1978

Generality of the causal inference mediation of opinion change.

Wendy Wood
University of Massachusetts Amherst

GENERALITY OF THE CAUSAL INFERENCE MEDIATION OF OPINION CHANGE

A Thesis Presented

By

Wendy Wood

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE

September 1978

Psychology Department

GENERALITY OF THE CAUSAL INFERENCE MEDIATION OF OPINION CHANGE

A Thesis Presented

By

Wendy Wood

Approved as to style and content by:

Alice H. Eagly

Alice H. Eagly, Chairperson of Committee

Hariharan Swaminathan

Hariharan Swaminathan, Member

Ronnie Janoff-Bulman

Ronnie Janoff-Bulman, Member

Bonnie Strickland

Bonnie Strickland, Department Head
Psychology Department

ACKNOWLEDGEMENTS

I would like to thank the members of my committee, Hariharan Swaminathan and Ronnie Janoff-Bulman, for their help and guidence at different stages of this project. I am especially grateful to my committee chair, Alice H. Eagly, for the time and energy she has invested in this study and for the guidence and inspiration she has provided for the past three years. In appreciation, this is dedicated to her.

According to an attribution analysis of opinion change, message acceptance is an outcome of inferences concerning why communicators advocate certain positions (Kelley, 1967, 1971). It has been shown that message recipients use this inference process when they have prior knowledge of the pressures that can influence a communicator to advocate one position over another and thus to present a biased interpretation of reality (Eagly, Wood & Chaiken, 1978). The present study employs a causal modeling technique to clarify how recipients' causal inferences mediate opinion change. Further, it tests the generality of previous findings by examining the causal inferences recipients are willing to make in situations where they moderately or strongly disagree with the position advocated.

Causal Inferences and Opinion Change

It is argued that message persuasiveness can depend on recipients' inferences concerning why a particular position was advocated. If the position taken by a communicator is consistent with a possible biasing pressure, perceivers will consider it less valid and consequently less persuasive. To the extent that the communicator's position cannot be explained by recipients in terms of an inferred bias, it will be regarded as providing a more veridical description of reality, and message persuasiveness will be enhanced.

In the study by Eagly, Wood and Chaiken, subjects were presented with information concerning a pollution issue affecting a small town in the West. The town's major industry had either to institute major changes in its waste disposal

methods, which would risk financial problems for the Company (proenvironment position), or to institute gradual changes, which would risk irrevocably polluting a local river (pro-business position). The issue was described in such a way that subjects' intial opinions concerning the appropriate solution were neutral. The communicator was a lawyer, running for mayor of the town, who was previously affiliated with industrial or environmental interests. The communication was part of a proenvironment campaign speech presented to an audience consisting of either Company workers or businessmen dependent on tourism and environmentalists.

Some subjects received information about the source's previous interests, which led them to expect him to suffer from a knowledge bias--that is, to believe his knowledge about the issue is nonveridical. In general, a knowledge-bias expectancy can arise from communicator's characteristics (as in this case, his previous affiliation) or from external pressures (e.g., access to limited information on the issue). Results of the Eagly, Wood and Chaiken study showed the source's background was considered an important influence on his stated position when the communicator confirmed recipients' knowledge-bias expectancies. Although communicators confirming knowledge-bias expectancies were judged sincere, sincerity did not imply a valid position since their perception of reality was thought to be biased. Therefore, such communicators were less persuasive than those disconfirming knowledge-bias expectancies.

Similarly, it was proposed that the information about

the audience's opinion led recipients to expect the communicator to suffer from a reporting bias--that is, to believe his willingness to convey an accurate version of external reality is compromised. In general, a reporting-bias expectancy can stem from communicator attributes (e.g., extreme politeness) or from situational pressures (in this case, the information subjects received about the audience's opinion). Results indicated the audience's opinion was thought an important influence on the stated position when the communicator confirmed reporting-bias expectancies. Communicators confirming reporting-bias expectancies were viewed as insincere, since their stated viewpoints were not necessarily their true ones, and their position was viewed as relatively invalid and was unpersuasive.

This analysis can be related to Kelley's (1972) discounting and augmentation principles. The possible causes of a communicator's stated position are situational pressures, his or her characteristics, and the external reality represented in the message. When an expectancy is confirmed, the plausible person- or situation-based cause leads to the discounting of external reality alone as a cause. Conversely, the augmentation principle suggests that disconfirming an expectancy based on a possible situation- or person-based cause facilitates the strength of external reality as the cause.

A number of studies can be interpreted within this framework. Communicators advocating positions inconsistent with their personal characteristics or the situation, and thus disconfirming expectancies, were generally rated more honest,

sincere, expert, and impartial, and were significantly more persuasive than those confirming expectancies (Cooper, Darley & Henderson, 1974; Eagly & Chaiken, 1975; Ewing, 1942; Goethals, 1976; McKillip, 1975; McKillip & Edwards, 1975; McPeek & Edwards, 1975; Mills & Jellison, 1967; Walster, Aronson, & Abrahams, 1966). In addition, Koeske and Crano (1968) demonstrated that a communicator confirming expectancies suffered a slight loss in credibility but was equally persuasive when compared to a control communicator, about whom no expectancies were formed. However, few of these studies measured the recipients' expectancies concerning the advocated position. Since the predicted effects were not always obtained (e.g., Koeske & Crano, 1968; McPeek & Gross, 1975), expectancies may not always have been correctly established. Furthermore, since few studies considered recipients' causal inferences, few actually attempted to specify the mechanisms underlying these effects.

Mediation of Opinion Change

Information about communicator characteristics and situational pressures can be employed at different stages of the inference process. Before receiving the communication, recipients use this information to form premessage expectancies. After recipients receive the message, such information forms the basis for postmessage inferences concerning why a particular position was expressed.

Recipients' causal inferences, specifying why the source took the advocated position, are thought to be the first postmessage step in the cognitive mediation of opinion change.

These causal inferences allow recipients to judge whether the communicator is biased, and thereby form the second link. In the last step, opinion change is thought to be directly determined by recipients' perceptions of communicator bias. In Figure 1, the hypothesized relationship between these determinants and opinion change is represented in a path model.

Insert Figure 1 about here

Opinion change is not directly related to recipients' causal attributions, but is affected by them through their impact on recipients' perceptions of whether the communicator's message is biased. The link between communicator bias and opinion change has been previously established (Eagly, Wood & Chaiken, 1978). However, the present study will provide a more detailed test of the model by employing path analysis to examine the relationship between each of the above mediators and opinion change.

In addition to these attributional determinants, recipients' reception of the message content has been related to persuasion (McGuire, 1969; Eagly, 1974), and so recall of the message arguments is included in the path analysis as a direct determinant of opinion change. However, the relation between the proposed attributional mediators of opinion change and argument recall is less clear. In the present study, it is predicted that recipients will primarily focus on the non-content cues relating to communicator credibility instead of conducting a detailed analysis of the message content.

Following Chaiken (Note 1), we assume that recipients will evaluate the communication on the basis of the more easily obtained non-content cues when the message topic is not particularly involving for subjects and their opinions on the issue have no forseeable future consequences. Recipients in the present study should be motivated by these economic concerns in analyzing the message, and their reception of message arguments should depend on the availability of conclusive information about whether the source is biased.

Examining the Generality of Causal Inference Mediation

The analysis provided by Eagly, Wood and Chaiken assumes that response to a compelling reality is the one plausible reason for the communicator to advocate a position inconsistent with his or her characteristics or the situation. It is possible, however, that there are circumstances under which recipients may not be willing to attribute such expectancy-disconfirming messages to external reality. For example, if the position advocated by the communicator is strongly discrepant from recipients' positions, and is therefore unacceptable to recipients, they may not consider external reality a plausible cause.

Consistent with this viewpoint, social judgment theory (Sherif & Hovland, 1961) proposes that the recipient's initial opinion on an issue serves as a reference point against which to evaluate the communication. If the message position is close to the recipient's opinion, and is thus located in the latitude of acceptance, it should produce change towards the

message, whereas message positions highly discrepant from the recipient's opinion are in the latitude of rejection, and produce little or no attitude change.

The present study provides a test of the generality of previous research by manipulating the discrepancy between recipients' initial positions and the advocated position, thus affecting the causal inferences recipients may be willing to make. It was predicted that regardless of whether expectancies are confirmed or disconfirmed, message positions extremely discrepant from recipients' opinions would be unlikely to be attributed to external reality, would be considered biased, and would be relatively unpersuasive. However, because the messages of communicators advocating moderate positions could be attributed to external reality, their persuasiveness would depend on whether they confirmed or disconfirmed recipients' knowledge-bias expectancies.

In this study, a communicator who was either in favor of, against, or had no specified position on the issue of freedom of speech advocated a moderate or extreme position on the issue of restricting pornography. Communicators confirmed expectancies by advocating a position on pornography consistent with their orientation on freedom of speech, disconfirmed expectancies by advocating an inconsistent position, or represented the control group if they had no specified orientation on freedom of speech. The communicator's position on pornography always opposed recipients' positions.

The design manipulated Subjects' Initial Positions on

Pornography (pro- vs. antirestrictions), Expectancy Confirmation (confirmed vs. disconfirmed vs. control) and Extremity of Advocated Position (moderate vs. extreme). For simplicity, only information concerning a possible knowledge bias was provided. However, it is assumed that results would be similar for a reporting bias manipulation.

Method

Subjects

A total of 487 female undergraduate psychology students participated for course credit: 288 served as persuasion subjects and 79 served as expectancy subjects. Since the design required that subjects receive a communication which opposed their initial position on the message topic, 120 subjects who had indicated a neutral position on this issue during the pretest were removed from the analysis.

Procedure

Subjects were recruited with the understanding that they would participate in an impression formation experiment. Participation was to entail reading information about another student's opinions on certain campus issues and then giving impressions of the student. Subjects were run in groups of 15 or less.

At the beginning of the session, an opinion pretest was administered with the rationnale that the subjects' own values and beliefs would be important in determining the impressions they formed. The pretest supposedly measured subjects' overall orientation on various campus issues. It consisted of 11

issues, including the message topic.

Participants then received a written description of the experiment. It was explained that they would read the transcripts from two (actually hypothetical) interviews conducted as part of a psychology experiment last fall. Subjects were told that the previous experiment was concerned with measuring peoples' opinions: Specifically, it examined the relation between someone's opinions given in an experimental setting on the topic of freedom of speech and their opinions given at a later time on the issue of showing pornography on campus. During the first interview, participants were assigned several topics to consider and were asked to give their opinions on the topics as well as their reasons for supporting these positions. Subjects were told they would read the interviewees' opinions only on the freedom of speech issue. The second interviews were supposedly conducted with the same students three weeks after the first interview. Subjects were told that in order to insure a realistic measure of opinions, interviewees were not aware of the connection between the first and second interview. The second interviews were conducted in a variety of situations to determine the effects of various circumstances as well as time on interviewees' opinions. Also, it was mentioned to subjects that the issues they would be reading about are somewhat controversial, and all sides are represented in the collection of transcripts. Therefore, subjects might read an interview in which the opinions expressed are quite different from their own. A final note indicated that the

transcripts were made available through the cooperation of Dr. Rinehardt.

While subjects were reading the description of the interview transcripts, the experimenter collected the preopinion questionnaires. Each subject's opinion on the pornography topic was identified so that the appropriate second interview transcript (which contained the persuasive message) could be administered. Subjects then received the two transcripts. In the first interview, Jim H., the interviewee, was represented as having a strongly polarized orientation on the issue of freedom of speech. The second interview (containing the persuasive message) consisted of a graduate student asking Jim for his position on the issue of restricting pornography on campus. In response to these cuestion, Jim presented four arguments, three of which supported his stated position and one which countered it. The arguments were factual, indicating that pornography has either a beneficial or detrimental effect on viewers. Further details of Jim H.'s background orientation and the persuasive message are described below.

Subjects took about ten minutes to read the interview transcripts. They then completed a cuestionnaire on which they again indicated their opinions and gave other responses. Finally, subjects were debriefed and excused.

Expectancy subjects were treated identically but were not exposed to a persuasive message. They estimated the likelihood that the communicator would advocate either a moderate or extreme position on the opposite side of the neutral point from

their own position. Expectancy subjects also responded to most of the other measures described below.

Independent Variables

Subjects' initial position. Subjects who were initially in favor of restricting pornography (those indicating positions of 1 to 6 on a 15-point scale ranging from "Strongly in favor of restrictions" to "Strongly against restrictions") read second interview transcripts in which Jim H. took a position against restrictions on pornography. Subjects who initially indicated their position as against restrictions (scale points 10 to 15) read second interviews in which Jim H. took a position in favor of restrictions.

Confirmation of expectancy. It was intended that the communicator's background, varied to reflect either a pro- or antifreedom of speech orientation, would lead to the inference that a knowledge bias would operate. When advocating a position on pornography that was consistent with his orientation (profreedom of speech source advocating antirestrictions or antifreedom of speech source advocating pror strictions), Jim H. confirmed the expectancy based on his knowledge bias. Jim H. disconfirmed knowledge-bias expectancies when he advocated a position on pornography that was inconsistent with his orientation on freedom of speech.

When Jim H. was profreedom of speech, he was portrayed as a member of the local Unitarian Church and he was in favor of abortion. He remarked that he had written a paper for a journalism course last year on the issue, so the topic was one he knew

something about. Support for unlimited freedom of speech was further conveyed by the following statements:

> "I very definitely think that everyone should have complete freedom of speech. Censoring another person's point of view, or an art form--which is one way people express themselves--is truly violating their rights. You have to remember that censorship is a relative thing--what's offensive and degrading to me may not be to anyone else."

When Jim H. was against freedom of speech, he was presented as a member of the Catholic Church, he was against abortion, and he had written a paper on the issue of freedom of speech for a religious studies course. His orientation against unlimited freedom of speech was further conveyed by the following statements:

> "I very definitely do not think that everyone should have unlimited freedom of speech. There are basic human principles--like the right not to be exploited and the right to be treated like a human being--which are a lot more important then a concept like freedom of speech. When people feel these principles are being violated, they must be allowed to impose some humane standards on what is publicly broadcast--what we read and see.

In the control conditions, information about Jim H.'s background orientation was not presented.

In the persuasive message, Jim H. stated that he had recently read an article about pornography indicating that it has some clearly identified effects on viewers. When anti-restrictions, Jim's two major arguments were that pornography had a "carthartic-like effect on people" and that Scandinavian census data showed a decrease in sex- related crimes since the legalization of pornography. In the prorestrictions message, pornography was said to encourage modeling behavior in viewers

and Scandinavian census data was said to reveal an increase in sex-related crimes since pornography has been legalized.

Extremity of the persuasive message. In the second interview, Jim first stated that he felt either moderately or strongly about the pornography issue. When advocating a moderate position, Jim said that while there were good reasons on both sides of the issue, "I guess it possibly should(n't) be allowed on campus." When supporting an extreme position, Jim stated that there were several good reasons for his position and that "I definitely think it should(n't) be allowed on campus."

Measuring Instruments

Expectancies. On a 15-point scale ranging from "Very likely" to "Very unlikely," expectancy subjects rated the likelihood that the communicator would advocate either a moderate or extreme position on the opposite side of the neutral point from their own position.

Manipulation checks. Subjects indicated, on two 15-point scales, the extent to which the communicator had previously supported unlimited freedom of speech and estimated the second interviewer's opinion on the pornography issue.

Opinions. Subjects indicated their initial and final opinions on the freedom of speech issue on a 15-point scale ranging from "Do want to restrict pornography on campus" to "Do not want to restrict pornography on campus." The midpoint was labeled "Uncertain."

Causal Inferences. On 15-point scales anchored by "Extremely important" and "Extremely unimportant," subjects

judged the influence of several factors on the communicator's stated position: (a) his previous position on freedom of speech and (b) the factual evidence concerning restricting pornography. In addition, it was thought subjects might infer that the second interviewer was constraining the communicator's stated position on the pornography issue. Thus, subjects also rated the importance of the second interviewer's opinion on restricting pornography.

Perception of communicator. Subjects rated the communicator on 15-point bipolar evaluative scales. Positive poles were consistent, honest, sincere, non-opportunistic, non-manipulative, non-compliant, open-minded, unbiased, objective and likeable.

Message comprehension. Subjects were asked to indicate (on the opinion scale described above) the overall position taken by the communicator as well as to write down each argument he had used to support his position. Argument recall was scored for correctness by two independent raters (r=.84, 82% agreement) who were blind to subjects' experimental conditions.

Other measures. On 15-point scales, subjects judged the communicator's "true, private opinion" on the issue as well as the relative importance of restricting pornography in comparison to other social issues. Subjects were also asked to write down their interpretations of the experiment. Two raters coded these responses for disbelief in the cover story and belief that the message was presented to test subjects' persuasibility. One subject was identified as suspicious of the

cover story (Kendall's tau=1.00) and was removed from the analysis. Although 23 subjects were identified as suspicious of our persuasive intent (Kendall's tau=.75), they were not removed from the analysis for two reasons: they were unevenly distributed across experimental conditions (13 from the control group, 6 from the expectancy confirmed conditions, and 5 from the disconfirmed), and previous literature has shown that subjects' suspicion of the experimenter's persuasive intent has no clearly identified relation to their opinion change (McGuire, 1969).

Results

The hypotheses were examined with the appropriate Subjects' Initial Position X Confirmation of Expectancy X Extremity of Advocated Position analysis of variance and related contrasts.

Manipulation Checks

Subjects classified as initially in favor of restricting pornography averaged premessage positions of 4.12 on the 15-point opinion scale described above, while those against averaged positions of 12.33. Analysis of premessage positions yielded no other effects.

The design required that message positions strongly discrepant from recipients' initial opinions be considered more polarized than those moderately discrepant. Subjects' judgments of the message position revealed an Initial Position X Extremity interaction, indicating that this requirement was met ($p < .001$). Planned comparisons showed that both pro- and anti-restrictions recipients viewed the extreme message as more polarized (Ms=13.93 and 1.81, respectively) than the moderate

message (Ms=11.02 and 4.93; ps < .001).

Judgments of the communicator's orientation on freedom of speech indicated that his background was correctly established. Planned comparisons showed the source with a profreedom of speech orientation was judged more in favor of freedom of speech than either the anti or control source (ps < .001), while the control source was considered more in favor than the anti source (p < .001). As the experimental design in Table 1 indicates,

---

Insert Table 1 about here

---

the communicator's orientation is arranged so that these effects yielded an Initial Position X Confirmation interaction (p < .001). (See Table 2 for means.) No significant effects were obtained in the analysis of estimates of the second interviewer's

---

Insert Table 2 about here

---

opinion on restricting pornography.

Further evidence concerning the adequacy of the experimental design was provided by the expectancy control subjects' likelihood ratings. A Confirmation main effect (p < .001) and planned comparisons revealed that the communicator was judged more likely to advocate messages which confirmed (antifreedom of speech source advocating pro restrictions and pro freedom of speech source advocating antirestrictions) rather than disconfirmed knowledge-bias expectancies (M=12.04 vs. M=4.1[illegible]; p < .01). Also, it was desirable for the communicator to be rated equally likely to advocate a moderate or extreme position. In support, expectancy subjects' likelihood ratings revealed no Extremity

main effect.

The design also required that, prior to message delivery, perception of the communicator be unrelated to the communicator's background orientation. This requirement was adequately met: Expectancy subjects' perceptions of the communicator demonstrated that communicators were essentially equivalent across conditions. Only on ratings of open-mindedness, which yielded an Initial Position X Confirmation interaction ($p < .05$), were the two sources perceived differently: The communicator with the profreedom of speech orientation was marginally more open-minded ($p < .10$, posthoc[1].

Opinion Change

Opinion change scores were formed by treating change towards the advocated position as a positive difference, and change away as a negative difference.[2] The Confirmation main effect was marginally significant, $F(2,275)=2.57$, $p < .08$.[3] Planned comparisons indicated that subjects changed their opinions more when the message confirmed rather than disconfirmed their knowledge-bias expectancies ($p < .03$), while neither the confirmed nor disconfirmed conditions differed from the control group. (See Table 2 for means.) In addition, neither the initial position nor extremity manipulations affected opinion chang .

Causal Inferences

Ratings of the importance of the communicator's orientation in determining his stated position indicated that his background had the predicted effect on subjects' causal inferences. The Confirmation main effect was significant ($p < .001$). Planned comparisons revealed that his orientation was more

important when confirming instead of disconfirming expectancies ($p < .001$). Both confirmed and disconfirmed conditions differed significantly from the control condition ($ps < .001$; see Table 2).

Ratings of the importance of factual evidence in influencing the source's position also had the intended effect on causal inferences. The Confirmation main effect was significant ($p < .01$). Planned comparisons indicated that factual evidence was a more important influence on the communicator's stated position in the disconfirmed rather than confirmed conditions ($p < .01$). Facts were also rated more important in the disconfirmed than the control conditions ($p < .01$), while the confirmed and control conditions did not differ (see Table 2).

No significant effects were obtained in the analysis of the importance of the second interviewer's opinion on restricting pornography. In addition, subjects' initial positions and extremity of the message had no effect on any measures of perceived causation.

Perceptions of the Communicator

A factor analysis (varimax rotation) specifying a three factor solution[4] yielded factors accounting for 20.4%, 16.8% and 12.0% of the total variance. These factors were labeled "Sincere" (e.g., honest, sincere), "Unbiased" (e.g., open-minded, unbiased) and "Nonmanipulative" (e.g., nonopportunistic, nonmanipulative), respectively. The consistent and objective scales, which failed to load highly on these factors, were analyzed separately. Factor scores were computed for each subject and then treated by analysis of variance (see Table 3).

Insert Table 3 about here

The unbiased factor yielded a Confirmation main effect ($p < .001$), and planned comparisons showed the source to be more biased when confirming rather than disconfirming expectancies ($p < .01$). The disconfirmed conditions differed marginally from the control conditions ($p < .10$), whereas the confirmed did not. No significant effects were obtained on either of the other factors.

Similar to the unbiased factor, ratings of objectivity yielded a Confirmation main effect ($p < .001$), and planned comparisons showed the communicator to be more objective when he disconfirmed instead of confirmed expectancies ($p < .001$). The confirmed cells differed significantly from the controls ($p < .01$), whereas the disconfirmed did not. Also, the communicator was considered more objective when advocating a moderate rather than extreme position ($p < .01$). Ratings of the source's consistency revealed a Confirmation main effect ($p < .001$), and planned comparisons showed the communicator to be more consistent when confirming rather than disconfirming a knowledge-bias expectancy ($p < .001$), and both confirmed and disconfirmed conditions differed from the controls ($ps < .001$).

Recall of Argumentation

Recipients' recall of the arguments presented in the message showed a marginally significant Confirmation main effect ($p = .06$; see Table 3). Planned comparisons revealed that fewer arguments were recalled in the disconfirmed than the control conditions ($p < .05$), and marginally fewer than in the confirmed conditions ($p < .07$). The confirmed and control conditions did not differ.

Other Dependent Measures

As Table 3 indicates, the communicator's true, private opinion on restrictions was considered to be more polarized in conditions in which the source's orientation was consistent with the position advocated and the control conditions than in conditions in which his orientation was inconsistent with the position advocated. Thus, an Initial Position X Confirmation interaction proved significant ($p < .001$). Planned comparisons showed communicators advocating pro instead of anti to be significantly more in favor of restrictions in the confirmed and control conditions ($p < .01$), while only marginally more in favor in the disconfirmed conditions ($p < .10$). Two other significant effects were reasonable in view of the nature of the manipulations: (a) an Initial Position main effect showed that communicators were thought more in favor of restrictions when advocating pro rather than anti positions ($p < .001$) and (b) an Extremity main effect showed communicators were considered more in favor of the message position when advocating extreme (vs. moderate) positions ($p < .01$). In addition, examination of the means in Table 3 reveals that ratings were lower than predicted in the two conditions in which subjects were initially pro, the source advocated an extreme position, and confirmed or disconfirmed expectancies. These deviant results contributed to an Initial Position X Extremity interaction ($p < .001$), a Confirmation main effect ($p < .05$), and a marginally significant Initial Position X Confirmation X Extremity interaction ($p < .10$).

Ratings of the importance of the issue revealed that it was generally neither important nor unimportant ($\underline{M}$=8.86). An Initial Position main effect showed that subjects initially in favor of rather than against restrictions felt the issue was more important ($\underline{p} < .001$).

Mediators of Opinion Change

A path analysis, based on the average within-cell correlations presented in Table 4, was conducted to examine the cogni-

---

Insert Table 4 about here

---

tive mediation of opinion change. The causal direction specified by our model is as follows: Inferences invoking the communicator's orientation and inferences about the factual evidence relating to the issue were treated as exogenous variables (variables not influenced by others in the system), and together were thought to affect perceptions of the source's bias (i.e., validity of the message). Perceptions of the source's bias were thought to affect reception of the argumentation presented in the message. Both bias ratings and argument recall were considered direct determinants of opinion change. Since the information on which recipients based their causal inferences depended on the Confirmation manipulation, this model was tested separately on the confirmed, disconfirmed and control conditions.

The model specified in Figure 1 was the one originally fit to all three experimental conditions. To test the model, the logic of path analysis required that, initially, three separate multiple regression equations be run. Source bias, argument

recall and opinion change were each predicted from those variables causally prior, and paths representing nonsignificant relationships were deleted, leaving only significant or marginally significant predictors in the equation. Each of the regressions was run again, with only the previously determined significant predictors in the equation, and the beta weights were interpreted as path coefficients.

In conditions where the source disconfirmed expectancies, perceptions of source bias were first regressed on inferences about orientation and inferences about facts. The relationships represented by the paths between these three variables depicted in Figure 2a were all found to be significant and were retained

---

Insert Figure 2 about here

---

in the model. Inferences about orientation and those about facts were negatively related (r=-.16; $p < .10$). Inferences about orientation were negatively related to perceptions of source bias (B=-.17; $p < .10$), whereas inferences about facts were positively related to bias ratings (B=.24; $p < .05$). The orientation and facts measures together accounted for 10% of the variance in bias ratings (R=.32; $p < .001$). Next, inferences about orientation, those about facts, and perceptions of bias were regressed on argument recall. Only perception of bias was significantly related to argument recall (r=-.21; $p < .05$). Last, inferences about orientation, those about facts, perceptions of bias, and argument recall were all combined in a regression equation predicting opinion change. Neither type of inference was significantly related to opinion change, while

both bias ratings and argument recall were positively related to opinion change ($\underline{B}$s=.40 and .32, respectively; $\underline{p}$s $<$ .001), and together accounted for 21% of its variance ($\underline{R}$=.46; $\underline{p} < .001$).

The same model was fitted to the data in conditions where the source confirmed expectancies. However, the relationship between perceptions of the source's bias and reception of arguments was nonsignificant ($\underline{r}$=-.10; $p > .30$), and the path was dropped from the model. Arguments recalled was then specified as an exogenous variable as shown in Figure 2b. Inferences about orientation and those about facts together were found to account for 14% of the variance in perceptions of bias ($\underline{R}$=.37; $\underline{p} < .001$). Similarly, bias ratings and argument recall were found to account for 10% of the variance in opinion change ($\underline{R}$=.32; $\underline{p} < .001$).

In the control conditions, bias ratings were again found to be nonsignificantly related to argument recall ($\underline{r}$=.02; $p > .80$). In addition, neither inferences about orientation nor those about facts were significantly related to bias ratings ($\underline{B}$=-.11 and .15, respectively; $\underline{p}$s $> .10$). Thus, both bias ratings and argument recall are exogenous variables specified in the model in Figure 2c. The two variables together accounted for 13% of the variance in opinion change ($\underline{R}$=.36; $\underline{p} < .001$).

Discussion

The findings replicated those obtained by Eagly, Wood and Chaiken (1978) and provided additional support for the attribution interpretation of opinion change: A communicator advocating a position which disconfirmed the expectancy based on his background orientation was more persuasive and perceived as less

biased than one advocating a confirmatory position. Other dependent measures were consistent with these results. It was also demonstrated that the findings generalized over messages moderately and strongly discrepant from recipients' initial positions.

Evidence that the heightened persuasiveness of communicators disconfiriming expectancies was due to the hypothesized attributional mechanisms rather than other factors is provided by expectancy subjects' perceptions of the communicator. Since communicators in all conditions were judged essentially equivalent prior to message delivery, differences in opinion change cannot be explained through, for example, agreement with an attractive communicator.

Knowledge-bias expectancies were established by portraying the communicator as having a strong commitment for or against freedom of speech on the basis of his religious preferences and ideological positions. That these expectancies enable people to infer the communicator's position on related issues was illustrated by expectancy subjects' likelihood ratings: Communicators were considered likely to advocate a position on the topic of restricting pornography which was consistent with their orientation on freedom of speech.

Causal Inferences and Perception of the Communicator

Recipients' explanations of the communicator's position were affected by whether the message confirmed or disconfirmed their expectancies. Communicators confirming knowledge-bias expectancies were perceived to be responding in terms of their

background orientation. However, the positions of communicators disconfirming expectancies could not be attributed to their orientation, and so were perceived as more valid, since they were explained through an accurate representation of external reality. Thus, recipients rated the factual evidence relating to the message topic an important influence on communicators who disconfirmed expectancies. It should be noted that when Eagly, Wood, and Chaiken had subjects rate the importance of facts, instead of factual evidence, no differences due to expectancy confirmation were obtained. It is likely that this slight wording difference accounts for our more successful results.

The validity of the communicator's position was determined by recipients on the basis of these causal inferences. Communicators advocating message positions which were unexpected on the basis of their background orientation were perceived to be less biased than communicators advocating expected positions. In contrast, all communicators were perceived to be equally sincere.

Recipients' estimates of the source's true opinion were affected by expectancy confirmation since these estimates were based on both his orientation and the position advocated. Communicators whose advocated positions were consistent with their background orientation were generally thought to have the most polarized opinions, whereas communicators whose positions were inconsistent with their orientation were thought to have opinions towards midscale. Estimates of the true opinion

of control communicators were based solely on their stated opinion, and recipients considered their opinions to lie between those of consistent and inconsistent communicators.

Argument Recall

As noted in the introduction, when the message topic is of little importance to recipients, they may employ a relatively superficial strategy in processing the communication, which would cause them to yield to message conclusions on the basis of non-content cues (Chaiken, Note 1). Since subjects in the present study did not consider restricting pornography an important issue, it was assumed that when possible, they would tend to adopt a relatively simplistic decision rule, focusing on information concerning whether the source was biased instead of analyzing the message content. Results showed that recipients of a disconfirming communication recalled fewer arguments and so were less receptive to message content than recipients in confirmed and control conditions. It appears that recipients relied more heavily on the source-bias decision rule when the communicator disconfirmed expectancies, because in such conditions relatively conclusive information about the cause of the advocated position and the degree of source bias was available. When the communicator disconfirmed expectancies, the only plausible reason for his position was a response to external reality, whereas there were several plausible causes of the confirmed and the control communicator's positions. Similarly, disconfirming communicators were perceived to be the least biased, and the control and the

confirming communicators were not considered to differ in their degree of bias.

In contrast, Eagly and Chaiken (1975) found argument recall to be greatest when the communicator disconfirmed knowlege-bias expectancies. These seemingly contradictory results can possibly be explained in terms of message importance: Eagly and Chaiken employed relatively involving topics (the future incidence of VD and the future job market facing undergraduates). It was probably important for recipients to hold knowledgeable opinions on these issues since they would have to address them again at a later date. In this case, information about source bias as well as the message content may have been employed by recipients in determining the validity of the message. Communicators advocating disconfirming messages were perceived as unbiased, and this may have highlighted the importance of their messages, leading the recipients to retain the message arguments more than recipients of a confirming message.

Mediators of Opinion Change

Path analysis provided support for the cognitive mediation of opinion change specified by our framework. It was originally hypothesized (according to the model specified in Figure 1) that recipients' causal inferences invoking factual evidence and those invoking the source's orientation would be predictors of perceptions of the extent to which the source was biased. In turn, perception of source bias was thought to determine opinion change. Although not part of the present attribution analysis, argument recall provided a measure of recipients'

reception of the message content, and so was included in the path model as a direct determinant of opinion change, and was expected to be more important when recipients believed there was more than one plausible cause of the communicator's position.

The hypothesized model was fitted separately to the confirmed, the disconfirmed, and the control conditions because the information provided to subjects was varied according to experimental condition. Examination of Figure 2 reveals that slightly different models were found to fit each of the three conditions. Results showed that recipients' causal inferences generally had the hypothesized effects on their perception of source bias. In the confirmed and disconfirmed conditions, recipients' attributions of the advocated position to the communicator's orientation were causally related to a perception of the source as more biased. In contrast, recipients' inferences invoking the factual evidence of the issue predicted a perception of the communicator as less biased. The importance of each causal inference in determining perception of source bias was related to expectancy confirmation. In the disconfirmed conditions, perceivers' inferences about factual evidence were a somewhat more important determinant of their perceptions of source bias than inferences concerning the communicator's orientation, whereas the reverse was true for the confirmed conditions. In the control conditions, however, recipients' causal inferences were not a significant determinant of perceived bias or opinion change, presumably because information about the communicator's background, which formed

the basis for recipients' inferences, was not provided.

The relationship between perception of source bias, argument recall and opinion change was also partly dependent upon expectancy confirmation. Only in the disconfirmed conditions were recipients' perceptions of communicator bias found to be a significant predictor of argument recall--the more unbiased the communicator was perceived to be, the fewer the arguments recalled. To the extent that recipients perceived there to be clear-cut causal information in the disconfirmed conditions, they were able to pay less attention to the message content. Perceptions of the communicator as unbiased and greater argument recall were always determinants of greater opinion change. In both the confirmed and the disconfirmed conditions, recipients' perceptions of source bias were a somewhat more important determinant of opinion change than the arguments recalled, whereas the persuasiveness of control communicators was determined slightly more by reception of arguments than perceptions of bias.

The results indicated that the experimental manipulations affected opinion change primarily through these mediating processes: Expectancy confirmation directly affected recipients' causal inferences, had an indirect impact on perception of source bias through its effect on causal inferences, and affected opinion change primarily through these two mediators. Consistent with the path analysis, analysis of variance indicated that expectancy confirmation had a large effect on recipients' causal inferences, less of an effect on perception

of source bias and an even weaker impact on opinion change.

Generality of the Results

It was originally hypothesized that the persuasiveness of messages moderately discrepant from recipients' initial positions would be sensitive to the expectancy confirmation manipulation, whereas extremely discrepant messages would be too dissimilar to recipients' opinions to be attributed to reality, and so would be perceived as relatively biased. However, no differences were obtained between moderate and extreme messages. Since recipients perceived the extreme messages to be significantly more polarized than the moderate, it appears that extremity was in fact manipulated.

There are several possible explanations for the ineffectiveness of the discrepancy manipulation. First, it may be that recipients' causal inferences are truly not dependent on their agreement with the communicator's position. Alternatively, other factors in the present experiment may have contributed to this result, such as possible demand characteristics. Since the recipients were providing information for an experiment, they may have been motivated to give us veridical information. Instead of using their own opinion on the issue as a reference point from which to evaluate the communicator's position, recipients may have engaged in a more objective analysis, so that a response to external reality was a plausible cause of all message positions. Outside of the experimental situation, recipients may be more willing to evaluate the message in terms of their own opinion, and the predicted effects may occur.

Another explanation is provided by social judgment theory. This argues that the width of recipients' latitudes of rejection (the range of opinions they find objectionable) is affected by their ego-involvement in the issue. Since subjects did not consider the message topic important, it is assumed to be relatively uninvolving. Social judgment theory suggests that recipients have narrow latitudes of rejection in response to uninvolving issues, and so the strongly discrepant message may not have fallen within these limits. However, if the study had employed a more involving message topic, the predicted effects may have been obtained. In any case, we can conclude that under the present experimental conditions, the obtained effects generalize over the range of discrepancy represented in this study.

The experimental design included an internal replication in that subjects initially in favor of restricting pornography received an antirestriction communication whereas those against received a communication in favor of restrictions. Since the analysis of subjects' initial opinions revealed no significant effects, our results also proved general over these two communications.

Footnotes

1. All posthoc comparisons were analyzed according to the Scheffe procedure.

2. Analysis of covariance on recipients' postmessage positions, employing premessage positions as a covariate, resulted in findings similar to the analysis of change scores.

3. The analysis of opinion change employing a one-tailed test of significance yielded a significant Confirmation main effect ($p < .05$). A one-tailed test was thought appropriate in this situation since previous research clearly demonstrated the direction of the predicted difference between experimental conditions: Disconfirming expectancies should heighten message persuasiveness in relation to control conditions, whereas confirming expectancies should have the opposite effect.

4. On the initial run, four factors were obtained, but the fourth was deleted due to the small amount of variance it accounted for (10.2%) and the difficulty in its interpretation.

Reference Notes

1. Chaiken, S. Heuristic versus systematic information processing and the use of source versus message cues in persuasion. Unpublished manuscript.

References

Cooper, H., Darley, J. M., & Henderson, J. E. On the effectiveness of deviant- and conventional-appearing communicators: A field experiment. Journal of Personality and Social Psychology, 1974, 29, 752-757.

Eagly, A. H. Comprehensibility of persuasive arguments as a determinant of opinion change. Journal of Personality and Social Psychology, 1974, 29, 758-773.

Eagly, A. H., & Chaiken, S. An attribution analysis of the effect of communicator characteristics on opinion change: The case of communicator attractiveness. Journal of Personality and Social Psychology, 1975, 32, 136-144.

Eagly, A. H., Wood, W., & Chaiken, S. Causal Inferences about communicators and their effect on opinion change. Journal of Personality and Social Psychology, 1978, 36, 424-435.

Ewing, T. N. A study of certain factors involved in changes of opinion. Journal of Social Psychology, 1942, 16, 63-88.

Goethals, G. R. An attributional analysis of some social influence phenomena. In J. H. Harvey, W. J. Ickes, & R. F. Kidd (Eds.), New directions in attribution research (Vol. 1). Hillsdale, N.J.: Erlbaum, 1976.

Kelley, H. H. Attribution theory in social psychology. In D. Levine (Ed.), Nebraska Symposium on Motivation (Vol. 15). Lincoln: University of Nebraska Press, 1967.

Kelley, H. H. Attribution in social interaction. In E. E. Jones et al. (Eds.), Attribution: Perceiving the causes of behavior. Morristown, N.J.: General Learning Press, 1972.

Koeske, G. G., & Crano, W. D. The effect on congruous and incongruous source-statement combinations upon the judged credibility of a communication. Journal of Experimental Social Psychology, 1968, 4, 384-399.

McGuire, W. J. The nature of attitudes and attitude change. In G. Lindzey & E. Aronson (Eds.), The handbook of social psychology (2nd ed.), Vol. 3. Reading, Mass.: Addison-Wesley, 1969.

McGuire, W. J. Suspiciousness of experimenter's intent. In R. Rosenthal & R. Rosnow (Eds.), Artifact in behavioral research. New York, N.Y.: Academic Press, 1969.

McKillip, J. Credibility and impression formation. Personality and Social Psychology Bulletin, 1975, 1, 521-524.

McKillip, J. & Edwards, J. D. Source characteristics and attttude change. Personality and Social Psychology Bulletin, 1975, 1, 135-137.

McPeek, R. W., & Edwards, J. D. Expectancy disconfirmation and attitude change. Journal of Social Psychology, 1975, 96, 193-208.

McPeek, R. W., & Gross, A. E. Evaluations of presidential campaign speakers as a function of similarity and expectancy disconfirmation. Journal of Applied Social Psychology, 1975, 5, 75-85.

Mills, J., & Jellison, J. M. Effect on opinion change of how desirable the communication is to the audience the communicator addressed. Journal of Personality and Social Psychology, 1967, 6, 98-101.

Sheriff, M. & Hovland, C. I. Social Judgment. New Haven, Conn.: Yale University Press, 1961.

Walster, E., Aronson , E., & Abrahams, D. On increasing the persuasiveness of a low prestige communccator. Journal of Experimental Social Psychology, 1966, 2, 325-343.

Table 1

Experimental Design

	Subjects initially favored restricting pornography		Subjects initially opposed restricting pornography	
Confirmation of Expectancy	Source advocated moderate antirestrictions	Source advocated extreme antirestrictions	Source advocated moderate prorestrictions	Source advocated extreme prorestrictions
Confirmed	Source's orientation: profreedom of speech	Source's orientation: profreedom of speech	Source's orientation: antifreedom of speech	Source's orientation: antifreedom of speech
Disconfirmed	Source's orientation: antifreedom of speech	Source's orientation: antifreedom of speech	Source's orientation: profreedom of speech	Source's orientation: profreedom of speech
Control	Source's orientation: not provided	Source's orientation: not provided	Source's orientation: not provided	Source's orientation: not provided

Note. Expectancy cell ns ranged from 9 to 11. Persuasion cell ns ranged from 23 to 25.

Table 2

Mean Manipulation Check Responses, Opinion Change Scores, and Causal Inferences as a Function of Subjects' Initial Position, Confirmation of Expectancy, and Extremity of Advocated Position

	Subjects favored and source opposed restrictions						Subjects opposed and source favored restrictions					
	Expectancy confirmed		Expectancy disconfirmed		Control		Expectancy confirmed		Expectancy disconfirmed		Control	
Variable	Moderate	Extreme	Moderate	Extreme	Moderate	Extreme	Moderate	Extreme	Moderate	Extreme	Moderate	Extreme
Source's past support for freedom of speech	13.96	13.92	1.78	2.38	8.68	8.52	2.69	3.67	13.71	14.25	7.64	8.79
Opinion change scores	1.88	1.63	2.52	2.38	1.96	2.09	1.57	1.17	2.92	2.21	2.25	1.48
Importance of source's orientation	12.46	11.58	7.00	6.50	8.56	9.09	11.78	11.42	6.58	5.54	9.00	7.24
Importance of factual evidence	9.92	11.08	11.48	11.86	11.36	10.43	10.22	10.33	12.08	11.92	10.29	9.80

Note. Higher numbers indicate stronger support for freedom of speech, greater opinion change and greater importance of causal factors.

Table 3

Mean Perception of the Communicator, Arguments Recalled and Source's True Opinion as a Function of Subjects' Initial Position, Confirmation of Expectancy, and Extremity of Advocated Position

	Subjects favored and source opposed restrictions						Subjects opposed and source favored restrictions					
	Expectancy confirmed		Expectancy disconfirmed		Control		Expectancy confirmed		Expectancy disconfirmed		Control	
Variable	Moderate	Extreme	Moderate	Extreme	Moderate	Extreme	Moderate	Extreme	Moderate	Extreme	Moderate	Extreme
Biased factor	-.25	-.15	.43	.42	.14	-.17	-.51	-.49	.48	.31	.03	-.23
Consistent	10.83	11.38	5.65	5.21	7.48	7.22	10.70	11.83	4.38	4.92	8.42	6.64
Objective	7.75	7.08	9.52	8.29	8.60	7.30	6.91	6.13	9.42	7.92	9.29	8.08
Arguments recalled	2.21	2.25	2.09	2.29	2.52	2.44	2.57	2.42	2.04	1.92	2.38	2.28
Source's true opinion	11.75	12.92	9.56	8.58	10.76	13.35	5.74	2.96	6.96	4.42	6.83	3.52

Note. Higher numbers indicate perception of the source as more unbiased, consistent and objective; more arguments recalled; and true opinion more against restricting pornography.

Table 4

Average Within Cell Correlations Between Opinion Change and Possible Mediators

Knowledge bias disconfirmed

	1	2	3	4	5
1. Inferences about orientation		-.17	-.21	-.09	-.11
2. Inferences about facts			.27	-.05	.16
3. Ratings of source bias				-.21	.33
4. Argument recall					.24
5. Opinion change					

Knowledge bias confirmed

	1	2	3	4	5
1. Inferences about orientation		-.13	-.30	-.11	-.10
2. Inferences about facts			.26	-.04	.18
3. Ratings of source bias				-.10	.25
4. Argument recall					.17
5. Opinion change					

Control

	1	2	3	4	5
1. Inferences about orientation		-.15	-.13	.04	-.12
2. Inferences about facts			.17	-.16	.14
3. Ratings of source bias				.02	.21
4. Argument recall					.29
5. Opinion change					

Figure 1. Proposed causal model for path analysis depicting the hypothesized relationship between mediators and opinion change. The single-headed arrows denote hypothesized causal paths. The two-headed arrow denotes an unanalyzed correlation among exogenous variables.

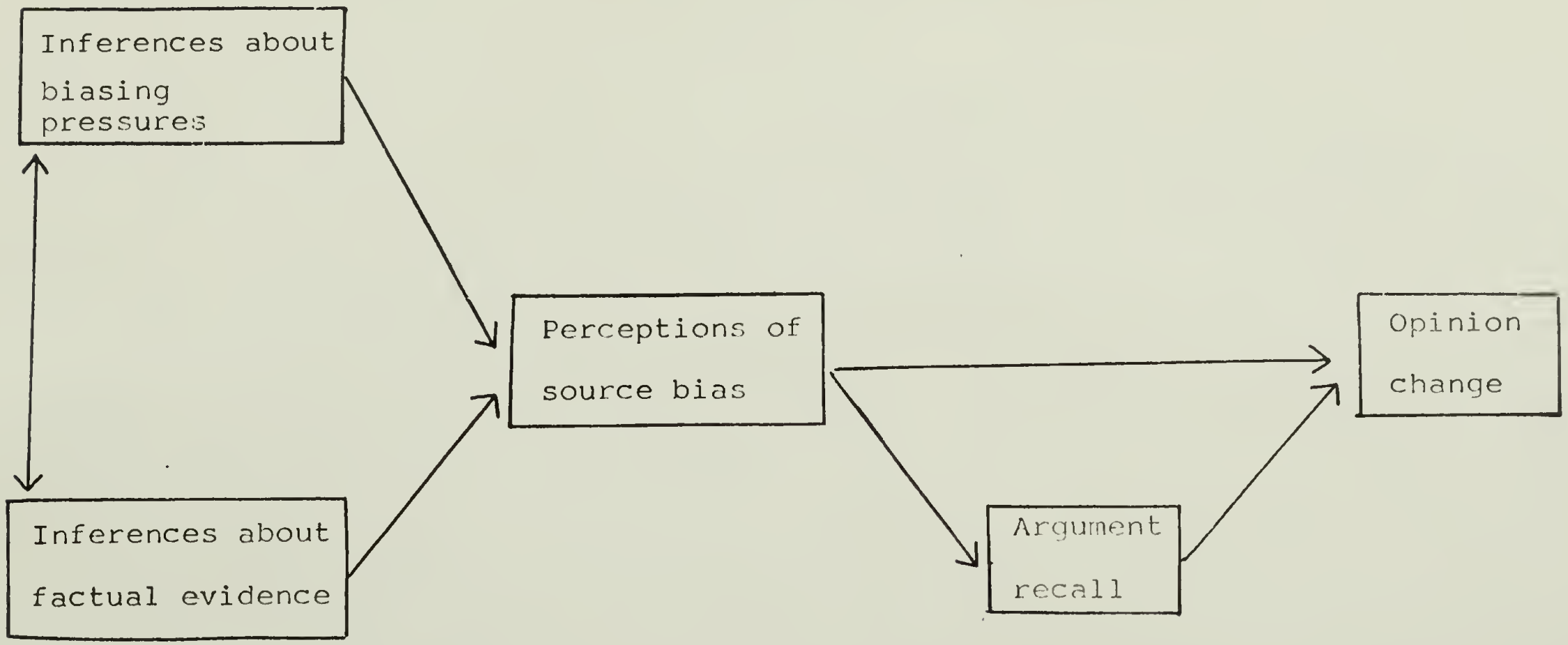
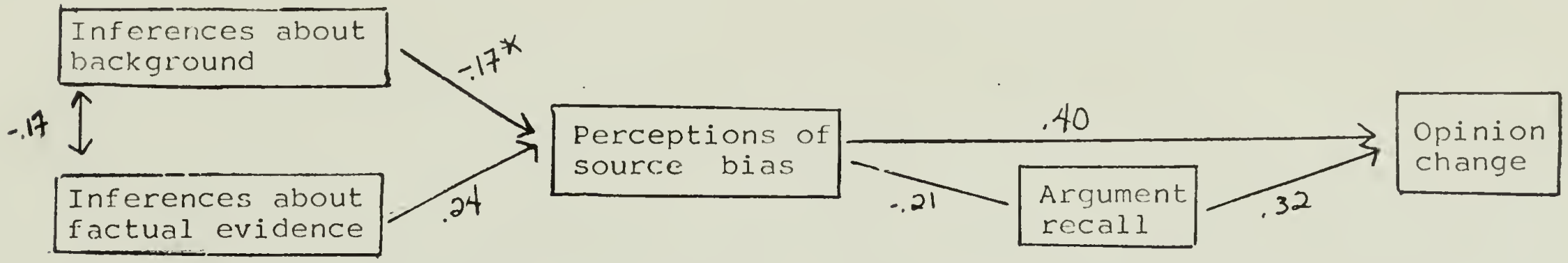
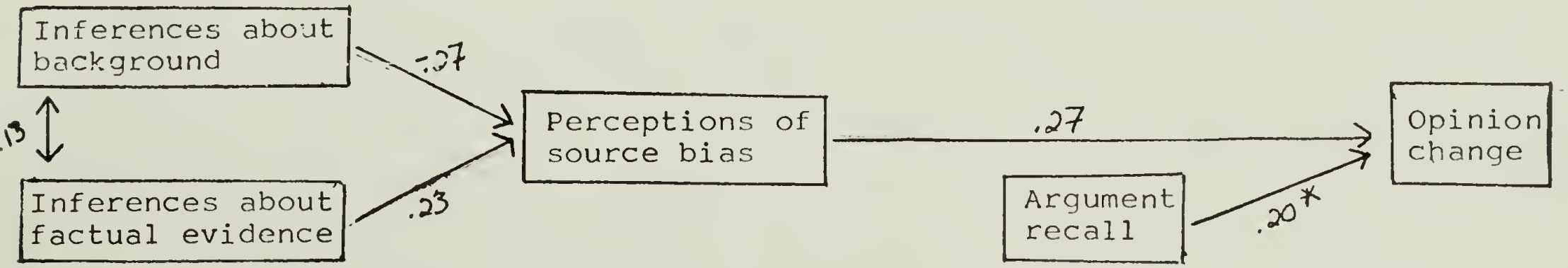

Inferences about biasing pressures
Perceptions of source bias
Opinion change
Inferences about factual evidence
Argument recall

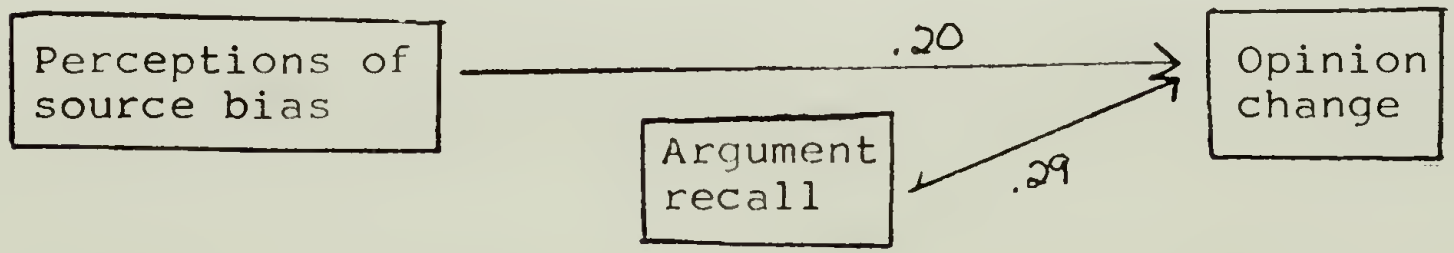
Figure 2. Above figures show results of the path analysis for (a) disconfirmed, (b) confirmed and (c) control conditions. Path coefficients with an asterisk are marginally significant; all others are significant beyond the .05 level. Unanalyzed correlations among the exogenous variables are appended to the paths with double arrows.



Results of path analysis for disconfirmed conditions



Results of path analysis for confirmed conditions



Results of path analysis for control conditions