

Short Note

Evaluative language, cognitive effort and attitude change

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Abstract

The present article deals with the effects of the use of evaluatively biased language on attitudes, and with the role of cognitive effort. We tested whether active information processing—formulating arguments on the basis of evaluatively biased language—was a necessary condition for attitude change. Results of the present study support the prediction that using evaluative language can influence attitudes, but that these effects depend on the amount of cognitive effort.

INTRODUCTION

People prefer to use language that is evaluatively consistent with their own attitude when describing their own and other's positions (Eiser, 1975; Van de Pligt and Van Dijk, 1979). On the other hand, when people are required to use evaluatively biased terms in judging an attitudinal issue, their attitudes can change in a direction congruent with the evaluation of the terms (Eiser and Mower-White, 1974a,b; Eiser and Ross, 1977; Eiser and Panczer, 1979). In a number of studies subjects were requested to (actively) use evaluatively biased language. For example, Eiser and Panczer's study (1979) showed that writing a short essay about 'adult authority', incorporating words which implied a favourable evaluation of people holding a 'pro-authority' position,

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(e.g. 'polite'), and an unfavourable evaluation of the 'anti-authority' position, (e.g. 'disobedient'), resulted in attitude change in the pro-authority direction. Using words which implied the opposite evaluation, such as 'progressive' and 'inhibited', resulted in attitude change in the anti-authority direction. These results suggest that the use of evaluatively biased language can influence attitudes.

Eiser and his colleagues explained these effects in terms of the differential salience of specific dimensions due to experimental manipulations. These dimensions are assumed to receive more weight in the formation of an overall (attitudinal) judgment (Van der Pligt and Eiser, 1984). In the above studies presentation of evaluatively biased terms affected subjects attitudes after subjects were asked to actively *use* the terms, such as in writing an essay on the attitude issue. Cialdini, Petty and Cacioppo (1981) argued that in the Eiser and Ross (1977) and the Eiser and Pancer (1979) experiments, attitude change was not merely the result of the presented biased language, but mediated by cognitive effort. Writing an essay and generating arguments concerning an attitudinal issue is likely to involve 'active information processing'. According to Cialdini *et al.* (1981), generating arguments produces attitude change, and the simple reproduction of ready-made arguments would not imply cognitive effort and hence no attitude change would occur (see also Tesser and Shaffer, 1990).

Cialdini *et al.* (1981) relate their expectations about the role of cognitive effort to Petty and Cacioppo's (1986) 'Elaboration Likelihood Model' (ELM). This model distinguishes two classes of cognitive elaboration. Active cognitive elaboration (i.e. central route processing) refers to a careful and thoughtful scrutiny of the presented information. The more 'passive' process (i.e. peripheral route processing) refers to associations and the use of (often) less relevant and simple cues. Distraction during the presentation of the message is also expected to reduce the likelihood that information will be actively processed (Petty, Wells and Brock, 1976). The ELM predicts that attitudes can be affected by active cognitive elaboration and to a lesser extent by passive associative processes. Petty and Cacioppo hypothesize that attitude change based on active elaboration is more durable than change stemming from peripheral mechanisms.

Taken together, this leads to the following hypotheses.

- (1) The use of evaluatively biased language influences attitudes; using terms implying a positive evaluation of the pro-position, or a negative evaluation of the anti-position induces attitude change in the pro-direction, and *vice versa*.
- (2) Magnitude and persistence of attitude change is dependent on the *amount* of cognitive effort; active cognitive processing is expected to result in stronger and more persistent attitude change than 'passive' processing.

METHOD

Subjects

Subjects were 132 first year psychology students of the University of Amsterdam. The experiment was carried out in classroom settings with 12 to 18 subjects at a time. Subjects participated for credit points.

Design

The design constituted a $2 \times 2 \times 3$ mixed design: evaluative bias (pro-bias versus anti-bias) \times cognitive effort (active versus passive) \times a within-factor (T_0 , T_1 and T_2). First the initial attitudes (T_0) were assessed. Subjects were required to fill out an attitude questionnaire. Unrelated tasks were used as a filler. Next, subjects carried out the experimental task, directly followed by the same attitude questionnaire (T_1). The second session took place one week later. Subjects were presented again with the attitude questionnaire (T_2).

Material

The experimental material focused on an issue which received mass media attention when the study took place and concerned 'a driving ban for adolescents during week-ends, in order to reduce the number of fatal traffic accidents'.

The factor 'evaluative bias' was created by presenting two different sets of five words. In the 'pro-bias' condition the words implied a positive evaluation of the pro-position and/or a negative evaluation of the anti-position. Similarly, the anti-bias condition included words that implied a positive evaluation of the anti-position and/or a negative evaluation of the pro-position. The selection of words was based on a pretest of a larger set of words in a small sample ($n = 10$). For the pro-bias condition the words: 'road safety', 'protective', 'effective', 'strong', and 'preventive' were used, and 'stigmatized', 'patronizing', 'freedom', 'unrealistic', and 'scapegoat' were included in the anti-bias condition.

The amount of cognitive effort was manipulated as follows: to induce active cognitive effort subjects were asked to formulate arguments on the issue of 'adolescent driving ban' on the basis of the words presented. Each argument had to include at least one of the five words presented, and each word had to be used at least once. Subjects were told that the study concerned the quality of arguments, defined as the persuasiveness of the arguments. The latter would be rated by a panel of judges. The instruction stated that subjects were free to formulate arguments pro or con the issue. Subjects had 10 minutes to carry out this task. This condition will be referred to as the 'argument' task.

A different task was used to induce a relative passive cognitive process. Subjects received the same sets of words as in the argument task. To prompt subjects to think about the issue 'adolescent driving ban', they were told that these words were selected from public discussions on that issue. Subjects were asked to copy these words as often as possible in the given period of time (10 minutes). In this condition an audiotape was played with a show by a well-known Dutch comedian (Freek de Jonge). This tape was used to reduce the likelihood of active information processing. It also served to explain the purpose of the study. The instruction stated that the task concerned a 'spelling' task and aimed to test the impact of distraction by loud noise on the quality (spelling mistakes) and quantity (number of copies) of copying a set of words. Subjects were told that their performance would be compared to a condition in which subjects were not distracted from their task by loud noise. This condition will be referred to as the 'spelling' task.

The attitude questionnaire consisted of 10 items, half were pro-statements and the other half were anti-statements. An example of a pro-statement is: 'This measure

will reduce the number of fatal accidents', an example of an anti-statement is: 'Adolescents can decide for themselves whether they are capable to drive'. Subjects indicated their agreement on a 7-point scale. As a control measurement, subjects also indicated on a single (7-point) attitude scale to what extent they favoured the driving ban or not.

RESULTS

The 10-item attitude-scale resulted in a Cronbach's alpha of 0.77. This index correlated significantly with the single-scale attitude measure ($r = 0.60, p < 0.001$). Further analyses are carried out using the attitude-index based on the 10 attitude-items as a dependent variable.

Table 1 presents the attitude-indices at T_0 , T_1 and T_2 . Scores could range from 1 (very much against driving ban), to 7 (very much in favour of driving ban). To illustrate the effects over time Table 1 also includes the difference scores ($T_1 - T_0$) and ($T_2 - T_0$); positive values indicate a change in the pro-direction; negative values indicate a change in the anti-direction.

Table 1. Attitudes and attitude change by condition

Condition		N	Attitude scores							
			T_0		T_1		T_2		$T_1 - T_0$	$T_2 - T_0$
Effort	Bias		M	S.D.	M	S.D.	M	S.D.	M	M
High	Pro	32	3.66	0.79	3.84	0.74	3.84	0.70	0.18	0.18
High	Anti	35	3.82	0.72	3.70	0.68	3.65	0.75	-0.12	-0.17
Low	Pro	33	3.75	0.69	3.81	0.66	3.77	0.72	0.06	0.02
Low	Anti	32	3.71	0.88	3.72	0.83	3.65	0.83	0.01	-0.06

To investigate whether attitudes changed in the predicted direction, and whether attitude change was dependent on cognitive effort, the attitude indices were submitted to a 2 (evaluative bias: pro versus anti) \times 2 (cognitive effort: active versus passive) \times 3 (repeated measures: attitude) MANOVA. Data were cast in a repeated measurement design using orthogonal transformations to create the gain scores for short term ($T_1 - T_0$) and longer term ($T_2 - T_0$) effects. Table 2 shows the results of the MANOVA. First we focus on the short term effects ($T_1 - T_0$). The analysis resulted in a significant effect for evaluative bias and a significant interaction effect for evalua-

Table 2. Effects of bias and effort on attitude change

Factor	F^*	p	Factor	F^*	p
Factor $T_0 - T_1$			Factor $T_0 - T_2$		
Evaluative bias	7.62	0.007	Evaluative bias	5.38	0.022
Cognitive effort	0.00	0.997	Cognitive effort	0.08	0.777
Eva. bias \times cogn. effort	4.05	0.046	Eva. bias \times cogn. effort	2.33	0.129
Eva. bias in high effort	11.56	0.001	Eva. bias in high effort	7.46	0.007
Eva. bias in low effort	0.27	0.600	Eva. bias in low effort	0.31	0.581

* $df = 1, 128$.

tive bias \times cognitive effort. As expected, no significant effects were found for cognitive effort. Results in Table 1 indicate that the effect of evaluative bias is in accordance with the prediction: subjects in the pro-condition changed their attitudes in the pro-direction, and subjects in the anti-condition changed their attitudes in the anti-direction. The difference scores also suggest that the effects of the evaluative bias manipulation were stronger in the argument task than in the spelling task. To test for the effect on attitude change of active versus passive information processing we conducted a planned comparison. Tests for orthogonal contrasts resulted in a significant effect for evaluative bias with the 'argument' condition.¹ No significant effect was found in the 'spelling' condition.

To test our hypothesis concerning the persistence of attitude change, and the role of cognitive effort upon persistence, we focus on longer term change ($T_2 - T_0$). Results showed a significant effect for evaluative bias, indicating the persistence of the attitude change. The interaction between cognitive effort and evaluative bias disappeared, and the effect for cognitive effort was also non-significant. Although the interaction effect was non-significant, the means and difference scores in Table 1 suggest that the (long term) attitude change is more profound within the argument condition than within the spelling condition. We used orthogonal contrasts to test for the effects of the evaluative bias in the argument and spelling conditions separately. These analyses resulted in a significant effect for evaluative bias in the argument condition, while this effect was not significant in the spelling condition. These results indicate persistent attitude change under the condition of active processing. To investigate a possible decline in attitude change, we also conducted a MANOVA with the within-factor $T_2 - T_1$. This analysis did not result in any significant effects ($F(1,128) < 1$).

DISCUSSION

The present results support the prediction that evaluatively biased language can affect attitudes. Using words that evaluate the pro-position positively and/or the anti-position negatively, changed the attitudes in the pro-direction, and *vice versa*. This basic result is in accordance with the first hypothesis and can be understood as a consequence of selective salience of particular attitude-dimensions (Van der Pligt and Eiser, 1984).

The findings indicate that the amount of cognitive effort affects the magnitude of attitude change. Moreover, under the condition of high cognitive effort attitude change can be relatively persistent. As no short term attitude change occurred under the condition of 'passive' processing. The assumption concerning differential persistence of attitude change under different degrees of cognitive effort could not be tested.

These conclusions are based on the assumption that formulating arguments involves more cognitive effort than passively 'consuming' or copying the presented terms. One could, however, argue that the different effects on attitude in the argument

¹ Additional analysis on the content of the arguments revealed that most subjects (approx. 60 per cent) formulated arguments congruent with the presented evaluative bias. A minority formulated mixed and incongruent arguments. Using an ANCOVA with an index of congruency as a covariate, showed that the degree of attitude change was not influenced by extent to which subjects generated congruent arguments.

versus the spelling condition might not be (exclusively) due to cognitive effort but might be the result of the perceived relevance of the information. In the argument task the presented words had to be included in arguments for or against the issue; the arguments are likely to be perceived as relevant persuasive information. In the spelling task, the terms were not used to arguments. Although the instruction indicated the connection between the terms and the attitude-issue, subjects might have perceived these terms as (relatively) irrelevant. Further research is needed to test this possible explanation.

A final issue we would like to address here, is the assumption of ELM that central information processing is characterized by a systematic and logic mode of thinking, unaffected by peripheral factors. Our study questions this assumption because under the condition of active cognitive elaboration, attitude change was mediated by a peripheral factor, i.e. a subtle variation in language use.

All in all, our findings show that formulating arguments on the basis of evaluatively biased language results in relatively strong and persistent attitude change. This is not the case after less active processing of the same evaluatively biased language. These results are in accordance with Cialdini *et al.*'s (1981) interpretation of the results obtained by Eiser and his associates (Eiser and Pancer, 1979; Eiser and Ross, 1977).

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