

# The Mid-Point on a Rating Scale: Is it Desirable?

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This study examined the effect on survey results of having no neutral or mid-point on a Likert scale. Participants in a face-to-face omnibus survey were shown either a five point (with mid-point) or four point (no mid-point) Likert scale of importance on a card and asked to state their opinion about the importance of product labelling (additives, ingredients etc.) on packaged foods. This research provides some evidence that social desirability bias, arising from respondents' desires to please the interviewer or appear helpful or not be seen to give what they perceive to be a socially unacceptable answer, can be minimised by eliminating the mid-point ('neither... nor', uncertain etc.) category from Likert scales. There is also some evidence that the presence or absence of a mid-point on an importance scale produces distortions in the results obtained.

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## Introduction

The widespread use of rating scales in market and social research has generated considerable debate over the optimal number of scale points to use. The purpose of a rating scale is to allow respondents to express both the direction and strength of their opinion about a topic. Typically, market researchers would prefer respondents to make a definite choice rather than choose neutral or intermediate positions on a scale. For this reason, a scale without a mid-point would be preferable, provided it does not affect the validity or reliability of the responses.

While many authors have concluded that the optimal number of scale categories is content specific and a function of the conditions of measurement (Komorita 1963; Matell & Jacoby 1971; Wildt & Mazis 1978; Cox 1980; Friedman, Wilamowsky, & Friedman 1981), few published studies have addressed the issue of whether or not a mid-point category should be included on rating scales.

Matell and Jacoby (1972) demonstrated that as the number of scale steps is increased, respondents' use of the mid-point category decreases. For instance, their three and five point scale formats were associated with an average of 20% of respondents choosing the mid-point category whereas this category was utilised by only an average of 7% of respondents scoring seven, nine..., nineteen category formats. Matell and Jacoby's advice on minimising usage of the mid-point category was to either not include it at all or use scales with many points. They concluded by stating that "the decision would seem to depend on the level of 'uncertain' responses one is willing to tolerate" (Matell & Jacoby 1972, p508).

Worcester and Burns (1975) included a balanced four point Likert scale without mid-point in their major examination of the precision of verbal tags. Their study highlighted the implications of scoring verbal scales by the traditional practice of +2 to - 2 or 5, 4, 3, 2, 1 in the light of their finding that grammatically balanced Likert scales are often unbalanced in interpretation; for instance, 'tend to disagree' is not directly opposite 'tend to agree'. Worcester and Burns also concluded that a four point scale without a mid-point appears to push more respondents towards the positive end of the scale.

The objective of this study was to examine the effect on survey results of having no neutral or mid-point on a Likert scale. A Likert scale was chosen because scales such as this, with labels attached to each point on the scale, are widely used in market research and have been extensively tested in both the marketing and social science literature.

## **Method**

The question on which this research is based was placed on the 1990 Palmerston North Household Omnibus, an annual survey carried out by second year Marketing students as part of their course requirements. Survey coverage is the Palmerston North urban area. Equal numbers of males and females aged 15 years and over are interviewed. The standard market research procedure of three attempts at interview before substitution is used.

The question on product labelling was asked only of grocery shoppers; two versions of the question (Version 1 using a five point Likert scale: sample size 225; Version 2 using a four point Likert scale: sample size 223) were necessary and the responses to each version were weighted by age and sex to ensure comparability of the subsamples.

Respondents were shown either the five point (with mid-point) or four point Likert scale of importance on a card and requested to state their opinion about the importance of product labelling (additives, ingredients etc.) on packaged foods.

## **Results and Discussion**

Table 1 shows the responses to the question about the importance of product labelling for the five point and the four point scales, and the differences in the two sets of responses, which show the effect of removing the mid-point.

It would appear that the denial of a mid-point has resulted in more negative ratings than were achieved when a mid-point was available. The results suggest that the 14% of the five point scale sample who chose the 'neither/nor' position would choose a negative scale point when the mid-point is removed. Indeed, the difference on the 'unimportant' category of 8% versus 16% is statistically significant at the 5% level.

This result is consistent with the suggestion of Worcester and Burns (1975), that respondents tend to give a more positive reply to questions in order to be helpful or to please the interviewer or to guess what might be the socially acceptable answer. In this case, it seems some respondents were reluctant to state that product labelling is unimportant to them and have taken the 'neither ... nor' position on the five point scale. Resorting to a scale without a mid-point seems to help alleviate this social desirability bias without changing the direction of opinion but, of course, it can alter the intensity of the opinion held (see Table 1).

However, while Worcester and Burns (1975) found that respondents are pushed more to the positive end of the scale when mid-points are omitted, the present study found the opposite. This suggests that the way in which people will respond to a balanced Likert type scale without a mid-point is content specific.

**Table 1. Comparison of the two forms of the importance scale**

<b>Importance of product labelling</b>	<b>Five point scale (I5) %</b>	<b>Four point scale (I4) %</b>	<b>Difference 14 – 15 %</b>
Very important	28	33	+5
Important	41	38	-3
Neither important nor unimportant	14	NA	NA
Unimportant	8	16	+8*
Not at all important	8	10	+2
Don't know/refused to answer	1	3	+2
Total n	225	223	

Note. \* Difference significant at 5% level.

A rather more interesting, and potentially more serious, debate should be addressed in this research. The results raise the question of whether the presence of a midpoint on an importance scale has distorted the overall result. The results for the five point scale can be recalculated as though they are obtained from a four point scale (without a mid-point) as shown in Table 2.

**Table 2. Recalculated comparison of the two forms of the importance scale**

<b>Importance of product labelling</b>	<b>Five point scale results recalculated without mid-point (15 recal) %</b>	<b>Four point scale (I4) %</b>	<b>Difference 14 – 15 recal %</b>
Very important	33	33	0
Important	48	38	-10**
Neither important nor unimportant	NA	NA	NA
Unimportant	9	16	+7**
Not at all important	9	10	+1
Don't know/refused to answer	1	3	+2
Total n	193*	223	

Note \* The n = 193 sample is derived by subtracting the 32 respondents (14% of the original five point sample - see Table 1) who answered 'neither ... nor, (the mid-point) from the 225 respondents who were given the five point importance scale.

\*\* Difference significant at 5% level.

If no distortion is caused by the use of a mid-point, then the percentages in each of the two columns of Table 2 will be similar (at least within sampling error). Yet this is not the case

here. The four point scale forces the indifferent respondents to make a choice, resulting in a 10% reduction in the 'importance' categories and an 8% increase in the 'unimportant' categories. The other 2% of this shift is found in 'don't know'.

## Conclusion

This research provides some evidence that social desirability bias, arising from respondents' desires to please the interviewer or appear helpful or not be seen to give what they perceive to be a socially unacceptable answer, can be minimised by eliminating the mid-point ('neither... nor', uncertain etc.) category from Likert scales. There is also some evidence that the presence or absence of a mid-point on an importance scale produces distortions in the results obtained. Arguably the problem still remains to be resolved: should the market researcher offer respondents the chance to express a truly neutral position?

These preliminary results should be seen in their context; if you are surveying a population to ascertain opinion, then the inclusion or omission of a mid-point can alter your results considerably. The debate continues and the explicit offer of a mid-point is largely one of individual researcher preference.

The question of whether the results of this study are generalisable to different topics, different types of rating scales and different subject populations, remains to be addressed.

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