 10-point scales) and the labels used for these options became common. Despite these variations, the underlying methodology of asking respondents to rate their agreement or disagreement on an ordered continuum has remained the hallmark of what is now generically known as a Likert scale, solidifying its place as a cornerstone of quantitative social science methodology.

3. Key Characteristics

A Likert scale possesses several defining characteristics that contribute to its widespread utility and distinct methodology in measurement. Understanding these characteristics is crucial for proper scale construction, administration, and data interpretation. Firstly, it is fundamentally a **summated rating scale**. This means that an individual's total score on the scale is derived by summing or averaging their responses to a set of individual Likert items (statements) that are all designed to measure the same underlying construct. Each item contributes to the overall attitude score, providing a more reliable and valid measure than a single item could achieve.

Secondly, Likert scales are characterized by their **fixed-choice response format**. Respondents are presented with a predefined set of ordered categories, from which they must select the single option that best reflects their opinion. These categories are typically symmetrical around a neutral point, offering an equal number of positive and negative choices. Common examples include "Strongly Agree," "Agree," "Neutral," "Disagree," and "Strongly Disagree." This structured response format ensures consistency across respondents and facilitates quantitative analysis, though it also

limits the spontaneity of responses compared to open-ended questions.

Thirdly, the data generated by Likert scales is inherently **ordinal**. This implies that the response categories have a natural order or rank (e.g., "Strongly Agree" is more positive than "Agree"), but the intervals between these categories are not necessarily equal or equidistant. For example, the psychological distance between "Strongly Agree" and "Agree" might not be precisely the same as the distance between "Agree" and "Neutral." While this ordinal nature has implications for the type of statistical analysis that can be rigorously applied, researchers often treat Likert data as interval data for practical purposes, particularly when summing multiple items, enabling the use of parametric statistical tests.

Furthermore, an ideal Likert scale aims for **unidimensionality**, meaning that all items within the scale should measure a single, coherent psychological construct or attitude. This ensures that the composite score accurately reflects the intended variable and avoids confounding multiple concepts. Psychometric techniques, such as factor analysis, are often employed during scale development to verify this unidimensionality. The scale also frequently includes a **neutral or midpoint option** (e.g., "Neutral," "Undecided," "Neither Agree Nor Disagree"), offering respondents a way to express indifference or a lack of opinion. While the inclusion of a neutral option is common, its presence can sometimes be debated, as some researchers prefer "forced-choice" scales (even-numbered points) to encourage respondents to lean one way or the other.

4. Significance and Impact

The Likert scale has profoundly impacted social science research and beyond, establishing itself as one of the most significant and widely used methods for attitude measurement. Its widespread adoption is largely attributable to its practical advantages and psychometric utility, making complex subjective phenomena accessible to quantitative analysis. One of its primary significances lies in its ability to provide a more granular and nuanced understanding of attitudes than simpler dichotomous questions. By offering a spectrum of responses, researchers can discern the intensity of opinions, allowing for a richer dataset and more insightful conclusions about public sentiment, consumer preferences, or psychological states.

In academic research, particularly in psychology, sociology, political science, and education, Likert scales are indispensable tools for constructing reliable and valid questionnaires and surveys. They form the backbone of instruments designed to measure constructs such as job satisfaction, personality traits, quality of life, student engagement, and public trust. The ease with which Likert scales can be constructed and administered, compared to earlier, more labor-intensive scaling methods, has democratized attitude measurement, enabling a vast array of studies that would otherwise be impractical. This accessibility has contributed to a massive accumulation of empirical data, fostering advancements in theoretical understanding across numerous fields.

Beyond academia, the impact of Likert scales is evident in various applied settings. Market researchers extensively use them to gauge consumer satisfaction, brand perception, and product usability, influencing marketing strategies and product development. In healthcare, patient experience surveys frequently employ Likert scales to assess the quality of care and identify areas for improvement. Human resources departments utilize them for employee feedback, performance evaluations, and organizational climate assessments. The versatility of the Likert format makes it adaptable to almost any context where subjective evaluations need to be systematically collected and analyzed, underscoring its enduring relevance and foundational role in empirical inquiry.

5. Debates and Criticisms

Despite its ubiquitous use, the Likert scale is not without its share of academic debates and methodological criticisms, primarily concerning the nature of the data it generates and potential response biases. One of the most enduring and significant debates revolves around whether Likert scale data should be treated as **ordinal or interval data**. While individual Likert items are strictly ordinal (indicating order but not equal intervals between points), researchers often sum or average multiple Likert items to create a composite scale score. Many argue that when several items are combined, the resulting composite score approximates interval data, thereby justifying the use of parametric statistical tests (e.g., means, standard deviations, t-tests, ANOVA, Pearson correlations). Critics, however, contend that treating ordinal data as interval can lead to spurious results and advocate for non-parametric tests or alternative scaling methods, emphasizing that the psychological distance between "agree" and "strongly agree" may not be identical to that between "disagree" and "strongly disagree."

Another major area of criticism pertains to various **response biases** that can affect the validity and reliability of Likert scale data. One prominent bias is **social desirability bias**, where respondents tend to provide answers that they believe will be viewed favorably by others, rather than expressing their true feelings. This can skew results, especially on sensitive topics. Similarly, **acquiescence bias**, or the "yea-saying" tendency, refers to the propensity of some respondents to agree with statements regardless of their content, often due to a desire to be cooperative or a lack of engagement. Conversely, **extreme response bias** occurs when respondents consistently choose the most extreme options (e.g., "Strongly Agree" or "Strongly Disagree"), while **central tendency bias** describes the opposite -- a tendency to avoid extreme categories and consistently select the middle or neutral options, potentially masking true attitudes.

Further criticisms include challenges related to the **optimal number of response categories**. While 5-point and 7-point scales are common, the ideal number of options can depend on the construct being measured and the target audience. Too few options might limit the nuance of responses, while too many could overwhelm respondents or lead to inconsistent interpretations of categories. The interpretation of the **neutral point** is also debated; some argue it provides a

legitimate option for indifference, while others believe it allows respondents to avoid commitment, suggesting the use of even-numbered scales to force a positive or negative stance. Finally, the clarity and neutrality of the **statement wording** itself are crucial. Ambiguously worded or leading statements can significantly bias responses, highlighting the importance of rigorous item development and pre-testing to ensure construct validity and minimize measurement error.

Further Reading

[Likert Scale - Wikipedia](#)

[Rensis Likert - Wikipedia](#)

[Likert Scale: Definition, Examples, and Analysis - Simply Psychology](#)

[Likert Scale and How to Use It - National Center for Biotechnology Information \(NCBI\)](#)

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