



**SDI Review Form 1.6**

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| Journal Name:            | <b><u>British Journal of Applied Science &amp; Technology</u></b> |
| Manuscript Number:       | <b>2014_BJAST_14975</b>                                           |
| Title of the Manuscript: | <b>Likert Scale: Explored and Explained</b>                       |
| Type of the Article      | <b>Opinion Article</b>                                            |

**General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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**PART 1: Review Comments**

|                                     | Reviewer's comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <b>Compulsory</b> REVISION comments | <p>This paper presents some information and author's thoughts regarding the use of Likert type scales. Even though the topic is interesting on its own, the paper is severely lacking in several important areas. It is not clear what the authors want to achieve with it, what was <b>the aim of the paper, what thesis are they advocating?</b> Most problems associated with Likert scales are not even mentioned in the paper, and the only one that receives any serious attention is the one pertaining to the number of levels on the scale. Even in this case the authors' argumentation is not very strong and is hard to follow. Overall, the paper doesn't even begin to tackle the problem of responses on Likert type items, and it should be reworked from the bottom up.</p> | <p>Sincere thanks for the observations made by esteemed reviewer .</p> <p>As per the reviewer suggestion ,the whole script is revisited and revised .</p> <p><b>The aim of the paper is written as-</b>With this context, this exploratory article attempts to describe two confusing issues related with Likert scale- (would be) preferable numbers of points on a scale and analysis of the scale. During one of the contributing author's participation in a web based conversational learning forum on medical education, these two issues emerged as thrust area amenable for further exploration and lucid explanation for the educational researchers . An initial literature search by authors led to aggregation of mutual conflicting evidences which compelled us to re-explore and further construction of arguments based upon accumulated knowledge.(para2;page-3)</p> <p><b>Further an author's note(conclusion) is incorporated as-</b></p> <p>The crux that can be extracted from the above inductive arguments and logical interpretation that the methods adopted for Likert scale analysis largely depends on the item response variable</p> |



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|  |  | <p>assignment into ordinal or interval scale which in turn depends on the construct of the research instrument. This construct of research instrument can be derived from objectives of study and objectives are the operational form of theoretical construct of phenomenon under inquiry . In other words design of instruments based upon objectives and frameworks of study decides further statistical treatment. .</p> <p>Hence ,If one wishes to combine the items in order to generate a composite score (Likert scale) of a set of items for different participants then the assigned scale will be an interval scale (fig.2). The measures for central tendency and dispersion for an interval scale are mean and standard deviation. Further this data set can be statistically treated with Pearsons' correlation coefficient (r), Analysis of Variance (ANOVA)- and regression analysis.</p> <p>As opposed to, if researcher wishes to analyse separate item ( no composite score; Likert type scale) the assigned scale for such data set will be ordinal (fig.2). Needless to say; the recommended measure of central tendency and dispersion for the ordinal data are the median (or the mode) &amp; frequency (or range) . An ordinal data set can further be statistically tested by non-parametric techniques such as Chi-square test, Kendall Tau B or C test.</p> <p>Before wrapping up ; it is imperative to transform</p> |
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|  |  | <p>an abstract issue into figurative shape in order to measure it up to best possible extent . Simultaneously this is an integrate process reason being influenced by perspective and subjectivity of researcher. Still all attempts should be directed for quantification of such qualitative attributes as - 'what get measured ,get managed.' ( Peter Druker).</p> <p>(para-4,page12 and Page-13)</p> <p><b>The basic Idea behind the inception of this paper</b> was the confusion perceived(in a online forum) about the analysis of such Psychometric attributes among medical educational researcher(para2;page4). Here the basic question is what are you measuring and how are you measuring (decides at the time of commencing the research)...your direction of inquiry may give you different measure of central tendency and measure of dispersions (page8-11) hence your statistical interpretations may be distorted or misleading. The basic assumptions behind applying parametric and non-parametric techniques are all together different; as the rules (if any) under which numerals are assigned are different for Likert and Likert type scale ...hence they should be interpreted in different manner.(page-8-11)</p> |
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| <b><u>Minor</u></b> REVISION comments   | <b>The language of the paper is very poor. Most sentences are hard to understand as the syntactic structure used is not English.</b> | Thanks for the observation....We are not able to understand the connotation of 'syntactic structure'. The primary language of paper is definitely English and the manuscript is not translated from any other language. As the basic idea behind writing this paper is to construct the logical conclusion from available evidences; the flow of thinking sometimes may not be apparently linear .<br>Thanks for pointing this issue ...we have revisited and redrafted and the whole script to convert it into more liner one. In the redrafted script, we have attempted to build the idea in a more gradual manner |
| <b><u>Optional/General</u></b> comments | For specific comments, see attached document.                                                                                        | Specific comments are addressed in the attached documents.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |