Communication Modality and Attitude Change in a Realistic Experiment

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In this experiment, an experimental interview with the leader of the Socialists in the Dutch Parliament was delivered via three different media: television, radio, or a newspaper presentation. We showed that the experimental interviews led, in themselves, to attitude change, but no difference was found among the three communication modalities. Moreover, no significant interaction effect was established between the political preference of the subjects (Socialist versus non-Socialist) and communication modality. Our main results do not support the assumption that for a well-known politician presently holding office, television is a less effective medium than radio or newspaper.

This experiment is a continuation of two former studies (Wiegman, 1985; 1987) in which two political leaders participated. In these studies, television interviews on a certain political topic were made with both politicians; video recordings of these interviews were subsequently shown and attitude change was measured. The content of the political topic was based on two main criteria. First, the issue must not relate directly to the personal experience of the recipient; and second, the issue should not have had extensive news coverage. We showed in both experiments that the experimental television interviews led, in themselves, to significant attitude change. In these experiments the effect of attraction of the source, discrepancy, intensity of delivery, and audience reactions were studied. In the present study, using a realistic experimental design, we explored whether political information distributed by various media—television, radio, or a newspaper presentation—would have different effects on the attitude of the recipients.

Schramm (1977) reviewed hundreds of studies and concluded that people could learn something from the media, but it was not clear which medium was most effective. However, in only a few cases has attitude change been investi-

1This article is part of an extensive study published in Meningen en Media by O. Wiegman, A. de Roon, and T. Snijders (1981), Deventer: Van Loghum Slaterus.
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COMMUNICATION MODALITY AND ATTITUDE CHANGE

In the past, research has been conducted to investigate the effects of communication modality on attitude change (see also McGuire, 1969). Already in 1934, Wilke performed such a study and found that a live presentation induced greater attitude change than written or audiotaped messages. Frandsen (1963) and Croft, Simpson, Ross, Bray, and Breglio (1969) also established that a live presentation was the most effective. In some studies (Cantril & Allport, 1935; Knower, 1935; Haugh, 1952) it has been shown that audiotaped messages induce greater attitude change than written communications. In a number of studies, however, no difference in attitude change was found as a function of communication modality (Tannenbaum & Kerrick, 1954; McGinnies, 1965; Keating, 1972; Werner, 1978). So it can be concluded that previous research on media effects and attitude change has proven rather inconsistent.

As was shown by Chaiken & Eagly (1976), a part of the inconsistencies in the literature can be explained in terms of message comprehensibility. It can be assumed that a good comprehension of the persuasive information may facilitate opinion change. The written modality has an advantage, especially for complex information which can be read over again, which facilitates comprehension. People do have more trouble understanding complex information in videotaped and audiotaped modalities. Chaiken and Eagly established that for information that was difficult to understand the written modality facilitated persuasion, whereas videotaped and audiotaped modalities had a persuasive advantage for easy material.

The inconsistencies in the literature can only partially be explained by message comprehensibility and this is restricted only to those cases (see Eagly, 1978) in which fairly large differences in comprehension exist.

Another explanation is given by Weiss (1969) and Keating (1972) who suggested that television is more “involving” for the audience than radio or newspaper and is more effective in generating attitude change. The more involving the medium, the more prominent are the characteristics of the communicator. So it can be supposed that television increases the persuasiveness of a credible source because it highlights his positive aspects and it should decrease the persuasiveness of an uncredible source because it emphasizes his negative characteristics. Worchel, Andreoli, and Eason (1975) studied the interaction between communication modality and trustworthiness of the communicator. As a trustworthy source they used a newscaster, who, they assumed, is perceived as unbiased providing objective information. In another condition, a political candidate was employed as the untrustworthy communicator. It was found that the newscaster was more effective in inducing attitude change in a television presentation than in a radio or written modality, while the political candidate was least effective in the television condition. In a later experiment, Andreoli and Worchel (1978) employed a political candidate, a representative presently holding office, a former state representative, and a
newscaster as communicators. It should be emphasized that in all conditions a graduate assistant played the communicator roles and not real politicians. It was hypothesized that the newscaster and the former politician, assuming that they were the more trustworthy sources, would be more effective in producing attitude change on television than in a radio or a written presentation. However, when the source is untrustworthy, as is presumed the case for the political candidate and the representative, television would be the least effective medium. It was indeed found that the trustworthiness of the newscaster and the former politician was significantly higher than for the political candidate and the representative. The results also demonstrated that the newscaster and former politician were most effective in inducing attitude change using television, while the candidate was least effective when he used that medium.

For the representative, however, Andreoli and Worcel make no mention of such a result; it is unclear why they didn’t explain this matter. Their general conclusion was that television was the most effective medium for a trustworthy communicator, but the least for an untrustworthy source.

Chaiken and Eagly (1983) also performed two experiments in which communication modality was studied. Their theoretical conceptions mainly agree with the framework Andreoli and Worcel (1978) used. In their study, instead of trustworthiness, the likability of the source was varied. In both experiments it was found that the likable source (positive) was more persuasive for videotaped and audiotaped versus written messages, whereas the unlikable (negative) source was more effective in the written modality.

Our present study aimed to test how effective a well-known politician is in inducing attitude change, using three different communication modalities: television, radio, or newspaper. As a source we employed Mr. Van Thijn who was the Socialist leader in the Dutch Parliament at the time. We assumed that the trustworthiness of our Socialist leader was comparable to that of the representative of the State House of Representatives Andreoli and Worcel (1978) employed, the latter being faked by a collaborator of the experimenters. Our approach was more realistic using a well-known politician as a source.

According to Andreoli and Worcel (1978), we first hypothesized that on television the Socialist leader would induce less attitude change than on the radio or in a newspaper presentation.

Moreover, we were interested in the interaction between the communication modality and the trustworthiness and likability (see Chaiken and Eagly, 1983) of the communicator. Because Mr. Van Thijn was a well-known politician, these aspects could not be manipulated independently. It was assumed, however, that the trustworthiness and likability of the source is dependent on the political preference of the recipient. So at the end of the experiment the subjects were asked what political party they would vote for. We supposed
that the Socialist leader would be more trustworthy and likable to a subject who would vote Socialist than to one who would vote for some other party. So secondly we hypothesized an interaction effect between communication modality and political preference; the Socialist leader would induce less attitude change in recipients with a non-socialistic preference in a television presentation than in a radio or written one, while in recipients with a socialistic preference, a television presentation would be more effective.

**Method**

*Persuasive Message*

The topic chosen was the establishment of a second national airport. The practical reasons for this choice of topic were that neither the politicians nor the political parties in Holland had, at the time of the study, taken a stand on the issue, so that the opinions expressed in the experimental interviews would not be at variance with current political thinking and would not be discredited on these grounds. Theoretically, the issue satisfied the following conditions. First, in a preliminary study it was found that subjects had a distinctly neutral opinion on the issue and that involvement was average, so that, basic attitude change in either direction was possible (cf. Nemeth & Endicott, 1976). Second, the topic met our two criteria: the subjects had no direct personal experience with the topic, because no such national airport existed, and, as was shown in our preliminary press analysis, the issue had rarely been in the news.

*Manipulation of Medium*

The communication was presented via one of three different media. Some subjects received a videotaped communication that was introduced as an actual political interview produced by the Dutch television company VARA, which would be on the air the next day. The experimental television interview was edited and produced by a professional television team from the VARA. As mentioned earlier, Mr Van Thijn, the leader of the Socialists in the Dutch Parliament, took part in this television interview.

The program was introduced by the chief editor of VARA's "Behind the News" and afterwards the well-known interviewer, Joop Daalmeyer, appeared on the screen and put eight questions to the politician. Mr. Van Thijn answered the questions in a way that had been arranged beforehand. The politician advocated the establishment of a second national airport. He stated that the extension of Amsterdam's airport was out of the question, that none of the other regional airports was capable of extension, that increased noise levels at Amsterdam's airport were insupportable, that the choice of the
Markerwaard area was best from an economic viewpoint, that a decision had to be made as soon as possible, and that the Markerwaard option represented the least costly solution. The whole interview lasted 15.38 minutes.

Subjects in the radio condition heard a tape-recorded interview and were told that this VARA production would be broadcast on that same day. The communication was taped directly from the video recording so that there were no differences in the audio portions of the interview between the television and the radio condition.

Subjects in the written condition were provided with a newspaper produced by the "Volkskrant," one of the largest newspaper companies in the Netherlands. This newspaper was the same as that which had been distributed earlier in the morning on the same day the experiment took place, with the exception that one large article on page nine had been removed by the editors and printers of the "Volkskrant" and replaced by a half-page article in which Mr. Van Thijn was interviewed. This was done in a fully professional way, and, as is usual with such important interviews, a photograph of Mr. Van Thijn was added at the headline.

**Attitude Measurements**

We measured not only the attitude towards the main issue, namely, the establishment of a second national airport, but also attitudes toward six related issues arising from the politician's arguments: i.e., the Markerwaard as the appropriate location, the pressure for a quick decision, the increase in air traffic, the objection towards increasing the load on other airports, noise pollution, and the unfeasibility of extending Amsterdam's airport.

Attitude was measured according to Fishbein's method (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). A number of statements were offered covering all the issues mentioned above and the subject was asked whether these statements agreed with his own opinion.

Moreover, questions were asked relating to an evaluation of the source (likability, trustworthiness, expertness) as measured on 7-point Likert scales. Likert scales were also used in evaluating other characteristics of the media and the source. In order to test the interaction effect between communication modality and political preference of the subjects, we also asked the subjects to indicate which political party they would vote for.

\[^1\]In the television condition the subjects were told that this interview would be on the air the next day and in the radio condition it was said that the interview would be broadcast the same day. The reason for this discrepancy in time was that the VARA had no air time on television that day.
Subjects and Procedure

This study was carried out on one single day at a College of Education. One hundred and nine students participated in the experiment. These subjects were randomly assigned to the conditions by distributing cards of four different colors—one for each condition—in a random order. There were three experimental conditions, television \((n = 29)\), radio \((n = 26)\), and newspaper \((n = 26)\) and one control condition \((n = 28)\) in which the subjects were not exposed to any communication.

The four groups of subjects were seated at separate tables in four different classrooms. First the experimenter explained that he wanted to know the subjects’ opinion on the program (cq. newspaper article) they would be exposed to. He also told them that in the program Mr. Van Thijn would give his latest opinion on a political issue of current interest. Moreover, in the television and radio condition, the experimental article in the “Volkskrant” was also shown briefly in order to emphasize that this was a very hot realistic topic, since it was in today’s newspaper.

In the television condition a video recorder with four monitors was installed in the room and in the radio condition the subjects were asked to listen to the interview on a tape recorder (four speakers). In the newspaper condition the experimental “Volkskrant” was distributed among the subjects. After being exposed to the media, the subjects completed a questionnaire. The subjects in the control condition only filled out a modified version of the questionnaire. At the end of the experiment subjects were debriefed.

Results

Manipulation Check

We first wanted to know whether a difference existed in the evaluation of the three media presentations. Therefore, the subjects in the experimental conditions were asked to rate these presentations on a 10-point scale. The mean rating was 6.4 and no differences were found between the three media \((F = .09, df = 2/73, \text{n.s.})\).

We also wanted to know how the source was evaluated with regard to likability, trustworthiness, and expertness. In the control condition the mean scores on these 7-point scales were, respectively 5.23, 5.78, and 6.34; so Mr. Van Thijn as a source was evaluated rather positively.

Table 1 shows that a significant multivariate effect was found for the factor political preference of the subjects, Socialist versus non-Socialist voters \((F = 4.05, df = 3/93, p < .01)\) and univariately this was significant for likability.
Table 1

Multivariate and Univariate Analyses of Variance on the Evaluation of the Source (Factors: Political Preference of the Subjects and Condition)

<table>
<thead>
<tr>
<th>Factor</th>
<th>MANOVA</th>
<th>Dependent variable</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$F$</td>
<td>$p$</td>
<td>$F$</td>
</tr>
<tr>
<td>Political preference</td>
<td>4.05</td>
<td>.01</td>
<td>4.34</td>
</tr>
<tr>
<td>$(df = 3/93)$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conditions</td>
<td>1.68</td>
<td>.10</td>
<td>12.22</td>
</tr>
<tr>
<td>$(df = 9/226)$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political preference x conditions</td>
<td>1.39</td>
<td>n.s.</td>
<td></td>
</tr>
<tr>
<td>$(df = 9/226)$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

($F = 4.34, df = 1/95, p < .05$) and trustworthiness ($F = 12.22, df = 1/95, p < .001$). The Socialist voters rated Mr. Van Thijn as being more trustworthy and likable than did the non-Socialist voters. However, no significant effect was found for conditions ($F = 1.68, df = 9/229, n.s.$) and the interaction between political preference of the subjects and conditions ($F = 1.39, df = 9/229, n.s.$).

Testing the Hypotheses

To test our first hypothesis, a multivariate analysis of variance was performed on all seven attitude issues, with political preference and conditions as independent variables (see Table 2).

A multivariate analysis revealed a tendency towards difference between the conditions ($F = 1.57, df = 21/253, p < .10$). Univariately the differences were significant on three issues. A multivariate contrast test showed that the effect could be almost entirely attributed to the difference between the control group and the three experimental conditions ($F = 2.33, df = 21/253, p < .05$). In univariate Helmert contrast tests, significant differences between the control and experimental conditions were found for four of the seven issues ($p < .05$); in the experimental conditions these mean attitude scores were higher (see Table 3). In other words, the presentation of the experimental interviews, in itself, resulted in significant attitude change, as was found by Wiegman (1985, 1987). However, no significant effects were found between the three experi-
Table 2

Multivariate and Univariate Analysis of Variance on the Scores on the Seven Attitude Topics (Factors: Political Preference of the Subjects and Conditions)

| Factor | MANOVA | | | Univariate | | |
|--------|--------|---|---|--------|---|
|        | $F$    | $p <$ |        | $F$    | $p <$ |
| Political preference | .26 | n.s. | | |
| $(df = 7/88)$ | | | | | |
| Conditions | 1.57 | .10 | Second national airport | 3.54 | .05 |
| $(df = 21/253)$ | | | Pressure quick decision | 2.93 | .05 |
| | | | Not increase other airports | 3.33 | .05 |
| | | | $(df = 3/94)$ | | |
| Political preference $\times$ conditions | 1.45 | n.s. | | |
| $(df = 21/253)$ | | | | | |

Helmert contrast test

<table>
<thead>
<tr>
<th>Multivariate</th>
<th>$F$</th>
<th>$p &lt;$</th>
<th>Univariate</th>
<th>$F$</th>
<th>$p &lt;$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control vs. experimental conditions</td>
<td>2.33</td>
<td>.05</td>
<td>Second national airport</td>
<td>3.40</td>
<td>.10</td>
</tr>
<tr>
<td>Markerwaard as location</td>
<td>5.12</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$(df = 21/253)$</td>
<td></td>
<td></td>
<td>Pressure quick decision</td>
<td>6.36</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Not increase other airports</td>
<td>6.18</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Not extending</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Amsterdam's airport</td>
<td>5.04</td>
<td>.05</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$(df = 1/94)$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

mental conditions, which means that our first hypothesis, which stated that the Socialist leader would induce less attitude change on television than on radio or in a newspaper, was not supported.

Our second hypothesis predicted a significant interaction effect between political preference of the subject and communication modality, but this interaction effect was not significant ($F = 1.45, 21/253$, n.s.). So our second hypothesis was also not supported, although, as we have seen, a significant difference in evaluation of the source between Socialist and non-Socialist voters was established.
Table 3

The Mean Attitude Scores on the Seven Issues over the Conditions

<table>
<thead>
<tr>
<th>Issue</th>
<th>Control group</th>
<th>Television</th>
<th>Radio</th>
<th>Newspaper</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Second national airport</td>
<td>5.32</td>
<td>6.26</td>
<td>5.29</td>
<td>6.54</td>
</tr>
<tr>
<td>2. Markerwaard as location</td>
<td>5.08</td>
<td>5.67</td>
<td>5.63</td>
<td>5.92</td>
</tr>
<tr>
<td>3. Pressure for a quick decision</td>
<td>4.92</td>
<td>6.63</td>
<td>5.67</td>
<td>6.35</td>
</tr>
<tr>
<td>4. Noise pollution</td>
<td>6.80</td>
<td>7.26</td>
<td>6.58</td>
<td>6.73</td>
</tr>
<tr>
<td>5. Not increasing other airports</td>
<td>4.28</td>
<td>5.96</td>
<td>5.13</td>
<td>5.04</td>
</tr>
<tr>
<td>6. Increase in air traffic</td>
<td>6.64</td>
<td>6.85</td>
<td>6.63</td>
<td>7.00</td>
</tr>
<tr>
<td>7. Not extending Amsterdam's airport</td>
<td>4.96</td>
<td>6.07</td>
<td>6.00</td>
<td>6.62</td>
</tr>
</tbody>
</table>

n = 25 27 24 26

It should be emphasized that for the factor political preference of the subjects no significant effect was obtained either, which means that the Socialist leader did not induce more attitude change in the Socialist voters than in the non-Socialist voters.

Other Results

Likert scales were also used in evaluating the presentation of the source. We established that compared to the non-Socialist voters the Socialist voters perceived Mr. Van Thijn's presentation as more convincing ($F = 9.11$, $df = 1/73$, $p < .01$), more clear ($F = 9.25$, $df = 1/73$, $p < .01$), and his argumentation was considered to be stronger ($F = 5.97$, $df = 1/73$, $p < .05$). We also found a significant multivariate interaction effect between political preference of the subject and communication modality with regard to the presentation of the source ($F = 1.90$, $df = 14/134$, $p < .05$). Univariately this interaction effect was significant for the clarity of the argumentation ($F = 5.58$, $df = 2/73$, $p < .01$) and a tendency towards difference was found for the strength of the argumentation ($F = 2.88$, $df = 2/73$, $p < .10$). Helmert contrast tests showed that on television, the Socialist voters rated Mr. Van Thijn's presentation as stronger and more clear than on radio, while the non-Socialist voters perceived Mr. Van Thijn's radio presentation to be stronger and more clear.
As in our previous studies (Wiegman, 1985; 1987), we found that the experimental interviews, which in this case were presented via three different media, in themselves led to attitude change. Compared to the control group, the subjects in the experimental conditions changed their opinion on four of the seven political issues. This result supports our assumption that the mass media can indeed have a direct effect on the attitudes of the recipients, assuming that certain conditions are fulfilled.

In our previous studies we also established that the political preference of the subject was an important factor, since attitude change was greater for an attractive source of the same political party as the subject than for a less attractive source of some other party. In this experiment, in which we distinguished between Socialist and non-Socialist voters, no differences in attitude change were found between the two groups. The difference with the previous studies, however, was that the subjects in this investigation were college students who are generally not so involved in politics and who were not members of a political party. They had merely indicated which political party they would vote for. In our former experiments, our subjects were older party members who attended party meetings, and who, for the most part, played a central role in local or national politics. Hence, because of a low degree of identification with the Socialist party of Mr. Van Thijn, it can be explained why the Socialist voters did not significantly change their attitude, though they did perceive Mr. Van Thijn's presentation to be stronger and more clear than did the non-Socialist voters.

No difference in attitude change was found among any of the three separate media, which means that our first hypothesis, in which we stated that Mr. Van Thijn would have the least effect on television, was not supported. We also found no difference in the trustworthiness and likability of Mr. Van Thijn among the three media. Andreoli and Worchel (1978) assumed and also established that the representative presently holding office can be regarded as a noncredible source. However, in our study Mr. Van Thijn was evaluated as rather trustworthy and likable. This is a possible explanation as to why we found no differences among the three media; the politician was not such a noncredible source after all. This being the case, we should be able to demonstrate such a media effect for the non-Socialist voters, because they perceived Mr. Van Thijn as being less attractive and trustworthy than did the Socialist voters. This difference was very significant, but with regard to attitude change no significant interaction effect was found between the political preference of the subject and the type of medium, which means that our second hypothesis was also not supported.
We did find, however, a result which could serve as a weak support of the latter hypothesis: the Socialist voters rated Mr. Van Thijn's presentation on television as stronger and more clear than on radio. This result cannot be attributed to a difference in evaluation of the three media presentations, because no such differences in ratings were found. According to Weiss (1969) and Keating (1972) it can be assumed that television is more involving than radio or newspapers, and it highlights the characteristics of the communicator. For a credible source it highlights the positive aspects, and for a noncredible source the negative aspects. For the Socialist voters Mr. Van Thijn is a more trustworthy and likable source; it is more likely that television highlights these positive aspects so they perceive his presentation as stronger and more clear than do the non-Socialist voters.

It remains remarkable, however, that in the study of Andreoli and Worcher (1978) as well as in that of Chaiken and Eagly (1983) such significant interaction effects were found between the communication modality and some salient characteristics of the source. In our realistic study in which a real politician, who is presently in office, took part, and in which realistic media and a current message were used, this was not the case. A general problem is that it is questionable whether the subjects in our study had a neutral attitude or no opinion at all on the political issue. If the latter is the case it could be reasonable that there would be no differences among the communication modalities. However, in former studies (Wiegman, 1985; 1987) using exactly the same issue and attitude measures, significant attitude change was established as a result of other independent variables (e.g., attractiveness of the source). Moreover, in the present study the interviews led, in themselves, to attitude change, so it is not likely that “a lack of opinion” was the reason why no differences among the communication modalities were found.

It remains questionable as to whether the results Andreoli and Worcher (1978) found will occur for the case of well-known politicians in the daily practices of mass media. We could assume that politicians who have attained a position in politics as high as that of Mr. Van Thijn, and who are still in office, generally speaking must have a high credibility even for their political opponents, otherwise they would never have attained such a high post in the first place. This is plausible because in previous research (Wiegman, 1985) it was found, assuming that certain conditions were fulfilled, that well-known politicians induced significant attitude change even in subjects who were active members of opposing parties. The differences in credibility will in any case not be as great as those found by Chaiken and Eagly (1983), who varied likability extremely in an independent way. For well-known politicians there can at most exist small differences in credibility and other comparable attitudes, and it is questionable as to whether television reinforces these differences more than other mass media. It would be a completely different case, if the
politician has been discredited through some scandal (Watergate). In such a case, television could indeed function as the main executioner.

References


