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Schwarz, Norbert; Münkler, Thomas; Hippler, Hans-Jürgen

Veröffentlichungsversion / Published Version

Arbeitspapier / working paper

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Empfohlene Zitierung / Suggested Citation:

Schwarz, N., Münkler, T., & Hippler, H.-J. (1989). *What determines a "perspective"? Contrast effects as a function of the dimension tapped by preceding questions.* (ZUMA-Arbeitsbericht, 1989/22). Mannheim: Zentrum für Umfragen, Methoden und Analysen -ZUMA-. <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-67053>

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Norbert Schwarz, Thomas Münkel
Hans-J. Hippler

ZUMA-Arbeitsbericht N r. 89/22

Zentrum für Umfragen, Methoden und
Analysen e.V. (ZUMA)
Postfach 12 21 55
D-6800 Mannheim 1

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Norbert Schwarz, Thomas Münkler, & Hans-J. Hippler (1990). What determines a "perspective"? Contrast effects as a function of the dimension tapped by preceding questions. European Journal of Social Psychology, 20, 357-361.

Short Note

What determines a 'perspective'? Contrast effects as a function of the dimension tapped by preceding questions

NORBERT SCHWARZ

*Zentrum für Umfragen, Methoden und Analysen,
ZUMA, Mannheim, FRG*

THOMAS MÜNDEL

Universität Heidelberg, Heidelberg, FRG

and

HANS-J. HIPPLER

*Zentrum für Umfragen, Methoden und Analysen,
ZUMA, Mannheim, FRG*

Abstract

Subjects estimated how many Germans drink vodka or beer, or estimated the caloric content of these drinks. The former judgment, but not the latter, produced contrast effects on subsequent ratings of how 'typically German' various drinks are. Thus, highly accessible extreme stimuli did only affect ratings if the first judgment pertained to the same underlying dimension.

INTRODUCTION

That ratings of a stimulus along a dimension are a function of the extremity of context stimuli along the same dimension is one of the best established findings in social judgment research (*cf.* Eiser (in press) for an extensive review of current and classic research). Different theories of social judgment share the assumption that judges use the range of stimuli to anchor the response scale provided to them

Addressee for correspondence: Dr Norbert Schwarz, ZUMA, P.O. Box 122155, D-6800 Mannheim, W. Germany.

The reported research is based in part on the second author's diploma thesis at the University of Heidelberg, conducted under the direction of the first author. It was supported by grants SWF004-6 from the Bundesministerium für Forschung und Technologie to Norbert Schwarz, and Str 264/2 from the Deutsche Forschungsgemeinschaft to Fritz Strack and Norbert Schwarz. We thank Tom Ostrom for his stimulating comments on a previous draft.

(e.g. Volkman, 1951; Ostrom and Upshaw, 1968; Parducci, 1963). Accordingly, introducing a more extreme stimulus in the set of to-be-evaluated stimuli has been found to result in contrast effects in ratings of moderate stimuli. This presumably reflects that the introduction of an extreme stimulus extends judges' 'perspective' (Ostrom and Upshaw, 1968), and that judges use the extreme stimuli represented in their perspective to anchor the scale.

However, it is not well understood what is necessary for an extreme stimulus to become part of a judge's perspective. Is it necessary for the extreme stimulus to be explicitly included in the set of to-be-evaluated stimuli, as has typically been the case in previous research, or is it sufficient that the extreme stimulus simply comes to mind when the judge evaluates less extreme stimuli? The currently available evidence is restricted to a psychophysical study by Brown (1953). He asked judges to lift different weights and to estimate their heaviness. Not surprisingly, he found that a given stimulus was rated as less heavy when preceded by an extremely heavy one. This effect was more pronounced when subjects had to rate the anchor stimulus than when they had not, but was still evident under the latter condition. More importantly, in other conditions of his experiment, subjects were passed a tray with weights equal in total weight to the extreme stimulus. Lifting this tray did result in slight contrast effects when the weight of the tray had to be judged, but did *not* influence subsequent judgements when no explicit rating of the tray was required. Brown (1953, p. 210) concluded that 'the anchor, to be effective, must be perceived as a member of the same class of objects as the other weights'. Presumably, a heavy anchor weight that resembled the target stimuli in its appearance was spontaneously categorized as a member of the relevant class, even when it was not explicitly judged, whereas the tray was not. Accordingly, the former, but not the latter, was included in judges' perspective, resulting in contrast effects on subsequent judgements.

In addition to its theoretical interest, the issue of what determines inclusion in a 'perspective' has important implications for questionnaire construction in social and psychological research. Suppose, for example, that judges are asked to rate different beverages according to how typically 'German' they are. Suppose further, that moderately typical target beverages (such as wine or coffee) are preceded either by a highly typical context beverage (such as beer), or by a highly atypical one (such as vodka). In that case, we may expect that the moderately typical targets are rated as less typically 'German' if preceded by beer, than if preceded by vodka. In fact, Noelle-Neumann (1970) found that a number of food items (such as noodles or potatoes) were considered more typically German if preceded by rice, than if not. However, is it necessary for the emergence of contrast effects of this type that the extreme stimuli are presented on the same list as the moderate ones? Or is it sufficient that they come to mind when the judge evaluates the moderate stimuli? In the latter case, *any* preceding question that increases the cognitive accessibility of the extreme stimuli may be sufficient to elicit contrast effects even under conditions where the extreme stimuli are not included in the list.

Brown's (1953) theorizing is ambiguous in this respect, due to imprecision of his class concept. On the one hand, the extremely typical or atypical beverages are clearly members of the natural class of beverages, as are the moderate ones. On the other hand, the extreme beverages are not members of the class of the to-be-evaluated beverages if they are *not* presented on the same list. In the latter regard, the finding that lifting the tray elicited slight contrast effects in Brown's study if

its weight had to be judged, suggests that a stimulus that is not spontaneously considered member of the same class may be included in judges' perspective if it is linked to the dimension of judgement. If so, extremely typical or atypical beverages, mentioned in a preceding question, may be included in judges' perspective if the preceding question links them to the dimension along which the subsequent stimuli are to be evaluated. If the preceding question does *not* provide linkage, simply increasing the cognitive accessibility of the extreme beverages may have little impact on subsequent ratings. Accordingly, effects of preceding questions on subsequent judgements may only be expected under very specific conditions.

We explored these possibilities in a 2 (beer versus vodka as extreme stimulus) \times 3 (list, consumption question, caloric content question)-factorial between subjects design. All subjects were asked to rate different target beverages (wine, coffee, and milk) according to how 'typically German' they are. In the *list condition*, ratings of these beverages were either preceded by typicality ratings of 'beer' (a high typicality drink) or of 'vodka' (a low typicality drink). We assume that contrast effects will be obtained under this condition, with the target drinks being rated as less typically 'German' if preceded by beer, than if preceded by vodka. In the other conditions, the extreme stimuli were not included in the list, but subjects' attention was drawn to them by preceding question. Subjects' were either asked to estimate the frequency with which Germans drink beer or vodka, respectively (*consumption condition*), or to estimate the caloric content of a glass of beer or vodka, respectively (*caloric content condition*). While the frequency of consumption question laps the dimension of typicality, this is not the case for the caloric content question. Accordingly, a comparison of typicality ratings under list, consumption question, and caloric content question conditions allows an exploration of the conditions under which extreme stimuli do become part of a judge's perspective.

Specifically, if extreme stimuli are only included in the perspective if they are presented on the same list as the target stimuli, differences in ratings of the target stimuli as a function of the context stimuli should only be obtained under list conditions. If it is sufficient that the extreme stimuli come to mind, on the other hand, differences in ratings of the target stimuli should be obtained under all conditions. Finally, it may not be necessary that the extreme stimuli are presented on the same list, but that they are thought about with regard to the same underlying dimension as the target stimuli, as assumed in the above 'linkage' discussion. If so, differences in ratings of the target stimuli should emerge under consumption question conditions, but not under caloric content question conditions.

METHOD

One hundred and fifty-six students at the University of Mannheim and the University of Konstanz, West Germany, randomly assigned to conditions, participated in a survey administered on PC (using the IBIS interviewing software, *cf.* Hippler, Meier and Schwarz, 1988). As part of this survey, all respondents were asked to rate wine, coffee, and milk according to 'how typically German' they are (1 = not at all typical; 9 = very typical). These ratings constituted the dependent variable.

In the *list conditions*, these moderately typical beverages were either preceded by 'beer' (a prototypically German drink), or by 'vodka' (an atypical drink), which

were to be rated along the same typicality scale. In the *consumption question conditions*, respondents were asked to rate the frequency with which Germans drink beer (or vodka, respectively), along a scale from 1 = rarely, to 7 = very frequently, whereas in the *caloric content question conditions* they rated the caloric content of beer (or vodka, respectively) along a scale from 1 = low, to 9 = high in caloric content.

RESULTS

In the list condition, beer was rated as typically German ($M = 8.7$), whereas vodka was rated as atypical ($M = 1.4$), thus establishing the adequacy of the extreme stimuli. Table 1 shows the mean ratings of the target beverages (averaged over wine, coffee, and milk)¹ as a function of experimental conditions. As predicted, a significant interaction of the nature of the context stimuli (beer versus vodka) and their mode of introduction emerged, $F(2, 150) = 4.54, p < 0.02$.

Table 1. Mean ratings of target beverages as a function of context stimuli and presentation mode

| Context stimulus | Presentation mode | | |
|------------------|-------------------------------|-------------------------------|-------------------------------|
| | List | Consumption question | Caloric content question |
| Beer | 4.42 (<i>S.D.</i> = 1.0) | 4.85 (<i>S.D.</i> = 0.60) | 4.47 (<i>S.D.</i> = 1.15) |
| Vodka | 5.40 (<i>S.D.</i> = 0.97) | 5.29 (<i>S.D.</i> = 1.0) | 4.28 (<i>S.D.</i> = 1.03) |

Mean rating averaged over three beverages is given: 1 = not at all typical, 9 = very typical. $N = 25$ to 27 per cell.

Planned comparisons indicate that the target beverages were rated as less typically German if beer rather than vodka was presented as the first stimulus on the same list, $t(150) = 3.56, p < 0.001$, providing a conceptual replication of numerous previous findings. The same holds true when subjects were asked to estimate the percentage of Germans who drink beer or vodka in a preceding question, $t(150) = 1.94, p < 0.06$. However, the mean difference is somewhat less pronounced than under list conditions, as is reflected in a marginally significant result of the respective interaction contrast, $t(150) = 1.61, p < 0.10$. Finally, estimating the caloric content of a glass of beer or vodka, respectively, did not affect the ratings of the target beverages, $t < 1$.

DISCUSSION

These findings are consistent with the assumption that judges' perspectives are organized along dimensions, and they indicate that inclusion of a stimulus requires simultaneous activation of the stimulus *and* the respective dimension. Whereas extreme stimuli do *not* need to be presented on the same list as the target stimuli to affect judges' perspective, it is also not sufficient that the extreme stimuli are simply highly

¹ Individual analyses of each target drink show the same pattern.

accessible in memory. Rather, they must have been thought about with regard to the dimension of judgement to affect judges' perspective. If the preceding question does not tap the relevant dimension, simply drawing attention to the extreme stimuli will not influence subsequent ratings, as a comparison of the consumption and caloric content conditions illustrates.

These findings also suggest that incidental exposure to extreme stimuli (e.g. Herr, 1986; Kenrick and Gutierrez, 1980) will only result in contrast effects on subsequent judgements if it spontaneously evokes the relevant dimension. For example, Kenrick and Gutierrez (1980) observed that watching a movie with strikingly attractive female actors decreased males' ratings of the attractiveness of potential dates. The current findings suggest that such effects should be limited to judgements along dimensions that are considered spontaneously, and should not be obtained along less salient dimensions of judgement.

From an applied point of view, the current findings bear on context effects in questionnaires (cf. Hippler, Schwarz, Sudman (1987), Schwarz and Sudman (in press), for reviews). While researchers are well aware that ratings of a stimulus may depend on the nature of the context stimuli presented in the same list (cf. Noelle-Neumann, 1970; Sudman and Bradburn, 1983), the present results demonstrate that the impact of extreme stimuli on subsequent judgements is not limited to this well-known condition. Rather, contrast effects may also emerge if extreme stimuli are addressed in preceding questions, provided that these questions tap the same underlying dimension. If the preceding questions tap an unrelated dimension, however, they seem unlikely to introduce systematic biases.

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