

In line 28, Rasch measurement model is not an instrument in the sense Stanford-Binet and MMPI are, nor is it Likert scale, for that matter. Distinguish between types of questions (items) and concrete measurement instruments (MMPI for example).

The authors are in agreement with the above statement .We have reframed the sentence as-

Psychometrics operates through two ways- the first is to formulate of approaches (theoretical construct) for measurements followed by development of measuring instruments and their validation. Stanford Binet test (measures human intelligence) and Minnesota Multiphasic Personality Inventory (measures human personality) are the example for the same. The content in such instruments are rather 'pre-fixed.' [3, 4, 5].The another path is same up to formulation of theoretical construct for the measurement. This conceptualization is followed by operational assembly of abstract ideas /experiences/issues under investigation into some statements (items) largely guided by aim of the study hence contents(items) in such scales/models are rather flexible and need based. Rasch measurement model (use for estimation of ability), Likert scale (measures human attitude) are the examples of such scales in Psychometrics used widely in the social science & educational research [3, 4, 5].

In line 32, it is not clear what is meant by „scientifically accepted (validated) manner“. Validation is not connected with item format, but with content of the item.

Here authors are concerned with construct validity and not the content.

The paragraph from line 40 to line 44 is not easy to understand. The authors should reformulate the sentences in this paragraf using traditional scientific language.

The paragraph is rewritten as under-

The original Likert scale is a set of statements (items) offered for a real or hypothetical situation under study Participants are asked to show their level of agreement (from strongly disagree to strongly agree) with the given statement (items) on a metric scale. Here all the statements in combination reveal the specific dimension of the attitude towards the issue ;hence necessarily inter-linked with each other.

In line 50, ipsative does not refer to a Likert scale without neutral point. Also, the absence of a neutral position is in no way specific only to assymetrical Likert type scales.

Difference between symmetric and asymmetric Likert scale is rewritren as-

Symmetric versus asymmetric Likert scale- If the position of neutrality (neutral/don't know) lies exactly in between two extremes of strongly disagree (SD) to strongly agree (SA) ; it provides an independence to a participant to choose any response in a balanced and symmetric way in either directions .This construction is known as symmetric scale . On the other hand , asymmetric Likert scale offers less choices on one side of neutrality (average) as compared to other side. Asymmetric scale in some cases also indicate ipsative (forced) choices where there is no perceived value of indifference/neutrality of researcher [12, 13,14].

Authors are in aggrement that 'neutral ' position absence is no way specifc to Likert scale....that's why authors have used word 'some' in previous as well as in this version.

In line 52, having more than the usual 5 levels of choice on a given item does not mean that „more continuums of choices are granted“. Rather, it's still the same continuum, only responses can be graded more finely.

Continuum word was used in sense of-' a continuous sequence in which adjacent elements are not perceptibly different from each other, but the extremes are quite distinct....still the whole picture may not be emerged as same. The authors are in agreement with reviewer .The paragraph is reframed as-

They are the variation of 5 point scale in which adjacent options are less radically different (or more gradually different) from each other as compared to a 5 point scale. This larger (step by step) spectrum of choices offers more independence to a participant to pick the 'exact' one (which he prefers most) rather than to pick some 'nearby' or 'close' option. [15]. These variations are discussed in more details (in reference with validity and reliability) further in this paper.

In lines 55 – 63, the distinction between a Likert scale, and a Likert type scale is not clear. The authors don't even mention the content of the items which is in fact a crucial distinction here.

This concept in a detailed manner is described in the manuscript with an example related with educational research. For lines 55-66 The whole paragraph is rewritten as-

Likert and Likert type scale- The construction of Likert (or Likert type) scale is rooted into the aim of the research. When the purpose of inquiry is to understand the opinion/perception around a single phenomenon or concept ; all the statements in the scale in a complementary manner address the specific portion of the phenomenon /concept. Here during analysis, the scores of the all items of the questionnaire are combined (sum) to generate a composite score, which logically in totality measures a uni-dimensional trait . this instrument is known as Likert scale.

Sometimes the primary interest of the researcher is not to synthesize the stance of the participants per se but to capture feelings, actions and pragmatic opinion of the participants about mutually exclusive issues around phenomenon/s under study. This fact demands the individual analysis of item to ascertain the participants' collective degree of agreement around that issue. The scale used so can be labeled as Likert type and not Likert scale [16]. A word of caution ; this 'direction of enquiry' must be decided during the planning phase and at least during the designing of questionnaire and not at the time of analysis.

In lines 68 – 74, no argument is given for preference of a 7 point as compared to the 5 point Likert scale in terms of psychometric properties. Once again, reliability and validity of a scale depend little on the form of items and almost exclusively to their content.

Reviewer is requested to please go through the section IS 7 POINT LIKERT SCALE BETTER THAN 5 POINT LIKERT SCALE? - A PERSPECTIVE CONTROVERSY OR ESTABLISHED WITH A CONSENSUS?. This portion is rewritten as suggested by reviewer.

Here questions related with validity, reliability and preferences are attempted to answer-

Since the advent of Likert scale in 1932, there have been debates among the users about its best possible usability in term of reliability and validity of number of points on the scale [17-20].

Likert (1932,7) in his original paper discussed about the infinite number of definable attitudes existing in a given person with possibility of grouping them into "clusters" of responses. He further conversed about the assumption of his "survey of opinions" on which he provided his results and psychological interpretations. The key assumptions of his survey being firstly, the presentation of item on scale is such that, so as to allow the participants to choose clearly

opposed alternatives. Secondly, the conflicting issues chosen were empirically important issue thus result themselves constituting an empirical check on the degree of success.

Thus, it is argued in particular context of clustering of attitudes Considering reliability of the responses from participants in a survey, chances are that the 7 point scale may perform better compared to 5 point scale owing to the choice of items on scale defined by the construct of survey . The 7 point scale provides more varieties of options which in turn increases the probability of meeting the objective reality of people. As a 7-point scale reveals more description about the motif and thus appeals practically to the “faculty of reason” of the participants [19, 20].

A respondents’ absolute agreement with the motif of topic may lie between the two descriptive options provided on a 5 point scale. On repeated administration he/she may differ in choosing one of the options e.g. 3 instead of 4 when the person thinks in between the two of the response option on 5 point scale. A 7 point scale may eliminate this problem up to an extent, by eliciting retrieval beyond the utmost level of agreement provided by a 5 point scale. Hence, the dilemma of choosing between the two undesirable points on 5 point Likert scale may convert into the slight subjective predicament towards a response option or even an absolute agreement as a result of provision of degree of measurement beyond the extent of 5 point scale [21-23]. The provision of number of scale points, 5 point or 7 point, would be more engaging to the minds of respondents when the items on the scale carry the statement of ideas near the truth of the universe for both the participants and the surveyor. It may create the ‘curves of reliability’ around the ‘zenith of validity’. The dilemma of choice and explicit greater extent of measurement by 7 point scale is very much in the territory of the reason of response without which consideration of reliability is of no weight [19].

Validity of Likert scale is driven by the applicability of the topic concerned, in context of respondents’ understanding and judged by creator of the response item. We can appreciate it by an example: “How efficacious is a therapeutic modality in treating a particular disease?”

This question when asked to a group of individuals, indifferent with the disease or the modality, the response pattern may remain similar, independent of the number of point on the scale. The responses may cluster around center or to the extreme ends. On the contrary, when the topic concerned is relevant to the respondents’ context provision of more option may add to the content & construct validity of the scale. Providing options more close to the original view of the respondent reduce the role of ambiguity in the responses. ^[22, 12] Furthermore, comprehension of all items and points on a scale needs a judgment time and a memory span different for different means and also depends on communication mode. While listening to the responses of a long scale may discern the various options on the scale with lesser time to judge compared to a written scale. Written scale thus will add to validity even with more points on the Likert scale. Also research concerning span of immediate memory support this notion of accuracy of response categories around seven as human mind has span of absolute judgment that can distinguish 7 categories at a time [24].

In line 82, the sentence „The provision of number of scale points, 5 point or 7 point, would be more engaging to the minds of respondents when the items on the scale carry the statement of ideas near the truth of the universe for both the participants and the surveyor.“ is unclear.

Reframe ,reviewer is requested to visit the section mentioned above.