

Chapter 3

A Critique of Likert– Response Items in Social Science Research: A Research Note

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ABSTRACT

This chapter critiques the use of the Likert response items for scale development. Likert response data when as nominal data and analyzed as nominal data is useful for recording and analyzing participants' attitudes about a topic. However, it is illogical for researchers who use Likert response data as interval data. The typical five or seven-item Likert response provides three response methods for each topic under study: a neutral item that is categorical, a two or three-item negatively worded ordinal scale, and a two or three-item positively worded ordinal scale. While Likert suggested scoring the five-item response with the numbers 1-5 and scoring the seven-item response with numbers 1-7, it places the neutral response in the 3rd or 4th position, which, if treating the data as interval means that 'neutral' scores higher than the Strongly Disagree-Disagree and lower than the Agree-Strongly Agree items, is not a logical outcome.

INTRODUCTION

The purpose of this chapter is to present the origin, use of, and problems with the Likert-response method. Specific problems include the neutral item in a five/seven-item Likert-response, the use of both positive and negative wording in a Likert-response item, the problems with participants' psychological reaction to negative wording in a Likert-response, and the problems with treating Likert-response items as parametric data. Throughout the chapter, 'Likert-response' is used rather than 'Likert scale' to avoid confusion when a measurement scale is referenced in the text.

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BACKGROUND

In 1932, Rensis Likert developed the Likert-response as a means of measuring people's attitudes (Chyung et al., 2017). According to Chyung et al. (2017), the Likert-response rapidly grew in popularity and its use expanded into measuring employee performance, communication studies, political opinion research, marketing surveys, and psychometric studies. The Likert-response presented by Likert (1932) was a five-item response with each item scored as 1, 2, 3, 4, or 5. Likert made it clear that ambiguity of the extremes of the attitude is similar to the extremes in a semantic differential scale:

So far as the measurement of the attitude is concerned, it is quite immaterial what the extremes of the attitude continuum are called; the important fact is that persons do differ quantitatively in their attitudes, some being more toward one extreme, some more toward the other. Thus, as Thurstone has pointed out in the use of his scales, it makes no difference whether the zero extreme is assigned to "appreciation of" the church or- "depreciation of" the church, the attitude can be measured in either case, and the person's reaction to the church expressed. (Likert 1932, p. 91)

Likert (1931) posited that Likert-responses could be correlated and that split-half reliability could be measured. DeVellis (2017) discussed both dichotomous and continuous variables and presented reliability measures for each type of scale.

Likert-type responses with an odd number of choices (3, 5, 7, 9, etc.) offer three types of responses within the Likert-response: (a) a dichotomous choice between having an opinion and not having an opinion. (b) ordinal positive, and (c) ordinal negative. The two sub-response types (positive and negative) present a combination of positive and negatively worded responses. Taylor et al. (2003) pointed out the problems with using a mixture of positively and negatively worded items in a scale, and the present-chapter author posits that a similar concern applies to the response items as well. The present-chapter author, in a study of servant leadership and perceived organizational support's relationship with employee well being used Meyers et al. (2019) eight-item measurement scale in which four items were positively worded and four items were negatively worded. Meyers et al.'s scoring instructions called for reverse scoring the four negatively-worded items and then averaging the score of eight items (four positively-worded and four reversed-scored items.) A post-study analysis for this present chapter showed that a principal component analysis of the eight items produced two factors, each with four items. The positively worded items loaded on factor one and the four negatively worded items loaded on factor 2. The current chapter author recalls similar results from prior studies where negative words were reverse-scored. This outcome may relate to participants' psychological reaction to negative wording that may also apply to how participants react to negative responses such as (a) extremely disagree, (b) disagree, and (somewhat disagree). The use of three types of responses also creates problems with treating the data as parametric rather than categorical data. Mayerl and Giehl (2018) caution researchers that negatively worded items may produce a factor of their own, which is what this current chapter author experienced.

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