

ATTITUDES AS A FUNCTION OF INVOLVEMENT AND  
USE OF AUDIOTAPE VERSUS PRINTED MESSAGES  
REGARDING AIDS INFORMATION

By

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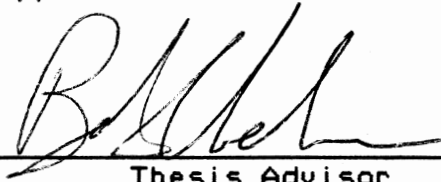
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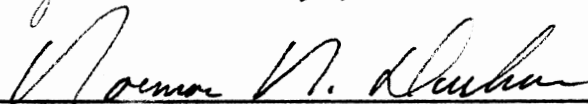
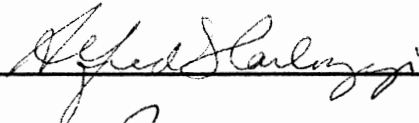
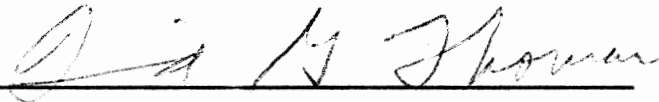
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ATTITUDES AS A FUNCTION OF INVOLVEMENT AND  
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REGARDING AIDS INFORMATION

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Attitudes as a Function of Involvement and Use  
of Audiotape Versus Printed Messages Regarding AIDS  
Information

Introduction

Persuasion today remains an important topic of research. For many years investigators have sought to understand and define the underlying processes of persuasion. Persuasion has been conceptualized as "a symbolic activity whose purpose is to effect the internalization or voluntary acceptance of new cognitive states or patterns of overt behavior through the exchange of messages" (Smith, 1982, p. 7).

A great deal of attention in recent years has focused on a cognitive explanation of the process of persuasion (Cacioppo & Petty, 1982). Cacioppo and Petty have argued that subjects will either take a central or peripheral route to persuasion. The authors describe the first or central route to persuasion as a process in which the message recipient thinks about and makes decisions about relevant information within the content of an advocacy. The amount and direction of the cognitive activity is the most direct determinant of the persuasion produced. The cognitive activity is measured by requesting the message recipient to list his or her thoughts about the content of an advocacy. The message recipient is requested to rate each thought he or she listed as positive, neutral, or negative. Thus, the

assessment of the number and valence of the thoughts in which a message recipient engages in provides the researcher with a method to examine the cognitive activity that takes place during the persuasion process.

Cacioppo and Petty (1982) explained the second or peripheral route to persuasion as what occurs when the message recipient does not actively process relevant arguments contained in an advocacy. This route to persuasion is characterized as a process under which "noncontent cues in the persuasion setting which allow a person to evaluate a communication or decide what attitudinal position to adopt without engaging in any extensive cognitive work relevant to the issue under consideration, are the most direct determinants of attitude change" (Cacioppo & Petty, 1982, p. 130).

Issue involvement has been found to be an important variable in influencing which route to persuasion will predominate (Petty & Cacioppo, 1979, 1981). Petty and Cacioppo (1984) presented results which show that when issue involvement is high, message recipients will actively process relevant information or arguments presented in an advocacy; thus, a central route is taken to persuasion. However, when issue involvement is low, message recipients tend to process other noncontent cues, such as communicator likeability; thus, a peripheral route is taken to persuasion.



A second variable which has received attention from investigators as a determinant of persuasion is message modality (Chaiken & Eagly, 1976, 1983). Chaiken and Eagly (1976) investigated the effect of communication modality on message persuasiveness and comprehensibility. They found that message recipients comprehend difficult material more if the information is presented in written form compared to either videotape or audiotape presentations. On the other hand, when the material is easy, message recipients are more readily persuaded if that information is presented in a videotape or audiotape modality.

In a second study, Chaiken and Eagly (1983) again investigated the effect of communication modality as a determinant of persuasion. In this study the authors used a likable versus an unlikable communicator to convey an advocacy in three modalities (videotape, audiotape, and print). The authors found that the message recipient is more persuaded by a likable communicator compared to an unlikable communicator when the message is delivered via audiotape or videotape. In contrast, the message recipient was found to be more persuaded by an unlikable communicator compared to a likable communicator when the message modality was print.

The two studies by Chaiken and Eagly provide important evidence in support of a heuristic versus systematic process of persuasion as postulated by Chaiken (1980). In a

heuristic process the message recipient uses simple rules, e.g., the likability of communicator, rather than systematically analyzing relevant information. Thus, Chaiken argues that the likability of the communicator is the primary determinant of persuasion in certain situations, e.g., information presented in a videotape modality. Chaiken also contends that the recipient's use of simple rules occurs at the expense of less systematic processing of relevant information. Systematic processing is more likely to occur when the recipient's motivation is high (e.g., issue involvement is high), in order to carefully assess the quality and content of an advocacy.

The discussion thus far has centered on two conceptualizations of the persuasion process: (a) A central versus peripheral route to persuasion (Petty & Cacioppo, 1986), and (b) heuristic versus systematic processing of information (Chaiken, 1980). Eagly and Chaiken (1984) acknowledge that the central route model (Petty & Cacioppo, 1981) is very similar to what Chaiken (1980) identifies as the systematic model. Although Eagly and Chaiken (1984) argue that there is a distinction between the peripheral model (Petty & Cacioppo, 1981) and the heuristic model (Chaiken, 1980), the two models are quite similar. The purpose of providing well-constructed and relevant arguments is to elicit information processing by the message recipient and thus encourage the recipient to accept a particular

advocacy (i.e., use the central or systematic route). If, on the other hand, the message recipient relies on other cues to accept or reject an advocacy, then it becomes questionable whether the recipient has comprehended and retained relevant and/or important information.

Issue involvement and communication modality are two important variables in the persuasion process. More information is needed to understand how these two variables function in the persuasion process as well as how they effect attitude change. The purpose of the present study is to compare two modalities (print versus audiotape) and three levels of issue involvement (low, medium, and high) as to their effect on attitude change.

Health education is an area where accurate and relevant communication is necessary. One recent development that concerns health educators is educating the public about AIDS. Though the primary purpose of the present study is to investigate the effect of issue involvement and communication modality on persuasion, a second purpose is to evaluate the effectiveness of involvement and communication modality in facilitating the processing of AIDS education material.

### Theoretical Background

Research in the area of persuasion has been influenced by several important theories. Social Judgement Theory (Sherif & Sherif, 1967) attempted to explain how people are

persuaded by focusing on behaviors in response to internal emotional states (e.g., dissonance) and the specific conditions that give rise to these internal emotional states. They posited a broad concept of attitude based on four criteria: (1) attitudes are not innate, (2) attitudes are not temporary states but are more or less enduring once they are formed, (3) attitudes always imply a relationship between the person and objects, and (4) the relationship between person and object is not neutral, but has motivational-affective properties. The implication, therefore, is that attitudes are learned, are relatively stable, are dependent on external events, and are a result of interactions with the social environment. The Sherifs operationally defined attitude as ". . . the individual's set of categories for evaluating a stimulus domain, which he has established as he learns about that domain in interaction with other persons and which relate him to various subsets within the domain with varying degrees of positive or negative affect" (1967, p. 115).

Sherif and Sherif (1967) also postulated three concepts that were necessary for the assessment of the structure of an attitude. The individual's acceptable position on an issue, "latitude of acceptance", the objectionable position on an issue, "latitude of rejection", and the noncommittal or neutral position on an issue, "latitude of noncommitment", formed the basis of predictive indicators of attitude. They

developed two research procedures for assessing the three concepts described above, "Method of Ordered Alternatives" and "Own Categories."

Sherif and Sherif (1967) found that "the Method of Ordered Alternatives reveals systematic variations in the structure of an attitude according to extremity of position and according to relative involvement in the issue" (p. 120). Therefore, differences exist between latitudes of acceptance, rejection, and noncommitment directly related to the level of personal involvement. They then focused on the judgment process which is utilized in evaluating issue material relevant to an attitude. The judgment process is examined by utilizing the "Own Categories" procedure. A list of statements ranging from most favorable to unfavorable on a particular issue is used to assess a person's attitude. The person then categorizes the statements and labels them (e.g., for, against, good, bad, etc.), and thus, an indirect assessment of a person's attitude is obtained. They also contended that a person's own reference scale and the degree of personal involvement played an important determinant in the categorizing process.

Another early important driving force was the Yale attitude approach (Hovland, Janis, & Kelly, 1953) which developed a model to investigate the effects of persuasive communications. The Yale team posited that the linkage between persuasive messages and attitude change is

cognitively mediated. The model suggests that the cognitive processing of persuasive messages (i.e., stimuli) occurs in four stages: (1) attention, (2) comprehension, (3) acceptance, and (4) retention. The result of the cognitive processing is a change in behavior (e.g., attitude change).

McGuire (1968a, 1968b, 1969, 1972, 1985), a Yale school theorist, proposed a more elaborate explanation of this attitude approach model known as the information processing model. McGuire postulated that in order for a persuasive message to effect a change in behavior (i.e., attitude change), 12 distinct steps had to occur: (1) tuning in, (2) attending, (3) liking, (4) comprehending, (5) generating related cognitions, (6) acquiring relevant skills, (7) agreeing, (8) message storage, (9) message retrieval, (10) deciding, (11) acting, and (12) consolidating.

McGuire (1972) also argued that if a particular step did not occur, all subsequent steps would also not occur, and thus the processing of information would be terminated. It has been pointed out (e.g., Trenholm, 1989) that the fact that the sequence can be stopped is not as important as the implication the theory provides for research. The important steps in the model are attention, comprehension, and deciding, which form the basis of many research procedures. Eagly and Chaiken (1984) explained that in the typical persuasion experiment, attitude change is assessed after the presentation of the message. Therefore, the two steps of

attention and comprehension (i.e., reception) are subject to the effect of independent variables, for example, different levels of issue involvement. Likewise, independent variables can influence attitude change (i.e., deciding).

Although these theories have guided researchers in making important contributions to the understanding of persuasion, cognitive theories have been and continue to be a primary focus of investigators (Eagly & Chaiken, 1984). For example, Greenwald (1968) speculated that a cognitive learning process was involved in attitude change in response to persuasive communications. He devised a "thought listing" procedure as a way of tapping an individual's internal cognitions in order to assess the effect of persuasive messages on attitude change. This process instructed the subject to list all thoughts about a particular message advocacy. These thoughts were then rated, usually as favorable and unfavorable or positive and negative. The thoughts may be rated by independent judges or by the subjects. The "thought listing" procedure has been widely used (e.g., Leippe & Elkin, 1987; Petty, Cacioppo, & Goldman, 1981).

Greenwald (1968) proposed that simply learning a new advocacy in opposition to one's own advocacy was not a sufficient reason to presuppose that the new advocacy replaced the old. Rather, he postulated that an attitude change was dependent upon new supportive cognitive responses

being produced. He stated that the important determinants of the cognitive response content are setting, source, and communication content. The cognitive response paradigm assumes that attitude change is achieved by modifying a recipient's attitude-relevant cognitions. Later researchers (Petty & Cacioppo, 1981; Petty, Ostrom, & Brock, 1981) also embraced the cognitive response model to study the effect of persuasive messages on attitude change in which the focus is on the receiver's mental comparisons between message content and previous knowledge.

In an extension of a cognitive explanation of attitude change, Petty and Cacioppo (1986) proposed the Elaboration Likelihood Model (ELM). This model was developed in response to the question of whether individuals process messages carefully and logically or use simple heuristics. Eagly and Chaiken (1984) contended that when individuals do not process persuasive messages carefully they resort to simple rules. For example, individuals may become persuaded by simply liking the communicator. Petty and Cacioppo (1986) suggest that individuals may carefully process messages or use a rule, thus bypassing any elaboration of the message content. Therefore, they proposed two alternative routes to persuasion, a central route or a peripheral route, respectively.

The ELM assumes that a basic relationship exists between three processes. Namely, if a person pays close attention



to a message advocacy, then more issue-pertinent cognitions are produced, and thus the greater the attitude change. If the message elaboration (i.e., central route processing) does take place, then the attitude change is more permanent. On the other hand, if the message recipient responds to some external cue (e.g., attractiveness of communicator), a peripheral route is taken. Attitude change is then more temporary.

### Review of the Literature

Involvement. For several decades, "involvement" has played an important role for researchers investigating the process of persuasion. One kind of involvement, "issue involvement" (e.g., Leippe & Elkin, 1987; Petty & Cacioppo, 1979), has been used to better understand the process of persuasion. Issue involvement has also been called "ego-involvement" (Johnson & Scileppi, 1969) and "personal involvement" (e.g., Harkness, DeBono, & Borgida, 1985; Howard-Pitney, Borgida, & Omoto, 1986). Issue involvement has been defined as "the extent to which the message topic is seen as personally relevant or significant" (Chaiken & Stangor, 1987, p. 595).

Researchers have used different levels of issue involvement to study the effects on persuasion. Johnson & Scileppi (1969) used a 2 (source credibility) X 2 (plausibility) X 2 (ego-involvement) arrangement to study the effects on attitude change. The investigators placed

subjects in either a high or low ego involvement condition. In the high ego-involvement condition it was stressed that the research being conducted was very important. Subjects were instructed to read all materials very carefully and to consider their answers to the questionnaires thoughtfully. In contrast, subjects in the low-ego-involvement condition were informed that the nature of the study was merely experimental and individual attitudes and opinions were not of any concern. Johnson and Scileepi assigned subjects to one of two "source credibility" conditions and to one of two "communication plausibility" conditions. The two levels of "source credibility" were a medical expert or a convicted medical quack. In the "communication plausibility" conditions, strong and credible as opposed to weak and improbable evidence was presented against the use of chest X-ray.

The four combinations of source credibility and ego involvement were analyzed as to their effect on attitude change. The authors reported that results indicated greater attitude change occurred in the low-ego-involvement-high-source-credibility condition than in the other three combinations. No significant differences were found for the latter three combinations. The authors argued that the results supported the view that high source credibility produces an evaluative "set" which influences the subject's decision to accept a particular advocacy. On the other

hand, subjects tend to reject a particular advocacy when the message is attributed to an individual with low source credibility. It was found that this evaluative "set" occurred more with the low-involvement conditions as measured by attitude change. However, under high-involvement conditions there were no significant differences in attitude change which could be attributed to source credibility. One explanation could be that under low-involvement conditions, subjects do not attend carefully to the message, but rather rely on some other cue, e.g., high source credibility. Therefore, processing of information ceases, and subjects take a shorter route to persuasion.

Harkness et al. (1985) manipulated the level of issue involvement by placing subjects in either a dating or nondating condition. High-involvement subjects were led to believe they would be dating the individual whose file they were to review. Low-involvement subjects in the nondating condition were instructed that they would only be making judgments on a fictitious character's decisions to date or not to date. The investigators found that under the high-involvement condition subjects used more complex cognitive strategies to evaluate the content of the message. Under the low-involvement condition subjects relied on simpler strategies, e.g., source credibility, in making the decision to accept or reject a particular advocacy.

Petty and Cacioppo (1979) contended that increased involvement results in increased cognitive processing. They also proposed that high issue-involvement does not always lead to greater attitude change. Their results showed that increased persuasion occurred for recipients under the high involvement condition when presented with a strong message. However, under the high involvement condition with a weak message, results indicated reduced persuasion. Petty and Cacioppo manipulated message quality by using strong and weak arguments with low and high issue-involvement levels. They found that under both low and high levels of involvement, the strong messages resulted in the generation of more favorable thoughts (i.e., cognitive elaboration). Increased cognitive processing was directly related to increased levels of issue involvement. However, Petty and Cacioppo also conjectured that there might be situations in which individuals are so highly involved that cognitive processing may be limited or will completely cease.

Burnkrant and Howard (1984) used a 2 (rhetorical question vs. statement form) X 2 (strong vs. weak arguments message) X 2 (high vs. low issue involvement) factorial design to investigate the effect of elaboration on information processing. Given the complexity of the design and the importance of this research to the present study, the results will be presented in detail.

Burnkrant and Howard (1984) presented subjects with an editorial about issues related to a proposed recommendation that college seniors be required to take comprehensive exams. Involvement was manipulated by leading the subjects to believe that the proposal was being considered at either a distant university or at their own university. Thus, in the low-involvement condition, subjects were led to believe the proposal was being considered at a distant university, whereas, in the high-involvement condition, subjects were led to believe the proposal was being considered at their own university.

An introduction preceding the recommendation message presented the relevant issues (i.e., arguments) structured in the form of statements or questions. Thus, subjects in the statements condition read statements of the major conclusions that would be presented in the body of the message. Subjects in the rhetorical questions condition read the major conclusions in the form of questions that would be addressed in the body of the message. The arguments presented in the statements or questions conditions were either weak or strong. In the weak arguments condition, subjects read arguments in support of the recommendation that were easily counterargued. Subjects in the strong arguments condition read arguments that were not easily counterargued.

The investigators found that more thoughts were generated by subjects in the rhetorical questions condition as well as in the high involvement condition compared to the statement condition and low involvement condition, respectively. Also, it was found that in the low-involvement condition subjects produced more thoughts under the questions condition than statement condition. In the high-involvement condition the number of thoughts generated was about the same under the question and statements conditions. The results also showed a main effect for argument quality. Subjects produced more thoughts when presented with strong arguments than when presented with weak arguments.

Burnkrant and Howard (1984) divided total thoughts into favorable and unfavorable. Thoughts produced by the subjects were self-rated. The results showed that more favorable thoughts were produced under low involvement than high involvement. In the high-involvement condition, more unfavorable thoughts were generated compared to the low-involvement condition. The strong-arguments message produced more favorable thoughts compared to the weak-arguments message, whereas more unfavorable thoughts were produced under the weak-arguments condition compared to the strong-arguments condition. Lastly, under the rhetorical condition, subjects produced more unfavorable thoughts than under the statements condition.

Burnkrant and Howard (1984) concluded that information processing increases when a counterattitudinal message is preceded by questions rather than statements. It was also found that subjects are more persuaded when exposed to rhetorical questions compared to weak arguments than when presented with statements. When strong arguments are employed, subjects generated more favorable thoughts.

Burkrant and Howard (1984) found that increasing the level of involvement in the presence of a counterattitudinal advocacy can reduce persuasion. Under the high-involvement condition, subjects produced fewer favorable thoughts and more unfavorable thoughts. It was also found, under this same condition, that the subjects had a more negative attitude toward the advocacy. This contrasts with earlier results (Petty & Cacioppo, 1979), which showed that when a strong-arguments, counterattitudinal message is employed, favorable thoughts and persuasion increase as issue involvement increases. Burnkrant and Howard suggested that one explanation for this difference may be that Petty and Caccioppo used taped presentations and thereby reduced the amount of time available to subjects to process information and thus generate counterarguments. In support of this argument, they cited an earlier study by Wright (1974), which showed that printed messages can lead to an increased production of unfavorable thoughts.

Other research (e.g., Petty & Cacioppo, 1979) has shown that as issue involvement increases, the number of favorable thoughts increases, particularly when a strong-arguments message is employed; hence, there is a greater effect on attitude change. Thus, the effect of different levels of involvement and argument quality is characterized as a monotonic relationship. However, Burnkrant and Howard (1984) contend that there may be a level of issue involvement under which subjects find the advocacy so noxious as to preclude the generation of favorable thoughts even when a strong arguments message is employed. Burnkrant and Howard further speculated that another condition, the belief that the advocated position will actually be implemented, would produce extremely high levels of involvement. Extremely high levels of involvement would be less likely to produce increases in persuasion compared to moderately high levels of involvement. Thus, it is important to further delineate the effect of issue involvement as a determinant of attitude change.

Burnkrant and Howard (1984) also discussed an important speculation based on the findings in their study. They speculated that a nonmonotonic relation (i.e., a curvilinear relationship) might exist between issue involvement and attitude change given a strong-arguments counterattitudinal message. At a high level of involvement there may be a downturn in the amount of information processing as measured



by the number of favorable thoughts produced. If subjects are not processing information (i.e., message arguments), then little or no effect on attitude change will occur. Thus, under the medium-involvement condition and the low-involvement condition the production of favorable thoughts will be higher than under the high-involvement condition. It would also be expected that a corresponding effect on attitude change would occur. It should be noted that Burnkrant and Howard used only two levels of involvement in their study, high and low, and at least three plot points are needed to demonstrate a curvilinear relationship. Hence, the data in their study only suggests a curvilinear relationship between issue involvement and persuasion.

Communication Modality. The effect of message medium upon attitude change has also been investigated. Chaiken and Eagly (1976) used audiotaped, videotaped, and printed messages to present persuasive communications to subjects. The investigators also designed an advocacy that was presented in one of two conditions, easy- or difficult-to-understand. In the difficult-to-understand message condition, the vocabulary was more sophisticated and sentences contained three or more clauses. The easy-to-understand message condition used a simpler vocabulary and sentences that had one or two clauses.

Their results indicated greater comprehension of message arguments for the hard-to-understand condition when the material was presented in a written modality in comparison to the videotaped or audiotaped modality. The investigators also found that modality differences disappeared when the message arguments were presented under the easy-to-understand condition. They argued that easy communications are well comprehended regardless of modality, but hard information may create a comprehension deficit in a video or an audiotape condition compared with a written condition. Thus, when subjects are presented with complex and difficult information in the videotaped or audiotaped modality, there was no time to stop and consider the arguments. Subjects are afforded additional processing time when information is presented in a written modality. Having more time to process information should then facilitate improved comprehension and, therefore, facilitate the persuasiveness of the arguments.

In another study, Chaiken and Eagly (1983) investigated the effect of communicator cues on persuasion under three conditions of message modality. The study was designed to present, in one condition, a likable communicator and, in a second condition, an unlikable communicator. The persuasive message was delivered via videotape, audiotape, or print. The investigators found that the likable communicator was more persuasive via the videotape and audiotape

presentations than in the written presentation. In contrast, it was found that the unlikable communicator was more persuasive in the written modality condition than in the audiotape and videotape conditions, as measured by opinion change and communicator-oriented thoughts. An explanation of this difference in persuasiveness as a function of communication modality is that when the nonverbal cues are unavailable, i.e., written modality, subjects are forced to rely on the quality of the arguments; thus, increased information processing will occur. Correspondingly, when communicator cues are available, i.e., via a videotape or an audiotape, subjects may stop information-processing of the quality of the arguments; hence, communicator characteristics are more salient and thus have a greater effect on the persuasion process. The authors concluded that communicator cues become important determinants of persuasion when the modalities of audiotape or videotape are used to present persuasive messages. Alternatively when information is presented via print, communicator cues are unavailable. Thus, differences found in opinion change in the audiotape and videotape conditions were not found in the written condition; hence, both the likeable and unlikeable communicator were equally as persuasive. The important implication based on the results of this study is that subjects will process communicator information rather than message information when an advocacy

is presented in an audiotape or videotape modality. Thus, systematic cognitive processing of the message arguments is preempted in favor of processing external cues (i.e., heuristic processing) such as communicator likability.

Role Playing. Many studies (e.g., Burnkrant & Howard, 1984; Jemmott, Ditto, & Croyle, 1986; Petty & Cacioppo, 1979) have used deception to elicit different levels of issue involvement. An alternative to using deception to manipulate issue involvement is role-playing. Role-playing requires the subjects to take the role of protagonist. Some studies (e.g., Greenbaum & Zembach, 1972; Klingman, 1982; Matefy, 1972) have found that the effect of role-playing results in a change of attitude in the desired direction. On the other hand, some studies (e.g., Ingersoll, 1973; Schuh & Young, 1978) failed to demonstrate that role-playing was effective in changing subjects' attitudes. Ingersoll (1973) suggested that role-playing can increase the likelihood of certain socially desirable responses, however, role-playing doesn't change the subjects' true feelings. Thus, role-playing alone does not provide motivation to change the subjects' attitudes about a certain topic.

Statement of the problem. The purpose of the present study is to investigate the effect of different levels of involvement on persuasion. More data are needed to better understand why information processing decreases or terminates at a high level of involvement (Chaiken &

Stangor, 1987). The number of thoughts generated by subjects has generally been thought to be proportional to levels of involvement (e.g., Petty & Cacioppo, 1979). However, recent evidence (Burnkrant & Howard, 1984) suggests a nonmonotonic relationship, i.e., at higher levels of issue involvement there may be a decreasing number of thoughts.

A second purpose of this study is to investigate the effect of message modality on persuasion. Previous research (e.g., Chaiken & Eagly, 1976, Chaiken & Eagly, 1983) has attributed differences in persuasion to the complexity of material presented, or to communicator likability within different message modalities. There was a significantly greater opinion change for the likable communicator as a function of audiotape modality compared to the unlikable communicator. However, the difference in opinion change disappeared as a function of the printed modality for the likable and unlikable communicator. It is unclear, however, if a message presented in the printed modality will elicit greater cognitive elaboration, and therefore a difference in persuasion, when communicator cues, such as likability or unlikability, are removed; hence, the information is presented by a communicator who is neutral in regards to likability or unlikability. Therefore, if a difference in cognitive elaboration, as measured by the number of thoughts produced, and correspondingly, a difference in attitude, may be a function of communication modality, then the difference

may be attributable to the increased processing time afforded in the printed modality.

The study is designed to investigate how different levels of issue involvement will affect the amount of cognitive processing as measured by the number of thoughts (favorable, unfavorable, and neutral) produced and will effect a difference in attitude. In this present study different levels of personal involvement, (i.e., low, medium, and high), indicate different amounts or intensities on a continuum from lowest to highest. Therefore, medium indicates more involvement than low and high indicates more involvement than medium.

The first prediction is that under the print condition the number of thoughts will be less for the low-involvement condition compared to the medium-involvement condition. Likewise, it is also predicted that the number of thoughts in the print condition will be less for the medium-involvement condition than for the high-involvement condition. Similarly, the number of thoughts in the audiotape condition is predicted to be a direct relationship of increasing number of thoughts for the three increasing levels of involvement (low, medium, and high).

The second prediction is that a direct relationship of increasing levels of involvement in both communication modalities will effect an increasing difference in attitude. It is predicted that at high levels of issue involvement the

production of thoughts of arguments (i.e., negative thoughts) will be higher in both communication modalities.

The third prediction is that in the audiotape condition the number of favorable thoughts will increase, and correspondingly there will be an increasing difference in attitude as a function of increasing levels of involvement. In the print condition, a relationship of favorable thoughts and difference in attitude similar to that predicted for the audiotape condition is expected, but only for the low- and medium involvement levels.

Petty and Cacioppo (1979) have found that at a high level of personal involvement there is a corresponding increase in the number of favorable thoughts, i.e., a monotonic relationship between level of involvement and the number of favorable thoughts. However, as Burnkrant and Howard (1984) have pointed out, other researchers, (e.g., Petty & Cacioppo, 1979; Petty, Cacioppo, & Goldman, 1981; Petty, Cacioppo, & Heesacker, 1981) have presented counterattitudinal messages only with audiotape presentations. Burnkrant and Howard (1984) contended that subjects cannot stop and process information at their rate when messages are presented via audiotape. If subjects do stop to consider an argument, then they will not be able to attend to subsequent arguments presented on audiotape at a constant rate. Therefore, Burnkrant and Howard (1984) speculated that if the same message was presented in printed

form, then subjects could stop and consider the arguments. When subjects process information at their own rate they are more likely to generate counterarguments, (i.e., fewer favorable thoughts and more unfavorable thoughts), in particular, at a high level of personal involvement.

Specifically, at the high-involvement level in the print condition, a decrease (downturn) of favorable thoughts is expected along with a corresponding decrease in the difference in attitude. This effect is expected because of the increased processing time that individuals will have in the print condition; hence, subjects can stop and consider arguments in the print condition, whereas in the audiotape condition subjects are not able to stop and consider arguments. Thus, this downturn in favorable thoughts, i.e., a curvilinear relationship between involvement and the number of favorable thoughts, and a decrease in attitude difference, will be expected under the high-involvement/print condition, but not in the high-involvement/audiotape condition.

#### Method

##### Subjects

Subjects were 120 undergraduate students, 60 men and 60 women, at Oklahoma State University. They participated in exchange for extra credit in undergraduate courses in psychology. The students were assigned to a 3 (high or medium or low involvement) X 2 (print or audiotape) X 2



(gender) between-subjects factorial arrangement. In regard to the first two conditions, students were randomly assigned to one of three levels of involvement and to the print or audiotape condition.

### Independent Variables

Issue Involvement. Three stories were presented with the aim of involving the subject in an assumed relationship with a member of the opposite sex. Different versions of the stories were designed to elicit from the subjects different levels of involvement (i.e., low, medium, and high). Each story referred to the subject as "you", thereby placing him or her in the role of the protagonist of the story (see Appendices A, B, C, D, E, and F).

Each story portrays that a girlfriend or boyfriend who is infected with the AIDS virus (i.e., is HIV positive) shares this information with the protagonist (the subject's role). The story continues with a description of different kinds of incidental and intimate contact that the two individuals have had since being together. The protagonist, thinking about both the incidental and the intimate contact, is described as being concerned that he or she is infected with the AIDS virus. The protagonist then has a consultation with a medical officer. A narrative of that conversation is presented to the subjects.

The narrative was used to present a set of arguments from an authority source (the medical officer) focusing on

how the AIDS virus can or cannot be transmitted. The set of arguments was presented under three main themes: (a) The risk of being infected with the HIV virus through casual contact has been shown to be zero; (b) the HIV virus is not very contagious or infectious and is very fragile; and (c) the accumulated data strongly support the conclusion that transmission of HIV occurs only through blood, sexual activity, and perinatal events.

Each of the three stories was designed to elicit a different level or intensity of involvement. An attempt to involve the subjects was accomplished by asking the subjects, at the beginning of the story, to imagine that he or she was in a relationship with the person described in the story. Therefore, the intended purpose of the hypothetical situation was to elicit involvement of the subjects through role-playing.

In one story the intimate contact had involved unprotected sexual intercourse. This story was intended to elicit a high level of involvement. In the second story sexual intercourse had occurred but a condom had been used. This story was intended to elicit a medium level of involvement. The third story stated that the couple had hugged and kissed but had decided not to be sexually intimate. This story was intended to elicit a low level of involvement.

The content of the stories (see Appendices A, B, C, D, E, and F) was identical except for the material relating to the different levels of involvement. Also, the gender of the nouns was changed, (e.g., "girlfriend" to "boyfriend") in order to present to a male or female subject a gender-appropriate story.

Message Medium. The male and female version of each of the three stories was prepared for presentation in two communication modalities, printed or on audiotape. All six audiotape versions were recorded by a male colleague. This particular male colleague was selected to record the tapes because of his clear voice, good enunciation of words, and lack of any regional accent. He was further instructed to maintain a consistent rate and loudness of speech. No specific information about the nature and purpose of the present study was discussed with the male colleague prior to completion of the tapes. Each recording was timed and found to last about four minutes and forty seconds. To ensure the quality and consistency of speech the recordings were listened to and re-recorded when necessary. The main purpose of editing was to eliminate any voice inflections or stresses of certain words or phrases. This was important because earlier research (e.g., Harkins & Petty, 1981) showed that certain cues (e.g., quality of the speaker's presentation) may cause the individual to stop processing information. When the individual stops processing

information, he or she cannot be expected to evaluate the quality of the arguments. Thus, the individual may take a shorter or peripheral route in deciding to accept or reject a particular advocacy.

#### Dependent Variables

Attitude measures. A pilot study was conducted ( $N = 122$ ) in which seven statements were rated individually by each subject. A 15-point Likert-like scale was used to rate the statements in which a "1" indicated that the subjects "agree completely" and a "15" indicated that the subjects "do not agree at all." The purpose of the pilot study was to select those statements which indicated a neutral-to-negative attitude toward people who are infected with the AIDS virus. The selected statements were used in the present study to measure a difference in attitude between the different conditions.

Four statements with means which indicated a neutral-to-negative attitude were selected for use: (a) "I would be willing to share a room, shower, and toilet with someone with AIDS" ( $M = 11.88$  and  $SD = 2.95$ ); (b) "I would be willing to have an intimate relationship, including protected sex, with someone with HIV virus" ( $M = 14.74$ ) and ( $SD = 0.94$ ); (c) "I would feel uncomfortable around someone with AIDS" ( $M = 7.90$  and  $SD = 4.33$ ); and (d) "I would feel uncomfortable about studying or working with someone who has AIDS" ( $M = 9.27$  and  $SD = 4.54$ ).

### Procedure

Subjects reported to a testing room individually. Subjects were met by a male or female experiment host and seated at a desk. The male and female host conducted the experiment with an equal number of male and female subjects. Each subject first read and signed a consent form which briefly outlined the general purpose and format of the procedure and also included an explanation of his or her rights and an assurance of confidentiality. Subjects read that they would read or listen to material about AIDS and about behaviors and personal values pertaining to human sexuality. Subjects were assured in the consent form that all responses would be completely confidential. Subjects were further informed that they would not be asked any questions that directly pertained to their personal and private life. Subjects were also informed that participation was voluntary and that they were free to withdraw consent and participation at any time and without penalty in regard to the extra credit. All subjects completed testing in the same sequence. Any questions regarding rights and confidentiality were answered by the investigator at this time.

One of the three stories was presented to the subject. The first line of the story instructed the subjects to imagine, (i.e., take the role of protagonist) that they were the boyfriend or girlfriend in the relationship portrayed in

the story. The subject either heard the story on audiotape or read an identical printed version of the story. The subjects were next instructed to rate, using a 15-point Likert-like scale, the four attitude statements about people infected with the AIDS virus that were selected from the pilot study described above.

Following the attitude measure, subjects read instructions to list their thoughts and feelings regarding the story that was read about AIDS. Subjects were given 3 minutes to do this task (Lieppe & Elkin, 1987; Burnkrant & Howard, 1984; Petty & Cacioppo, 1979). Nine rectangular boxes, 2.50 cm by 20.30 cm, and 2.50 cm apart (cf Petty & Cacioppo, 1979) were used and subjects were instructed to list one thought per box.

When the 3 minutes had expired, subjects rated their thoughts by placing to the left of each box either a "+" (positive thought in favor of the material), a "-" (negative thought in opposition of the material), or a "0" (neutral thought). Earlier research has demonstrated that subjects who evaluated their own thoughts did so accurately, with the ratings of independent raters serving as the criterion (Petty, Wells, & Brock, 1976). Following the thought-listing task, subjects completed a recall task. Subjects read instructions which asked them to list, on the lined paper provided, as many statements as they could accurately recall about AIDS. The subjects were informed

that they had as much time as was needed to complete the task.

Following the recall task, subjects were instructed to rate the extent to which the story involved them personally (see Appendix G). A rating of "9" indicated "extreme personal involvement" and a "1" indicated "no personal involvement." The ratings of the scale were used as a manipulation check to ensure that the three levels of involvement manipulated by each of the stories were indeed involving the subjects at the appropriate level.

Subjects next completed a 9-point rating scale (see Appendix H) which asked about the effectiveness of the material for educating about casual contact with people with AIDS. A rating of "9" indicated "extremely effective" and a "1" indicated "not at all effective." Finally, subjects were debriefed and thanked for their participation.

## Results

### Manipulation Checks

Manipulation checks were performed to test the level of personal involvement produced by each of the three stories. A significant main effect for the level of involvement was found,  $F(2, 108) = 17.86, p < .0001$ . Planned comparisons were performed. As predicted, subjects in the high-involvement group reported a significantly higher level of involvement ( $M = 6.83$ ) than did subjects in either the medium-involvement group ( $M = 5.05$ ),  $t(38) = 3.88,$

$p < .05$  on the low-involvement group ( $M = 4.13$ ),  $t(38) = 5.88$ ,  $p < .05$ . Subjects in the medium-involvement group reported a significantly higher level of involvement than did subjects in the low-involvement group,  $t(38) = 2.00$ ,  $p < .05$ . Thus, subjects self-reported more involvement in the medium group than did the low group and subjects in the high group self-reported more involvement than the medium or low groups. Therefore, the involvement manipulation was successful.

A significant gender effect was also found for the level of involvement ratings,  $F(1, 108) = 7.60$ ,  $p < .01$ . The Tukey's test was used to compare means. Females ( $M = 5.85$ ) reported feeling significantly ( $p < .05$ ) more personally involved than did males ( $M = 4.81$ ). For the involvement rating, involvement level was found to interact with gender,  $F(2, 108) = 3.01$ ,  $p < .05$  (see Table 1).

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#### General Analyses of Dependent Variables

Each of four attitude statements was analyzed by a 3 (high-, medium-, low-involvement) X 2 (print vs audiotape) X 2 (gender) factorial ANOVA. The four statements that the subjects rated were (a) "I would be willing to share a room, shower, and toilet with someone with AIDS" (AT1); (b) "I would be willing to have an intimate relationship, including



protected sex, with someone with HIV virus" (AT2); (c) "I would feel uncomfortable around someone with AIDS (AT3); and (d) "I would feel uncomfortable about studying or working with someone who has AIDS" (AT4). AT1 and AT2 were keyed such that a lower rating meant a more positive or favorable attitude. AT3 and AT4 were keyed in the opposite direction; thus, a higher rating indicated a more positive or favorable attitude.

There was a significant main effect for gender found on AT1,  $F(1, 108) = 4.25, p < .05$ . Females ( $M = 6.68$ ) reported a more positive attitude than males ( $M = 8.37$ ). The factorial analyses found no significant main effects for involvement or communication modality. These results indicate that regardless of how personally involved the subjects reported they were, or which communication modality was used, attitudes toward contact with people with AIDS remained the same. Overall, subjects indicated a slightly positive attitude ( $M = 7.53, SD = 4.63$ ) in regard to AT1 and a negative attitude ( $M = 13.53, SD = 2.48$ ) toward AT2. The mean for AT3 ( $M = 9.16, SD = 4.51$ ) was somewhat positive and even more positive ( $M = 11.03, SD = 4.44$ ) for AT4.

Thoughts elicited from the thought-listing procedure were divided into three categories: total thoughts (THT), positive thoughts (THP), and negative thoughts (THN). Assignment of positive and negative thought categories were based on the subjects' self-ratings. Each of these

categories was analyzed by the 3 (high-, medium-, low-involvement) X 2 (print vs audiotape) X 2 (gender) ANOVA. A significant main effect for gender was found for THT  $F(1, 108) = 5.19, p < .05$ . Females ( $M = 5.43$ ) generated more thoughts overall than did males ( $M = 4.65$ ). There were no significant main effects as a function of involvement or as a function of communication modality. On the analysis of THP there was a significant main effect for involvement level,  $F(2, 114) = 4.38, p < .01$ . The subjects in the low-involvement group ( $M = 2.48$ ) generated more positive thoughts than the subjects in the high-involvement group ( $M = 1.43$ ). Subjects in the medium-involvement group ( $M = 1.98$ ) generated more positive thoughts than subjects in the high-involvement group, but generated fewer positive thoughts than the low-involvement group. Thus, the results indicate that the weaker the involvement manipulation the more positive thoughts are produced. No interaction effect was found between level of involvement and communication modality for THP. Further, there was no significant difference found for THN as a function of any of the independent factors. Overall, subjects in the high-involvement group ( $M = 2.98$ ) generated more negative thoughts than the medium-involvement group ( $M = 2.08$ ) and than the low-involvement group ( $M = 2.50$ ).

The same 3 X 2 X 2 ANOVA was performed for the number of statements recalled (RC) regarding information about the

AIDS virus and transmission. A significant main effect difference for gender was found for RC  $F(1, 108) = 6.20$ ,  $p < .01$ .

Females ( $M = 5.70$ ) recalled more statements than males ( $M = 5.13$ ). No significant main effects were found for involvement or for communication modality. Therefore, there were no significant differences in the number of statements subjects were able to accurately recall as a function of level of involvement or mode of communication.

A 3 X 2 X 2 ANOVA was done for the educational effectiveness (EE) ratings. There was a significant main effect for gender for EE  $F(1, 108) = 4.46$ ,  $p < .05$ . Females ( $M = 7.65$ ) rated the story more educationally effective than did males ( $M = 7.13$ ). No significant main effects were found on this measure for involvement or communication modality. In general, subjects rated stories effective ( $M = 7.39$ ,  $SD = 1.37$ ) in communicating information about casual contact with people infected with the AIDS virus.

#### Discussion

Results of the present study failed to support the prediction that at higher levels of personal involvement the processing of information, as measured by the number of thoughts, would be greater. Prior research has produced conflicting results. Early research found that with increasing levels of personal involvement there was a direct increase in information processing (e.g., Petty & Cacioppo,

1979). On the other hand, later researchers have found that at high levels of involvement information processing actually decreased (e.g., Burnkrant & Howard, 1984) or terminated (e.g., Chaiken & Stangor, 1987). Petty and Cacioppo (1979) defined personal (issue) involvement as a construct that accounts for the extent of importance or relevancy an individual places on an issue. They found that the level of personal involvement influences the number of thoughts (i.e., cognitive elaboration) and the valence (positive or negative) of thoughts. The present results indicate that subjects engaged in information processing to the same degree regardless of the level of involvement. One explanation for the present results may be that the personal importance ascribed to the issue of AIDS was of equal concern to all subjects. Therefore, regardless of the level of personal involvement subjects reported, in response to the different story scenarios, the amount of information processing (cognitive elaboration) elicited was consistent across all groups. This view is further supported by the present data for recall of information, which indicated both a consistent and high amount of retention.

The results also did not indicate a curvilinear relationship between involvement and the number of favorable thoughts generated. It was predicted that a downturn of favorable thoughts would occur at the high-involvement level in the print condition, but not in the audiotape condition.

Researchers have conjectured that when involvement becomes extremely high, the amount of information processing will decrease (e.g., Bunnkrant & Howard, 1984). Other researchers have concluded that as involvement increases (e.g., Petty & Cacioppo, 1979) the number of thoughts also increases. The present study failed to support either view.

The results of the present study indicated that processing of information was also unaffected by the communication modality (i.e., print versus audiotape) used to present information. The results indicated no difference in the number of thoughts produced, nor was there a difference in the number of statements recalled. Previous research (Chaiken & Eagly, 1976) has shown that a difference in information processing as a function of communication modality does exist but only when the arguments were presented in a complex and difficult-to-understand format. The difficult-to-understand format presented arguments in sentences of about 30 words in length and containing three or more clauses per sentence. The easy-to-understand format presented arguments in sentences of approximately 20 words in length and containing one or two clauses per sentence. Chaiken and Eagly (1976) found that subjects in the written condition had a greater level of comprehension for the difficult-to-understand message compared to the the subjects in both the audiotape and the videotape conditions for the same difficult-to-understand message. However, the

difference (i.e., amount of comprehension) disappeared across all three communication modalities as a function of a easy-to-understand message. Therefore, Chaiken and Eagly contended that the print condition provided more information-processing time (i.e., the subjects could stop and consider the arguments), required to comprehend the complex and hard-to-understand arguments. Thus, these results suggested that processing time is not affected by communication modality alone. Variables such as argument complexity and difficulty also appear to interact with communication modality in producing a difference in information processing. One reason for the failure to find a modality difference in the number of thoughts produced in the present study may be that the arguments used were simple and concise. The sentences were short, at a maximum of approximately 20 words in length, and rarely contained more than one clause. Therefore, regardless of the communication modality under which the subjects received the arguments, the processing of the information was fairly consistent.

Correspondingly, given the consistent amount of information processing, there was also no difference in attitude as a function of communication modality. The present results indicated no differences on any of the four attitude statements between the two communication modalities, print and audiotape. These differences were expected because of the increased information processing

time the subjects could have in the print condition. The arguments provided information about casual and intimate contact with individuals infected with the AIDS virus. Therefore, based on the data it would appear that all subjects generally have a neutral to negative attitude about intimate contact (i.e., attitude statement 1 and attitude statement 2) towards individuals with AIDS, and have a slight to moderate positive attitude about casual contact (i.e., attitude statement 3 and attitude statement 4). Whether or not these attitudes were present before the study or reflected a change is unclear because no premeasure of attitude was performed. However, it can be supposed, based on the total thoughts generated (i.e., THT) and information retained (i.e., RC) that subjects did engage in information processing that could have affected their attitudes.

Results also show no differences in attitude as a function of level of involvement. Again, this is not surprising. Since levels of information processing didn't vary, attitudes probably shouldn't be expected to, either. One explanation for the finding of no attitude difference may be the general concern held by most people regarding any kind of intimate or casual contact with individuals with AIDS. At the time of this study, there were frequent and widespread news media reports about AIDS and its transmission and stories about individuals dying from AIDS-related infections and diseases. It is also possible

that subjects had prior exposure to AIDS education programs in school or through church groups. Therefore, it may be that the attitudes reported in the present study were a function of prior learning and/or experience regarding AIDS transmission and casual and intimate contact with individuals infected with the AIDS virus. It is noteworthy that subjects in the low-involvement groups (print and audiotape) generated significantly more positive thoughts than subjects in the high-involvement groups even though the attitudes were about the same. One explanation could be that subjects in the low-involvement condition in both communication modality conditions felt the least risk about contracting AIDS; thus, may have been more sympathetic toward the person with AIDS.

The discussion, thus far, has focused on present results which indicate that there were no differences in the processing of information or differences in attitude as a function of level of involvement or communication modality. Consistent with the preceding results there was no interaction of involvement with communication modality on any of the dependent variables. It may be that the topic of AIDS was equally important to subjects in all involvement conditions and comprehended information at a consistent level regardless of communication modality.

One other reason which may account for the present findings is the effect of role-playing. Although this study



did not include in its design to measure the effect of role-playing, it is conjectured that role-playing may have had an effect in the way subjects responded. Ingersoll (1973) suggested that role-playing increases the saliency of the topic on which the role-playing is centered. Ingersoll also suggested that individuals tend to give socially desirable responses in deference to their true feelings. Thus, it may be that in the present study subjects responded to the saliency of the topic and processed information at a consistent quality regardless of level of involvement or communication modality. Likewise, regardless of level of involvement or communication modality, subjects may have tended to self-rate their attitudes on the basis of social desirability. It is also important to note in the present study that the expert (i.e., "the medical officer") portrayed in the stories was carefully not identified as to gender. This was designed to preclude a gender influence on subjects. However, in regard to the stories presented via audiotape, only a male narrator was used and thus, may have produced a differential effect on subjects in those conditions compared to the subjects in the printed conditions. It is unclear what effect the male narrator might have had on the present results because no measure was designed to test for differences between the different conditions.

Several factors could have affected the results reported in this study. First, level of involvement may be considered to exist on a continuum between the two points of low and high involvement. It may be that the complete range of involvement was not reached in the present study. Thus, the level of high-involvement reported by the subjects in both communication modalities may have reflected a ceiling level which could have been short of the extreme level for high-involvement. Second, there may have been a ceiling effect for attitudes about AIDS and contact with individuals infected with the AIDS virus. Since no premeasure of attitudes was available in the present study, it is not known if the finding of no difference in attitude in the Involvement X Communication Modality conditions reflected preconceived attitudes which did not change, or a change of attitude which reached, across all conditions, a ceiling level. Third, it was not known how much accurate information the subjects already possessed, prior to participating in the present study. No premeasure of knowledge about AIDS and AIDS transmission was collected; hence, it may be that the information presented to the subjects was not unique and so no new learning occurred. Perhaps, in a less knowledgeable population, the effect of involvement level and communication modality on information processing and persuasion could produce results consistent

with other research (e.g., Burnkrant & Howard, 1984; Petty & Cacioppo, 1979).

Gender differences were found on several of the dependent measures. In general, females reported a more positive attitude on attitude statement 1, generated more total thoughts, recalled more information, felt more personally involved, and rated the material higher on educational effectiveness. The present study did not design any pretest screening measures to account for gender differences. That gender differences were found may have important implications for future research. Subjects could be divided into groups on the basis of pretest attitude and/or level of anxiety toward an issue such as AIDS. It is possible that high levels of anxiety and/or extreme negative attitudes could result in less information processing and attitude change even at high levels of involvement.

When AIDS was first brought to the attention of the general public, the disease was attributed principally to the male members of the homosexual community. Therefore, the fear of the social stigma associated with AIDS may have evoked feelings of anxiety as well as other emotions. These variables may have had a differential effect in regard to gender. For example, males may have felt more guarded and anxious because of the social stigma attached to homosexuality. As a result, they may have been in a state of denial about their thoughts and attitudes; thus, they

responded differently. Some support for this explanation of anxiety and denial may be seen in a study by Jemmott, Ditto, and Croyle, (1986). A fictitious enzyme disease was created by the researchers to manipulate personal relevance. The manipulation included administering a phony test which required subjects to dip a chemically coated paper in saliva. Unknown to the subjects, a prerinse mouthwash had glucose added to it and the paper was actually sensitive for the presence of glucose and not the fictitious disease. If the paper turned green, then the test was said to be positive for the disease. Jemmott et al. found that subjects who believed they had a high prevalence for an enzyme deficiency disease rated it less serious than did those who believed they had a low prevalence. The subjects in the high-prevalence condition were also informed that the disease was not treatable. The results supported the researchers' view that exacerbating the anxiety about a health threat elicits denial as a reaction to the threat. Thus, in the present study it may be also be possible that males might have felt anxious about the social implications associated with AIDS and sexual orientation; hence, the male subjects denied their thoughts and attitudes.

One finding of the present study that will be of particular importance to healthcare educators and workers regarding AIDS and AIDS transmission is the relatively high rating of educational effectiveness consistent across all

groups. The present study required the reader to pretend or "role play" as a story was read. The reader was asked to imagine himself or herself as a partner in an intimate relationship--this may have evoked a more active role in processing information and thus may have accounted for the relatively high amount of information retained. One objective of healthcare educators is to eliminate unsafe behaviors and elicit new and safe behaviors. The use of "role play" may prove an effective technique to convey information on any number of important health care issues. In regard to AIDS transmission, eliminating unsafe sex practices and other unsafe behaviors (e.g., sharing syringes) and eliciting safe sex practices and other behaviors to prevent transmission of the AIDS virus would appear to be an important goal in any healthcare education program. Though effective information processing is important there is no evidence from the present study that an attitude change occurred regarding AIDS transmission. The present study also did not elicit any information regarding sexual behavior before or after the collection of data. Therefore, it is left for future research to investigate whether the role-playing technique does effect a change in attitude and subsequent change in behavior.

It is possible that other variables, (e.g., communicator cues, complex vs simple arguments), play an important role by interacting with communication modality and level of

involvement to effect differences in attitude and information processing. More research is needed to investigate the types of conditions that interact with communication modality and level of involvement to produce differences in information processing and persuasion.

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Table 1

Mean Ratings of Personal Involvement by Gender and  
Communication Modality

Group	Involvement Condition		
	High	Medium	Low
<b>Males</b>			
Print	6.0	3.9	3.9
Audiotape	6.7	4.0	4.4
<b>Females</b>			
Print	7.5	6.0	4.0
Audiotape	7.1	6.3	4.2

**APPENDIXES**

APPENDIX A

HIGH INVOLVEMENT STORY FOR MALES

Suppose that your girlfriend informs you that about a month ago she tested positive for the HIV virus. The HIV virus has been linked with AIDS.

She tells you that she has suspected for at least a month that something was terribly wrong. She shares with you that before she met you she had been in another relationship. She reveals that her last boyfriend was an intravenous drug user, something she learned about just before deciding to end the relationship.

You care very much about your girlfriend and at first you are very sympathetic and supportative. But you begin thinking that she has known for at least a month that she was HIV positive. You and she have been living together for three months now. You have not only slept with her without using a condom but you have done and shared many things with her. You have used the same toilet, eaten meals prepared together, and even drunk out of the same glass. You also got her blood on you when she cut her finger slicing bread. And even worse, she has probably had the AIDS virus for longer than a month without knowing it. You don't know how long she has had the virus, so there is no way of remembering everything she and you have done together and shared. Is it possible, you think, "Do I have the virus?"

Later, you decide to go to a medical officer to ask some questions and talk to someone who can maybe relieve your worry. You tell the medical person what your girlfriend has

told you and all of the things you have remembered doing and sharing with her.

The medical officer tells you that people who have shared all kinds of things with people who have AIDS have not contracted the virus by those means.

You ask the medical officer about using the same furniture such as beds and the same silverware, plates, and glasses. The medical officer tells you that people who lived with people with AIDS for two years did all those things and never got AIDS.

"Five hundred family members in one study who lived with AIDS patients did not show infection after two years. These people did all of those things with people with AIDS. They shared beds, sinks, baths, toilets, and kitchens. They used the same utensils, plates, glasses, and towels. In fact, they also helped people with AIDS bath and eat."

"What about hugging and kissing?" you ask.

"Those same people also hugged and kissed, on both cheeks and lips, people with AIDS, and still did not become infected," he tells you.

You ask, "What if I drank out of her glass? Could I then get the AIDS virus?"

"The AIDS virus is very fragile and is easily killed by things like alcohol, hand soap, bleach, and detergent. To get even a tiny possibility of getting the virus from saliva or tears or sweat, you would have to inject at least one



quart of saliva, directly into your blood stream. Saliva is not a very good host for the AIDS, or HIV, virus."

The medical officer continues, "The risk of HIV transmission in that study of people in household contact with AIDS patients was zero. All kinds of studies have overwhelmingly shown that AIDS is not transmitted by everyday, nonsexual contact in the home, office, restaurants, or medical facilities. The evidence gathered to date supports earlier beliefs that HIV is neither very infectious nor contagious. It is very difficult to transmit from one person to another and it does not easily survive in the body once it is transmitted. It is strongly supported that transmission occurs only through sexual activity, sharing injection equipment for IV drug use, transfusion of blood or blood products, and in the womb at birth."

Finally, you tell the medical officer that you had unprotected sex with your girlfriend.

The medical officer whose expression is that of concern, says that "although the AIDS virus is found in several body fluids, a person acquires the virus during sexual contact with an infected person's blood or semen and possibly vaginal secretions. The virus then enters a person's blood stream through the rectum, vagina, or penis."

The medical officer informs you that for the male it is more difficult contracting the HIV virus through vaginal intercourse but strongly suggests that you be tested. The

medical officer recommends that you stop having sexual intercourse as that is the best way to avoid infection. However, if you do choose to continue having sexual relations you are strongly advised to use a condom.

**APPENDIX B**

**HIGH INVOLVEMENT STORY FOR FEMALES**

Suppose that your boyfriend informs you that about a month ago he tested positive for the HIV virus. The HIV virus has been linked with AIDS.

He tells you that he has suspected for at least a month that something was terribly wrong. He shares with you that before he met you he had been in another relationship. He reveals that his last girlfriend was an intravenous drug user, something he learned about just before deciding to end the relationship.

You care very much about your boyfriend and at first you are very sympathetic and supportative. But you begin thinking that he has known for at least a month that he was HIV positive. He and you have been living together for three months now. You have not only slept with him without using a condom but you have done and shared many things with him. You have used the same toilet, eaten meals prepared together, and even drunk out of the same glass. You also got his blood on you when he cut his finger slicing bread. And even worse, he has probably had the AIDS virus for longer than a month without knowing it. You don't know how long he has had the virus, so there is no way of remembering everything he and you have done together and shared. Is it possible, you think, "Do I have the virus?"

Later, you decide to go to a medical officer to ask some questions and talk to someone who can maybe relieve your worry. You tell the medical person what your boyfriend has

told you and all of the things you have remembered doing and sharing with him.

The medical officer tells you that people who have shared all kinds of things with people who have AIDS have not contracted the virus by those means.

You ask the medical officer about using the same furniture such as beds and the same silverware, plates, and glasses. The medical officer tells you that people who lived with people with AIDS for two years did all those things and never got AIDS.

"Five hundred family members in one study who lived with AIDS patients did not show infection after two years. These people did all of those things with people with AIDS. They shared beds, sinks, baths, toilets, and kitchens. They used the same utensils, plates, glasses, and towels. In fact, they also helped people with AIDS bath and eat."

"What about hugging and kissing?" you ask.

"Those same people also hugged and kissed, on both cheeks and lips, people with AIDS, and still did not become infected," he tells you.

You ask, "What if I drank out of his glass? Could I then get the AIDS virus?"

"The AIDS virus is very fragile and is easily killed by things like alcohol, hand soap, bleach, and detergent. To get even a tiny possibility of getting the virus from saliva or tears or sweat, you would have to inject at least one

quart of saliva, directly into your blood stream. Saliva is not a very good host for the AIDS, or HIV, virus."

The medical officer continues, "The risk of HIV transmission in that study of people in household contact with AIDS patients was zero. All kinds of studies have overwhelmingly shown that AIDS is not transmitted by everyday, nonsexual contact in the home, office, restaurants, or medical facilities. The evidence gathered to date supports earlier beliefs that HIV is neither very infectious nor contagious. It is very difficult to transmit from one person to another and it does not easily survive in the body once it is transmitted. It is strongly supported that transmission occurs only through sexual activity, sharing injection equipment for IV drug use, transfusion of blood or blood products, and in the womb at birth."

Finally, you tell the medical officer that you had unprotected sex with your boyfriend.

The medical officer, whose expression is that of concern, says that "although the AIDS virus is found in several body fluids, a person acquires the virus during sexual contact with an infected person's blood or semen and possibly vaginal secretions. The virus then enters a person's blood stream through the rectum, vagina, or penis."

The medical officer informs you that for the female it is easier to contract the HIV virus through vaginal intercourse and strongly suggests that you be tested. The

medical officer recommends that you stop having sexual intercourse as that is the best way to avoid infection. However, if you do choose to continue having sexual relations you are strongly advised to use a condom.

APPENDIX C

MEDIUM INVOLVEMENT STORY FOR MALES



Suppose that your girlfriend informs you that about a month ago she tested positive for the HIV virus. The HIV virus has been linked with AIDS.

She tells you that she has suspected for at least a month that something was terribly wrong. She shares with you that before she met you she had been in another relationship. She reveals that her last boyfriend was an intravenous drug user, something she learned about just before deciding to end the relationship.

You care very much about your girlfriend and at first you are very sympathetic and supportative. But you begin thinking that she has known for at least a month that she was HIV positive. You and she have been living together for three months now. You have slept with her and used a condom as a method of birth control. You have also done and shared many things with her. You have used the same toilet, eaten meals prepared together, and even drunk out of the same glass. You also got her blood on you when she cut her finger slicing bread. And even worse, she has probably had the AIDS virus for longer than a month without knowing it. You don't know how long she has had the virus, so there is no way of remembering everything she and you have done together and shared. Is it possible, you think, "Do I have the virus?"

Later, you decide to go to a medical officer to ask some questions and talk to someone who can maybe relieve your

worry. You tell the medical person what your girlfriend has told you and all of the things you have remembered doing and sharing with her.

The medical officer tells you that people who have shared all kinds of things with people who have AIDS have not contracted the virus by those means.

You ask the medical officer about using the same furniture such as beds and the same silverware, plates, and glasses. The medical officer tells you that people who lived with people with AIDS for two years did all those things and never got AIDS.

"Five hundred family members in one study who lived with AIDS patients did not show infection after two years. These people did all of those things with people with AIDS. They shared beds, sinks, baths, toilets, and kitchens. They used the same utensils, plates, glasses, and towels. In fact, they also helped people with AIDS bath and eat."

"What about hugging and kissing?" you ask.

"Those same people also hugged and kissed, on both cheeks and lips, people with AIDS, and still did not become infected," he tells you.

You ask, "What if I drank out of her glass? Could I then get the AIDS virus?"

"The AIDS virus is very fragile and is easily killed by things like alcohol, hand soap, bleach, and detergent. To get even a tiny possibility of getting the virus from saliva

or tears or sweat, you would have to inject at least one quart of saliva, directly into your blood stream. Saliva is not a very good host for the AIDS, or HIV, virus."

The medical officer continues, "The risk of HIV transmission in that study of people in household contact with AIDS patients was zero. All kinds of studies have overwhelmingly shown that AIDS is not transmitted by everyday, nonsexual contact in the home, office, restaurants, or medical facilities. The evidence gathered to date supports earlier beliefs that HIV is neither very infectious nor contagious. It is very difficult to transmit from one person to another and it does not easily survive in the body once it is transmitted. It is strongly supported that transmission occurs only through sexual activity, sharing injection equipment for IV drug use, transfusion of blood or blood products, and in the womb at birth."

Finally, you share with the medical officer that you had sexual intercourse with your girlfriend.

The medical officer, whose expression is that of concern, asks you if you used a condom and you reply that you did.

The officer says "although the AIDS virus is found in several body fluids, a person acquires the virus during sexual contact with an infected person's blood or semen and possibly vaginal secretions. The virus then enters a person's blood stream through the rectum, vagina, or penis."

The medical officer informs you that for the male it is more difficult contracting the HIV virus through vaginal intercourse but strongly suggests that you be tested. The medical officer recommends that you stop having sexual intercourse as that is the best way to avoid infection. However, if you do choose to continue having sexual relations you are strongly advised to continue to use a condom.

APPENDIX D

MEDIUM INVOLVEMENT STORY FOR FEMALES

Suppose that your boyfriend informs you that about a month ago he has tested positive for the HIV virus. The HIV virus has been linked with AIDS.

He tells you that he has suspected for at least a month that something was terribly wrong. He shares with you that before he met you he had been in another relationship. He reveals that his last girlfriend was an intravenous drug user, something he learned about just before deciding to end the relationship.

You care very much about your boyfriend and at first you are very sympathetic and supportative. But you begin thinking that he has known for at least a month that he was HIV positive. He and you have been living together for three months now. You have slept with him and used a condom as a method of birth control. You have also done and shared many things with him. You have used the same toilet, eaten meals prepared together, and even drunk out of the same glass. You also got his blood on you when he cut his finger slicing bread. And even worse, he has probably had the AIDS virus for longer than a month without knowing it. You don't know how long he has had the virus, so there is no way of remembering everything he and you have done together and shared. Is it possible, you think, "Do I have the virus?"

Later, you decide to go to a medical officer to ask some questions and talk to someone who can maybe relieve your worry. You tell the medical person what your boyfriend has

told you and all of the things you have remembered doing and sharing with him.

The medical officer tells you that people who have shared all kinds of things with people who have AIDS have not contracted the virus by those means.

You ask the medical officer about using the same furniture such as beds and the same silverware, plates, and glasses. The medical officer tells you that people who lived with people with AIDS for two years did all those things and never got AIDS.

"Five hundred family members in one study who lived with AIDS patients did not show infection after two years. These people did all of those things with people with AIDS. They shared beds, sinks, baths, toilets, and kitchens. They used the same utensils, plates, glasses, and towels. In fact, they also helped people with AIDS bath and eat."

"What about hugging and kissing?" you ask.

"Those same people also hugged and kissed, on both cheeks and lips, people with AIDS, and still did not become infected," he tells you.

You ask, "What if I drank out of his glass? Could I then get the AIDS virus?"

"The AIDS virus is very fragile and is easily killed by things like alcohol, hand soap, bleach, and detergent. To get even a tiny possibility of getting the virus from saliva or tears or sweat, you would have to inject at least one

quart of saliva, directly into your blood stream. Saliva is not a very good host for the AIDS, or HIV, virus."

The medical officer continues, "The risk of HIV transmission in that study of people in household contact with AIDS patients was zero. All kinds of studies have overwhelmingly shown that AIDS is not transmitted by everyday, nonsexual contact in the home, office, restaurants, or medical facilities. The evidence gathered to date supports earlier beliefs that HIV is neither very infectious nor contagious. It is very difficult to transmit from one person to another and it does not easily survive in the body once it is transmitted. It is strongly supported that transmission occurs only through sexual activity, sharing injection equipment for IV drug use, transfusion of blood or blood products, and in the womb at birth."

You share with the medical officer that you had sexual intercourse with your boyfriend.

The medical officer, whose expression is that of concern, asks you if you used a condom and you reply that you did.

The medical officer says "although the AIDS virus is found in several body fluids, a person acquires the virus during sexual contact with an infected person's blood or semen and possibly vaginal secretions. The virus then enters a person's blood stream through the rectum, vagina, or penis."



The medical officer informs you that for the female it is more easy contracting the HIV virus through vaginal intercourse and strongly suggests that you be tested. The medical officer recommends that you stop having sexual intercourse as that is the best way to avoid infection. However, if you do choose to continue having sexual relations you are strongly advised to continue to use a condom.

APPENDIX E

LOW INVOLVEMENT STORY FOR MALES

Suppose that your girlfriend informs you that about a month ago she has tested positive for the HIV virus. The HIV virus has been linked with AIDS.

She tells you that she has suspected for at least a month that something was terribly wrong. She shares with you that before she met you she had been in another relationship. She reveals that her last boyfriend was an intravenous drug user, something she learned about just before deciding to end the relationship.

You care very much about your girlfriend and at first you are very sympathetic and supportative. But you begin thinking that she has known for at least a month that she was HIV positive. You and she have been living together for three months now. Although you have hugged and kissed you have not been sexually intimate, a choice you both made because you want to wait and be sure that the relationship will last. You have also done and shared many things with her. You have used the same toilet, eaten meals prepared together, and even drunk out of the same glass. You also got her blood on you when she cut her finger slicing bread. And even worse, she has probably had the AIDS virus for longer than a month without knowing it. You don't know how long she has had the virus, so there is no way of remembering everything she and you have done together and shared. Is it possible, you think, "Do I have the virus?"

Later, you decide to go to a medical officer to ask some questions and talk to someone who can maybe relieve your worry. You tell the medical person what your girlfriend has told you and all of the things you have remembered doing and sharing with her.

The medical officer tells you that people who have shared all kinds of things with people who have AIDS have not contracted the virus by those means.

You ask the medical officer about using the same furniture such as beds and the same silverware, plates, and glasses. The medical officer tells you that people who lived with people with AIDS for two years did all those things and never got AIDS.

"Five hundred family members in one study who lived with AIDS patients did not show infection after two years. These people did all of those things with people with AIDS. They shared beds, sinks, baths, toilets, and kitchens. They used the same utensils, plates, glasses, and towels. In fact, they also helped people with AIDS bath and eat."

"What about hugging and kissing?" you ask.

"Those same people also hugged and kissed, on both cheeks and lips, people with AIDS, and still did not become infected," he tells you.

You ask, "What if I drank out of her glass? Could I then get the AIDS virus?"

"The AIDS virus is very fragile and is easily killed by things like alcohol, hand soap, bleach, and detergent. To get even a tiny possibility of getting the virus from saliva or tears or sweat, you would have to inject at least one quart of saliva, directly into your blood stream. Saliva is not a very good host for the AIDS, or HIV, virus."

The medical officer continues, "The risk of HIV transmission in that study of people in household contact with AIDS patients was zero. All kinds of studies have overwhelmingly shown that AIDS is not transmitted by everyday, nonsexual contact in the home, office, restaurants, or medical facilities. The evidence gathered to date supports earlier beliefs that HIV is neither very infectious nor contagious. It is very difficult to transmit from one person to another and it does not easily survive in the body once it is transmitted. It is strongly supported that transmission occurs only through sexual activity, sharing injection equipment for IV drug use, transfusion of blood or blood products, and in the womb at birth."

The medical officer also says that "although the AIDS virus is found in several body fluids, a person acquires the virus during sexual contact with an infected person's blood or semen and possibly vaginal secretions. The virus then enters a person's blood stream through the rectum, vagina, or penis."

The medical officer informs you that for the male it is more difficult contracting the HIV virus through vaginal intercourse. The medical officer recommends that you refrain from having sexual intercourse as that is the best way to avoid infection. However, if you do choose to have sexual relations you are strongly advised to use a condom.

APPENDIX F

LOW INVOLVEMENT STORY FOR FEMALES

Suppose that your boyfriend informs you that about a month ago he has tested positive for the HIV virus. The HIV virus has been linked with AIDS.

He tells you that he has suspected for at least a month that something was terribly wrong. He shares with you that before he met you he had been in another relationship. He reveals that his last girlfriend was an intravenous drug user, something he learned about just before deciding to end the relationship.

You care very much about your boyfriend and at first you are very sympathetic and supportative. But you begin thinking that he has known for at least a month that he was HIV positive. He and you have been living together for three months now. Although you have hugged and kissed you have not been sexually intimate, a choice you both made because you want to wait and be sure that the relationship will last. You have also done and shared many things with him. You have used the same toilet, eaten meals prepared together, and even drunk out of the same glass. You also got his blood on you when he cut his finger slicing bread. And even worse, he has probably had the AIDS virus for longer than a month without knowing it. You don't know how long he has had the virus, so there is no way of remembering everything he and you have done together and shared. Is it possible, you think, "Do I have the virus?"



Later, you decide to go to a medical officer to ask some questions and talk to someone who can maybe relieve your worry. You tell the medical person what your boyfriend has told you and all of the things you have remembered doing and sharing with him.

The medical officer tells you that people who have shared all kinds of things with people who have AIDS have not contracted the virus by those means.

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The medical officer also says that "although the AIDS virus is found in several body fluids, a person acquires the virus during sexual contact with an infected person's blood or semen and possibly vaginal secretions. The virus then enters a person's blood stream through the rectum, vagina, or penis."

The medical officer informs you that for the female it is more easy contracting the HIV virus through vaginal intercourse. The medical officer recommends that you refrain from having sexual intercourse as that is the best way to avoid infection. However, if you do choose to have sexual relations you are strongly advised to use a condom.

APPENDIX G

ATTITUDE RATING SCALES





**APPENDIX H**

**EDUCATIONAL EFFECTIVENESS RATING SCALE**





APPENDIX I

LEVEL OF INVOLVEMENT RATING SCALE



APPENDIX J

THOUGHT LISTING INSTRUCTIONS AND DATA SHEET

In the following boxes, list the thoughts that occurred to you while you were reading about the AIDS virus. We're not interested in what information you can recall about AIDS. We're interested in the feelings and thoughts you had while you read about the AIDS virus. Within the next three minutes, list only those feelings and thoughts you had while reading about the AIDS virus. One thought per box, please.

1.

2.

3.

4.

5.

6.

7.

8.

APPENDIX K

THOUGHT SELF-RATING INSTRUCTIONS

Now that you have listed your thoughts about what you read about the AIDS virus, go back and rate each of your thoughts or feelings by placing either a "+" (positive thought or feeling), a "-" (negative thought or feeling), or a "0" (neutral thought or feeling) on the left side of each box. Do this now.

APPENDIX L

INSTRUCTIONS AND DATA SHEET FOR RECALL TASK

Recall that within the story a number of statements about the AIDS virus were presented. Please write on the following lines all of those statements that you can remember. Now we are interested in what information you can recall about AIDS, not your feelings and thoughts. Try to recall the statements as accurately as you can.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_



VITA

Kenneth M. Dendato

Candidate for the Degree of  
Doctor of Philosophy

Thesis: ATTITUDES AS A FUNCTION OF INVOLVEMENT AND THE USE  
OF AUDIOTAPE VERSUS PRINTED MESSAGES REGARDING AIDS  
INFORMATION

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