Component ratings in impression formation¹

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Given three traits that described a person, Ss judged the person and then the traits. Ratings of each trait were displaced towards the other traits. An averaging model gave a reasonably good account of this positive context effect. An interpretation in terms of change in meaning was also noted.

In previous work, Ss received trait-adjectives that described a person, and judged both the likability of the person and of one of the component traits (Anderson & Lampel, 1965). A positive context effect was found: judgments of the component were displaced towards the values of the other traits of the person. The results supported the interpretation that the component rating is a weighted average of its context-free value and the impression of the person:

$$s' = ws + (1 - w)I, \quad (1)$$

where s' and s are component ratings in and out of context, I is the overall impression, and w is a weighting factor. The present within-subjects, within-adjectives design provides a much more powerful test of this hypothesis.

Method

S received cards with three adjectives that described a hypothetical person, read them aloud, and 10 sec. later, when E said "Rate," judged the person on a 9-category scale from Extremely Likable to Extremely Dislikable. E then pointed to each separate adjective in randomized order, and S rated each on a 1-20 numerical scale according to "how likable or dislikable you consider that particular aspect of the person." Different scales were used to reduce interference between the two judgments.

Adjectives were from the sublists used previously (Anderson, 1965). H, M^+ , M^- , and L stand for highly favorable, moderately favorable, moderately unfavorable, and highly unfavorable. Each S judged six practice

sets, and 16 experimental sets generated from a 4 by 4, Test by Context design. The four levels of each factor were the four sublist values given above. The Test factor was a single adjective, and the Context factor was a pair of adjectives from one sublist.

There were four main stimulus replications, each based on a different random sample of three adjectives from each scale range, and each yielded three balanced subreplications, obtained by using each adjective once as Test and twice as Context. The words were typed on the cards in random order. Ss were 64 students, half of either sex, run individually, and randomly assigned to the cells of the complete design.

Results

The primary data are the component ratings, and the left panel of Fig. 1 plots ratings of the Test adjective as a function of the Context adjective-pair. Each curve shows the positive context effect. For example, the rating of the same H adjective decreases from its "natural" value of 16.6 in the HH context to 14.1 in the LL context.

The present test of Equation 1 rests on the auxiliary assumption that the person impression is itself an additive function of the component values (Anderson, 1962). Equation 1 then implies that the four curves of the left panel should be parallel and this seems to be approximately true. An exact test may be had by using analysis of variance which also provides estimates of the scale values of the adjectives. Parallelism is tested by the Test-Context interaction which was just significant, $F = 1.98$, $df = 9/432$. The discrepant portion of the systematic variance was 0.3%, reflecting a correlation of .9987 between predicted and obtained means. There is thus some support for the main hypothesis.

The person-impressions were also of interest, though they had been given lower priority in the experimental

Fig. 1. Mean values of three dependent variables listed in panel legends. Each panel plotted as a function of Context adjective-pair on the baseline, with Test adjective parameter as listed by each curve.

design. The verbal rating was converted directly to a 1-9 numerical scale, and the means are shown in the right panel. This graph gives a direct visual test of the hypothesis that the impression is an additive function (sum or mean) of the adjective values. If the hypothesis is true, then the four curves should be parallel. However, the Test-Context interaction was quite significant, $F=2.59$, $df=9/432$. This suggests real discrepancies from additivity although the correlation between the obtained means and those predicted from the scale value estimates provided by the model analysis was .9958.

The person-impressions may also be related to the component ratings. The center panel shows the mean sum of the three ratings of each set. Parenthetically, since the distinction between Test and Context is largely nominal, the previous analysis implies that the curves of the center panel should also be parallel, and in fact the Test-Context interaction did not approach significance, $F=1.47$, $df=9/432$.

However, the main interest is in the relation between the summed adjective rating and the person-impression. The relevant hypothesis is that the impression is an additive function of the component ratings, even allowing that these might represent values changed by context. Since the two kinds of judgments are on different scales, the quantitative form of the hypothesis is that the impression is a linear function of the summed ratings of the component adjectives.

Visually, this hypothesis says that the center and right panels are geometrically similar, and the degree of similarity may be measured by the correlation between the two sets of 16 data points. This correlation was .9959, as large as the correlation between predicted and obtained impressions though fewer parameters were estimated.

Discussion

The main hypothesis, that the positive context effect in component ratings reflects an averaging process, provides a good though not perfect quantitative account of the data. The discrepancies seem relatively small and may reflect corresponding discrepancies in the auxiliary assumption that the person impression is an additive function of the component values. Future work may find it desirable to try bypassing the auxiliary assumption by using the person ratings as a covariate.

The alternative, and more natural interpretation of the context effect is that the words change meaning (Anderson & Lampel, 1965). This interpretation is qualitatively consistent with the data, but it is conceptually and quantitatively undeveloped. Of course, it could just be postulated, following the data, that each component changes in proportion to the discrepancy between its free value and either the overall impression or, perhaps, the free values of the other components. However, this is superficial since it ignores the integration process which produces the presumed change in meaning.

The person-impression data require two brief remarks. The present and previous work find small but real discrepancies from additivity, though efforts to locate their source have met with limited success (Anderson & Jacobson, 1965). The component rating technique may be valuable in trying to pinpoint the cause and nature of these discrepancies.

The component ratings also raise a gross theoretical problem for the additive model. Previous tests have taken lack of interaction to imply little or no change in meaning as reflected in scale value. However, if the components change in a proportionate way, as listed above, an additive function of these changed values would also yield zero interaction. Consequently, these tests of the model, insofar as they test for change of meaning, are less powerful than had been thought. This theoretical problem is not less serious for other current models of impression formation since most have assumed, implicitly or explicitly, that the stimulus values are independent of context.

References

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