A Comparison of Likert vs. Slider Formats in Clinical Assessment

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01 INTRODUCTION
Likert scales are thought to have some limitations such as:
• Yields discrete and ordinal data.
• Uneven spacing between response categories (Sidiretis et al., 2023).
• Loss of information and lead to ceiling/floor effects (Garcia-Perez, 2024).

Sliders are thought to overcome the limitations of Likert scales since it yields continuous data directly (Funke & Reips, 2012; Voutilainen et al., 2016).
Are there differences in the performance of data from the two response formats on different statistical indicators and model fit indices?

03 METHODOLOGY
The short form of the Center for Epidemiological Studies-Depression Scale (CES-D 8) was employed as the target instrument using five distinct response formats.

The study involved 400 participants, ranging in age from 18 to 86 years (M = 30.89, Mdn = 27, SD = 10.73). The sample was 37.3% male (n = 147), and 1.5% (n = 6) missing demographic data.

02 OBJECTIVE
Compare five different response formats based on:
• Item-level scores
• Psychometric performance (structural validity; measurement invariance; reliability; criterion validity)
• Mean differences across genders
• Individual scores
• Subjective rankings

04 RESULTS
Results indicate that Likert and sliders demonstrated similar patterns regarding:
• Cronbach’s alpha coefficient
• MacDonald’s omega coefficient
• Criterion validity
• CFA model fit indices
• Standardized factor loadings
different patterns regarding:
• Measurement invariance
• Gender group mean difference
• Item scores
• Sum scores

1. We recommend employing a symmetrical design when crafting the response format of self-report questionnaire.
2. We recommend employing Likert scales for scale validation studies.
3. When utilizing frequency-type scales, we recommend retaining more response categories.
4. In cases where the frequency scale or range is extensive and collapsing of categories is necessary, we suggest employing equally spaced categories.

05 TABLES/FIGURES

Table 1. Measurement Invariance of CES-D 8.

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<td>✔</td>
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Figure 1. Illustrative layouts for Five Different Response Formats.

Figure 2. Merged Distribution Plot for Different Categories on Likert Vs. Other Response Formats for Negatively Worded Item.

Figure 3. Merged Distribution Plot for Different Categories on ASF Vs. Other Response Formats for Negatively Worded Item.

Figure 4. Sankey Plot for Negatively Worded Item on Short-Range Slider Vs. Likert.

Figure 5. Stacked Bar Charts of Participants’ Subjective Ranking for Different Response Formats.

07 LITERATURE