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EFFECTS OF BIASED SCANNING AND DISTRACTION ON COGNITIVE RESPONSES*

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SUMMARY

In a biased scanning procedure, *S*s ($N = 52$) were induced to produce either pro- or counterarguments in anticipation of a controversial communication advocating forced busing. Simultaneously, they were either highly or lowly distracted by an interposed advertisement rating task. The results supported a distraction-conflict theory. Distraction increased the proarguing of *S*s who were induced to proargue, and it also increased the counterarguing of participants who were induced to counterargue. Effects on "traditional" attitude change measures were marginal.

A. INTRODUCTION

In the cognitive response model of persuasion, an individual actively generates and rehearses thoughts (cognitive responses) when exposed to a persuasive communication. The nature of these cognitive responses is said to determine the attitudinal impact of the communication (4, 12). Thus, if one's dominant cognitive response to a message is to counterargue, then rejection of the appeal is likely. But if proarguing (thinking of supportive arguments) is the dominant cognitive response, then acceptance of the communication is likely (14, 15). The present study concerns two variables which can affect cognitive response generation: biased scanning and distraction.

Biased scanning occurs when an individual produces cognitive responses which favor only one side of an issue (6, 8, 13). Presumably, biased scanning increases the salience of those cognitive responses and results in attitude change in the direction of the bias. With the exception of the research of O'Neill and Levings (13), studies on biased scanning have

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merely inferred the occurrence of biased scanning. O'Neill and Levings, however, directly measured biased scanning by having a group of *S*s engage in a tape-recorded discussion session on a controversial issue. Independent raters then scored the content of each verbalized cognitive response to determine the direction of bias. The results showed that their manipulation of biased scanning (instructions to debate for or against an issue) produced the expected changes in pro- and counterargument ratios.

However, it could be argued that having *S*s speak aloud in a group discussion artificially enhanced biased scanning by invoking social comparison and conformity effects. A purpose of the present study was to induce biased scanning and directly measure its effects on cognitive responses by using Brock's (2) cognitive response measurement technique to reduce significantly the potentially contaminating effect of group pressure on cognitive response generation.

Another purpose was to determine the effects of distraction on cognitive responses produced under biased scanning conditions. These effects of distraction on cognitive responses have been reported not to be consistent. For example, distraction has either decreased (10, 15) or increased (9, 16) counterargumentation. Similarly, it has either decreased (15) or increased (5, 9) proargumentation. Although generally it is thought that distraction interferes with the dominant cognitive response (10, 14, 15), there is compelling justification for the hypothesis that distraction can facilitate the dominant cognitive response. Specifically, research (1, 17) indicates that distraction represents conflict and is a source of drive which acts to energize whatever response tendencies exist in a given situation (*cf.* 7, 18).

In the present study, distraction-conflict theory predicts that distraction should energize the response tendencies induced by biased scanning. Thus, if persons are induced to scan for counterarguments, distraction should enhance counterargumentation. But if persons are induced to scan for proarguments, distraction should facilitate proargumentation.

B. Method

1. *Design and Participants*

The design of the experiment was a 2 × 2 factorial with distraction (low *vs* high) and biased scanning (pro- *vs* counterargument) as the between-*S*s factors. Fifty-two white undergraduates (22 females and 30 males, *Md* age = 23) enrolled in evening business school courses at a large southwestern American university volunteered to serve as research *S*s in a study on

"attitudes toward current issues." They were randomly assigned to the distraction and biased scanning conditions and were tested in groups of 15 to 25.

2. *Procedure*

The *S*s were informed that the purpose of the study was to assess their opinions on major issues of local and national interest. They were led to believe that they would soon be exposed to a videocassette playback of a recently delivered speech advocating forced busing in Los Angeles. This topic was chosen because of its controversial nature and thought-producing capabilities. It happened also to be a very timely issue in the area in which most of the *S*s resided. A Sony VTR unit and monitor were in the room to add credence to the cover story.

The *S*s were then told that they should try to think of arguments either against (counterargument scan) or in favor of (proargument scan) forced busing in Los Angeles. They were led to believe that they would have to engage in an open discussion on the topic later in the period. They were next informed that someone from the audio-visual department of the university library "is bringing over the tape and will be here shortly. While we're waiting for the tape to arrive, would you mind rating a few slides of some new billboard advertisements that have just been released." All *S*s agreed to do so and none expressed suspicion as delays of this nature and tasks of this type were not uncommon. They evaluated a series of either five (low distraction) or 15 (high distraction) slides of recently released billboard advertisements for such products as motorcycles, rapid transit, yogurt, stereos by rating how much they liked each advertisement on a 71-point Likert-type self-rating scale. The order of the slides in the carousel projector was randomly determined prior to the experiment and remained fixed throughout the experiment. Each of the distractor slides was exposed for 30 seconds.

3. *Dependent Measures*

Following the distraction task, the *S*s were asked to list in a structured booklet all their thoughts and ideas about busing in Los Angeles. This thought-listing procedure was adapted from Brock (2) and attenuates the influence that vocalized thoughts may have on others in a group. In accordance with the procedure of previous cognitive response research (3), a time limit (two minutes) was imposed on this thought-listing. The *S*s then

completed several 71-point self-rating scales dealing with their attitude toward busing and with the degree to which the slide rating procedure had distracted them from thinking about the issue of busing.

Each thought was afterwards rated by two independent judges (one female and one male undergraduate) according to how unfavorable or favorable the thought was towards busing (71-point rating scales). Neither judge knew the purpose, hypotheses, or design of the experiment, and neither judge was aware of the other's existence.

The mean of the judges' ratings provided for the classification of each thought as either a pro- or counterargument. Operationally, those thoughts rated as being unfavorable toward busing (0 to 34) were scored as counterarguments, and those thoughts rated as being favorable toward busing (36 to 70) were scored as proarguments.

C. Results

Univariate 2 × 2 regression analyses of variance (ANOVAs) were performed on the data with distraction and biased scanning as the between-*S*s factors.

1. *Manipulation Checks*

The distraction manipulation proved to be effective. Highly distracted *S*s, $M = 28.04$, rated themselves as having been more distracted by the slide rating task than did the low distraction *S*s, $M = 13.38$, $F(1, 48) = 10.66$, $p < .01$. No other effects on this check were significant.

The ANOVAs on pro- and counterargumentation showed that the counterargument scan *S*s, $M = 3.95$, counterargued more than did the proargument scan *S*s, $M = 2.82$, $F(1, 48) = 6.24$, $p < .016$, and that the proargument scan *S*s, $M = 1.30$, proargued more than did the counterargument scan *S*s, $M = .53$, $F(1, 48) = 7.56$, $p < .008$. No other effects on pro- and counterargumentation were significant.

2. *Facilitation of Biased Scanning Responses*

Support for the distraction-conflict hypothesis requires the demonstration that distraction affected the dominant cognitive responses induced by biased scanning but not the nondominant ones. The ANOVAs on the induced dominant cognitive responses (i.e., the counterarguments in the counterargument scan conditions and the proarguments in the proargument scan conditions) and on the nondominant cognitive responses (i.e., the

counterarguments in the proargument scan conditions and the proarguments in the counterargument scan conditions) produced results which supported the distraction-conflict hypothesis. Distraction enhanced dominant cognitive response output, $M_{low} = 1.73$ *vs* $M_{high} = 2.81$, $F(1, 48) = 7.35$, $p < .009$, but distraction did not affect nondominant cognitive response output, $M_{low} = 1.97$ *vs* $M_{high} = 2.00$, $F(1, 48) = .93$, $p < 1.00$.

Significant main effects of biased scanning on dominant cognitive responses, $F(1, 48) = 48.06$, $p < .001$, and on nondominant cognitive responses, $F(1, 48) = 39.37$, $p < .001$, simply showed that the counterarguing, $M = 3.95$, of the counterargument scan *S*s was greater than the proarguing, $M = 1.30$, of the proargument scan *S*s; and that the counterargument scan *S*s, $M = 0.53$, were much less likely to produce responses inconsistent with the biased scanning manipulation than were the proargument scan *S*s, $M = 2.82$. No other effects on dominant and nondominant cognitive responses were significant.

3. *Anticipatory Attitude Toward the Busing Issue*

A marginal biased scanning main effect was found on attitude toward busing, $F(1, 48) = 2.88$, $p < .096$. Counterargument scan *S*s, $M = 11.54$, were less favorable toward busing than were the proargument scan *S*s, $M = 20.79$. As would be expected from cognitive response theory (12), attitude toward busing was positively correlated with proargumentation ($r = .62$, $p < .05$) and negatively correlated with counterargumentation ($r = -.43$, $p < .05$).

D. Discussion

The results support the hypothesis that distraction can energize the cognitive response tendencies induced by biased scanning. Specifically, distraction enhanced the proarguing of *S*s who had been induced to proargue, and it increased the counterarguing of those who had been induced to scan for counterarguments. Although the corresponding effects on attitude change were not inconsistent with the changes in cognitive response output, they were nevertheless only correlational. However, the discrepancies between "traditional" attitude change measures and cognitive response measures have become less uncommon (10, 19). Some researchers have suggested that cognitive response measures may be more sensitive than attitude measures to experimental manipulations and thus may be more likely to detect the occurrence of meaningful response differences (10, 11,

19). It is, of course, possible that cognitive responses are merely concomitant variables and not mediators of attitude (12). Such a possibility cannot be effectively ruled out in the present study.

This study was concerned with effects on *anticipatory* cognitive responses: The *S*s were producing cognitive responses in anticipation of, rather than in response to, a communication. Most of the distraction-persuasion research has dealt with postcommunication production of cognitive responses. Future research is required to determine whether the results of the present study are necessarily restricted to the anticipatory cognitive response.

The effects of distraction appear to have been largely confined to the dominant cognitive responses. The study, supporting distraction-conflict theory, found that distraction enhanced the dominant cognitive response as defined by the biased scanning manipulation. Other studies (10, 15) have reported that distraction disrupted the dominant cognitive response. In both sets, the nondominant responses were unaffected.

Although it was not the purpose of the present study to determine what kind of distraction facilitates rather than inhibits dominant cognitive response generation, noteworthy is the fact that the distraction procedure had the potential of increasing self-focused attention. Since self-focused attention has been found to *increase* dominant moods and cognitive response sets (8), the present findings suggest that inconsistencies in the distraction-persuasion literature may result, in part, from the differential ability of the distraction procedures to increase or decrease self-focused attention.

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