

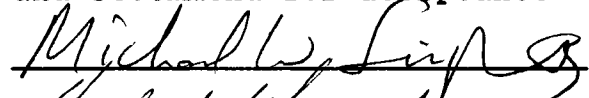
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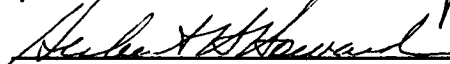
I am submitting herewith a dissertation written by Deborah M. Treise entitled "The Effects of Fear Level and Repetition of Radio Public Service Advertising Promoting Condom Use Among College Students." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Communications.



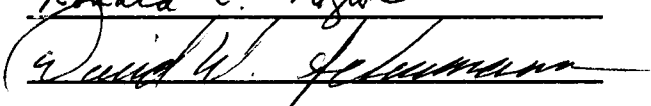
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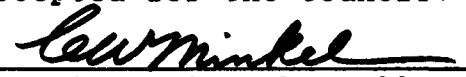




Ronald E. Taylor



Accepted for the Council:



Associate Vice Chancellor
and Dean of the Graduate School

THE EFFECTS OF FEAR LEVEL AND REPETITION
OF RADIO PUBLIC SERVICE ADVERTISING
PROMOTING CONDOM USE AMONG COLLEGE STUDENTS

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Deborah M. Treise

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To my sons Chris and Michael who gave me purpose, unending support, patience and love.

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ABSTRACT

With the numbers of diagnosed cases of AIDS and HIV (human immunodeficiency virus-type 1) increasing each year, public health officials have relied partially on public service announcements (PSAs) to create an awareness of the dangers of unprotected sex. Many of these PSAs have employed fear appeals to attempt a behavioral change.

This study examined the relationship among fear level and repetition of radio PSAs and beliefs about condom use within the framework of the Theory of Reasoned Action. Specifically, the present experiment attempted to ascertain at what level of repetition the low and high fear-inducing messages would reach maximum effectiveness and cease to affect a change in the specific dependent variables set forth in the Theory of Reasoned Action.

Data were collected from 217 student subjects divided into eight repetition/fear level conditions using two professionally produced 30-second radio commercials (high fear/low fear). The commercials were embedded in normal radio programming and were distributed over two different sessions, one week apart. Data was analyzed using analysis of variance procedures to determine differences between groups.

Findings indicate that the Theory of Reasoned Action is a successful framework within which to study this behavior. The theory postulates that attitudes and subjective norm

jointly influence behavioral intention with one or the other branch of the model dominating. This research suggests that the subjective norm portion of the model is a much stronger influence or predictor of behavioral intention.

Findings regarding the appropriate combination of fear level and repetition were mixed. It appears, however, that for some of the dependent variables tested, lower fear levels at higher levels of repetition would be most effective.

The results have important implications for public health message producers and advertising planners. Messages may need to be repeated more often and may need to use lower levels of fear while employing elements of the subjective norm portion of the Theory of Reasoned Action.

TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION.....	1
II. REVIEW OF THE LITERATURE.....	5
Condom Use.....	5
College-Age Target Market.....	6
Theory of Reasoned Action.....	7
Fear Appeals.....	11
Repetition.....	30
X Attitude Toward the Advertisement.....	40
Radio Public Service Announcements.....	40
Summary.....	41
Expected Relationships.....	42
III. DESIGN AND METHODOLOGY.....	46
Elicitation Study.....	47
Fishbein and Ajzen Variables.....	48
Dependent Variables.....	50
Independent Variables.....	53
Covariates.....	54
The Experiment.....	55
IV. ANALYSIS AND RESULTS.....	62
Test of the Theory of Reasoned Action.....	63
Manipulation Check.....	66

Dependent Variables.....	75
Covariate Analysis.....	75
Contrasts.....	90
V. DISCUSSION AND IMPLICATIONS.....	102
Theory of Reasoned Action.....	103
Fear.....	104
Repetition.....	107
X Attitude Toward the Ad.....	109
Limitations.....	110
Future Research.....	113
BIBLIOGRAPHY.....	115
APPENDICES.....	131
APPENDIX A. QUESTIONNAIRES.....	132
APPENDIX B. STIMULUS MATERIALS.....	148
VITA.....	151

LIST OF FIGURES

FIGURE	PAGE
1. Theory of Reasoned Action.....	8
2. Theory of Reasoned Action with External Variables.....	12
3. Protection Motivation Model.....	24
4. Two-Factor Theory.....	33
5. Expected Relationships.....	45
6. Commercial Scheduling.....	57
7. Planned and Actual Subject Assignment.....	59
8. Summary of Significant Results.....	64
9. Two-By-Four Anovas for All Dependent Variables.....	67
10. How Fearful Condom Ad.....	70
11. Variable Means.....	71
12. Contrasts.....	74
13. Two-By-Four Ancovas for All Dependent Variables.....	78
14. Covariate Analysis.....	80
15. Covariate Means.....	82
16. Parents Would Want Condom Use.....	92
17. Partner Would Want Condom Use.....	93
18. Friends Would Want Condom Use.....	95
19. Clergy Would Want Condom Use.....	97

20.	Want To Do What Partner Wants.....	98
21.	Attitude Toward the Ad.....	99
22.	Using Condoms is Inconvenient.....	101

CHAPTER I

INTRODUCTION

Since the beginning of the scientific study of mass communication, researchers have attempted to uncover the magic keys to persuasion, particularly through advertising. Scores of researchers have struggled to ascertain the effects of advertising on product use and purchase.

Traditionally, researchers have looked at combinations of source, message, receiver and media/context variables to determine advertising's effect on persuasion. With the majority of research funding being allocated to product advertising, not as much is known about these variables with regard to public service announcements (PSAs).

Despite this lack of research and generalizable results, the public is being bombarded with PSAs ranging from dental care to drugs, drinking and AIDS. Their purpose is one of creating awareness of, heightening public sensitivity to or inducing a behavioral change regarding the issue at hand. Additionally, the vast majority of this advertising employs fear appeals to varying degrees; however, fear appeals is another area in which researchers have been unable to generate many usable findings. Yet the public is exposed to these messages continuously with researchers, advertisers and media

planners having little knowledge regarding the appropriate level of fear or the optimal numbers of exposure repetitions to affect this behavior change.

This study then, looks at the combined effects of fear level and repetition on college students intentions to use condoms. In the past, condoms have been used as a protection against pregnancy and sexually transmitted diseases (STDs). More recently, condoms have been found to be the only effective barrier to the sexual transmission of HIV (human immunodeficiency virus-type 1)(Kaemingk and Bootzin, 1990).

Since HIV is being transmitted at increasingly alarming rates, the need to find mass communication message factors which may serve to increase condom use has intensified. Therefore research into this area is extremely relevant and represents the first strength of this study. Until the onset of AIDS, condom advertising has not been an issue since these ads had been relegated to some special interest magazines. With the major television networks now gearing up to accept condom advertising, the issue of appeal and repetition of these ads becomes more important.

Additionally, as has been mentioned, fear is a poorly understood concept with regards to advertising, yet is widely used in PSAs. This study then, represents an attempt to better understand fear appeals' effect on behavioral intention in the context of public service announcements.

Thirdly, since PSAs are placed free to the sponsoring

service, ad placement is not under their control. Consequently, the optimal number of repetitions is not generally a concern. Advertisers in this case take what they can get. It is not known, when these ads wear out and become an annoyance to the viewing and listening public and thereby cease to affect any kind of behavioral change. As a case in point, many will recall the "this is your brain...this is your brain on drugs" commercial with a shudder since it appeared to wear out long before it left the airwaves. Research on the repetition effects of public service announcements represents another valuable facet to the present study.

Next, this research employs the widely used and well-accepted Theory of Reasoned Action (Fishbein and Ajzen, 1975) as a theoretical framework through which to view the intended behavior. Briefly, Fishbein and Azjen's model postulates that people's intentions often predict their behavior. These intentions are determined by a person's own attitude toward performing a particular behavior coupled with the normative effect of important others' expectations.

A final strength of this study is the medium that will be employed to communicate the message: radio. While radio has been a mainstay for most young adults, its use in research has been largely ignored.

In sum, the issue of condom use, fear appeals and repetition in public service announcements, the use of radio and the theoretical approach taken are especially critical

areas to investigate. This research may lead to a greater understanding of the variables necessary to increase message acceptance and subsequent behavior change.

CHAPTER II

REVIEW OF THE LITERATURE

Condom Use

Condoms traditionally have been used as a contraceptive device. More recently, condoms have also been shown to significantly reduce the sexual transmission of HIV and many other STDs (Kaemingk and Bootzin, 1990). However, little is known about the factors that influence people to adopt this "safe sex" practice. In a 1990 study of HIV prevention, Salt, Boyle and Ives suggested that although people are more knowledgeable about HIV, a corresponding change in sexual practices or an increase in condom use has not occurred.

For example, Biemiller (1991) cited a recent study in which almost two-thirds of the sample of sexually active students on two university campuses said they never or only occasionally used condoms. Eighty-seven percent, however, believed that condoms prevented the spread of HIV.

Several reasons have been put forth to explain this lack of condom use. These include the beliefs that one's partner may be offended, that sex will be less spontaneous and less pleasurable and that condoms are unreliable and embarrassing to use (Siegel and Gibson, 1988). Additionally, Grieco (1987) cited the embarrassment in purchasing condoms and a general lack of knowledge about the type, brand and quality of

condoms.

Finally, another influence on condom use may be perceived susceptibility. In a 1988 study, Keeter and Bradford found that concern about AIDS was the factor most strongly associated with changes in sexual behavior. Moreover, knowing someone with AIDS may increase feelings of susceptibility. McKusick and his colleagues (1985) found that in a cohort of homosexual men, a decrease in sexual activity was related to recall of an AIDS victim in advanced stages of the disease.

Perceived susceptibility may not insure behavior change however. For example, Weinstein (1982) found that people underestimate their susceptibility to HIV. Elkind (1980) found that young adults possess a sense of invulnerability and uniqueness. Franzini, Sideman, Dexter and Elder (1990) concluded that "young heterosexual adults are at increased risk for HIV infection, but do not yet recognize their susceptibility, do not perceive the seriousness of the AIDS threat, or are not sufficiently motivated to adopt behavioral modifications" (p. 314). Increasing condom use therefore represents a clear challenge for educators and mass communication campaign efforts.

College-age Target Market

Since the mid-sixties, researchers have been reporting increases in the prevalence of premarital relations, numbers of sexual partners and declines in the average ages of the

onset of sexual activities (Clayton and Bokemeier, 1980; DeLamater and MacCorquodale, 1979; Earle and Perricone, 1986). One study reported that 67 percent of high school students and 84 percent of college students have sex (Adweek, 1992).

Baldwin and Baldwin (1988) concluded that college students "represent a population who for the most part are sexually active...thus represent a population that could become infected with HIV" (p. 183). Indeed, it is estimated that 50 percent of those who have AIDS are between the ages of 20-35 (Centers for Disease Control, 1989). By the end of 1992, it is projected that 365,000 cases of AIDS will be diagnosed (CDC, 1989) nationwide. Most recently, in 1989, the American College of Health Association estimated that as many as 25,000 college students were already infected. How then can young adults be influenced to change their health and contraceptive behaviors?

Theory of Reasoned Action

The Theory of Reasoned Action provides a useful framework to study the behavior of condom use by young adults (Figure 1). According to Fishbein and Ajzen (1975), intentions are the best predictors of a person's behavior; these intentions are determined jointly by personal influences and social influences.

The personal side, or so-called attitude toward the

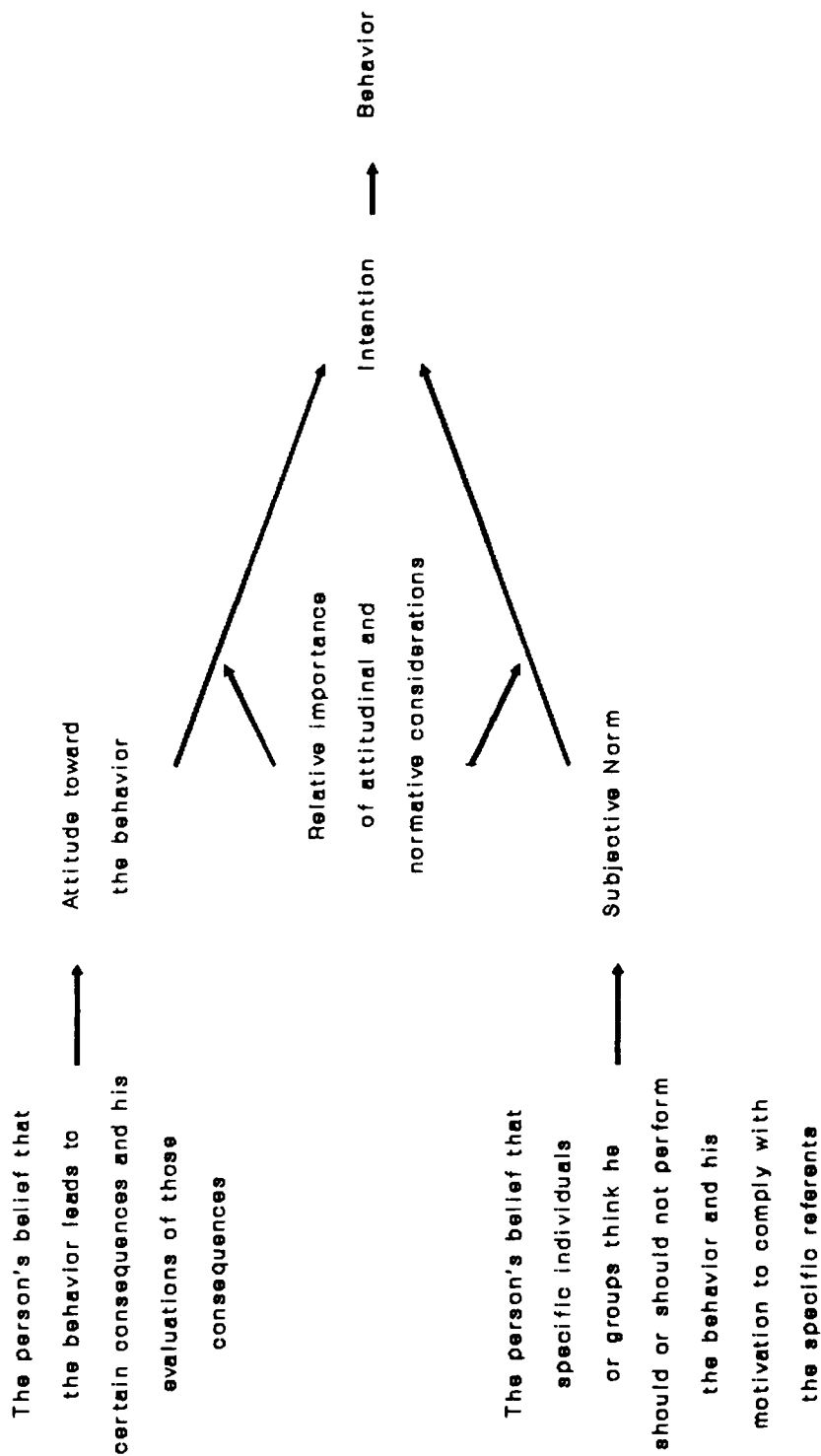


Figure 1. Theory of Reasoned Action

Source: Fishbein, M. & Ajzen, I. (1975). Belief, Attitude, Intention and Behavior. Reading, MA: Addison-Wesley.

behavior, is determined by the person's positive or negative evaluations of the consequences of performing a behavior. If a person believes that performing the behavior will lead to positive consequences, then he will have a positive attitude toward performing the behavior and vice versa. These beliefs that form a person's attitude toward the behavior are called behavioral beliefs.

Secondly, intentions are also determined by the individual's subjective norm about the behavior. In other words, by the individual's beliefs that his reference group(s) think(s) he should perform the behavior and his motivation to comply with these significant others. The beliefs that form a person's subjective norm are called normative beliefs. If a person perceives that his reference groups think he should perform the behavior, he will feel pressure to do so (and vice versa).

According to the theory, the relative importance assigned to these two factors, behavioral and normative beliefs, depends on the behavioral intention in question. One or the other (or sometimes both) may predominate. However, overall attitudes are based on the total set of a person's salient beliefs; on both the beliefs and evaluations about positive and negative consequences of performing the behavior.

Termed the expectancy-value portion of the Fishbein and Ajzen model, this element posits that attitude toward behavior (A_b) can be predicted by multiplying a person's evaluation of

each relevant consequence (E_i), by the strength of that person's belief that performing the behavior will lead to that consequence (B_i) and then summing the products for the total set of beliefs (n) (Ajzen and Fishbein, 1980, p. 67). The above discussion is represented by the following formula:

$$A_b = \sum_{i=1}^n B_i E_i$$

According to the theory, the subjective norm portion of the model can be determined with the same calculations multiplying a person's motivation to comply with specific others by the strength of the person's belief about what those others think he should or should not do.

Fishbein and Ajzen suggest that behaviors are comprised of and so must be defined and measured by: 1) the action, 2) the target at which the action is directed, 3) the context in which it occurs and 4) the time at which it is performed. Measures of behavioral intention therefore, must contain all four of these elements.

The Fishbein and Ajzen model has been used quite extensively and successfully in the consumer behavior field and appears to hold up within the boundaries they prescribe. Sheppard, Hartwick and Warshaw's (1988) meta analysis of the applications of the theory suggests that the model has been extended past its original constraints by many studies. The current work, however, meets the model's intended parameters and answers Sheppard's criticisms: 1) that the target

behavior must be within the subject's volitional control, 2) the situation must involve the attitudes, subjective norms and intentions toward a single behavior (condom use) and, 3) that intentions to perform the behavior are measured (do you intend to use condoms?) and not the individual's subjective estimates of his intentions (how likely are you to use condoms?).

The previous discussion forms the core of variables that are critical for predicting and understanding behavior according to the Fishbein and Ajzen model. Certain external variables may also influence the belief that a behavior will lead to certain positive or negative consequences. Those same external variables will affect beliefs about salient referents. In the present study, the effects of the level of fear present in a condom commercial plus the number of times the commercial is repeated will be analyzed to assess attitudes toward condom use (Figure 2).

Fear Appeals

A considerable body of literature regarding fear appeals has been generated since the early 1950s. Fear appeals have been examined in relation to such diverse topics as smoking (Insko, Arkoff and Insko, 1965; Leventhal and Watts, 1966; Sutton and Eiser, 1984), dental hygiene (Janis and Feshbach, 1953; Haefner, 1965), safe driving and driver education (McGuire, 1969; Griffeth and Rogers, 1976), tetanus

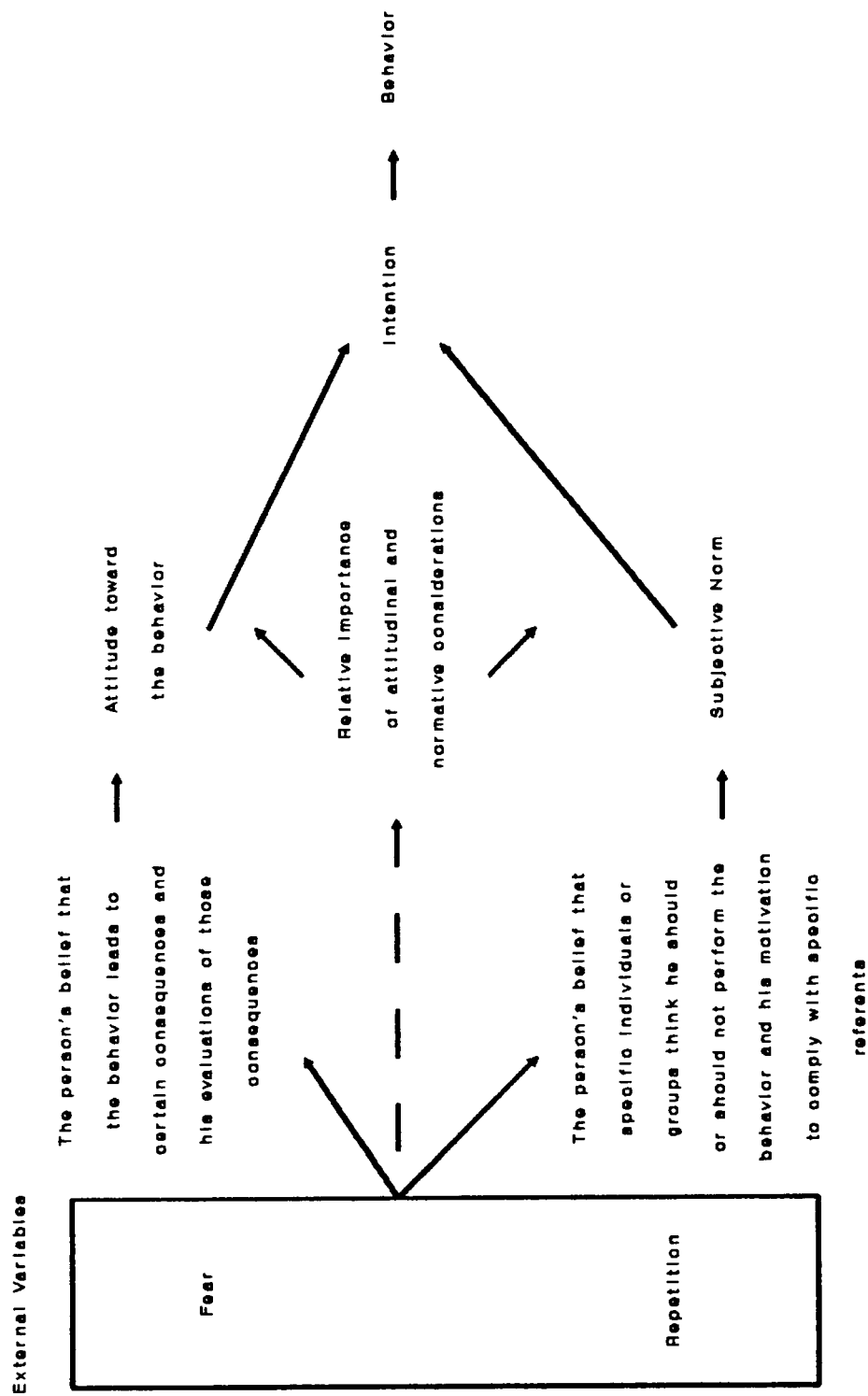


Figure 2. Theory of Reasoned Action with External Variables

(Leventhal & Singer, 1965), the energy crisis (Haas, Bagley and Rogers, 1975), fallout shelters (Hewgill and Miller, 1965), alcohol abuse and drug abuse (Fritzen and Mazer, 1975; King and Reid, 1990; Treise and Schumann, 1992), and most recently AIDS (LaTour and Pitts, 1989; Stout, 1989; Bush and Boller, 1991).

Although definitions of "fear appeal" abound, generally the concept suggests messages containing some sort of threat which affect persuasion by arousing anxiety, thereby increasing interest in and attention to messages being discussed (Janis & Feshbach, 1953; Chu, 1966; Higbee, 1969; Hastings & Scott, 1987; Hill, 1988). Fear arousing messages that contain a counterbalancing recommendation for behavior are thought to reduce this anxiety.

For the most part, messages have either associated an unhealthy, undesirable or dangerous practice to a negative consequence (physical or psychological threat), or have tied a desirable or healthy practice to avoidance of negative consequences (Chu, 1966; Higbee, 1969). The anxiety produced by these messages has tended either to induce receivers to take action or to become defensive and discontinue exposure, rationalize and dismiss the message or psychologically misperceive the message (Hastings & Scott, 1987).

Why then are some people responsive to threat appeals, accepting the advice on how to avoid threat while others are completely unaffected or immobilized by their exposure? What

variables come into play?

Variables Considered-Independent

Many variables are thought to mediate the effects of of a fear appeal message. Generally they can be divided into source, message, and receiver variables.

1. Source

Of the three categories of variables, source, message and receiver, the source element seems to have received the least amount of attention with regard to fear appeals. Several studies have found a positive relationship between high source credibility and the persuasive effects of strong fear messages (Hewgill & Miller, 1965; Powell and Miller, 1967). On the other hand, when source credibility is low, little influence was exhibited regardless of the level of fear in the message.

Additional studies manipulating race found conflicting results in terms of communicator effectiveness (Ramirez & Lasater, 1977; Dembroski, Laster & Ramirez, 1978). These studies indicated that greater similarity between source and receiver produced more short-term behavior change. Most studies manipulating source credibility however, seem to indicate that highly credible sources may affect attitude change yet show little affect on behavior.

2. Message

The effects of fear appeals are generally tested by manipulating the level of fear contained within a message. Higher levels of fear are usually conveyed using emotional images with graphic descriptions of consequences. Messages containing lower fear appeals are somewhat unemotional, bland and less threatening in their consequences (Sternthal & Craig, 1974).

Most early hypotheses contending that low to moderate threat was more persuasive than higher levels of threat, were based on the Janis and Feshbach (1953) and Haefner (1956) research. Yet many studies in the sixties and seventies found opposite effects or no relationship (Berkowitz and Cottingham, 1960; Haefner, 1965; Hewgill & Miller, 1965; Insko, Arkoff & Insko, 1965; Chu, 1966; Dabbs & Leventhal, 1966; Kraus, El-Assal & Rogers, 1966). With the emergence of more frightening health issues in the eighties, AIDS for example, research is again suggesting that moderate levels of fear may be most effective in creating positive attitudes (Hill, 1988).

Fear type (i.e. physical versus psychological/social disapproval) is a second component of the message variable to be studied. According to the protection motivation paradigm (see next section on models), "People are motivated to protect themselves from danger, whether the danger is physical, psychological or social" (Robberson, 1988, p. 279).

Although the majority of research has dealt with physical

threat, two studies have found that appeals to self esteem (social) can also be an effective persuasive approach (Robberson & Rogers, 1988).

The recommendation to avoid threat in the fear arousing message is of critical importance. Recommendations that are perceived to be effective in controlling threat or danger may be accepted as fear levels increase (Janis & Feshbach, 1953) or rejected if receivers are afraid of the recommendation itself (Leventhal & Watts, 1966). Recommendation effectiveness may also depend on specificity (Leventhal & Singer, 1966) and ease of carrying out the recommended action (Leventhal & Niles, 1964).

Recommendations within a fear appeal message must have well-defined paths for avoiding punishment (Katz, 1960). Yet studies amassed conflicting results (Moltz & Thistlewaite, 1955; Dabbs & Leventhal, 1966). Although efficacy of recommendation served to reduce anxiety, it did not produce greater conformity to the suggested recommendation.

The fear drive model (see models section) seems to suggest that the position of the recommendation should be critical to message effectiveness, yet this relationship has not been examined in depth. Leventhal and Singer (1966) found no significant interactions when placing the recommendation before, after or within the fear arousing information.

3. Receiver

A vast number of studies have looked at fear appeal messages in terms of receiver variables. Specifically, they have investigated personality variables and/or message variables as they related to the receiver. Personality variables include coping style, self esteem, sensation seeking, anxiety levels and defensiveness. Message/receiver variables studied are: relevance of and interest in the topic, perceived susceptibility and vulnerability to the message.

The means by which receivers deal with fear producing messages is defined as coping style (Higbee, 1969). "Copers" were thought to deal with higher levels of fear arousal better than "avoiders." However, Goldstein (1959) found that copers were equally persuaded by strong and mild threats while avoiders accepted recommendations more often when threat was low.

Closely related to coping style is self esteem. The majority of these studies report that receivers high in self esteem are more persuaded by strong threat than low self esteem subjects (Dabbs & Leventhal, 1966; Kornzweig, 1967; Leventhal & Trembly, 1968).

A related study (Rosen, Terry & Leventhal, 1982), examined the relationship between self esteem, competency and coping with intentions to quit smoking. The researchers concluded that low self-esteem receivers, without positive feedback, did not reduce smoking. Those subjects receiving

positive feedback about their ability to quit smoking increased their perceived competency. Therefore, low self-esteem subjects were hypothesized to be excessively concerned with fear and to possess inadequate perceived competency to alter behavior.

Treise and Schumann (1992) investigated the effects of sensation seeking on perceptions of fear and arousal after viewing fear appeal advertising messages. High sensation seekers reported less fear and arousal than low sensation seeking individuals from such ads.

Janis and Feshbach (1954) found that subjects with higher levels of anxiety were less persuaded by strong fear appeals than subjects with lower anxiety levels. Subsequent studies have not found the same results however (Goldstein, 1959; Singer, 1965).

A receiver's past experience with the threat in question is defined as the subject's perceived vulnerability (Sternthal, 1974). Niles (1964) found that for those subjects who perceive themselves as vulnerable, threat level was not significant. For those who do not feel vulnerable, high threat levels were more effective.

Leventhal and Watts (1966) and Watts (1966) concluded that "the higher feelings of vulnerability actually tended to reduce the desire to take action as the fear level of the message increased" (Higbee, 1969, p. 429). Several subsequent studies replicated these findings (Berkowitz & Cottingham,

1960; Leventhal et al, 1965; Leventhal, Ely & Watts, 1966).

Studies on relevance of the message to the receiver found similar results as vulnerability. As relevance increases, optimal levels of fear decrease (Berkowitz & Cottingham, 1960; Insko, Arkoff & Insko, 1965; Leventhal & Watts, 1966).

It appears that self esteem, coping style, perceived vulnerability and relevance may interact with message fear level. While anxiety levels showed no significant interaction.

Variables Considered-Dependent

Taken as a whole, the studies discussed attempted to ascertain the effects of fear arousing messages on persuasion. Persuasion has been variously operationalized in fear arousing message research as an effect on attitude, intention to behave and behavior.

A meta-analysis conducted by Boster and Mongeau (1984) contends that effects on behavior are "difficult to interpret" (p. 362) since only small numbers of studies have used behavior as a dependent variable. Yet Sternthal and Craig (1974) asserts that "greater behavioral compliance with fear appeals may be achieved by including specific recommendations which the audience perceives to be effective in reducing physical threat" (p. 30). Conversely, fear appeal messages seem to have their strongest effect on attitude change (Sternthal & Craig, 1974; Boster & Mongeau, 1984).

Models

The models discussed briefly below were chosen from a number of others because: 1) they form the vast majority of frameworks around which fear appeals research has been done and, 2) they have been adapted for a variety of research topics ranging from health to political issues due to their general nature. The following section explains and evaluates the tenets contained within each model.

1. Fear Drive Model

One of the most predominant and controversial approaches to fear appeal research uses the fear drive model. Basically, the model postulates that if a persuasive communication arouses fear, it will also motivate a coping response in the receiver in an attempt to alleviate the tension.

If the communication presents a viable means to alleviate the threat, the receiver will mentally alter his attitude, rehearse the recommendation and thereby reduce his tension. However, when the fear becomes too intense, receivers may deal with arousal in other ways. For example, the receiver may take action by choosing to avoid the message altogether, by discrediting the spokesperson, or by "defensively avoiding" (Beck & Frankel, 1981, p. 206) the threat message to reduce fear.

2. Nonmonotonic Model

Contained within the fear drive model is the premise that fear and acceptance are nonmonotonic. In other words, increasingly higher levels of fear will produce acceptance -- to a point. Subsequent increases in arousal will then produce defensive avoidance.

The Janis family-of-curves model (Janis & Leventhal cited in Boster & Mongeau, 1984) explains the premise by postulating multiple effects of fear arousal. On one hand, increases in fear may have facilitating effects if fear induces receivers to seek avenues to avoid the threat. If, on the other hand, fear produces avoidance, inhibiting effects occur. The resulting interplay of facilitating and inhibiting effects produces an inverted-U. Each end represents extremely high and low fear while the optimal level at the top is produced by moderate levels of arousal.

According to Janis' model, this optimal level of fear to effect attitudes or behavior depends on many "content, situational and dispositional factors" (Janis & Leventhal, 1968 cited in Boster & Mongeau, 1984, p. 334) which produce the family-of-curves model. By virtue of the distinction between the facilitating and inhibiting effects curves, the model claims to account for these different variables and their mediating effects on fear producing messages and receivers.

3. Parallel Response Model

The parallel response model as presented by Leventhal (1970; Leventhal, 1971) suggests that fear interacts with other variables to affect attitudes and adaptive behaviors. The paradigm assumes that two independent "parallel" processes act simultaneously in response to fear -- danger control and fear control --aiding the receiver in coping with threat.

When a fearful message is presented, the receiver scans the environment for alternatives or for information to help avoid or deal with the threat. This focus on the danger presented in the message is known as the danger control process of the parallel response model. This arm of the model postulates that information gained from the message regarding effective action to be taken will influence subsequent behavior.

The second element, fear control, is "an emotional coping process in which the listener strives to reduce the fear generated by the persuasive message" (Boster & Mongeau, 1984, p. 335). In other words, the receiver's energies are directed toward emotional responses, attempting to avoid contact with the fear producing stimuli. This response usually manifests itself in a fear denial behavior and as such may serve to come between acceptance and recommended actions.

Although originally conceived as independent reactions, fear control and danger control may interact at different stages of the process. For example, if high levels of emotion

(fear control) induce the receiver to believe he cannot control the danger, nonadaptive fear control results.

The parallel response model, then, addresses not only the effects of recommendations but also incorporates the inverted-U relationships as well. "It is predicted that incremental increases in emotional material ultimately lead to disruption of danger control resulting in a nonmonotonic relationship between fear and persuasion" (Boster & Mongeau, 1984, p. 336).

The parallel response model therefore, incorporates the curvilinear model and extends the fear drive model by adding the emotional and adaptive responses to threat producing messages.

4. Protection Motivation Model

The "theory" of protection motivation represents a more systematic view of the fear communication process. It sets forth three essential variables in a fear appeal message: "(1) the magnitude of noxiousness of a depicted event, (2) the conditional probability that the event will occur provided that no adaptive activity is performed and, (3) the effectiveness of a coping response that might avert the noxious event" (Rogers, 1975, p. 97).

When presented with a fear-inducing message, protection motivation is aroused by these three processes which mediate the effects of fear appeals on attitudes (Figure 3).

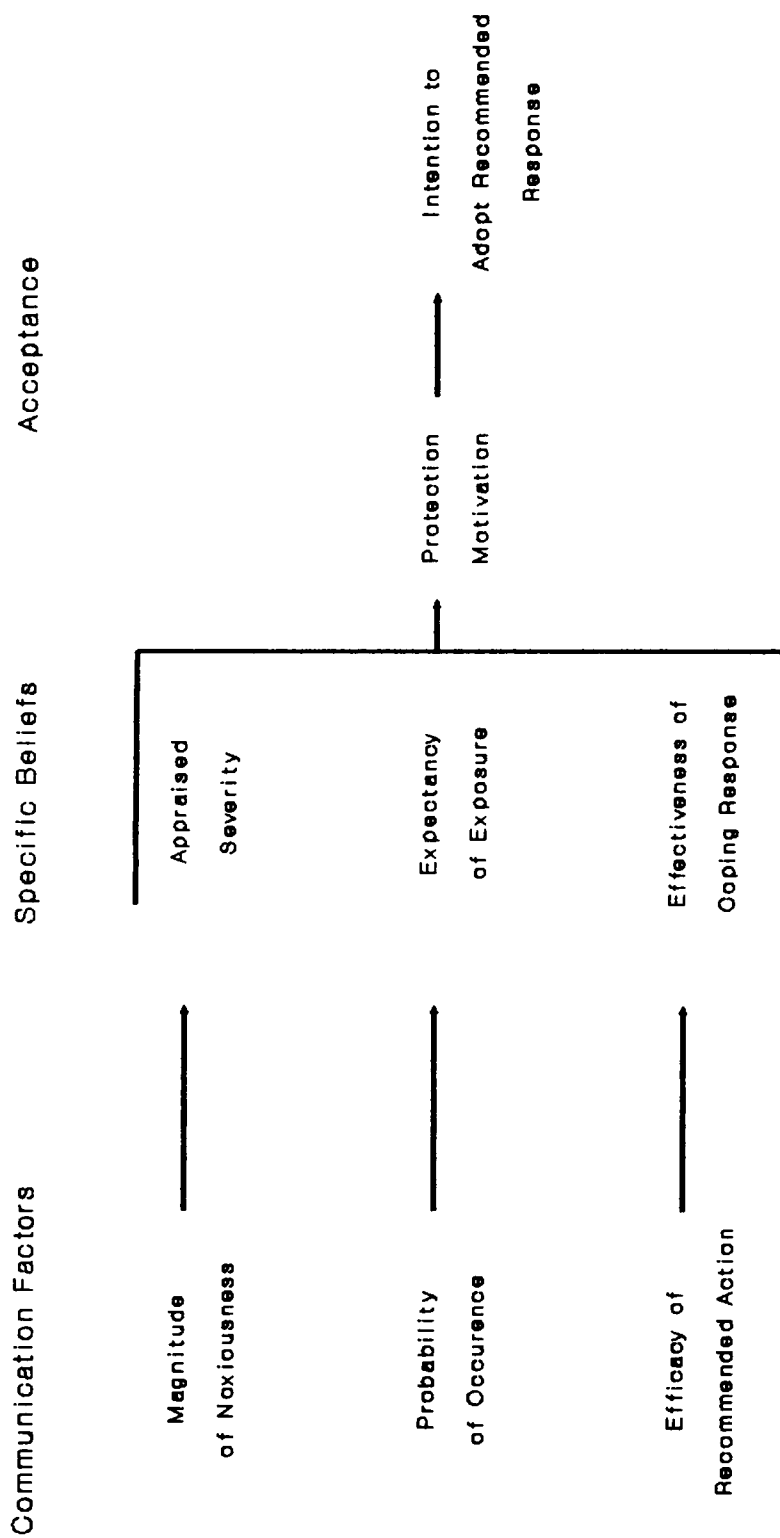


Figure 3. Protection Motivation Model

Source: Leventhal, H. (1970). Findings and Theory in the Study of Fear Communications. Advances in Experimental Social Psychology, 5, 119-225.

People, according to this theory, will take steps to avoid threat when they are convinced: of the threat's seriousness (noxiousness), of their susceptibility (probability), and that the communication's recommended actions will control or prevent the threat (response efficacy).

Each of these variables must be present to induce the protection motivation response. Further, the degree to which these three factors are present will determine the amount of protection motivation aroused and the amount of conformity to the messages' recommendations (Rogers, 1975).

5. Health Belief Model

As with many of the fear appeal models considered thus far, the health belief model was formulated to organize the research on fear appeals presented in health-related messages.

The model involves five variables: perceived susceptibility, perceived severity, perceived benefits, perceived barriers and cues to action (Janz & Becker, 1984 cited in Bliss & Stout, 1988). Perceived susceptibility deals with the individual's perception of the likelihood of getting the disease. Severity is operationalized to mean how serious is the disease if contracted and/or the medical and social consequences of leaving the disease untreated.

Perceived benefits deal with message response efficacy while barriers pertain to the trade offs (in terms of cost, inconvenience, etc) of performing the recommended action.

Finally, cues to action are internal or external factors which modify the fear appeal message. Typically, these cues, a newspaper or magazine article or a mass media campaign, regarding AIDS for example, will arouse fears or concerns in receivers.

6. Evaluation of Models

Each of the models discussed uses different explanations to account for the relationship between the amount of fear contained in a message and the amount of attitudinal or behavioral response to the message and its recommendations. The explanations have been applied to research topics with varying levels of success. Therefore, in deciding which model to employ in studies, researchers need to consider not only their particular situation but also the variables involved and the flaws and benefits of each model.

A basic premise of the fear drive and nonmonotonic models is that mild to moderate levels of threat are the most effective, yet several subsequent studies have questioned or refuted that finding (Miller & Hewgill, 1966; Higbee, 1969; Leventhal, 1970; Ray and Wilkie, 1970; Sternthal & Craig, 1974).

A second premise relates to the relationship between fear arousal and recommended efficacy interactions. However, many researchers have not been able to find evidence to support the purported relationships. Perhaps the models fail to take into

account the complexity of human behavior (LaTour & Pitts, 1989).

Another criticism of the fear drive model is that a direct relationship between emotional response (drive) and attitude change has not been found (Rogers, 1983). Finally, the model suggests that for a behavior change to occur, individuals must mentally rehearse the recommendations given in the message. However, the link has not been clearly substantiated.

The curvilinear model has been criticized mainly for inconsistent findings and testability difficulties since the model is so flexible it can account for a wide range of findings. For example, any number of intervening variables can interact with the facilitating and interfering factors which in turn will affect the level of fear and acceptance (Eiser, 1982). While the fear drive model has largely been dismissed, it has been credited with initiating research into the area of fear appeals.

The parallel response paradigm has sometimes been referred to as the fear drive model alternative (Leventhal, 1971) in that it orders research more coherently (Leventhal, 1970). It has also been credited with highlighting the need for attention to cognitive factors which are important for determining how receivers perceive and respond to danger.

Likewise, it moves the researchers away from the confines of the inverted-U relationship (Sternthal & Craig, 1974) by specifying that both monotonic and nonmonotonic results may be

found. Conversely, the model has been criticized for its lack of specificity regarding "stimulus variables that predict the extent to which the fear and danger control process operate" (Boster & Mongeau, 1984, p. 36).

For example, the model does not specify what factors determine whether fear control or danger control will be activated. In other words, the links between concepts are nonspecific rendering the model untestable or unfalsifiable (Boster & Mongeau, 1984).

The major criticisms of the health belief model seem to lie in its lack of previous testing and subsequent application. It extends previous models by including several individual perception, demographic and extraneous variables. It is limited however, in its applicability since it relies on individual beliefs and attitudes. Recommendations to expand and qualify the model include adding a locus of control variable, adding social group affiliations and standardizing the terms.

In the progression of fear appeal models, protection motivation appears to represent one of the most precise elaborations of the fear communication process. It is also an attempt to rectify the criticisms of previous models. It incorporates more variables and views acceptance of fear appeal messages as a process initiated by the communication and mediated by beliefs toward acceptance of the recommendation (Beck & Frankel, 1981).

The presence of conflicting results when applying any of the models has important implications for future research possibilities. "None of the fear appeal explanations are consistent with available evidence" (Boster & Mongeau, 1984, p. 366).

Synthesis and Evaluation

Although the literature on fear appeals is vast, findings are widely divergent. An optimal level of fear has not been discovered because several other factors are thought to intervene (LaTour & Pitts, 1989) or perhaps no effective recommendations for averting the threat are presented or they are too far afield from the receivers' perspective (Feingold & Knapp, 1977).

Suggestions have been made as to how fear appeals can be used as effective motivators for behavioral change (Tanner, Hunt & Eppright, 1991) which parallel the protection motivation model. First, fear should occur before the desired behavior is offered. In the present study, fear of the relevant consequences of unprotected sex will be induced before the mention of condom use. Second, the consequence upon which the fear is based should seem likely to occur. Again, in the present study, the manipulation in the high fear condition will make the consequences appear extremely likely. Next, a specific desired behavior that will eliminate or significantly reduce the fear must be offered. The behavior

of condom use will act to reduce the fear induced in the current manipulation.

Repetition

"A television commercial does not change with repeated exposure; rather, it is the viewer's reaction that does" (Greenberg and Suttoni, 1973, p. 47). It is difficult for the advertising media planner to know just where the dividing line is between the optimal number of times a commercial must be repeated in order to meet the advertising goals, and when its effectiveness will decline or wear out after repeated exposures. "The overuse of an advertisement may enhance brand awareness... but attitudes toward the product may suffer" (Cacioppo and Petty, 1980, p. 97). Additionally, early field studies found that as exposure levels increased, attitudes toward the ad became increasingly negative as well (Burke and Edell, 1986; Grass and Wallace, 1969).

In 1977, Achenbaum coined the phrase "effective exposure" which later became known as "effective reach" or "effective frequency" by media planners (Turk, 1988). Though there is some difference in how various advertising experts interpret the term, most agree that there is a certain optimal range of exposures to an advertisement. If, on the other hand, the number of repetitions is too high "wearout" (Calder and Sternthal, 1980) occurs. Wearout is defined by Pechman and Stewart (1988) as level of repetition when the advertisement

no longer has any significant effect or has a significant negative effect on the receiver. At this point the advertiser is faced with a situation of diminishing returns since any additions in frequency will not elicit the desired response. "If nothing is gained, the budget expended to sustain the additional repeated exposure is wasted" (Turk, 1988, p. 55).

The effects of repeated exposure have long been a subject of interest to researchers. A review of many of the studies follows; however, much of the earlier research did not deal specifically with persuasive communications or measures of attitude or behavioral intention and so will be discussed only briefly.

Much of the early research on repetition effects is based on the Zajonc's (1968) theory of mere exposure which suggested that exposure is enough to produce positive attitudes to a novel object. Zajonc based his theory on studies which varied the exposure levels of nonsense syllables, Turkish adjectives and Chinese characters. According to Zajonc, peoples' attitudes toward a stimulus are positively related to the number of exposures because there is a pleasantness associated with listening to or viewing an increasingly familiar stimulus (Sawyer, 1973). Belch (1982) suggested that Zajonc's research is of limited applicability, however, since advertising messages are more complex. Likewise, Cacioppo and Petty (1980) cite Zajonc's own clarification that his model applied only to nonassociative or nonsense syllable-type stimuli.

In 1970 Berlyne proposed the two-factor theory to explain repetition effects (Figure 4). Many researchers have suggested that this theory, or its subsequent modifications, is the most worthwhile when investigating advertising message repetition (Belch, 1982; Rethans, Swasy and Marks, 1986). The two-factor theory proposes that two separate psychological factors simultaneously determine attitude toward a repeated stimulus: positive habituation and tedium. Positive habituation occurs when, during initial exposures, repetition of a previously novel stimulus produces increased pleasure and liking and a reduction in arousal stemming from uncertainty and conflict. With more exposures, tedium increases and leads to less pleasurable feelings toward the stimulus. This tedium is said to be the result of boredom, satiation, decreased incremental learning and reactance (Sawyer, 1981).

According to Berlyne, the net effect of these two factors is an inverted-U relationship between attitude and number of exposures. The habituation process has a greater impact on affect initially; tedium and dislike occur at higher exposure levels. Additionally, stimulus complexity slows the habituation process therefore tedium occurs at higher exposure levels for more complex stimuli and vice versa (Sawyer, 1981).

Many subsequent studies have supported these findings. Increases in exposure levels to a message can enhance receivers' attitude toward the advocacy (Batra and Ray, 1986;). Other studies have shown that attitudes and purchase

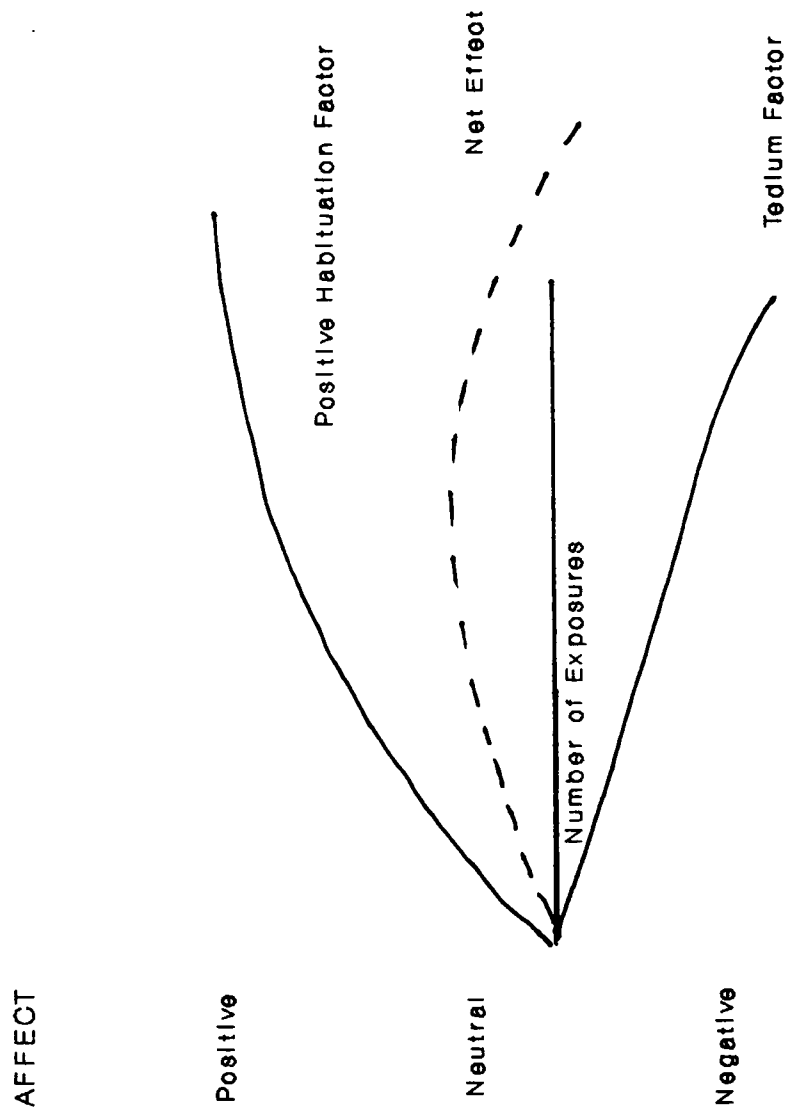


Figure 4. Two-Factor Theory

Source: Berlyne, D. (1960). Conflict, Arousal and Curiosity. New York: McGraw Hill.

intentions peak at three exposures (Cacioppo and Petty, 1979; Calder and Sternthal, 1980).

Conversely, much of the research in consumer behavior has not found support for the two-factor theory (Anand and Sternthal, 1988). For example, some studies have shown that attitudes are not related to repetition (Belch, 1982; Mitchell and Olson, 1981).

An extension of the two-factor theory is Cacioppo and Petty's (1979) two-stage attitude modification model. According to the model, receivers are afforded more opportunity to attend to, think about, elaborate on and realize the favorable implications of the messages with more repetitions. With higher levels of exposure, however, tedium sets in, counterarguing dominates and a decline in affect occurs. The model is similar to Berlyne's in that the net effect of these two processes forms the proposed inverted-U relationship.

Cacioppo and Petty's model has been criticized mostly for its lack of generalizability. The results of the studies were based on required and massed or consecutive exposures to the advertising stimuli. It is not clear how the process works under more normal viewing or listening situations (Pechman and Stewart, 1988). The present study will address this criticism since the commercial exposures are not massed and are embedded in normal radio programming and competing commercial content.

The theoretical perspectives discussed above would suggest

that intermediate levels of message exposure should be found to be most effective. This view has been supported by a body of research which forms the backbone of repetition effects. Most notable of these studies are Krugman (1968; 1972) and Grass and Wallace (1969).

Briefly, Krugman proposed that three exposures or "three hits" are enough to be effective. After the first exposure, receivers attempt to understand the nature of the stimulus and therefore ask "what is it?" After having been initially exposed to a stimulus, the second exposure will elicit a "what of it?" response in an attempt to establish some personal relevance from the message. Since the viewer is now familiar with the message, the third exposure serves as a reminder and also marks the beginning of the disengagement or the withdrawal of attention process.

Grass and Wallace found that even though attention to a commercial stimulus seems to peak at two exposures (or hits) and learning at three exposures (or hits), attitude toward the brand may increase as the number of exposures increases past the satiation point. They do note, however, that attitudes toward the commercial itself may become less favorable as the number of repetitions increases.

According to Stankey (1988), "noise" or interference, in the forms of competing stimuli and human perceptual limitations, must be accounted for in the advertising communication/reception process. Consequently, advertisers

must place several ads in order to produce the above suggested "three hits." What has been suggested then, is a range of "opportunities to see" the ad which does not represent the actual number of advertising exposures. Kamin (1978) suggested that the probability of the audience perceiving three advertisements increases from 5 to 12 exposures, or opportunities to see, and peaks at twelve exposures.

Additional Variables

More recent evidence exists that points to certain mediating variables which may significantly influence the repetition effect process, including: advertising format and appeal, media and scheduling, product, receiver and competitive environment. Several of the relevant moderating variables are discussed below.

1. Format

Krugman (1968) suggested that hard-sell ads would wear out more quickly than soft-sell ads. Krugman believed that the more hard-sell ads would not benefit from increasing numbers of exposures since, by their intrusive nature, they communicate their message in a single exposure. Indeed, Ray and Sawyer (1971) found that repetitions of soft-sell, "non-grabber" advertisements produced significantly higher intentions to purchase the product than did hard-sell "grabber ads.

Silk and Vavra (1974) reported similar results with hard- and soft-sell radio commercials. Significantly greater degrees of recall were reported from one to two exposures of the soft sell commercial. Differences in attitude, although not significant, were found when subjects were exposed to two repetitions of the commercials. For the soft-sell version increases in attitude were noted, while a slight decrease was found for the hard-sell commercial.

A final format consideration involves message complexity. Berlyne (1970) found that repetitions of more complex stimuli result in greater positive changes in liking than with repetitions of less complex stimuli.

2. Appeal

In terms of wearout, Hitchon, Thorson and Zhao (1988) found that when an ad uses a highly emotional appeal, neither attitudes toward the ad or the brand decrease after twelve exposures. When the ad is unemotional, attitudes toward the ad decreased after the fourth exposure, while purchase intention decreased by the eighth repetition. This same study found that a highly positive emotional response toward the ad and the product delays the wearout effects.

Sawyer (1973) found that, due to less counterarguing, repetitions of a two-side, refutational appeal are most effective for non-users of a product. Similarly it was found that repetitions of supportive appeals are most effective for

users of the advertised brand.

3. Media and Scheduling

Krugman (1968) suggested that since television is faster paced and by nature contains higher levels of distraction than print, it provides less opportunity to produce support and counter arguments. It follows then, that wearout would occur more slowly in television than in print media (Batra and Ray, 1986).

Mitchell and Olson (1981) found that various repetitions of print ads did not have a positive effect on attitudes or purchase intentions. Conversely, most studies that have investigated television have found positive repetition effects (Batra and Ray, 1986). No studies were available, however, comparing the relative strengths of the media compared to radio.

Wearout has been found to be profoundly influenced by the numbers of variations of executions of the ad within the same campaign; a large body of research exists attesting to that fact (Berlyne, 1966; Grass and Wallace, 1969; Zielske and Henry, 1980; Schumann, Petty and Clemons, 1990; for review see Pechmann and Stewart, 1988). The literature will not be covered here however. The present study tests a single execution of a public service advertisement since, due to budget constraints, public service advertisers are usually limited in the numbers of advertisements they can produce.

4. Product

Initial familiarity with a product and product type appear to be significant mediating factors influencing the effect of repetition. Ray and Sawyer (1971) found that for purchase intention, repetitions of ads benefitted more well-known products than lesser-known brands. In the same study they also found that repetitions of ads for convenience goods, as opposed to shopping goods, produced greater increases in purchase intention.

Conversely, Calder and Sternthal (1980) found that increases in the numbers of exposures for more well-known products produced an increase in negative thoughts. Similarly, Tellis (1988) found that regular purchasers of the advertised product increased their purchases after two exposures per week, however they did not increase their purchase level when exposed to four ads per week.

5. Receiver

Key moderating variables in the repetition process are the consumer's motivation and ability to process the message (Petty and Cacioppo, 1986; Schumann, Petty and Clemons, 1988). Some studies have variously operationalized subjects with high motivation and ability as: those having previous knowledge of the product, previous users of the product, those who cared about the product decision and those who had enough time to process the television commercials since it was long (Pechman

and Stewart, 1988). Many of these have been discussed above.

Attitude Toward the Advertisement

In recent years, increasing numbers of studies have concentrated on receivers' affective reactions to advertisements instead of the their cognitive reactions. Specifically they have investigated ad attitude (Aad) as a significant mediator of advertising's effect on attitudes and intentions (Berger and Mitchell, 1989; Darley and Lim, 1991; MacKenzie, Lutz and Belk, 1986; Madden, Allen and Twibble, 1988; Mitchell and Olson, 1981; Shimp, 1981).

Lutz (1985) defined attitude toward the advertisement as "a predisposition to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure occasion." MacKenzie and Lutz (1989) suggest that this definition is parallel to Fishbein and Ajzen's (1975) definition of attitude in that it conceptualizes Aad as an "evaluative or affective response to the commercial stimulus" and does not incorporate "cognitive or behavioral responses."

Radio Public Service Announcements

The present study will incorporate fear appeals and repetition effects in the context of radio public service announcements which will advocate the use of condoms to prevent AIDS (or other relevant consequences).

Scant research exists regarding public service advertising and even less on radio PSAs. "Public service advertising is a pervasive yet highly specialized form of communication utilized to disseminate information on public issues to the masses. Its purpose is to encourage individual response to social problems" (Lynn, p. 74).

This study, therefore, will capitalize on the need for research on radio public service advertising. In addition, radio most closely matches the typical mass media usage of the target college-age audience. According to Simmons (1990), adults, aged 18 to 24 are approximately 15 percent more likely to be heavy users of radio than the overall adult population. Radio is the second most popular medium, after magazines (20% more likely to be heavy users of magazines than the overall adult population), among this target market.

Summary

The need for effective advertising messages aimed at increasing condom use is becoming more apparent. Condoms are the only proven preventative measure to decrease the escalating numbers of reported and unreported cases of AIDS and HIV. Additionally, condom use is a proven effective contraceptive method.

This study concentrates on condom use public service announcements for radio, and the effects of repetition and fear appeals on attitudes and behavioral intention. How many

repetitions are needed to affect a behavior change in the college-age market? How many repetitions before the commercial wears out and ceases to persuade the target to adopt the behavior?

Additionally, the study looks at the effect of high and low fear appeals within the condom advertisement. Is high or low fear a more effective inducement to affect the desired behavior change? Do high fear advertisements wear out more quickly than low fear appeals?

Fishbein and Ajzen's Theory of Reasoned Action provides the framework within which to conceptualize these relationships. The theory proposes relations among beliefs, attitudes, subjective norms, intention and behavior. This study incorporates these variables as well as the main external variables of fear level, repetition and attitude toward the ad.

Expected Relationships

It is difficult to posit relationships since the results of much of the fear appeal research are largely inconclusive. Additionally, as pointed out earlier, only a small number of studies has investigated behavior as a dependent variable; the greatest effects have been noted on attitude change. However, as the Fishbein and Ajzen model suggests, attitudes should predict behavior through intention.

The protection motivation model (Leventhal, 1970) which

will be used in this study provides some guidance for the fear variable. People, according to the model, will take steps to avoid a threat if they perceive that the noxiousness of the event (fear level), the probability of occurrence and the effectiveness of the coping response are all high.

In terms of repetition, the two-factor theory, the two-stage attitude modification model, the Krugman, and Grass and Wallace research forms the basis of the hypothesized relationships below. As a whole, this research suggests that moderate levels of repetition are most effective.

It is expected therefore, that high fear and moderate levels of repetition (4) will be the most effective combination to effect a change in beliefs about the consequences of behavior, evaluations of the consequences, beliefs about referents, motivation to comply with referents, and attitude toward the ad.

Overall, high fear at low levels of repetition (2) will be more effective than low fear at low levels of repetition on beliefs about the consequences of behavior, evaluations of the consequences, beliefs about referents, motivation to comply with referents, and attitude toward the ad.

However, high fear at high levels of repetition (8) will show declines, more so than low fear at high levels of repetition, in beliefs about the consequences of behavior, evaluations of the consequences, beliefs about referents,

motivation to comply with referents, and attitude toward the ad (Figure 5).

In addition, beliefs about the consequences of behavior, evaluations of the consequences, beliefs about referents, motivation to comply with referents, and attitude toward the ad will be affected by: previous product use, knowledge of someone with AIDS or testing positive for HIV, age, sex, marital status, number of sexual partners, and perceived vulnerability to contracting AIDS.

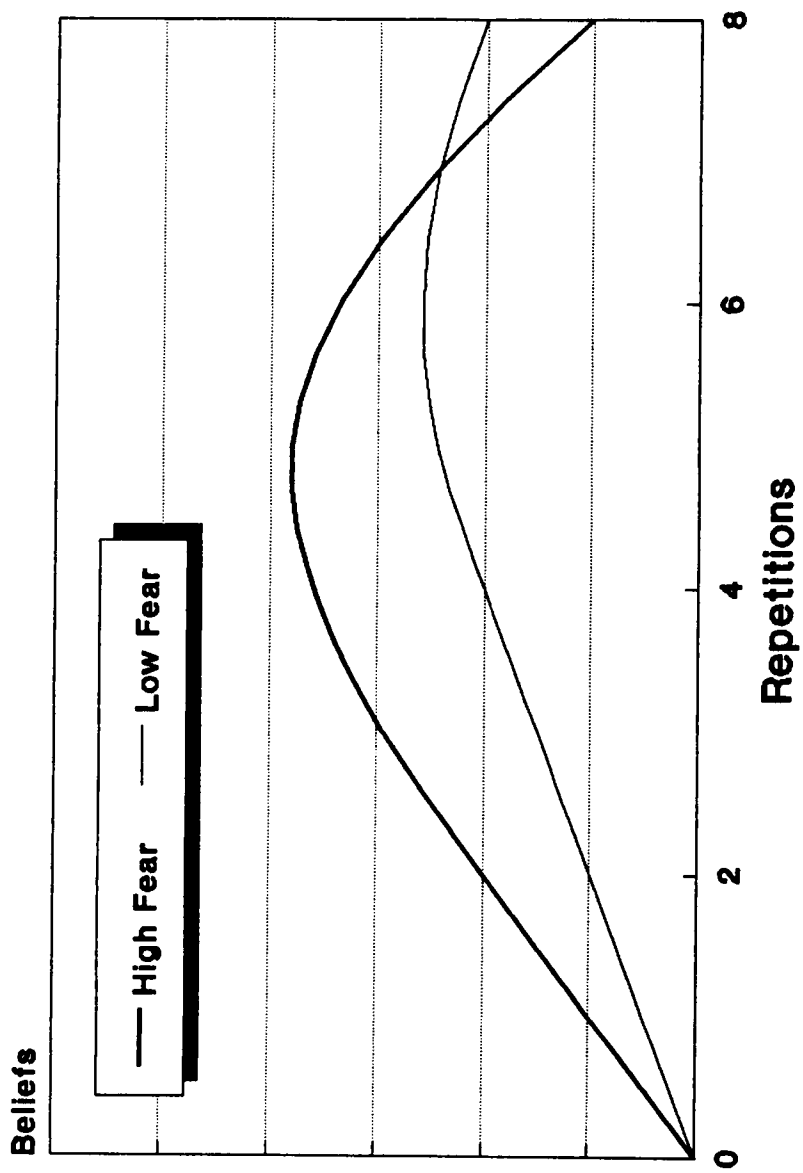


Figure 5. Expected Relationships

CHAPTER III

DESIGN AND METHODOLOGY

This study reflects two main interests. First, it attempts to determine whether the Fishbein and Ajzen model is a good predictor of behavioral intent in the condom use situation. Primarily however, the study attempts to identify the effects of fear level and repetition on beliefs about the consequences of condom use, evaluations of the consequences, beliefs about referents, motivation to comply with referents, and attitude toward the ad.

The variables selected for this study were based on those contained within the theoretical approach taken and those identified by previous research to be possible mediating variables on the message acceptance process.

Two-hundred seventeen male and female undergraduate marketing students were exposed to 2, 4, 6 or 8 repetitions of either a high- or low-fear radio condom commercial. The commercials were embedded in a radio program context with a cover story asking students to evaluate a newly proposed radio format. Commercials for each condition were distributed over two sessions, one week apart. The changes over the groups were analyzed for changes in beliefs about the consequences of condom use, evaluation of the consequences of condom use, beliefs about referents and motivation to comply with

referents, as set forth in the Theory of Reasoned Action.

In addition, the variables behavioral intention, attitude toward the behavior and subjective norm test the strength of the Fishbein and Ajzen model. Before being included in the final instrument, questions to measure each of these variables were pretested for clarity and understanding by a representative sample of 48 undergraduate students.

Elicitation Study

In keeping with the Theory of Reasoned Action, it is first necessary to identify the salient consequences of condom use behavior (in terms of its action, target, context and time elements) and the salient referents from a sample of the target population.

To accomplish this, a representative convenience sample of 20 students was given a short questionnaire asking them to: "Please list the advantages and disadvantages you feel are associated with condom use if you engage in sexual activity in the next month" (Appendix A). Respondents indicated that fear of contracting AIDS (N=17), fear of contracting a sexually transmitted disease (N=12), concern about pregnancy (N=16), the inconvenience of using condoms (N=8), embarrassment of purchasing condoms (N=3) and loss of sensation (N=3) were the advantages and disadvantages of the behavior. The most often reported consequences of condom use were used in the study: fear of contracting AIDS, fear of contracting a sexually

transmitted disease, pregnancy and inconvenience.

To assess the fear-arousing potential of the consequences the respondents listed, a subsequent questionnaire asked the same subjects to rate, on a five-point scale, how fearful they felt each consequence was. Respondents indicated that AIDS (4.31), pregnancy (3.69), and STDs (3.69) were the most fearful consequences of lack of condom use (Appendix A).

To elicit responses regarding referents, the students were asked: "Are there any people or groups of people who would approve or disapprove of your using condoms if you engage in sexual activity in the next month?" Respondents indicated that only parents (N=16), partners (N=15), friends (N=14), and clergy (N=12) would be most likely to be concerned about the behavior. Responses to these statements were used to construct the questionnaire (Appendix A).

Fishbein and Ajzen Variables

Initially, to test the strength of the Fishbein and Ajzen model, three measured concepts were examined: behavioral intention, attitude toward the behavior, and subjective norm. Questions to measure these variables were pre-tested by a representative sample of 50 undergraduate students before being included in the final experiment.

Behavioral Intention

Behavioral intention is defined here as the likelihood that a person will engage in a given behavior; in this case, how likely is it that a person will use condoms during the next month. In the present study, behavioral intention toward both condom use and product use was measured via a 7-point bipolar scale asking subjects to respond to: "I intend to use condoms if I engage in sexual activity during the next month," "I intend to purchase Progresso Soup during the next month" and "I intend to purchase Oxy during the next month." The phrasing of the questions was determined by the four criteria discussed in the theory section: action, target, context and time. The questions are shown in numbers 5, 6 and 4 respectively in the instrument (Appendix A). Both the Progresso Soup and the Oxy questions were included to help disguise the nature of the study.

Attitude Toward Behavior

According to Fishbein and Ajzen's model, an individual's positive or negative evaluation of performing the behavior is his attitude toward the behavior. To measure the subjects' attitude toward the behavior of condom use, a three-item semantic differential scale asked subjects to respond to: "Using a condom if I engage in sexual activity during the next month is: good/bad, wise/foolish, beneficial/not beneficial" (Mitchell and Olson, 1981). Product (Progresso Soup, Oxy)

purchase attitude was measured by the same scale. As per the Fishbein and Ajzen model guidelines, these three-item semantic differential scales were averaged to form one indicator.

The pretest of these three-item scales indicated that respondents felt the initial wording of wise/foolish was misleading. It was therefore changed to read wise/unwise. These questions are shown in numbers 8, 9 and 7 in the instrument (Appendix A).

Subjective Norm

Additionally, subjects' subjective norm was measured via a 7-point bipolar scale asking them to respond to: "Most people who are important to me think I should use condoms if I engage in sexual activity during the next month." Similar questions were asked relating to Progresso Soup and Oxy product purchases. These questions are indicated by numbers 11, 12 and 10, respectively, on the instrument and measured global subjective norms (Appendix A).

Dependent Variables

Four classes of dependent variables formed the basis of the current study: beliefs about the consequences of the behavior, evaluations of the consequences, beliefs about referents and motivation to comply with referents. These four classes generated a total of sixteen dependent variables, four per class.

Beliefs About Consequences of Behavior

Based on the consequences identified in the elicitation study (prevention of AIDS and sexually transmitted diseases, prevention of pregnancy and inconvenience) beliefs about each salient consequence of behavior were measured via a 7-point bipolar scale asking subjects to respond to these questions: "Using a condom if I engage in sexual activity during the next month will prevent my contracting AIDS." Questions measuring the specific beliefs are shown in numbers 16, 17, 18, and 19 on the instrument (Appendix A).

Evaluations of the Consequences

Once the consequences of the behavior were identified in the elicitation study, according to the Fishbein and Ajzen model, the consequences were measured as to the subjects' positive and negative evaluations of these consequences. Each salient consequence was measured via a three-item, semantic differential scale asking subjects to respond to questions such as: "Preventing pregnancy is: good/bad, important/unimportant, wise/unwise."

As per the Fishbein and Ajzen model guidelines, the three-item semantic differential scales were averaged to form one indicator. Questions measuring the evaluations of the specific beliefs are shown in questions 20, 21, 22 and 23 of the instrument (Appendix A).

Referent Beliefs

Further questions asked subjects about specific referents identified in the elicitation study (partner, parent, friends and clergy). For example, questions asked "My partner would think I should use a condom if I have sexual relations during the next month." These questions measuring the referent beliefs are shown in numbers 24, 25, 26 and 27 of the instrument (Appendix A).

Motivation to Comply with Referents

To measure subjects' motivation to comply with each specific referent, subjects were asked to indicate their responses on a 7-point bipolar scale to questions such as: "I want to do what my partner thinks I should do." Additional questions include all four identified referents and are shown in items 28, 29, 30 and 31 of the instrument (Appendix A).

Attitude Toward Ad

In addition to the sixteen main dependent variables, attitude toward the ad was also measured. To obtain a measure of attitude toward the ad, three semantic differential scales asked subjects to respond to: "I feel the condom commercial was, interesting/not interesting, good/bad, effective/not effective." Similar questions were asked regarding the Progresso Soup and Oxy products. These three-item responses were averaged according to the Fishbein and Ajzen guidelines.

This question is shown in numbers 13, 14 and 15 of the instrument (Appendix A).

Manipulation Check

One additional question, "I feel the condom commercial was fearful/not fearful" provided a manipulation check on the fear commercial itself (Appendix A). These questions are shown in items 13, 14 and 15 on the instrument. (The control group did not receive question 13.)

Independent Variables

Two independent variables formed the basis of the current study: fear level and repetition.

Fear Level

Fear level (high/low) in the present study was manipulated by altering the suggested variables in the protection motivation model. The high fear commercial contained a more fearful manipulation of the consequence of condom use identified as most fearful in the elicitation study: AIDS prevention. Conversely, the low fear commercial contained a less fearful treatment of the AIDS consequence (see Treatment Stimuli section for detailed discussion).

Repetition

To determine at what point high and low fear condom commercials wear out, subjects were exposed to either 2, 4, 6 or 8 repetitions of a high or low fear condom PSA during two sessions, one week apart. By comparing repetition and fear levels across experimental groups, a measure of the effectiveness and wearout of the commercials was obtained.

Covariates

Several previously discussed factors may influence the condom use persuasion process: previous product use, knowledge of someone with AIDS, sex, age, marital status, number of sexual partners and perceived vulnerability to AIDS. Therefore, one question asked respondents about their present condom use: "Do you currently use condoms?" (always/occasionally/never). Respondents also indicated whether or not they knew someone who has been diagnosed with AIDS or has tested positive for the HIV virus. Additionally, the question, "How vulnerable do you feel you are to contracting the AIDS virus" assessed perceived susceptibility.

A final set of questions elicited responses on sex, age, marital status, and level of sexual activity of subjects (Appendix A). (Questions 1, 2 and 3, regarding radio station format were asked as filler and cover story questions.)

The Experiment

Design

The objective of this research was to study differences in repetition effects across different levels of fear appeals. The study used a 2 (hi/low fear) x 4 (2, 4, 6, 8 repetitions) factorial design. Other groups were exposed to either high or low fear condom ads repeated 2, 4, 6 or 8 times over a two-week period.

Treatment Stimuli

Two 30-second radio commercials (high fear/low fear) were prepared by two professional radio announcers. No music or sound effects were employed. Additionally, the announcers' voices did not vary in pace, pitch, or tone between the two executions. Differences between high and low fear commercials were accomplished by varying the consequences of condom use and the elements of the protection motivation model.

To review, the protection motivation model posits that individuals will take steps to avoid threat when they are convinced: of the threat's seriousness, of the probability of its occurrence, and that the communications' recommended action will control or prevent the threat. The high and low fear ads, therefore, varied the degree of the threat's seriousness (death from AIDS vs. inconvenience), the probability of its occurrence (90 percent chance vs. 10 percent

chance) and the amount of control afforded in the recommended action (the best prevention available vs. reduce the risk) (Appendix B).

The commercials were pretested to determine their fear-inducing capabilities. Fifty-six respondents were asked to indicate on a 7-point scale how fearful they found the commercials. The 29 respondents who listened to the high fear commercial found it highly fearful ($\bar{M}=5.34$), while the 27 respondents who listened to the low fear commercial found it to be significantly less fearful ($\bar{M}=1.67$). T-Test procedures produced $t=2.85$, $p<.01$.

Scheduling

High and low fear test commercials were randomly assigned to repetition treatment groups. The commercials were embedded in a rock music radio format and were distributed over two different sessions, one week apart. Twenty different products were randomly assigned as well, with the only stipulation that two products, T1 (Progresso Soup) and T2 (Oxy), were repeated two and four times respectively. Figure 6 presents the identical scheduling for both levels of fear commercials. Each subject listened to approximately 35-40 minutes of music programming and commercials per week. A 10-item questionnaire regarding music format was distributed at the end of the first session to retain the cover story (Appendix A).

XX	A B T2	XX	C D E	XX	F T1 G	XX	T2 H I	XX	Week 1	0
XX	T2 J K	XX	L M T2	XX	N O P	XX	T1 Q R	XX	Week 2	
XX	A B T2	XX	C F E	XX	F T1 G	XX	T2 H I	XX	Week 1	2
XX	T2 J K	XX	L F T2	XX	N O P	XX	T1 Q R	XX	Week 2	
XX	A F T2	XX	F D E	XX	F T1 G	XX	T2 H I	XX	Week 1	4
XX	T2 J F	XX	L M T2	XX	N F P	XX	T1 Q R	XX	Week 2	
XX	F B T2	XX	C D E	XX	F T1 G	XX	T2 F I	XX	Week 1	6
XX	T2 J F	XX	L M T2	XX	N F P	XX	T1 Q F	XX	Week 2	
XX	A T2 F	XX	C F E	XX	F T1 G	XX	T2 F I	XX	Week 1	8
XX	T2 F K	XX	F M T2	XX	F O P	XX	T1 Q F	XX	Week 2	

T1 = Product 1

T2 = Product 2

F = Fear Commercial

A-R = Varied Commercials

XX = Music

Figure 6. Commercial Scheduling

Subjects/Procedure

The experiment was conducted across two weeks during April, 1992. Two-hundred twenty-five respondents were recruited from two introductory marketing classes and an introductory mass communication class at the University of Tennessee. The courses selected were representative of the age of the majority of the students in the high-risk target market of interest to this study. Additionally, the courses selected insured that the majority of students were at approximately the same point in their studies.

Extra credit was assigned to participants according to individual instructor discretion. The only uniform requirement was that students were asked to attend two sessions, one week apart, to receive total credit. Anonymity was assured by two safeguards. Students were asked only to supply social security numbers for proper assignment of extra credit; the experimenter did not know the subjects names. Second, social security numbers were written only on the informed consent form which was detached from the questionnaire when completed.

The goal was to have twenty-five subjects randomly assigned to the nine different treatment cells (Figure 7). A total of 222 subjects attended both sessions. Five questionnaires were omitted from analysis due to incomplete responses for a total of 217 participants (Figure 7). One hundred twenty-six males (58.1%) and 91 females (41.9%)

Reps	WEEKS			
	1		2	
	High	Low	High	Low
2	25	25	25	25
4	25	25	25	25
6	25	25	25	25
8	25	25	25	25
0	Control Group		25	No Exposure

Reps	WEEKS			
	1		2	
	High	Low	High	Low
2	29	24	29	24
4	19	33	19	33
6	26	21	26	21
8	22	25	22	25
0	Control Group		25	No Exposure

Figure 7. Planned and Actual Subject Assignment

participated in the study. Ages ranged from 18 to 43, with the majority of those in the 18- to 23-year-old bracket (86.2%). Twenty-one of the participants were married (9.7%), 189 were single (87.5%), 5 divorced (2.3%) and 2 separated (.5%).

The study was described to students as one in which researchers were interested in gathering students' input about the format of a proposed radio station and its commercials.

In both sessions, subjects reported to regular college classrooms, by cell, to listen to 35-40 minutes of taped music and commercials. Music varied in each session so that students were listening to 20 different selections. The investigator introduced herself as a communications doctoral student and then proceeded to describe the voluntary nature of the study as well as other procedures prescribed by human subjects.

In order to balance external validity with maximized manipulation, subjects were not directed to pay special attention to any particular part of the tape.

At the end of the first session, as a safeguard against students uncovering the purpose of the study, subjects were asked to complete a 10-item questionnaire evaluating the music and radio format (Appendix A). After listening to a final 35 minutes of programming in the second week, subjects were asked to complete the final questionnaire (Appendix A). As subjects turned in the questionnaires, the researcher assigned letters

(H, L) and numbers (0, 2, 4, 6, 8) to the questionnaires corresponding to the appropriate treatment group.

The researcher went to the marketing and mass communication classes after all questionnaires were completed to debrief the participants and to discuss the subjects' feelings regarding the study.

CHAPTER IV

ANALYSIS AND RESULTS

The analyses in this study were carried out in four stages. First, the strength of the Fishbein and Ajzen model was tested via Pearson product-moment correlations between calculated attitude scores and the global attitude measures. The same test was performed between the calculated subjective norm and the global subjective norm measures. Correlations were also performed between the global attitude measure and intention and the global subjective norm and intention. Multiple regression procedures were used to determine the relative importance of attitudinal and subjective norm considerations.

The second stage of analysis involved analysis of variance procedures to identify significant differences between treatment groups. Analysis of variance procedures assessed the effects of fear level and repetition individually and in combination on the dependent variables: beliefs about the consequences of behavior, evaluation of the consequences, beliefs about referents, motivation to comply with referents and attitude toward the ad. A manipulation check was designed to measure perceived fearfulness of the ad.

In the third stage, analysis of variance procedures were performed to account for the effects of the covariates: sex,

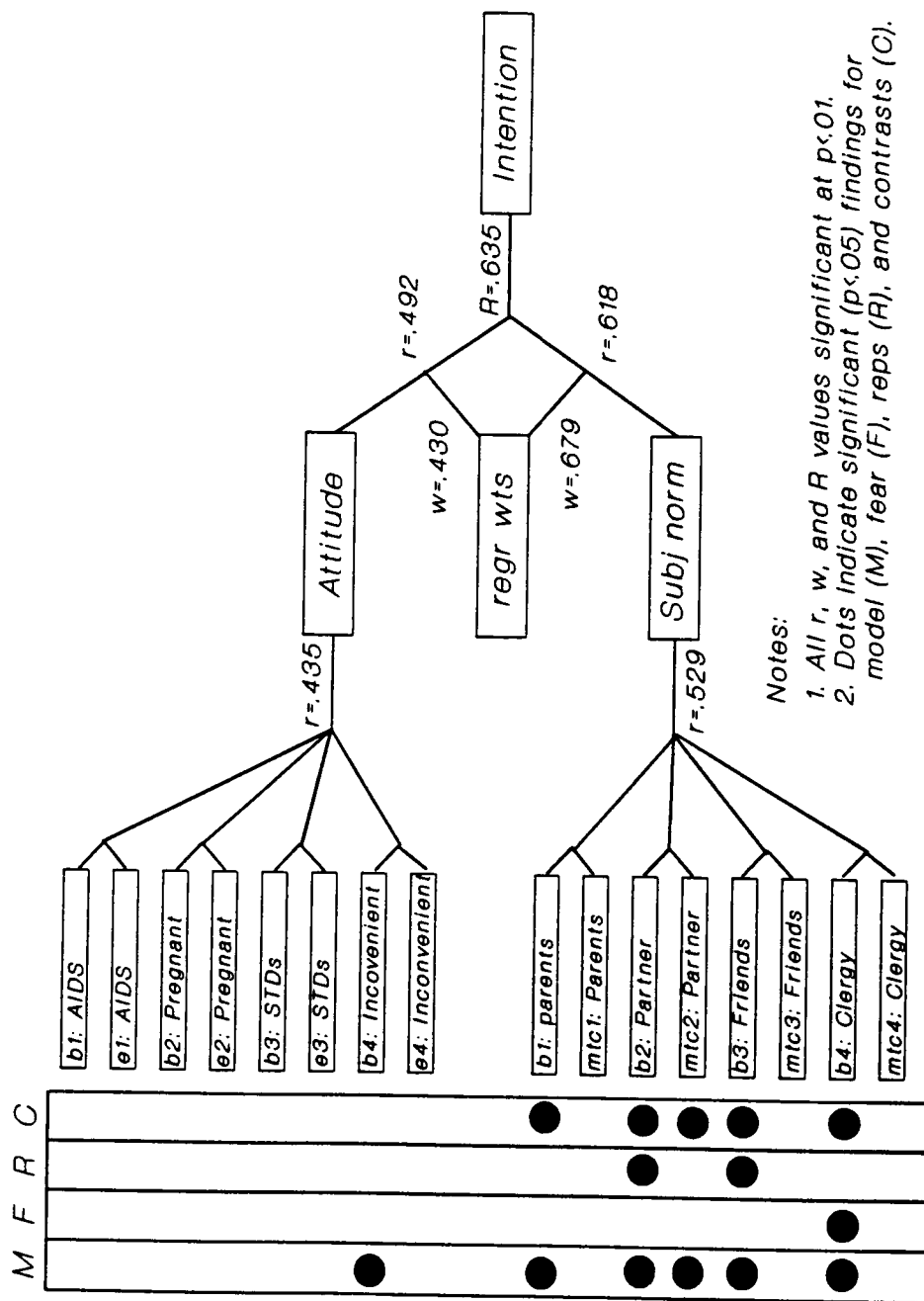
age, marital status, prior product use, perceived vulnerability, knowledge of someone with AIDS or HIV, and numbers of sexual partners. Figure 8 provides a summary of covariate influences. For each of the significant variables found to have a covariate influence, contrasts were performed on the covariates to determine the nature of the significance.

Finally in the fourth stage of analysis, contrasts were performed among the control group and different repetition levels in each fear treatment. To assess differences between fear levels at the same repetition level, individual T-tests procedures were run. Each of these stages will be discussed in turn.

Stage 1: Test of the Theory of Reasoned Action

The first step was to test the strength of the theoretical framework. To review, according to Fishbein and Ajzen, a subject's intentions are determined by both personal attitudes toward a behavior and social influences.

Attitudes toward the behavior can be predicted by multiplying a person's evaluation of each relevant consequence he associates with the behavior by the strength of the person's belief that performing the behavior will lead to that consequence. The products for the total set of beliefs are then summed. According to the theory, this summed product should be highly correlated to the global attitude measure which in turn should be highly correlated to the intention



Notes:

1. All r , w , and R values significant at $p < .01$.
2. Dots indicate significant ($p < .05$) findings for model (M), fear (F), reps (R), and contrasts (C).

Figure 8. Summary of Significant Results

measure.

To determine these correlations, each belief (AIDS, STDs, pregnancy, and inconvenience) was first multiplied by its evaluation. The products were then summed to form a single score. Pearson product-moment correlations could then be computed between this calculated belief score and the global attitude measure. As Figure 8 indicates a moderately strong relationship between beliefs and attitudes was obtained ($r=.435$, $p<.0001$). A moderately strong relationship also was found between attitude and intention ($r=.492$, $p<.0001$).

Since intentions are jointly determined by attitudes toward the behavior and subjective norm, the same calculations were performed for the subjective norm portion of the model. First, the individual beliefs about what specific others think the person should do were multiplied by his motivation to comply with those specific others. The products were then summed to form a single score. Pearson product-moment correlations could then be computed between this calculated subjective referent score and the global subjective norm measure. According to the theory, a person's beliefs about what specific others think he should do and his motivation to comply with them should be highly correlated with his subjective norm, or his global evaluations of what others think he should do. The global subjective norm score should also be correlated to the intention measure.

A moderately strong relationship between the calculated

referent score and the global subjective norm was obtained ($r=.529$, $p<.0001$). A stronger relationship was found between global subjective norm and intention ($r=.618$, $p<.0001$). Figure 8 illustrates this relationship.

Multiple regression was then used to determine the relative weight or importance of attitude and subjective norm considerations. Results indicate that the subjective norm component ($w=.679$, $p<.0001$, $d.f.=1$) is more important than attitudes ($w=.430$, $p<.009$, $d.f.=1$) in determining intentions to use condoms (Figure 8). Multiple regression procedures also suggest that when the attitude and subjective norm components are considered together, they are a moderately strong predictor of behavioral intention ($R=.635$, $p<.0001$, $d.f.=2$). It is interesting to note the high initial mean scores on the three model variables (as measured by the control group), intention to use condoms ($\bar{M}=5.53$), attitudes toward using condoms ($\bar{M}=6.47$) and the global subjective norm ($\bar{M}=6.39$).

Stage 2: Manipulation Check

One bipolar item (question 14), measured on a 7-point scale, was designed to determine the perceived fearfulness of the condom commercials.

A two-way analysis of variance procedure was performed to determine whether significant main effects (fear, repetition) and/or interaction effects could be determined (Figure 9).

	1	2	3	4	5	6	7	8	9
	U	U	U	U	E	E	E	E	P
	S	S	S	S	V	V	V	V	A
	E	E	E	E	A	A	A	A	R
	C	C	C	C	L	L	L	L	C
	O	O	O	O	A	P	S	I	O
	N	N	N	N	I	G	T	N	N
	A	P	I	S					
	I	G	N	T					

R2	0.03	0.04	0.02	0.02	0.05	0.03	0.04	0.03	0.03
Pr>F	0.56	0.38	0.89	0.80	0.23	0.61	0.41	0.54	0.51
F	0.84	1.08	0.42	0.55	1.34	0.77	1.03	0.86	0.90

Pr>f

Fear	0.28	0.09	0.99	0.79	0.81	0.43	0.77	0.92	0.89
Reps	0.76	0.71	0.72	0.92	0.41	0.34	0.48	0.50	0.12
Fear*Reps	0.48	0.42	0.67	0.42	0.08	0.69	0.22	0.36	0.96

- 1 USECONAI=Belief that using condoms prevents AIDS
- 2 USECONPG=Belief that using condoms prevents pregnancy
- 3 USECONIN=Belief that using condoms is inconvenient
- 4 USECONST=Belief that using condoms prevents STDs
- 5 EVALAI=Evaluation of contracting AIDS
- 6 EVALPG=Evaluation of becoming pregnant
- 7 EVALST=Evaluation of contracting STDs
- 8 EVALIN=Evaluation of inconvenience
- 9 PARCON=Parents would want condom use

Figure 9. Two-By-Four Anovas for All Dependent Variables

	10	11	12	13	14	15	16	17	18
	P A R T C O N	P R C O N	C L E R C O N	W A N T P A R	W A N T P A R T	W A N T P R	W A N T C L E R	A T T A D C	C O N C O M P E
R2	0.04	0.07	0.04	0.01	0.06	0.02	0.02	0.08	0.39
Pr>F	0.31	0.06	0.42	0.97	0.11	0.81	0.77	0.02	0.00
F	1.19	1.97	1.02	0.25	1.70	0.53	0.58	2.46	17.24
Pr>F									
Fear	0.54	0.12	0.10	0.63	0.19	0.44	0.27	0.00	0.00
Reps	0.07	0.02	0.51	0.75	0.04	0.76	0.60	0.10	0.00
Fear*Reps	0.85	0.82	0.50	0.99	0.61	0.61	0.82	0.87	0.01

- 10 PARTCON=Partner would want condom use
- 11 PRCON=Friends would want condom use
- 12 CLERCON=Clergy would want condom use
- 13 WANTPAR=Motivation to comply with parents
- 14 WANTPART=Motivation to comply with partner
- 15 WANTPR=Motivation to comply with friends
- 16 WANTCLER=Motivation to comply with clergy
- 17 ATTADC=Attitude toward the ad
- 18 CONCOMPE=Fearfulness of condom ad

Figure 9. (continued)

The F statistic was 17.24, ($p < .0001$, d.f.=7) indicating that the fear manipulation was successful. Additionally, the means (Figure 10 and Figure 11) suggest that until eight repetitions, subjects in the higher repetition conditions perceived the ad to be more fearful in both the low and high fear conditions. Fear levels decreased in the eight repetitions condition in both low and high fear levels.

Significant main effects were found for fear ($p < .0001$, d.f.=1). Unexpected significant effects were found for repetitions ($p < .0001$, d.f.=3) and the interaction ($p < .01$, d.f.=3). Ideally, repetition should not have had an effect. In order to isolate the effect of fear and repetition on the various dependent variables, the low fear ad should remain low fear and the high fear ad should remain high fear. To have fear change with repetition might confound the results.

Contrasts were conducted to determine where the differences between experimental condition groups lie (Figure 12). Differences were found for the low fear manipulation only. Significant differences were found among 2 and 6 repetitions ($F=5.21$, $p < .05$, d.f.=1), 2 and 8 repetitions ($F=4.75$, $p < .05$, d.f.=1), 4 and 6 repetitions ($F=5.51$, $p < .01$, d.f.=1), and 4 and 8 repetitions ($F=3.20$, $p < .05$, d.f.=1).

Significant differences were found between low and high fear at the same repetition level for three of the four conditions. The fourth comparison was marginally significant. The differences were significant at 2 repetitions ($t=-5.52$,

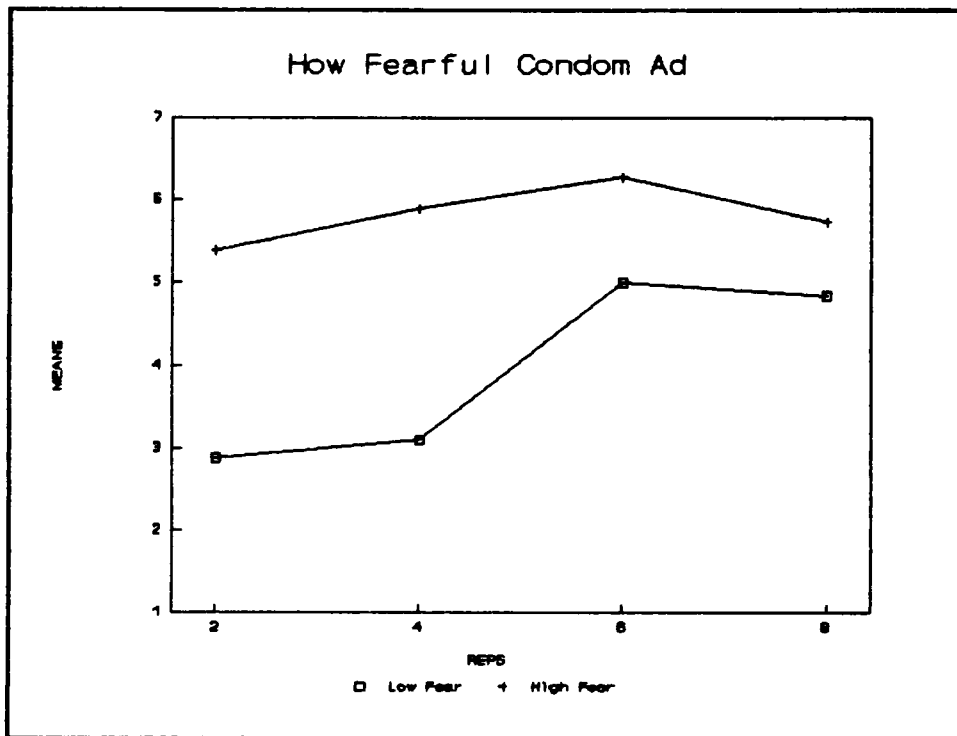


Figure 10. How Fearful Condom Ad

		Useconai			Useconpg		Useconst		Useconin		Evalai		Evalpg		Evalst	
		N	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Condition																
Fear Reps																
1	2	24	6.00	1.67	5.83	1.58	5.96	1.65	3.42	2.21	6.88	0.34	6.72	0.57	6.83	0.48
1	4	33	5.27	1.89	5.45	1.66	5.55	1.84	3.52	2.31	7.00	0.00	6.76	1.00	7.00	0.00
1	6	21	5.71	1.45	5.76	1.41	5.81	1.44	3.10	2.12	7.00	0.00	6.71	1.31	7.00	0.00
1	8	25	5.96	1.37	5.6	1.76	6.08	1.22	3.68	2.17	7.00	0.00	7.00	0.00	7.00	0.00
2	2	29	5.93	1.69	6.17	1.54	5.66	1.61	3.86	2.13	6.99	0.06	6.99	0.06	6.99	0.06
2	4	19	6.11	1.05	6.21	0.85	6.05	1.13	3.58	2.29	7.00	0.00	6.68	1.38	7.00	0.00
2	6	26	5.88	1.75	5.54	1.77	6.15	1.46	3.23	2.20	6.95	0.26	6.87	0.46	6.77	1.18
2	8	22	6.00	0.93	6.18	0.85	5.77	1.63	3.05	2.08	6.90	0.43	7.00	0.00	7.00	0.00
Control																
0	0	18	5.39	1.71	5.44	1.25	5.78	1.30	3.56	2.15	6.85	0.35	6.81	0.59	6.88	0.32

Useconai=Belief that using condoms prevents AIDS
 Useconpg=Belief that using condoms prevents pregnancy
 Useconst=Belief that using condoms prevents STDs
 Useconin=Belief that using condoms is inconvenient
 Evalai=Evaluation of contracting AIDS
 Evalpg=Evaluation of becoming pregnant
 Evalst=Evaluation of contracting STDs

Figure 11. Variable Means

		Evalin			Parcon		Partcon		Precon		Clercon		Wantpar		Wantpart	
		N	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Condition																
Fear Reps																
1	2	24	3.79	0.76	6.08	2.02	5.08	2.57	5.00	2.28	5.21	2.62	4.92	1.99	5.96	1.23
1	4	33	3.43	1.30	6.42	1.58	5.39	2.29	5.51	2.17	5.55	2.18	4.79	1.69	5.09	1.60
1	6	21	3.94	1.27	6.33	1.53	5.57	2.13	5.90	1.64	6.29	1.35	5.14	1.31	5.71	1.59
1	8	25	3.77	0.98	6.80	0.82	6.20	1.58	6.28	1.34	6.24	1.59	5.16	1.43	5.52	1.48
2	2	29	3.46	1.27	6.17	1.79	5.62	2.00	5.79	1.92	5.24	2.43	5.03	1.32	5.97	1.32
2	4	19	3.77	0.99	6.58	1.39	5.21	2.22	5.63	1.61	5.42	2.09	5.00	1.59	5.00	1.94
2	6	26	3.68	1.44	6.15	1.89	5.69	1.99	6.27	1.66	5.42	2.32	5.15	1.78	4.15	2.07
2	8	22	4.09	1.49	6.86	0.35	6.45	1.44	6.64	1.29	5.14	2.27	5.27	1.72	4.36	2.15
Control																
0	0	18	3.24	1.06	6.67	0.97	5.89	1.99	5.72	1.96	6.50	1.54	5.39	1.54	5.39	1.38

Evalin=Evaluation of inconvenience
 Parcon=Parents would want condom use
 Precon=Friends would want condom use
 Clercon=Clergy would want condom use
 Wantpar=Motivation to comply with parents
 Wantpart=Motivation to comply with partner

Figure 11. (continued)

		Wantfr			Wantcler			Attadc		Concomfe	
		N	Mean	SD	Mean	SD		Mean	SD	Mean	SD
Condition											
Fear Reps											
1	2	24	3.63	1.81	4.33	2.03		5.35	1.18	2.88	1.59
1	4	33	4.09	1.93	4.03	2.11		4.95	1.62	3.09	1.63
1	6	21	3.62	1.63	4.81	1.72		5.30	1.43	5.00	1.05
1	8	25	4.04	1.72	4.48	1.71		4.79	1.69	4.84	1.75
2	2	29	4.34	1.63	3.83	1.97		6.10	0.79	5.38	1.68
2	4	19	3.84	1.80	4.05	2.07		5.65	1.53	5.89	1.72
2	6	26	3.81	1.94	4.15	2.07		5.63	1.37	6.27	0.96
2	8	22	4.18	1.99	4.36	2.15		5.30	1.34	5.73	1.83
Control											
0	0	18	4.38	1.74	5.00	1.94		----	----	----	----

Wantfr=Motivation to comply with friends

Wantcler=Motivation to comply with clergy

Attadc=Attitude toward the ad

Concomfe=Fearfulness of condom ad

Figure 11. (continued)

P	P	P	C	W	A	C
A	A	R	L	A	T	O
R	R	C	E	N	T	N
C	T	O	R	T	A	C
O	C	N	C	P	D	O
N	O		O	A	C	M
	N		N	R		P
				T		E

Among Levels

Fear	Reps						
1	0-2				.03		
1	0-4				.09		
1	0-6						
1	0-8						
1	2-4				.03		
1	2-6				.06		.05
1	2-8	.09	.07	.02	.06		.05
1	4-6						.01
1	4-8						.05
1	6-8						
2	0-2				.05		
2	0-4						
2	0-6						
2	0-8			.09	.05		
2	2-4				.06		
2	2-6				.02		
2	2-8	.09		.08			
2	4-6						
2	4-8		.04	.06			
2	6-8	.09					

Between levels

1-2	2				.01	.00
1-2	4					.00
1-2	6			.02	.09	.00
1-2	8			.05		.09

p<.10

Note: Contrasts among fear levels used contrast (F-test) statements

Contrasts between fear levels used individual T-tests

Figure 12. Contrasts

$p < .001$, $d.f. = 51$), 4 repetitions ($t = -5.84$, $p < .001$, $d.f. = 50$), 6 repetitions ($t = -4.32$, $p < .001$, $d.f. = 45$), and marginally significant at 8 repetitions ($t = -1.69$, $p < .09$, $d.f. = 45$).

Stage 2: Dependent Variables

Contrary to expected relationships, analysis of variance procedures did not produce any significant results at the .05 level with respect to the differences between groups for the effects of fear level and repetition on the four categories of dependent variables: beliefs about the consequences of condom use, evaluations of the consequences of condom use, beliefs about specific referents and motivation to comply with those referents (Figure 9). Marginal effects were observed in two variables on the subjective norm end of the Fishbein and Ajzen model: friends would want the subjects to use condoms ($p < .06$, $d.f. = 7$), and subjects wish to comply with what partners would want ($p < .11$, $d.f. = 7$). The final dependent variable of interest, attitude toward the ad, did produce significant effects ($p < .01$, $d.f. = 7$). Significant main effects for fear ($p < .001$, $d.f. = 1$) and marginal effects for repetition ($p < .10$, $d.f. = 3$) were observed. No interaction effects were found.

Stage 3: Covariate Analysis

Analysis of variance procedures were again performed on the four main categories of dependent variables along with attitude toward the ad, however this time controlling for

possible covariate influence. Significant results were then found for several of the dependent variables. These variables will form the basis of the majority of subsequent analysis and discussion.

To review, the covariates believed to have an effect on the dependent variables were: sex, age, marital status, previous product use, perceived vulnerability, knowledge of someone with AIDS or testing positive for HIV, and number of sexual partners. In the current study, there were 126 males (58.1%), 91 females (41.9%); the vast majority of subjects were 18-24 (89.4%); 21 were married (9.7%), 189 single (87.5%), 3 divorced (2.3%) and one separated (0.5%); 74 (34.4%) indicated that they always use condoms, 72 (33.5%) said occasionally and 69 (32.1%) said they never use condoms (many indicating that they were not yet sexually active so had no need for condoms); 82% indicated that they perceived themselves as only mildly vulnerable to contracting the AIDS virus; 44 (20.5%) knew of someone with AIDS or HIV, 171 (79.5%) did not; and, 65 (30.1%) subjects indicated they had no sexual partners in the last three months, 113 (51.3%) answered 1 partner, 28 (13%) answered 2-4 partners, 8 (3.7%) indicated 5-7 partners and 2 (0.9%) indicated 8 or more partners. Clearly nearly 82% of the sample were monogamous or abstained from sexual relations in the last three months.

Once these covariates were accounted for, six of the 16 main variables showed significant differences indicating that

the covariates were masking the effects of fear and repetition in some cases (Figure 13). These dependent variables in which significant differences were found are: using condoms is inconvenient, parents would want subjects to use condoms, partner would want subjects to use condoms, friends would want subjects to use condoms, clergy would want subjects to use condoms, and motivation to comply with partners. In addition, motivation to comply with parents ($p < .09$, d.f.=14), friends ($p < .14$, d.f.=14), clergy ($p < .12$, d.f.=14) were marginally significant completing the subjective norm branch of the model.

1-Beliefs that Condoms are Inconvenient

The only variable to emerge as significant in the attitude branch of the model was subjects felt that using condoms would be inconvenient ($F=3.62$, $p < .001$, d.f.=14). No main effects for fear or repetition were found. There was a statistically significant relationship between age, perceived vulnerability, previous condom use and number of sexual partners, and the perceived inconvenience of using condoms (Figure 13).

To determine differences within each covariate, further analyses of covariance and contrast procedures were performed (Comparisons for all covariates can be found in Figure 14; means for all covariates can be found in Figure 15). A contrast of older and younger subjects found that there was a significant difference between them with regard to their

	1	2	3	4	5	6	7	8	9
	U S E C O N A I	U S E C O N P G	U S E C O N I N	U S E C O N S T	E V A L A I	E V A L P G	E V A L S T	E V A L I N	P A R C O N
R2	0.11	0.10	0.22	0.08	0.08	0.08	0.07	0.07	0.36
Pr>F	0.06	0.16	0.00	0.34	0.29	0.39	0.43	0.55	0.00
F	1.66	1.40	3.62	1.13	1.19	1.07	1.03	0.90	7.22
Pr>f									
Fear	0.26	0.12	0.77	0.90	0.77	0.52	0.84	0.86	0.84
Reps	0.65	0.66	0.95	0.88	0.46	0.35	0.57	0.58	0.14
Fear*Reps	0.40	0.71	1.00	0.37	0.09	0.71	0.26	0.28	0.99
Sex	0.61	0.14	0.39	0.89	0.38	0.92	0.07	0.19	0.97
Mar	0.15	0.91	0.95	0.47	0.07	0.01	0.72	0.81	0.00
Age	0.18	0.38	0.01	0.17	0.40	0.70	0.91	0.56	0.01
Vul	0.04	0.95	0.01	0.07	0.61	0.59	0.49	0.62	0.55
PosHIV	0.71	0.47	0.83	0.54	0.89	0.90	0.30	0.55	0.28
Many	0.53	0.42	0.00	0.75	0.45	0.66	0.09	0.26	0.75
UseCon	0.38	0.02	0.00	0.41	0.61	0.55	0.58	0.05	0.00

1 USECONAI=Using condoms prevents AIDS
2 USECONPG=Using condoms prevents pregnancy
3 USECONIN=Using condoms is inconvenient
4 USECONST=Using condoms prevents STDs
5 EVALAI=Evaluation of AIDS
6 EVALPG=Evaluation of pregnancy
7 EVALST=Evaluation of STDs
8 EVALIN=Evaluation of inconvenience
9 PARCON=Parents would want condom use

Figure 13. Two-By-Four Ancovas for All Dependent Variables

	10	11	12	13	14	15	16	17	18
	P A R T C O N	F R I E N D C O N	C L E R G Y C O N	W A N T P A R E N T S	W A N T P A R T N E R	W A N T F R I E N D S	W A N T C L E R G Y	A T T I T U D E	C O N C O M P E
R2	0.31	0.33	0.18	0.11	0.17	0.10	0.10	0.12	0.40
Pr>F	0.00	0.00	0.00	0.09	0.00	0.14	0.12	0.04	0.00
	5.89	6.55	2.89	1.55	2.69	1.44	1.48	1.78	8.59
	Pr>F								
Fear	0.68	0.22	0.04	0.69	0.14	0.53	0.26	0.00	0.00
Reps	0.04	0.00	0.71	0.70	0.01	0.66	0.42	0.06	0.00
Fear*Reps	0.77	0.96	0.72	0.88	0.53	0.60	0.88	0.97	0.01
Sex	0.12	0.35	0.36	0.23	0.00	0.18	0.00	0.27	0.52
Mar	0.00	0.00	0.00	0.55	0.93	0.23	0.39	0.47	0.49
Age	0.94	0.70	0.16	0.02	0.09	0.81	0.85	0.78	0.82
Vul	0.79	0.42	0.92	0.48	0.44	0.38	0.21	0.30	0.25
PosHIV	0.61	0.57	0.50	0.02	0.04	0.52	0.09	0.44	0.51
Many	0.01	0.02	0.03	0.01	0.64	0.06	0.17	0.56	0.75
UseCon	0.00	0.00	0.26	0.78	0.80	0.08	0.08	0.11	0.66
10	PARTCON=Partner would want condom use								
11	FRCON=Friend would want condom use								
12	CLERCON=Clergy would want condom use								
13	WANTPAR=Motivation to comply with parents								
14	WANTPART=Motivation to comply with partner								
15	WANTFR=Motivation to comply with friends								
16	WANTCLER=Motivation to comply with clergy								
17	ATTADC=Attitude toward the ad								
18	CONCOMPE=Fearfulness of ad								

Figure 13. (continued)

	U S E C O N I N	P A R C O N	P A R T C O N	P R C O N	C L E R C O N	W A N T P A R T
MARITAL STATUS						
Pr>F		.0001	.0001	.0001	.0001	
F		111.03	35.72	51.38	29.03	
Single vs Married						
Pr>F		.0001	.0001	.0001	.0001	
F		111.03	35.72	51.38	29.03	
AGE						
Pr>F	.01	.0001				
F	6.69	26.07				
18-23 vs 23+						
Pr>F	.01	.0001				
F	6.69	26.07				
NUMBER PARTNERS						
Pr>F	.0001		.0001	.0001	.02	
F	10.85		10.10	9.92	4.02	
0 vs 1						
Pr>F	.0002		.0001	.0001		
F	14.59		20.19	19.79		
0 vs 2+						
Pr>F	.0001		.03	.04	.04	
F	17.48		4.44	3.93	4.13	
1 vs 2+						
Pr>F					.005	
F					8.04	

Figure 14. Covariate Analysis

	U S E C O N I N	P A R C O N	P A R T C O N	P R C O N	C L E R C O N	W A N T P A R T
CURRENT CONDOM USE						
Pr>F	.0001	.0001	.0001	.0001		
F	21.59	13.48	18.95	13.35		
Always vs Occasionally						
Pr>F	.0001		.0001	.02		
F	41.99		11.59	5.38		
Always vs Never						
Pf>F	.0001	.0001	.0001	.0001		
F	16.93	24.59	37.69	26.64		
Occasionally vs Never						
Pr>F		.0001	.001	.004		
F		14.99	7.58	8.11		
SEX						
Pr>F					.0001	
F					17.46	
Male vs Female						
Pr>F					.0001	
F					17.46	
KNOWLEDGE OF SOMEONE WITH AIDS						
Pr>F						
F						
No vs Yes						
Pr>F						
F						

Figure 14. (continued)

		Useconin		Parcon		Partcon		Prcon		Clercon		Wantpart	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Variable													
MARITAL STATUS													
Single	195			6.71	.93	5.91	1.81	6.13	1.50	5.86	1.95		
Married	21			3.76	2.73	3.28	2.72	3.42	2.65	3.38	2.47		
AGE													
18-23	161	3.24	2.10	6.67	1.11								
24+	40	4.22	2.27	5.40	2.26								
NUMBER PARTNERS													
0	65	2.49	1.83			6.54	.93	6.63	.78	5.60	2.12		
1	113	3.72	2.20			5.15	2.38	5.41	2.15	5.35	2.31		
2+	38	4.26	2.06			5.68	2.00	5.92	1.60	6.47	1.22		
CURRENT CONDOM USE													
Always	74	4.43	1.90	6.89	.51	6.64	.97	6.56	.89				
Occasionally	72	3.66	2.27	6.63	1.16	5.57	1.93	5.90	1.69				
Never	69	2.29	1.76	5.71	2.14	4.68	2.55	5.07	2.34				
SEX													
Males	126											5.80	1.32
Females	91											4.87	1.92
KNOWLEDGE OF SOMEONE WITH AIDS													
No	171											5.09	1.84
Yes	44											5.48	1.61

Figure 15. Covariate Means

perceptions of the inconvenience of condoms ($F=6.69$, $p<.01$, $d.f.=1$). Means of each group revealed that the older subjects (those over 24) found condoms significantly more inconvenient ($\bar{M}=4.22$) than those 18-23 aged subjects ($\bar{M}=3.24$).

Since perceived vulnerability with regard to the subjects' perceptions of condom inconvenience was measured on a continuous scale, it was necessary to further analyze this covariate through regression analysis. A significant relationship was found between different levels of perceived vulnerability and the belief that condoms are inconvenient ($R=.021$, $p<.02$, $d.f.=1$). The parameter estimate of .208 ($T=2.393$, $p<.02$) suggests that for every 1 point increase in the perceived vulnerability measure, a .208 increase in belief (inconvenience) would result.

When contrasting those who use condoms always, occasionally and never, significant differences were also found between each of them with regard to their perceptions of the inconvenience of using condoms ($F=21.59$, $p<.0001$, $d.f.=2$). Those who always use condoms found them significantly more inconvenient ($\bar{M}=4.43$) than did those who occasionally ($\bar{M}=3.66$) or never used them ($\bar{M}=2.29$).

Contrasting those subjects who reported no sexual partners in the last month, one partner and 2 or more partners, significant differences were found ($F=10.85$, $p<.0001$, $d.f.=1$). Those with two or more partners found them more inconvenient ($\bar{M}=4.26$) than those with 1 partner ($\bar{M}=3.72$)

or those with no partners ($\bar{M}=2.49$).

The final six variables to emerge as significant were part of the subjective norm portion of the Fishbein and Ajzen model. Statistically significant relationships were found for all four of the referent groups.

2. Beliefs That Parents Would Want Condom Use

There was a statistically significant relationship between marital status, age, and previous condom use, and beliefs about what whether parents would want condom use ($F=7.22$, $p<.001$, $d.f.=14$). No main effects or interaction effects were found for fear or repetition (Figure 13).

Further analysis contrasting married and unmarried subjects found significant differences between them with regard to their beliefs about whether parents would want them to use condoms ($F=111.03$, $p<.0001$, $d.f.=1$). Single subjects are significantly more likely to believe that parents would want them to use condoms ($\bar{M}=6.71$) than married subjects ($\bar{M}=3.76$).

Similarly, significant differences were found when contrasting younger and older subjects on the same variable ($F=26.07$, $p<.0001$, $d.f.=1$). Younger subjects were more likely to believe that their parents would want them to use condoms ($\bar{M}=6.67$) than older subjects ($\bar{M}=5.40$).

Significant differences were found when contrasting those the responses to current condom use ($F=13.48$, $p<.0001$, $d.f.=2$)

and their beliefs about whether their parents would want them to use condoms. Significant differences were found between those who never use condoms and those who always do and those who occasionally use condoms and those who never do. Those who always use condoms were more likely ($M=6.89$) than those who never do ($M=5.71$) and those who occasionally use condoms ($M=6.63$) to believe that their parents would want them to use condoms.

3. Beliefs that Partners Would Want Condom Use

There was a statistically significant relationship between marital status, number of sexual partners and previous condom use, and beliefs about whether the subjects' partners would want condom use ($F=5.89$, $p<.001$, $d.f.=14$). In addition there was a significant main effect found for repetition for this variable ($F=2.99$, $p<.04$, $d.f.=3$). No interaction effects were found (Figure 13).

When comparing married and unmarried subjects with regard to their beliefs about whether their partners would want them to use condoms significant differences were found ($F=35.72$, $p<.0001$, $d.f.=1$). Single subjects are more likely to believe that their partners would want them to use condoms ($M=5.87$) than married subjects ($M=3.38$).

Significant differences were also found when contrasting the different numbers of sexual partners and beliefs about the same variable ($F=10.10$, $p<.0001$, $d.f.=2$). Differences were

found between 0 partners and 1 partner, and 0 partners and 2 or more partners. Those with 0 partners were more likely to believe that their partners would want them to use condoms ($\underline{M}=6.54$) than those with 1 partner ($\underline{M}=5.15$) or those with 2 or more partners ($\underline{M}=5.68$).

When contrasting those who always, occasionally and never use condoms, significant differences were found ($F=18.95$, $p<.0001$, $d.f.=1$) between all comparisons. Those who always use condoms were more likely to believe that their partners would want them to ($\underline{M}=6.65$) than those who occasionally use them ($\underline{M}=5.57$) and those who never use them ($\underline{M}=4.68$).

4. Beliefs that Friends Would Want Condom Use

There was a statistically significant relationship between marital status, number of sexual partners and previous condom use, and beliefs about whether the subjects' friends would want condom use ($F=6.55$, $p<.001$, $d.f.=14$). There was a significant main effect found for repetition for this variable ($F=5.11$, $p<.001$, $d.f.=3$). No interaction effects were found (Figure 13).

Significant differences were found when contrasting single and married subjects with regard to their beliefs about whether friends would want them to use condoms ($F=51.38$, $p<.0001$, $d.f.=1$). Single subjects were more likely to believe that their friends would want them to use condoms ($\underline{M}=6.13$) than married subjects ($\underline{M}=3.42$).

Differences were found between those who had 0, 1 and more than 2 sexual partners and their beliefs about the same variable ($F=9.92$, $p<.0001$, $d.f.=1$). Contrasts indicated differences between 0 and 1 partner, and 0 and 2 or more partners. Those with no partners were more likely to believe that their friends would want them to use condoms ($M=6.63$), than those with 1 partner ($M=5.41$) or more than 2 partners ($M=5.92$).

When comparing those who always, occasionally and never use condoms with regard to their beliefs that their friends would want them to use condoms, significant differences were found ($F=13.35$, $p<.0001$, $d.f.=2$) between all comparisons. Those who always use condoms were more likely to believe their friends would want them to ($M=6.56$) than those who occasionally use them ($M=5.90$) or those who never use condoms ($M=5.07$).

5. Beliefs that Clergy Would Want Condom Use

A statistically significant relationship was found for subjects' marital status, and numbers of sexual partners, and subjects' beliefs about whether their clergy would want them to use condoms ($F=2.89$, $p<.001$, $d.f.=14$). Significant main effects were also found for fear level ($F=3.90$, $p<.04$, $d.f.=1$). No interaction effects were found (Figure 13).

Further analysis revealed that there were significant differences between married and single subjects with regard to

their beliefs about whether their clergy would want them to use condoms ($F=29.03$, $p<.0001$, $d.f.=1$). Single subjects were more likely to believe that clergy would want them to use condoms ($M=5.87$) than married subjects ($M=3.38$).

Significant differences were also found when contrasting those with no sexual partners, 1 sexual partner and 2 or more partners ($F=4.02$, $P=.01$, $d.f.=1$) for the same variable. Differences were found between those having 0 and 2 or more partners, and those having one and 2 or more partners. Those with 2 or more sexual partners were more likely to believe that clergy would want them to use condoms ($M=6.47$) than those with no partners ($M=5.60$) or those with 1 partner ($M=5.35$).

6. Motivation to Comply with Partner

Significant differences were found in subjects' motivation to comply with what their partners would want them to do. A statistically significant relationship was found for sex and knowledge of someone with AIDS or HIV, and motivation to comply with their partners ($F=2.69$, $p<.001$, $d.f.=14$). Significant main effects were found for repetition ($F=3.81$, $p<.01$, $d.f.=3$). No main effects were found for fear level or interaction effects of fear and repetition (Figure 13).

Significant differences were found when contrasting males and females with respect to their motivation to comply with partners ($F=17.46$, $p<.0001$, $d.f.=1$). Males were found to be significantly more likely to be motivated to comply with

partners ($\underline{M}=5.80$) than females ($\underline{M}=4.87$). Differences were not found between those who knew or did not know someone testing positive for HIV or AIDS and their motivation to comply with partners.

7. Attitude Toward the Ad

A two-way analysis of covariance procedure was performed to determine differences between repetition levels in each fear level condition of attitude toward the ad. The significance of the model ($F=1.78$, $p<.04$, $d.f.=14$) indicates that there were differences between groups in their attitudes toward the ad (Figure 13). Significant main effects were found for fear level ($F=69.65$, $p<.001$, $d.f.=1$). No covariates were found to influence the relationship.

As predicted, there were significant differences between high and low fear in the two repetition condition ($t=-2.78$, $p<.04$, $d.f.=51$). The means indicate that the subjects had a significantly more positive attitude toward the high fear ad ($\underline{M}=6.10$) at the two repetition level than the low fear commercial ($\underline{M}=5.35$) at the same repetition level (Figure 14).

The expected relationships postulated that high fear and moderate levels of repetition (4) would be more effective than low fear to create a change in attitude toward the ad. This was not the case however.

Overall, it appears that for the six main dependent

variables, marital status, number of sexual partners and previous use of condoms are the covariates with the most consistent influence, with age of respondents, sex and perceived vulnerability being somewhat less uniform in influence. For the seventh dependent variable, attitude toward the ad, no covariates were found to be significant.

Stage 4: Contrasts

The last stage of analysis involved determining among fear level experimental groups differences and between fear level experimental group differences for the six variables found to be significant, plus attitude toward the ad. To determine among fear level differences, contrasts were run between each repetition condition for both high and low fear. To determine between fear level differences, T-Tests were used to compare high and low fear at the same repetition level.

As Figure 12 indicates, marginal statistically significant differences ($F=2.89$, $p<.09$, $d.f.=1$) were found among the 2 and 8 repetitions in the low fear condition of the subjective norm variable: parents would want subjects to use condoms. Additionally, marginal differences were found among 2 and 8 ($F=2.80$, $p<.09$, $d.f.=1$), and 6 and 8 repetitions ($F=2.81$, $p<.09$, $d.f.=1$) in the high fear condition of the same variable.

Contrary to expected relationships, high levels of repetition at the high fear level were found to be marginally

more effective than lower or moderate repetition conditions for the parent referent (Figure 16). Statistically significant differences were not found when comparing equal numbers of repetitions between the low and high fear conditions indicating that neither low or high fear commercials were more effective.

Marginal significance ($F=3.29$, $p<.07$, $d.f.=1$) was also found when comparing the 2 to 8 repetition levels in the low fear condition of the belief that subjects' partners would want them to use condoms. Statistically significant results ($F=4.17$, $p<.04$, $d.f.=1$) were also found among the 4 and 8 repetition levels in the high fear condition. Contrary to expected relationships, beliefs about what the subjects' partners would want continued to increase with repeated exposures in both the low and high fear conditions.

Statistically significant differences also were not found when comparing equal numbers of repetitions at the low and high fear levels. In other words, contrary to expected relationships, high fear was not more effective than low fear in changing beliefs about whether subjects' partners would want them to use condoms (Figure 17).

Statistically significant differences ($F=5.38$, $p<.02$, $d.f.=1$) were found when comparing 2 and 8 repetitions in the low fear condition of the belief that friends would want subjects' to use condoms. Additionally, marginal significance

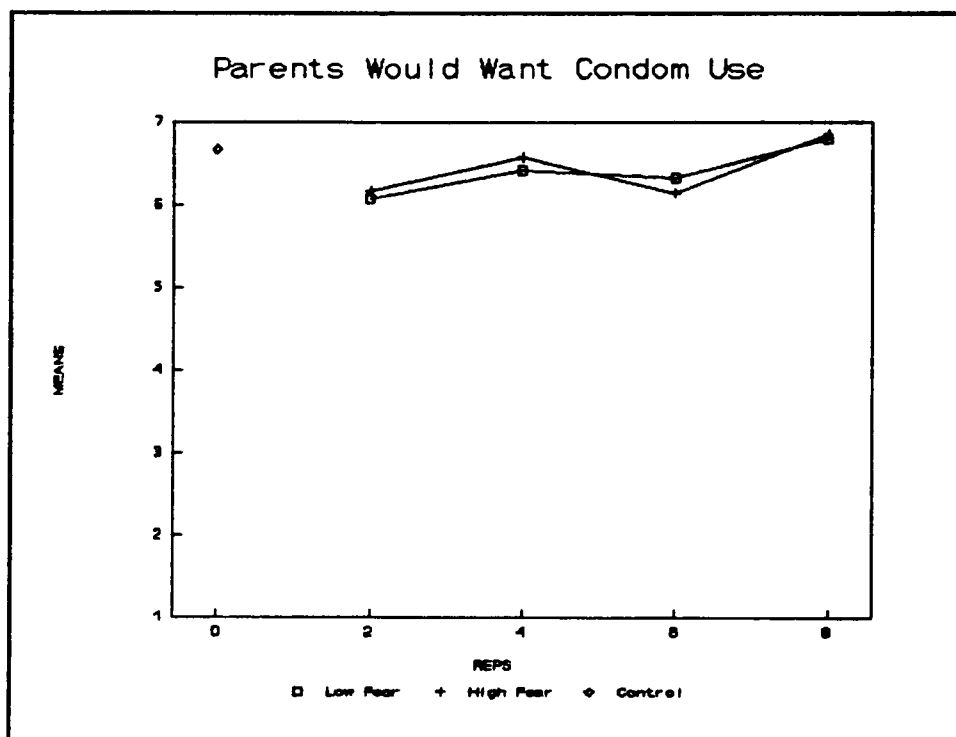


Figure 16. Parents Would Want Condom Use

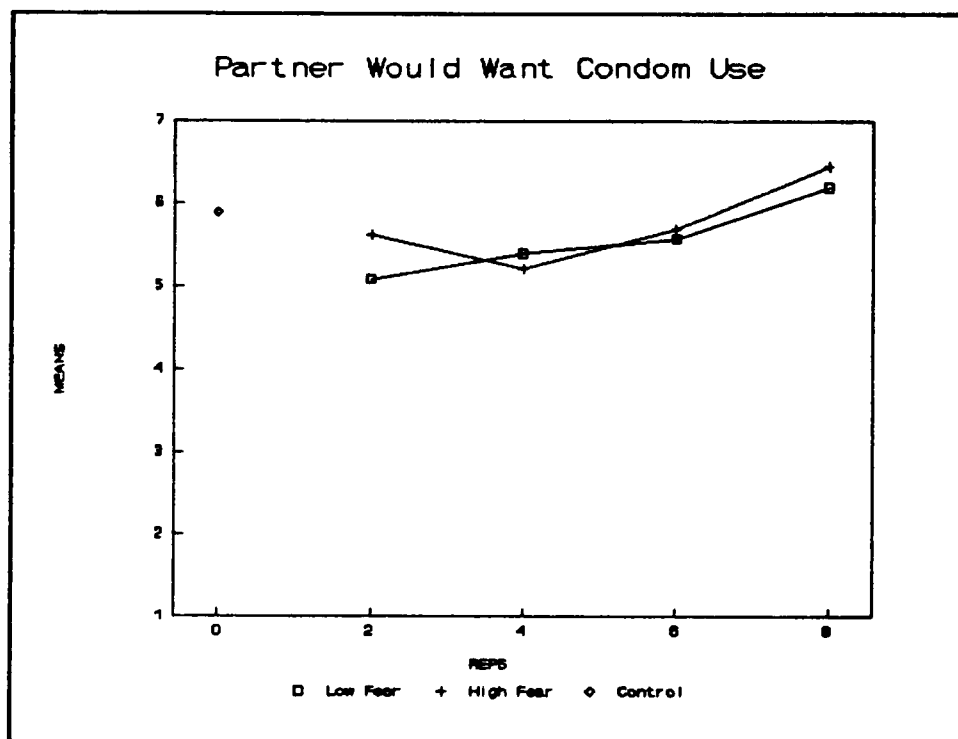


Figure 17. Partner Would Want Condom Use

was found between 0 and 8 ($F=2.83$, $p<.09$, $d.f.=1$), 2 and 8 ($F=3.04$, $p<.08$, $d.f.=1$) and 4 and 8 ($F=3.52$, $p<.06$, $d.f.=1$) in the high fear condition. No differences were found between the low and high fear conditions at equal exposures. Contrary to expected relationships high fear did not show declines with increased exposure levels (Figure 18).

The variable, belief that clergy would want subjects to use condoms, showed highly significant differences. Intuitively, it would seem that subjects would not feel strongly that clergy would want the subjects to use condoms. However, the control group mean on this variable ($M=6.50$) proved otherwise. (It is interesting to note that control group means are higher than all experimental group means.) Additionally, statistically significant results were found when comparing 0 and 2 repetitions ($F=4.45$, $p<.03$, $d.f.=1$) of the low fear condition; marginal significance among 0 and 4 repetitions ($F=2.75$, $p<.09$, $d.f.=1$), 2 and 6 repetitions ($F=3.37$, $p<.06$, $d.f.=1$), and, 2 and 8 repetitions ($F=3.38$, $p<.06$, $d.f.=1$) of the low fear condition.

Significant results were found when comparing 0 and 2 repetitions ($F=3.64$, $p<.05$, $d.f.=1$), and 0 and 8 repetitions ($F=3.80$, $p<.05$, $d.f.=1$) of the high fear condition for the clergy referent.

Statistically significant results were found when comparing the same numbers of repetitions between the low and high fear conditions for the same clergy variable. At 6

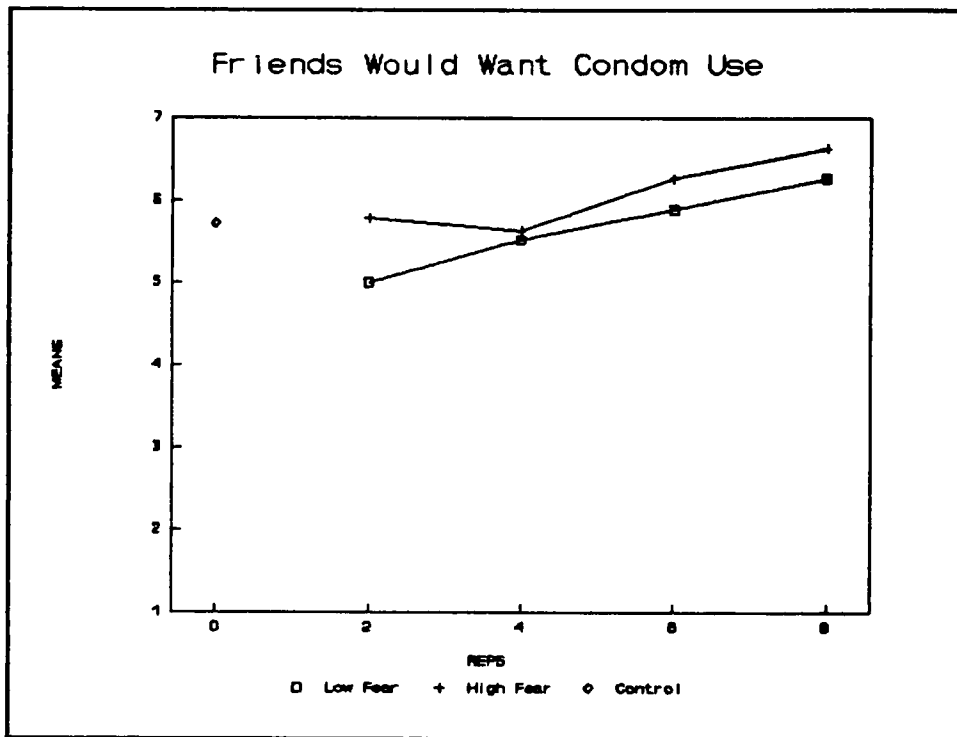


Figure 18. Friends Would Want Condom Use

repetitions, beliefs between the low and high fear conditions were significantly different ($t=1.51$, $p<.02$, $d.f.=45$) and were moderately significant at the 8 repetition level ($t=1.90$, $p<.09$, $d.f.=45$). However, these differences were not as expected since the low fear commercials appear to be more effective than high fear in changing beliefs that clergy would want them to use condoms. As can be seen in Figure 19, it appears that with increased exposure of either the low or high fear commercials, beliefs that clergy would want subjects to use condoms was decreasing.

The final variable, motivation to comply with partner, found significant results among 2 and 4 repetitions of low fear ($F=4.80$, $p<.03$, $d.f.=1$). Significant results were also found among 2 and 6 repetitions of high fear ($F=5.06$, $p<.02$, $d.f.=1$) and marginal significance among 2 and 4 repetitions of high fear ($F=3.38$, $p<.06$, $d.f.=1$). Contrary to expectations, motivation to comply with partners did not decline with repeated exposures of the high fear commercial (Figure 20).

Marginally significant results were also found when comparing the low and high fear conditions at 6 repetitions for the motivation to comply with partner variable ($t=.12$, $p<.09$, $d.f.=1$). Contrary to expectations, high fear was not more effective in producing a positive change in motivation to comply with partners.

No significant differences were found among fear levels for attitude toward the ad (Figure 21). There were however,

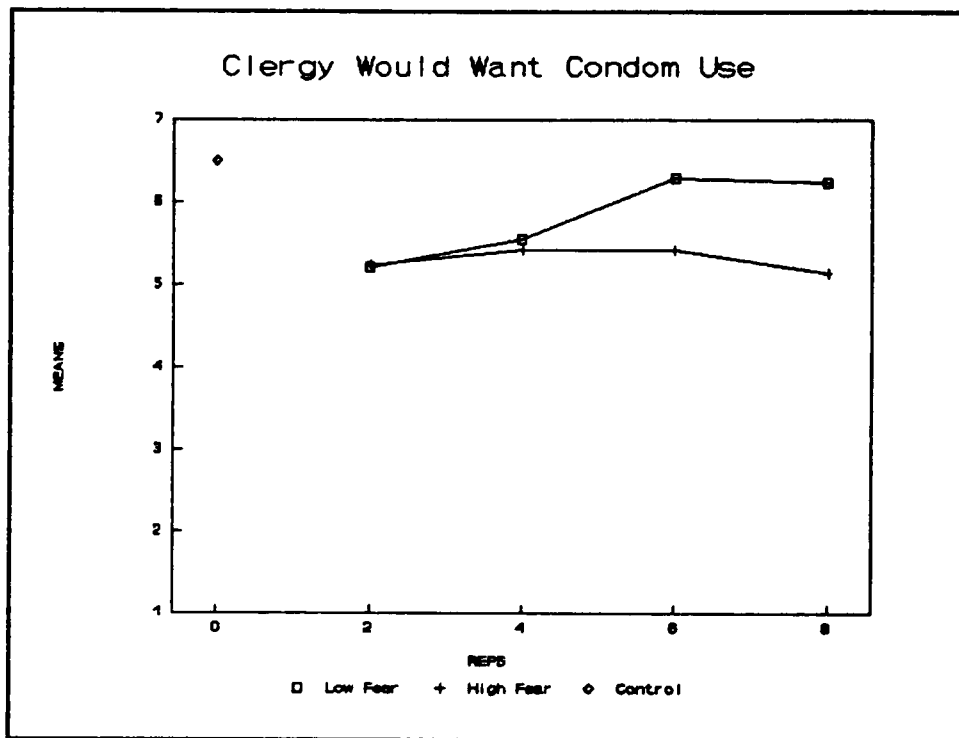


Figure 19. Clergy Would Want Condom Use

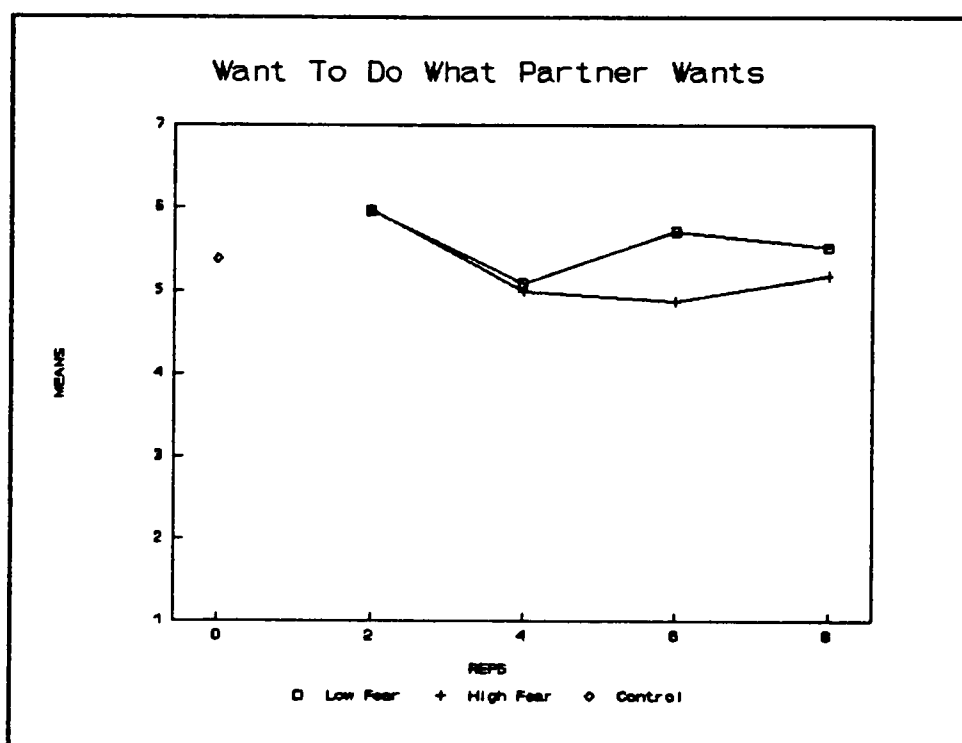


Figure 20. Want To Do What Partner Wants

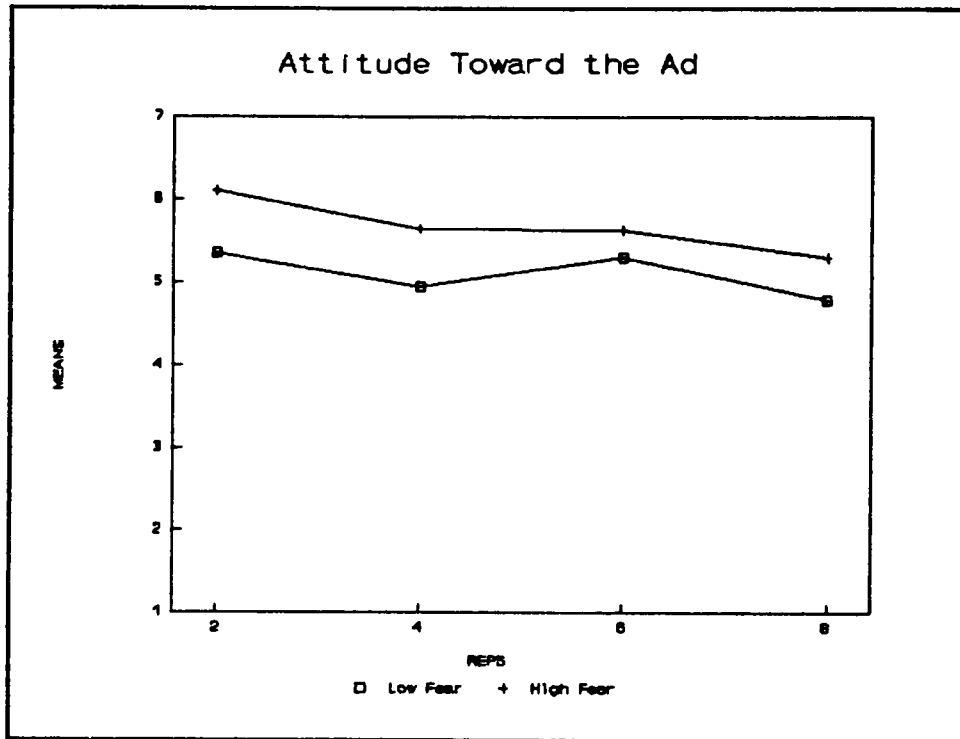


Figure 21. Attitude Toward The Ad

significant differences between fear levels at the 2 repetition level for this variable ($t=-2.79$, $p<.01$, $d.f.=1$). No significant differences were found among fear levels or between fear levels at any repetition level for the belief that using condoms is inconvenient (Figure 22).

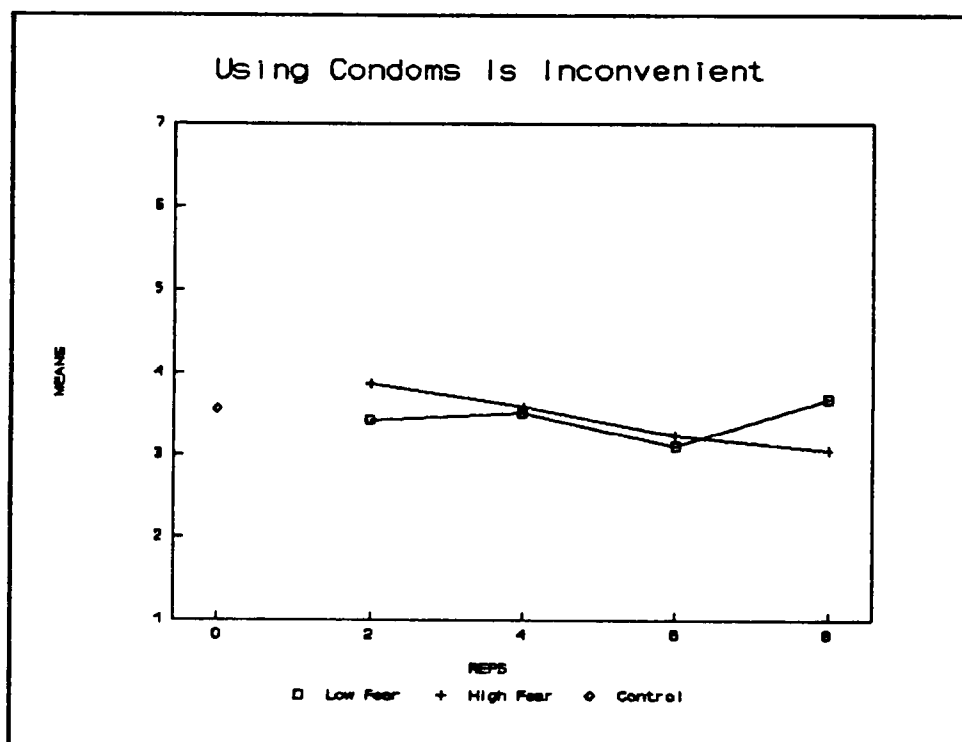


Figure 22. Using Condoms Is Inconvenient

CHAPTER V

DISCUSSION AND IMPLICATIONS

The purpose of this exploratory study was fourfold. First, it was designed to shed some light on fear appeals as used in public service announcements. Specifically, the present research attempted to determine if a high fear message would be more effective than a low fear message in creating a change in beliefs about condom use. It was hoped that, through research such as this, more knowledgeable creative decisions could be made with regard to the appropriate level of fear to be incorporated in such messages.

Second, to aid media planners in deciding optimal numbers of commercials to schedule, this study looked at several levels of repetition of high and low fear appeals to attempt to determine at what point such messages reach "wearout."

Another purpose of this study was to investigate the effects of public service announcements in the neglected medium of radio. Scant research exists which investigates radio or public service announcements. Information regarding this medium seems crucial if advertisers wish to reach the college-age target market.

Finally, this study used as its theoretical framework Fishbein and Ajzens' Theory of Reasoned Action. A well-accepted model, it has been used by advertising and marketing

researchers for several years to help predict behavioral intentions. In the present study, it was used to help uncover possible variables to affect a change in condom use.

Theory of Reasoned Action

In the current research, Fishbein and Ajzen's model has been used as a framework to help understand subjects' intentions regarding the behavior of condom use. Results suggest that overall the model was a good predictor of behavioral intention regarding condom use.

Ajzen (1980) states that when using the model as a predictor of behavior however, one or the other of the arms of the model may dominate, either the attitude portion or the subjective norm portion. Clearly, this research would suggest that for the behavior of condom use, the subjective norm portion carries the heaviest weight. Also, fear and repetition had a significant effect on the beliefs regarding the referents in the subjective norm portion. Treatment differences in motivation to comply with those referents were marginally significant.

In the attitude portion of the model, it is clear that the beliefs and evaluations underlying attitude were not affected differently by either repetition or fear level of the commercials. This lack of significant difference can in part be explained by the high initial beliefs (Figure 11) regarding the consequences of condom use and the evaluations of those

consequences (with the exception of the inconvenience belief which was initially low, $\bar{M}=3.56$). With such high mean scores, it would be difficult to affect a change in attitudes with any level of fear, any number of repetitions or any combination of the two.

Beliefs about what parents, partners, friends and clergy would think about condom use were affected by fear and or repetition of the fear inducing commercials; curiously, since initial attitudes were held very strongly here as well (Figure 11).

In terms of creative strategy it would therefore be wise for advertisers to pay more attention to specific referents if they ultimately wish to affect a change in condom use among college students. Specifically, the one referent which seems to have some room in terms of potential attitude change would be friends. Subjects strongly believed that friends would want them to use condoms yet their motivation to comply with them was low ($\bar{M}=4.38$) as compared to their motivation to comply with other referents (Figure 11).

Fear

According to the Protection Motivation Model, to induce fear, the receiver must be convinced of the severity of the threat, the probability of its occurrence and that the proposed action will be effective to eliminate or to reduce the threat. The low and high fear commercials in the present study used

the model's stipulations as a framework to construct the message. As can be seen in Figure 10, the fear manipulation was clearly successful in creating initially low and high fear conditions. The Protection Motivation Model was successful therefore in creating the fear necessary to influence intention to use condoms.

The current study may not be a sufficient test of the complete model however. The model posits that intention to adopt the recommended action will increase if fear is induced. Protection motivation will be aroused, thereby mediating the effects of fear appeals on attitudes. However, for the model to be effective attitudes must be low enough to allow for change. In the present research, the initial attitudes toward condom use and the beliefs and evaluations about the consequences of condom use were extremely high at the outset and did not afford much room for change.

A main effect for fear was found in only one of the Fishbein and Ajzen variables found to be significant: the belief that clergy would want subjects to use condoms. However, contrary to expected relationships low fear was more effective in changing this belief. Figure 19 would suggest however that neither low nor high fear was successful in bringing subjects back to their pre-exposure high belief. Beliefs about what clergy would want at two exposures of either low or high fear were the lowest. Beliefs increased moreso for the low fear condition perhaps because the subjects

had more time, and less threatening conditions to process the personal implications with more exposures. In terms of application however, it would seem best not to mention clergy in public service announcements of this type for two reasons. One, quite obviously receivers may perceive reference to clergy as sacrilegious or too commercial. Second, this study would suggest that even two repetitions of the ads lowered beliefs about what clergy would think from initial control group scores.

An optimal level of fear cannot be established with the current study. It was predicted that overall, high fear would be more effective than low in affecting changes in beliefs. In the two variables where differences were found between low and high fear (beliefs that clergy would want condom use and marginally for motivation to comply with partners), low fear appeared to be more effective. However, since no main effects for fear were found in the other variables it would appear on balance that neither low nor high fear could be recommended as a more effective strategy. It is interesting to note that the consequence manipulated in the commercial was AIDS yet no significant differences were found between group beliefs regarding the consequence. Perhaps again because beliefs about and evaluations of AIDS were so strong to start ($\bar{M}=5.39$, $\bar{M}=6.85$).

Repetition

It was expected that moderate levels of repetition (4-6) would be more effective than lower or higher numbers of repetition; wearout, or decreases in beliefs would occur at these levels. However, again it is difficult to come to definite conclusions. In only two of the cases did beliefs decline after the moderate repetition level: clergy would want condom use and motivation to comply with partners (but only in the low fear condition). In all but motivation to comply with partner, beliefs either increased or showed steady declines with each repetition condition. Perhaps the lack of wearout can partially be explained by the the results of Hitchon et al (1988) study which found that when an ad uses a highly emotional appeal, attitudes toward the brand did not decrease until twelve exposures.

The results may also be explained by examining the Two-Factor model previously discussed. According to the theory, tedium occurs with increased repetitions of a previously novel stimulus. Perhaps in the present study, the stimulus (condom use) was so novel as to forestall the tedium or boredom point. On the other hand, receivers by this time may be so bombarded with ads and media coverage of AIDS that they were saturated.

Contrary to expected relationships proposed by Krugman and others, this study would suggest that wearout for this type of message may be at higher levels of repetition. Perhaps this is due to the medium tested. Krugman's research

along with others, dealt mostly with television while still other researchers have used the print medium in the form of slides. No other research has used radio in this context and therefore it is difficult to compare other results.

In summary, it is difficult to recommend the optimal combination of fear and repetition. It was expected that high fear and moderate levels of repetition would be the most effective combination. Additionally lower levels of repetition of a high fear commercial were expected to be more effective than lower levels of repetition of a low fear commercial. Finally, sharper declines in high fear were expected to occur at eight repetitions more so than eight repetitions at low fear.

However, for three of the four significant referent variables, beliefs continued to increase (without reaching wearout) with more repetitions. As previously discussed, the clergy referent beliefs did decrease at the moderate repetition level, yet low fear was significantly more effective in creating that belief change. It is difficult to speculate where the wearout point may be for the motivation to comply with partner variable for either low or high fear. Fluctuations occurred at all levels. For the belief that using condoms is inconvenient, the high fear condition shows steady declines with increasing repetitions; the low fear is inconclusive yet seems more effective. This finding seems

logical however. Since the commercial manipulations did not address the inconvenience of using condoms, it would seem that no amount of repetition would affect that belief.

It would be important for creative strategists and marketing planners to consider the influences of the covariates found to be significant in this study when developing commercials or targeting plans. To affect a change in beliefs about referents it would seem necessary to consider that, overall, younger, single subjects who always use condoms and have the most numbers of partners hold the strongest beliefs regarding what others think they should do. It would seem, for example, that younger people who seldom use condoms and have fewer numbers of partners would benefit from condom messages directed toward them. Additionally, since it was found that males are more motivated to comply with their partners, messages directed toward females taking the initiative may prove effective.

Attitude Toward the Ad

A significant main effect for fear was found for attitude toward the ad. Additionally there was a significant difference between the two fear conditions at the two repetition level. However, expected relationships were not found with respect to the combination of fear and repetition. Although high fear produced higher attitudes toward the ad it was only significantly different than low fear at the two

repetition level. Additionally, there was no wearout effect observed at the expected moderate level of repetition. The attitudes toward the ad showed steady declines as repetition levels increased.

It is unclear if the declining attitude toward the ad scores in the high fear condition could have contributed to high fear results: the differences among the high fear conditions were not significant. Additionally in the low fear condition, the unclear relationships could be obscured by the fact that unexpectedly, the low fear commercial was increasingly perceived as higher fear with increasing exposure levels. Attitudes toward the low fear commercial may have been affected.

Limitations

Several factors may have influenced the results of the present research. First, as has been mentioned, the most significant limitation may be the fact that beliefs about the consequences of behavior, their evaluations, attitudes toward using condoms, and intentions to use condoms were so strong to begin with (with the exception of beliefs about inconvenience). It may well be that fear appeals and repetition may combine effectively on behaviors about which these beliefs are not initially so strongly held.

A related limitation concerns the fact that six months before the study began, basketball superstar Magic Johnson

revealed that he had tested positive for the HIV virus and would have to retire from sports. The media coverage regarding Johnson's revelation was unprecedented, thereby most likely raising the consciousness of AIDS substantially. Additionally, between weeks one and two of the exposure conditions, former tennis great Arthur Ashe revealed that he too had tested positive for HIV. These events may have influenced the intentions as well as the beliefs and attitudes regarding condom use.

Third, the pretest of the low and high fear manipulations found that the low fear commercial was indeed perceived to be low fear inducing and the high fear the reverse. However, as previously discussed, in the complete study as repetition levels increased the perceived level of the low fear manipulation also increased through six repetitions (Figure 16). This may have influenced the groups receiving the low fear manipulation so that differences between low and high fear would not be so apparent.

As with all experimental research, a degree of artificiality is inherent. Several steps were taken to remedy some of the past criticisms regarding the artificiality of repetition research. Even though the test commercials were embedded in normal radio programming and were spread out over a two week time frame some problems remained. Students listened to the radio tapes in a small, crowded classroom which is somewhat removed from the normal radio listening

context. Additionally, subjects were asked not to talk or read while listening to the tapes, again not the norm since people are generally doing other things when listening to the radio.

Another possible limitation was that the subjects as a whole proved to be somewhat atypical in that they indicated they were less sexually (69%) active than the national (84%) average (Adweek, 1992). Indeed, 77% of those who answered "never use condoms" were those who were not sexually active. The issue of protection and AIDS prevention may not be as relevant to a less sexually active sample. It is difficult to measure beliefs, attitudes and intentions regarding condom use when subjects are not sexually active.

The medium used to present the fear appeal message may also have created certain limitations. Typically, listeners may change radio stations when advertising is aired. Consequently, listeners may have learned to "tune out" commercials so that wearout on radio may occur at higher levels of repetition than Krugman's Three Hit Theory would suggest.

The message itself may have created a limitation as well. As was suggested, television stations are gearing up to accept condom commercials, however the electronic media have not done so as yet. Although the commercials were embedded in programming content, their novelty in terms of content and no special effects or music may have created unusual attention.

Another possible complicating factor in this study is the area of the country in which it was conducted. As compared to other areas of the country, Tennessee reports a relatively low 6.0 to 7.9 incidences of AIDS per 100,000 population. Compare these 1988 figures, for example, to 38.9 cases per 100,000 persons in New York and 81.2 cases per 100,000 in the District of Columbia (Centers for Disease Control, 1989). Consequently, with less cases of AIDS reported, less subjects will personally know of someone testing positive for HIV or AIDS and the issue itself may be less relevant for them.

Future Research

Perhaps a study such as this could be replicated with the younger high school age subjects where beliefs may not yet have crystallized so strongly. Studies have shown that 67% of high school students are sexually active (Adweek, 1992), and at least 50% of those who have been diagnosed with AIDS are between the ages of 20-35, many of those will have contracted the disease in their high school years (Centers for Disease Control, 1989).

A broader cross-section of the country including those areas where AIDS is more prevalent may warrant future study. Additionally, targeting non-college students and minority groups of this same age group would be of interest to health care professionals and advertising practitioners.

Future research manipulating the subjective norm arm of the the Fishbein and Ajzen model may provide insight for creative strategists with regard to altering beliefs about condom use.

In some case low fear seemed to be a somewhat stronger influence on beliefs. It may be useful therefore, to investigate different strategies manipulating low fear and no fear conditions.

It would also be of interest to vary the consequences of the ads. For example, if the highest fear consequence, AIDS, and the lowest fear consequence, perceived inconvenience, were tested against each other across various levels of repetition, some insight may be gained as to the appropriate consequence to manipulate. Here, qualitative studies may be better suited to ascertain the consequences that may be relevant to receivers.

In light of the mixed findings regarding fear appeals and repetition in this study, it is hoped that public service advertisers will use fear appeals warily. In addition they may need to pay more attention to the effects of referents and investigate less fearful means to communicate the negative results of lack of condom use and encourage behavioral change. In sum, this study suggests creative, scheduling and targeting implications.

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APPENDICES

APPENDIX A

QUESTIONNAIRES

Please list the reasons you would AND would not use a condom if you engage in sexual activity during the next month.

Is there anything else you associate with condom use?

Are there any people or groups of people who would approve or disapprove of your using a condom if you engage in sexual activity during the next month? (Please list)

Are there any other people or groups of people you wish to discuss?

Thank you very much for your cooperation.

These are the reasons you listed why you would or would not use condoms. Would you please now tell me how fearful you are of the following items, where 5 represents high fear and 0 represents no fear.

	High				Low	No
Your getting AIDS	5	4	3	2	1	0
You or your partner becoming pregnant	5	4	3	2	1	0
Your getting a sexually transmitted disease other than AIDS	5	4	3	2	1	0
Embarrassment of using condoms	5	4	3	2	1	0
Reduction of intimacy	5	4	3	2	1	0
Loss of feeling	5	4	3	2	1	0
Inconvenience	5	4	3	2	1	0
Discomfort	5	4	3	2	1	0

The following questions will help us understand your general impressions regarding the radio station's music format you just listened to. FOR EACH OF THE SCALES PRESENTED IN EACH QUESTION, please circle the ONE number that most closely relates to the way you feel.

1. I feel the proposed format (no DJ talk) of the radio station is:

Good	1	2	3	4	5	6	7	Bad
Effective	1	2	3	4	5	6	7	Ineffective
Likeable	1	2	3	4	5	6	7	Not Likeable

2. I feel the proposed type of music for the radio station is:

Good	1	2	3	4	5	6	7	Bad
Effective	1	2	3	4	5	6	7	Ineffective
Likeable	1	2	3	4	5	6	7	Not Likeable

3. I feel the proposed number of commercials is:

Good	1	2	3	4	5	6	7	Bad
Effective	1	2	3	4	5	6	7	Ineffective
Likeable	1	2	3	4	5	6	7	Not Likeable

4. I feel radio advertising is:

Good	1	2	3	4	5	6	7	Bad
Effective	1	2	3	4	5	6	7	Ineffective
Likeable	1	2	3	4	5	6	7	Not Likeable

5. I feel radio contests are:

Good	1	2	3	4	5	6	7	Bad
Effective	1	2	3	4	5	6	7	Ineffective
Likeable	1	2	3	4	5	6	7	Not Likeable

6. How likely is it that you would listen to this type of station in the proposed format?

Likely	1	2	3	4	5	6	7	Unlikely
--------	---	---	---	---	---	---	---	----------

7. My favorite type of music is:

- ☐ Top 40
- ☐ Country
- ☐ Adult Contemporary
- ☐ Heavy Metal
- ☐ Dance
- ☐ Christian
- ☐ Other

8. Where do you do most of your radio listening?

- ☐ In the car
- ☐ At home
- ☐ At work
- ☐ Other

9. Please indicate approximately how many hours per day you listen to the radio.

- ☐ 0-1 hours
- ☐ 1-2 hours
- ☐ 2-3 hours
- ☐ 3-4 hours
- ☐ more than 4 hours

10. How many radios do you own, including your car radio?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ more than 4

Thank you very much for participating. Please be sure to come next week on the same day, time and classroom. The music listened to and the questions asked will be different.

Informed Consent

This study involves research regarding the perceptions of radio programming and commercials by college students. Volunteers will be asked to listen to 30-40 minutes of taped programming in 2 sessions spaced over a two-week period. After the first session, you will be asked to answer 10 questions regarding the radio format. Following week two, you will be asked to relate your opinions regarding the radio programming format and the commercials contained within the programming via a 40-item questionnaire.

There are no foreseeable risks involved in this study. On the other hand, potential benefits could be expected as radio programmers and advertisers could better meet the needs of the audience.

Confidentiality of each volunteer will be assured. Researchers will not use or obtain names from the volunteers. You will need to include your social security number on the questionnaire to obtain extra credit; however, the researcher will provide only a list of participants by social security numbers to the appropriate teacher. No one but the researcher will have access to the original questionnaires. Additionally, the questionnaires will be held under lock and key in the office of Dr. Ron Taylor's, chairman of the department of advertising, 476 Communications Building. At the conclusion of this study the questionnaires will be destroyed.

Should any volunteer or interested party require additional information, he/she may call Debbie Treise, Department of Advertising, University of Tennessee, 974-3048.

Participation in this research is strictly voluntary. Refusal to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled. Volunteers may also discontinue participation at any time without penalty or loss of benefits to which the subject is otherwise entitled.

Your signature is not required on this form. However, your completion and handing in of the attached questionnaire will constitute your consent.

Thank you very much for your cooperation.

Social Security Number _____

Teacher (for extra credit assignment) _____

The following questions will help us understand your general impressions regarding the radio station's music format you just listened to. FOR EACH OF THE SCALES PRESENTED IN EACH QUESTION, please circle the ONE number that most closely relates to the way you feel.

1. I feel the proposed format (no DJ talk) of the radio station is:

Bad	1	2	3	4	5	6	7	Good
Ineffective	1	2	3	4	5	6	7	Effective
Not Likeable	1	2	3	4	5	6	7	Likeable

2. I feel the proposed type of music for the radio station is:

Bad	1	2	3	4	5	6	7	Good
Ineffective	1	2	3	4	5	6	7	Effective
Not Likeable	1	2	3	4	5	6	7	Likeable

3. I feel the proposed number of commercials is:

Bad	1	2	3	4	5	6	7	Good
Ineffective	1	2	3	4	5	6	7	Effective
Not Likeable	1	2	3	4	5	6	7	Likeable

The following questions will help us understand your general impressions regarding the products advertised. FOR EACH OF THE SCALES PRESENTED IN EACH QUESTION, please circle the ONE number that most closely relates to the way you feel.

4. I intend to purchase Oxy during the next month.

Unlikely	1	2	3	4	5	6	7	Likely
----------	---	---	---	---	---	---	---	--------

5. I intend to use a condom if I have sexual relations during the next month.

Unlikely	1	2	3	4	5	6	7	Likely
----------	---	---	---	---	---	---	---	--------

6. I intend to purchase Progresso Soup during the next month.

Unlikely	1	2	3	4	5	6	7	Likely
----------	---	---	---	---	---	---	---	--------

7. Purchasing Oxy during the next month is:

Bad	1	2	3	4	5	6	7	Good
Unwise	1	2	3	4	5	6	7	Wise
Not Beneficial	1	2	3	4	5	6	7	Beneficial

8. Using a condom if I have sexual relations during the next month is:

Bad	1	2	3	4	5	6	7	Good
Unwise	1	2	3	4	5	6	7	Wise
Not Beneficial	1	2	3	4	5	6	7	Beneficial

9. Purchasing Progresso Soup during the next month is:

Bad	1	2	3	4	5	6	7	Good
Unwise	1	2	3	4	5	6	7	Wise
Not Beneficial	1	2	3	4	5	6	7	Beneficial

10. Most people who are important to me think I should purchase Oxy during the next month.

Unlikely	1	2	3	4	5	6	7	Likely
----------	---	---	---	---	---	---	---	--------

11. Most people who are important to me think I should use a condom if I have sexual relations during the next month.

Unlikely	1	2	3	4	5	6	7	Likely
----------	---	---	---	---	---	---	---	--------

12. Most people who are important to me think I should purchase Progresso Soup during the next month.

Unlikely	1	2	3	4	5	6	7	Likely
----------	---	---	---	---	---	---	---	--------

13. I feel the Oxy commercial was:

Not Interesting	1	2	3	4	5	6	7	Interesting
Bad	1	2	3	4	5	6	7	Good
Not Effective	1	2	3	4	5	6	7	Effective
Not Fearful	1	2	3	4	5	6	7	Fearful

14. I feel the condom commercial was:

Not Interesting	1	2	3	4	5	6	7	Interesting
Bad	1	2	3	4	5	6	7	Good
Not Effective	1	2	3	4	5	6	7	Effective
Not Fearful	1	2	3	4	5	6	7	Fearful

15. I feel the Progresso Soup commercial was:

Not Interesting 1 2 3 4 5 6 7 Interesting

 Bad 1 2 3 4 5 6 7 Good

Not Effective 1 2 3 4 5 6 7 Effective

Not Fearful 1 2 3 4 5 6 7 Fearful

The following questions will help us understand your attitudes and beliefs about condom use. Some questions may be sensitive. Please understand that not only are your answers important, they are completely confidential. The informed consent sheet with your social security number will be torn away from your questionnaire so you cannot be tied to your responses. In addition, only the researcher will see your responses, so please answer as honestly as you can.

16. Using a condom if I have sexual relations during the next month will prevent my contracting AIDS.

Unlikely 1 2 3 4 5 6 7 Likely

17. Using a condom if I have sexual relations during the next month will prevent my partner or me from becoming pregnant.

Unlikely 1 2 3 4 5 6 7 Likely

18. Using a condom if I have sexual relations during the next month will be inconvenient.

Unlikely 1 2 3 4 5 6 7 Likely

19. Using a condom if I have sexual relations during the next month will prevent my contracting a sexually transmitted disease.

Unlikely 1 2 3 4 5 6 7 Likely

20. Preventing my contracting AIDS is:

Bad	1	2	3	4	5	6	7	Good
Unimportant	1	2	3	4	5	6	7	Important
Unwise	1	2	3	4	5	6	7	Wise

21. Preventing my partner or me from becoming pregnant is:

Bad	1	2	3	4	5	6	7	Good
Unimportant	1	2	3	4	5	6	7	Important
Unwise	1	2	3	4	5	6	7	Wise

22. Preventing me from contracting sexually transmitted diseases is:

Bad	1	2	3	4	5	6	7	Good
Unimportant	1	2	3	4	5	6	7	Important
Unwise	1	2	3	4	5	6	7	Wise

23. Inconvenience while having sexual relations is:

Bad	1	2	3	4	5	6	7	Good
Unimportant	1	2	3	4	5	6	7	Important
Unwise	1	2	3	4	5	6	7	Wise

24. My parents would think I should use a condom if I have sexual relations during the next month.

Unlikely	1	2	3	4	5	6	7	Likely
----------	---	---	---	---	---	---	---	--------

25. My partner would think I should use a condom if I have sexual relations during the next month.

Unlikely	1	2	3	4	5	6	7	Likely
----------	---	---	---	---	---	---	---	--------

26. My friends would think I should use a condom if I have sexual relations during the next month.

Unlikely 1 2 3 4 5 6 7 Likely

27. My clergyman would think I should use a condom if I have sexual relations during the next month.

Unlikely 1 2 3 4 5 6 7 Likely

28. I want to do what my parents think I should do.

Unlikely 1 2 3 4 5 6 7 Likely

29. I want to do what my friends think I should do.

Unlikely 1 2 3 4 5 6 7 Likely

30. I want to do what my partner think I should do.

Unlikely 1 2 3 4 5 6 7 Likely

31. I want to do what my clergyman thinks I should do.

Unlikely 1 2 3 4 5 6 7 Likely

Please answer the following general information questions.

32. Are you:

[] Male

[] Female

33. How old are you? _____

34. What is your marital status?

- ☐ Married
- ☐ Single
- ☐ Divorced
- ☐ Separated

35. Do you currently use condoms:

- ☐ Always
- ☐ Occasionally
- ☐ Never

36. How vulnerable/susceptible do you feel you are to contracting the AIDS virus?

Not at all 1 2 3 4 5 6 7 Extremely

37. Do you know someone who has been diagnosed with AIDS or has tested positive for the HIV virus?

- ☐ Yes
- ☐ No

38. How many sexual partners have you had in the last month?

- ☐ 0
- ☐ 1
- ☐ 2-4
- ☐ 5-7
- ☐ 8 or more

39. How many sexual partners have you had in the last two months?

- ☐ 0
- ☐ 1
- ☐ 2-4
- ☐ 5-7
- ☐ 8 or more

40. How many sexual partners have you had in the last three months?

- ☐ 0
- ☐ 1
- ☐ 2-4
- ☐ 5-7
- ☐ 8 or more

Thank you very much for your time and cooperation. Be sure that your social security number and your teacher's name is on your informed consent sheet so that you can receive the extra credit points.

APPENDIX B
STIMULUS MATERIALS

(cocky sounding voice)

JIM: (sounds incredulous) WEAR A CONDOM? NOT ME MAN, I KNOW
HER WELL ENOUGH, SHE DOESN'T HAVE ANYTHING...BESIDES I'M ONLY
20, AND HEALTHY...(pause, voice changes to somber and serious)
SIX MONTHS AGO, THAT'S WHAT I THOUGHT...TODAY I'M A DEAD
MAN...I HAVE AIDS...ONE TIME, ONE GIRL -- NO CONDOM...THAT'S
ALL IT TOOK...NOW I DON'T EVEN HAVE THE STRENGTH TO STAND
UP...

BILL: YOU'VE GOT A 90 PERCENT CHANCE OF GETTING AIDS IF
YOU HAVE UNPROTECTED SEX WITH SOMEONE WHO HAS THE VIRUS,
CHANCES ARE THEY DON'T EVEN KNOW THEY HAVE IT...CONDOMS HAVE
BEEN PROVEN TO BE THE BEST PREVENTION AVAILABLE...ABSTINENCE
IS THE ONLY SURE SAFEGUARD.

JIM: YOU'VE GOT THREE CHOICES...ABSTINENCE, CONDOMS OR...AIDS

JIM: (sounds incredulous) WEAR A CONDOM? NOT ME MAN, I KNOW HER WELL ENOUGH, SHE DOESN'T HAVE ANYTHING...BESIDES I'M ONLY 20, AND HEALTHY...(pause, voice changes to somber and serious) SIX MONTHS AGO, THAT'S WHAT I THOUGHT...TODAY I COULD GET AIDS...ONE TIME, ONE GIRL -- NO CONDOM...THAT'S ALL IT CAN TAKE TO GET THE DISEASE...AND THAT DOESN'T FIT INTO MY PLANS RIGHT NOW.

BILL: YOU'VE GOT A 10 PERCENT CHANCE OF GETTING AIDS IF YOU HAVE UNPROTECTED SEX WITH SOMEONE WHO HAS THE VIRUS, CHANCES ARE THEY DON'T EVEN KNOW THEY HAVE IT. CONDOMS CAN REDUCE THE RISK OF GETTING AIDS...ABSTINENCE IS THE ONLY SURE SAFEGUARD YOU HAVE.

JIM: YOU MAKE THE CHOICE.

VITA

Deborah Marie Treise was born in Buffalo, New York on April 11, 1950. She attended elementary schools in Buffalo, Beverly Hills, California and St. Petersburg, Florida. She graduated from Seminole High School in St. Petersburg in 1968.

She attended the University of Florida and Florida State's Florence, Italy program for one year. She graduated from the University of Florida in 1974 with the degree of Bachelor of Arts in Advertising.

She worked as a free lance copywriter, creative director in a commercial television station and worked for several radio stations and advertising agencies for a 10-year period. She received her Master of Arts degree from the University of South Florida in 1988. In the fall of 1989, she entered the doctoral program at the University of Tennessee, Knoxville. In August 1992 she received her Doctor of Philosophy degree in Communications with an emphasis in Advertising and a minor in marketing.

She is presently employed as an Assistant Professor at the University of Florida, Gainesville.