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THE EFFECTS OF TWO LEVELS OF FEAR APPEAL ON ATTITUDE
WHEN CONSEQUENCES ARE AIMED AT THE
LISTENER OR HIS FAMILY

BY

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B. A., University of Central Florida, 1981

THESIS

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INTRODUCTION AND RATIONALE

Can people be frightened into action or change of heart? Do strong fear appeals have greater persuasive power than moderate or low fear arousing communications? These are the basic questions underlying the fear appeal studies.

Fear appeal in persuasion can be defined as the use of threat or fear arousal for the purpose of obtaining attitudinal and behavioral changes. A typical fear appeal is used to influence listeners to give up something because of harmful consequences, or to do something in order to avoid dreadful results. It usually includes both the threat and the solution.

Review of Research

Janis and Feshbach (1953) conducted one of the first scientific studies on the effect of fear appeal on human beliefs, and behavior. This experiment used high, moderate, and low fear arousal messages which were designed to convince high school students of various dental hygiene practices. The three levels of fear were manipulated by the use of vivid slides and verbal threats versus more factual information accompanied by less dramatic slides or graphs and charts. The results were as follows:

- (1) There were no significant differences in acquired knowledge

across levels of fear appeal. (2) High fear appeal caused the most immediate worry, the moderate caused less, and the low caused the least. (3) The high fear appeal group rated the quality and interest of the communication high, but complained about the lack of sufficient reassurances. (4) One week later most conformity to suggestions was found in the low fear, less in the moderate, and least in the high fear condition. (5) Also one week later, the greatest resistance to a counterpropaganda was found in the low fear group, the least in the high fear arousal group. The main conclusion offered by the authors was that when fear is strongly aroused but not enough reassurances are supplied, the audience may engage in defensive avoidance, thus rendering the high fear appeal unsuccessful.

As a result of these findings, social scientists began to question the usefulness of high fear appeals as a persuasive strategy and began to systematically study fear arousal in a variety of settings. The results of these studies were quite inconsistent.

Some of the experiments which seemed to support the Janis and Feshbach (1953) findings were the Janis and Feshbach (1954) study on fear appeal and personality differences; the Haefner (1956) experiment on guilt and fear arousing communications; the Goldstein (1959) research on fear appeals and coping versus avoiding responses; and the Janis and Terwilliger (1962) study

on psychological resistance to fear appeals. On the basis of these experiments, many social scientists felt justified in concluding that low fear appeal is superior to high fear appeal in achieving persuasion.

A number of explanations were offered for the lack of effectiveness of high fear arousal. For example, while Janis and Feshbach (1953) spoke about defensive avoidance, Stuteville (1970) suggested three psychodynamic techniques used in coping with high fear appeals. These techniques are (1) denial of validity of dissonance producing information (threat); (2) the "I am the exception of the rule" belief; and (3) the magical diffusing processes, where information is robbed of its true significance (e.g. laughing at danger).

But some researchers reported opposing results. For example, Leventhal, Singer and Jones (1965) found high fear appeals to be more persuasive than low fear appeals in changing attitudes (but not behavior) regarding tetanus inoculations; Leventhal and Watts (1966) reported more compliance with recommendations to decrease cigarette smoking in the high fear condition; and both Powell (1965) and Hewgill and Miller (1965) showed high fear to be more effective than low when the source was highly credible and the message emphasized consequences for loved ones.

There are also several studies which have found no relationship between fear arousal and persuasion. These included

Frandsen's (1963) study on the effects of fear appeal and media of transmission on attitude change, and Millman's (1968) experiment on the relationship of anxiety, comprehension, and susceptibility to social influence.

Nevertheless, there is enough evidence to suggest that both high and low fear appeals can work in persuasion if combined with the appropriate interacting variables. In an effort to further specify the conditions under which high and low fear arousing appeals are optimal, Higbee (1969) analyzed the results of fear appeal studies occurring between 1953 and 1968. His analysis yielded the following list of variables which are relevant to the effectiveness of fear appeals: (1) recommendations, (2) personality characteristics, (3) source credibility, (4) amount of learning, (5) amount of interest arousal, (6) nature and object of fear arousal, (7) topic, (8) subjects, (9) media of presentation, and (10) criteria. Higbee's conclusion regarding each variable are summarized in the following pages.

Recommendations. Conformity to fear arousal may be facilitated if accompanied by very specific, clear, reassuring recommendations. This is extremely important in the case of high fear messages. The Janis and Feshbach (1953) study supports this assumption, and the Leventhal, Singer and Jones (1965) experiment (where fear was sufficiently combined with specific recommendations) points in this direction also.

Personality characteristics. Researchers have defined four personality characteristics which interact with levels of fear to influence persuasibility. The characteristics are: (1) the listeners' level of self-esteem, (2) their perceived vulnerability, (3) their coping style, and (4) their chronic anxiety level.

1. Generally, high self-esteem subjects tend to be more persuaded by high fear messages, and low self-esteem subjects by low fear messages. One reason may be that high self-esteem people do not take a threat personally and therefore can cope with it realistically, while the low self-esteem subjects rather avoid threatening thoughts, and thereby do not cope. The Dabbs and Leventhal (1966) study supported this assumption. Results showed that intentions to participate in tetanus inoculations decreased as the self-esteem decreased.

2. Findings on vulnerability seem to indicate that high fear works better for subjects who perceive low vulnerability to danger. For example, Niles (1964) reported that levels of threat did not seem to make any difference for those who perceive high vulnerability to danger, but high fear was more successful than low with the "low vulnerable" subjects.

3. Findings on coping style (Goldstein, 1959) indicated that "copers," people who cope with and are therefore receptive to anxiety producing information, are more influenced by high fear, while "avoiders" are more influenced by low fear messages.

Of course, ability to cope may depend on self-esteem, and work together when faced with fear arousal.

4. Persuasibility was found to be negatively related to fear level among those high in chronic anxiety, but positively related for those low in chronic anxiety. Again, the chronically anxious person is relatively unreceptive to fear arousing appeals and is therefore less susceptible to influence than those low in chronic anxiety.

Source credibility. Experimental results indicate that high fear appeal may be more persuasive than low fear appeal when combined with high source credibility, but the opposite may not hold. This tendency was supported by the Hewgill and Miller (1965) study where the target of high fear was the subjects' family and the source was highly credible, and by the Powell and Millner (1967) experiment on social approval and disapproval cues in fear appeal.

Amount of learning. Several experimenters examined the amount of learning under high versus low fear conditions. Most results indicated no significant differences. Besides Janis and Feshbach (1953) in their dental hygiene study, Fisher, Cohen, Schlesinger and Bloomer (1967), and later Millman (1968) found no differences in retention and comprehension, respectively, across levels of fear.

Amount of interest arousal. The results on the interaction of levels of fear and interest arousal are inconsistent. Berkowitz and Cottingham (1960) found the high fear appeal condition to be more persuasive than the low when the initial interest on safety belts was low. Robbins (1962b) found subjects more interested in listening to a tape-recorded message on smoking and cancer when the level of fear was increased. However, Nunnally and Bobren (1959) discovered that high fear depressed the listeners' interest toward mental health messages.

Nature and objects of fear arousal. Several experimenters indicated that fear appeal messages may result in one of two different types of fear and may cause two different kinds of reactions. If "neurotic anxiety" is aroused, subjects may irrationally inhibit their fears and not deal with them, but if "realistic fear" is aroused, subjects may adopt the communicator's recommendations. This idea was suggested by Leventhal (1965), and Janis and Leventhal (1968), and was supported by the Leventhal and Trembly (1968) research on stress films of automobile accidents.

The objects of fear were varied. They included topics like dental hygiene, smoking and lung cancer, tetanus inoculations and others. The variety of topics, combined with the inconsistent results, increases the difficulty of establishing conclusions regarding the effectiveness of fear appeals. Such variety may

even suggest the possibility that different studies may have researched different phenomena.

Topic familiarity. Topics may have varied in familiarity and importance to the subjects. Higbee's (1969) survey supported this assumption on familiarity; and Colburn (1967), while intentionally manipulating levels of topic importance, reported that the high fear appeal on cancer, the medium fear appeal on tuberculosis, and the low fear appeal on tooth decay were most persuasive. Thus, both topic familiarity and importance seem to affect the persuasiveness of fear appeals.

Subjects. Different studies used different populations. They varied from elementary students, to high school pupils, to college students and adults. It is possible that this diversity of subjects has contributed to the inconsistent findings. For example, the differences between the Janis and Feshbach (1953) and the Leventhal and Singer (1966) studies (using the same topic) may have been caused by the differences in the subjects, as the first experimenters used a Connecticut high school freshman class, while the latter employed visitors to a state fair. It is possible that the varying age and educational levels of these groups of subjects may have contributed to the opposing reactions to levels of fear.

Media of presentation. Fear appeal studies have also employed several media for message transmission. These differences ✓

in media of presentation may also have contributed to the inconsistencies among fear arousal findings. However, Frandsen (1963) did not find significant differences when he studied threat appeals and media of transmission. On the other hand, Leventhal and Trembly (1968) concluded that different aspects of the same medium, such as size and color, may have an important influence on responses.

Criteria. Experimenters have used a variety of criteria for assessing the persuasive effectiveness of fear appeals. These criteria have ranged from attitude and opinion change, to desire or intention to act, to behavioral conformity to recommendations. Since some experiments found success with one level of fear on one dimension but not on the other, it is possible that another source of inconsistency is the variety of dependent measures.

In addition to the influence of these ten interacting variables, Higbee and Heslin (1968) also proposed a possible interaction between the perceived magnitude of danger and the perceived likelihood of its occurrence. Their hypothesis suggests that the level of threat and the probability of its occurrence may be negatively related. The interaction of these variables, unlike the linear relationship suggested by the fear-drive model, may result in a curvilinear relationship between levels of fear and persuasion. That is, it may show

that as the level of threat arousal increases, perceived probability of occurrence decreases, which in turn decreases the motivation to act.

Following Higbee's (1969) summary of research on threat appeal studies, a number of applied communication researchers became involved in the study of fear arousal. They too have found that the success of high versus low fear appeals hinges upon many interacting variables.

For example, Bishop (1974) reported that high anxiety students read more from a story with a reassuring headline than from one with a highly threatening headline, but the same did not hold for the low anxiety students.

Then, Lynn (1974) concluded that Public Service Advertisements were more successful when they did not use extreme levels of fear, especially toward college students. Lynn warned that the students were likely to react more negatively to the threats than were their less educated counterparts.

Next, the Antarow, Eicke and Mathews (1967) study on styles of drug education concluded that the traditional "scaring style" should not be abolished, but should be aimed at drug prevention, rather than rehabilitation, since it may provide sufficient material and motivation for some youngsters to resist drug oriented propaganda techniques. While Antarow et al. did not specify what

Levels of fear would be optimally effective, Schlege (1977-78) warned that drug education programs should not use excessive fear arousal because it may cause defensive avoidance by the user and turn off the nonuser.

On the other hand, Burnett and Wilkes (1980) discovered that in the case of mail advertisements, both high and low fear appeal may be effective, depending on the segment of population that is reached. These authors found that high fear arousal was effective in advertising a group health plan when it was aimed at the "older blue-collar blacks," and the "older liberals." Therefore, they suggest the use of the so-called "segmentation approach," which aims different levels of fear at different segments of the population.

Finally, the Cosse and Swan (1981) study on the marketers' behavior in response to public-policy actions indicated that marketers' questionable advertising behavior can also be influenced by threat appeals. However, on this matter, the power (ability) to fulfill the threatening behavior is more important to the persuasive success than the exact level of threat. For example, a threat of an upcoming congressional hearing may induce more compliance if combined with a source's direct reward-punishment power. This however, is probably better termed coercion than persuasion.

Apparently, the applied communication researchers of the 70's

and 80's took the fear appeal studies only one step further. They did not clarify what level of fear works best under what conditions; rather, they examined how previous findings relate to their specific fields. Therefore, the following suggestions by Higbee (1969) are advisable:

Future research should do a little less scratching on the surface of the problem and a little more digging in one place. Such digging would involve at least two considerations: First, if one is interested in testing the findings of a particular study (i.e., replication), he should vary only the variable of interest and not use a different topic, subject, medium, and/or criterion. Second, if one wishes to do research which may be meaningfully compared with previous research, he should consider using a topic, subject, medium, and criterion used in several previous studies (unless of course, his main interest is in one of these as the dependent variable), so that his results can be compared with the results of other studies (1969, p. 442).

Inasmuch as there is a need for the careful replication of the basic fear appeal studies with the implementation of the least amount of changes, the present research was a partial replication of the Powell (1965) experiment. The major methodological change was in the use of a different topic. This change was implemented in order to provide a currently salient issue, and also to enhance the ease of obtaining a clear manipulation of low versus high levels of fear; a manipulation which was not achieved by Powell.

Powell's (1965) topic was the need for nationwide


fallout shelters, and the message emphasized consequences for the subjects (listeners) or their families. Based on previous findings, such as the Janis and Feshbach (1953), and the Hewgill and Miller (1965) results, Powell hypothesized that high fear appeal would produce more attitude change when the target was the family, and low fear appeal would be more effective when the target was the listener. The logic behind these assumptions is that high fear appeal would be attended to when the target was the family because this is the socially acceptable way to relate to one's family, and not to do so would cause cognitive dissonance. Consistent with the Janis and Feshbach (1953) study, defensive avoidance to high fear was expected when the target was the listener.

Powell's findings only partially supported the predicted interaction. While high fear arousal was effective when the threat was aimed at the family, low fear was not more effective than high fear when the threat was aimed at the subjects. One possible reason for Powell's failure to find complete support for his interaction prediction was the lack of clear manipulations of fear. Evidently, he used a topic which had a great potential for high anxiety arousal in the 60's and therefore obtained two levels of high fear. In fact, the manipulation check showed that subjects were not more aroused in the high fear condition than in the low fear condition when the target was the listener.

The purpose of this study is to provide a valid manipulation of levels of fear and thereby conduct a meaningful test of the relationship between fear, message target and persuasion.

Hypothesis

Based upon the Powell (1965) and the Hewgill and Miller (1965) findings and rationale, the following hypothesis was formulated:

 The level of fear appeal and the target will interact such that high fear arousal will produce more attitude change when the target is the family, and low fear arousal will be more effective when the target is the listener.

METHOD

Topic

Four tape-recorded messages dealing with the need for micro-computer burglar alarm systems provided the message material for this experiment. The alleged source of the speeches was a police captain from the Orlando Police Department. All tapes were recorded by the same professor of communication at the University of Central Florida (see Appendix A).

Subjects

Students in four University of Central Florida graduate classes were selected to participate as experimental subjects, and a nineteen-member class was used in the no message control condition. Altogether, 127 students participated as subjects. Each class contained an almost equal amount of parent and non-parent students.

Independent Variables

The independent variables consisted of two levels of fear appeal, two levels of parenthood, and two levels of target audiences. This was a 2 x 2 x 2 design with the addition of two control groups. Altogether, there were ten conditions involved in the study.

The high versus low levels of anxiety were operationalized as follows: (1) The high anxiety messages contained ten statements of the potential physical harms to the subjects or their families in case on non-compliance. (2) The low anxiety messages, on the other hand, used only three of the same.

The two levels of parenthood were operationalized by (1) the employment of subjects who had at least one child versus (2) those who had none.

Finally, the two levels of targets were operationalized by (1) aiming the messages at the listeners' families, or (2) the listeners themselves. For example, the high fear appeal message aimed at the family contained the following question: "How would you feel if one of your family members became the victim of a criminal next week, all because he found your home to be an easy target?" In contrast, the high fear message aimed at the listener was as follows: "How would you feel if your property or life became victim to a criminal next week, all because he found your home to be an easy target?"

The levels of target and parenthood were manipulated independently of one another so as to avoid confounding the data, as Powell (1965) did. Such confounding is a further limitation of the Powell (1965) study. Powell administered one message aimed at the family to a group of parents and a second message aimed at the listener to a group of non-parents.

This procedure rendered interpretation of the findings equivocal since it is impossible to determine if differences between treatments are due to the message strategy (target) or the receiver characteristic of parenthood/non-parenthood.

Dependent Variables

The dependent variables were: (1) beliefs and (2) intentions regarding burglar alarm systems. Five questions were designed to measure the belief dimensions, and two questions were included to measure intentions to purchase or recommend a system. Each question was treated as a separate dependent measure. The questions followed a Likert format and were accompanied by a five-interval scale ranging from 1, definitely agree, to 5, definitely disagree. In addition, two questions were included to assess the emotional arousal elicited by the message. These questions served as manipulation checks.

Separate measurements of beliefs and intentions were necessary because, according to Fishbein and Ajzen (1975), beliefs and intentions to act do not necessarily go hand in hand. According to their view, people may adopt a specific belief as a result of new information, but may not be ready to act. Their assumption is supported by several experiments where the subjects were asked to (1) indicate their beliefs about the black race (2) disclose their willingness to be photographed with a person of that race, and (3) sign a release form for the publication of those photos, e.g. the

Linn, (1965) experiment, and the Green (1972) research. The results of these studies showed non-significant or low relationships between beliefs and intentions to act. Consequently, in the present experiment, it was important to include both belief and intention questions in order to obtain sufficient measures of the persuasion effect.

Procedures

First, a pilot test to pre-validate the high versus low levels of fear was conducted. [To conduct this test a University of Central Florida communication class was divided into two segments. Half the class listened to the high fear message aimed at the listeners' families, while the other half listened to the low fear message aimed at the listeners' families. Each group was asked to respond to ~~both the following~~ questions immediately after hearing the speech:]

"I felt quite concerned for my safety while listening to the burglar alarm systems."

"I felt quite concerned for the safety of my loved one(s) while listening to the burglar alarm systems."

Subjects were requested to indicate their attitudes on the five-interval scale on both questions. Then, the means for felt anxiety were computed and t-tests were conducted. Comparisons of the means of both questions indicated a significant difference in felt anxiety between the low and high fear arousal treatment conditions ($p < .01$).

Following this pilot test, [data ^{was} were collected for the eight experimental and two control treatments. To facilitate data collection, a confederate, introduced as a "police representative," greeted the groups and informed them that they would hear a short recorded speech dealing with the need for a home micro-computer burglar alarm system, and that afterwards they would be asked to evaluate the message for its "public educational" value (see Appendix B). The tape was then played. This was followed by the distribution of the questionnaires and a request to respond as honestly as possible since the results could affect some important police department decisions (see Appendix C). After all the forms had been completed and passed to the confederate, the subjects were thanked for their participation and the "police representative" left the room. Debriefing followed two weeks after completion of data collection.]

[The control group was introduced to the "police representative" and asked to fill out the questionnaire on the "public educational" value of a home burglar alarm system campaign without listening to the tape. They too were asked to respond as honestly as possible because important decisions might be affected by their answers.]

RESULTS

A 2 x 2 x 2 analysis of variance was used to measure main and interaction effects of fear level, parenthood and target audience. In addition, comparisons of control and treatment group means were made non-inferentially.

In order to test the predictions, it was first necessary to demonstrate that [the fear manipulation was successful with the actual experimental group]. Tables 1 and 2 summarize the analysis of questions eight and nine, which measured subjects' "concern" while listening to the message.

[The data on both questions eight and nine indicated a main effect of fear.] As shown in Table 1, [the data reveals that regardless of the level of parenthood or message target, high fear ($\bar{X} = 2.43$) produced significantly more "concern" for the safety of the listener than low fear] ($\bar{X} = 2.91$). Similarly, the data of Table 2 reveals that [regardless of level of parenthood or message target, high fear ($\bar{X} = 2.39$) produced significantly more "concern" for the safety of loved ones than the low fear condition] ($\bar{X} = 2.86$). These data corroborate the results of the pilot test in validating the two levels of emotional arousal, thereby justifying tests of the hypothesis.

TABLE 1

ANALYSIS OF VARIANCE OF THE EFFECTS
OF FEAR, PARENTHOOD, AND TARGET
ON CONCERN FOR SAFETY TO SELF

Source of Variation	SS	df	MS	F	p
Main Effects	9.38	3	3.12	1.97	0.12
Fear	7.69	1	7.69	4.85	0.03
Par	0.39	1	0.39	0.15	0.61
2w. Interaction	0.66	3	0.22	0.14	0.93
Fear Par	0.04	1	0.04	0.02	0.86
Fear Tar	0.47	1	0.47	0.30	0.58
Par Tar	0.20	1	0.20	0.12	0.73
3w. Interaction	0.49	1	0.49	0.31	0.57
Fear Par Tar	0.49	1	0.49	0.31	0.57
Explained	10.54	7	1.50	0.95	0.47
Residual	158.37	100	1.58		
Total	168.91	107	1.57		

TABLE 2

ANALYSIS OF VARIANCE OF THE EFFECTS OF FEAR,
PARENTHOOD, AND TARGET ON CONCERN
FOR SAFETY OF LOVED ONES

Source of Variation	SS	df	MS	F	p
Main Effects	6.52	3	2.17	1.29	0.17
Fear	6.34	1	6.34	3.79	0.05
Par	0.21	1	0.21	0.12	0.72
Tar	0.42	1	0.42	0.25	0.61
2w. Interaction	0.93	3	0.31	0.18	0.90
Fear Par	0.28	1	0.28	0.17	
Fear Tar	0.56	1	0.56	0.34	0.56
Par Tar	0.01	1	0.01	0.00	0.93
3w. Interaction	1.48	1	1.48	0.88	0.34
Fear Par Tar	1.48	1	1.48	0.88	0.34
Explained	8.94	7	1.27	0.76	0.61
Residual	167.37	100	1.67		
Total	176.32	107	1.64		

Test of Hypothesis

Questions one through seven were included to provide separate tests of the interaction hypothesis which predicted that the levels of fear appeal and the target would interact such that high fear arousal would produce more attitude change when the target was the family, and low fear arousal would be more effective when the target was the listener. Support for this prediction would require a statistically significant fear-target interaction. Before presenting the data for each of these questions, it will be useful to point out that the appropriate interactions did not occur on any of the seven dependent measures.

The results of question one indicated a three-way interaction between fear, parenthood, and target audience. The means for question one are found in Table 3.

TABLE 3
MEANS OF RESPONSES TO QUESTION ONE

	High Fear		Low Fear	
	Listener	Family	Listener	Family
Parents	1.09	1.00	1.05	1.45
Non-parents	1.08	1.18	1.42	1.00

The direction of these means suggest little differences in the belief that one should be concerned about the loss of property and lives among the four cells of high fear. All group means show almost maximum concern, as reflected by a range of 1.0 to 1.18 (the lower the mean, the greater the concern). However, the groups among the four low fear cells showed somewhat less concern than all others. These were the listener-non-parent group ($\bar{X} = 1.42$) and the family-parent group ($\bar{X} = 1.45$).

A series of t-tests were conducted among the low fear cells in an effort to better understand the interaction. While none of the contrasts yielded significance, the two non-parent cells (low fear family, 1.00 and low fear listener, 1.42) differed at $p < .10$, $t = 1.71$, 27 df, two-tailed test. The results are not consistent with the prediction and will be dealt with further in the discussion section.

Question two, which inquired about the subjects' feelings about the usefulness of a public educational campaign on burglar alarm systems also yielded no significant differences. However, question three, which dealt with the concern for the safety of lives and valuables in and around "my dwelling," indicated a main effect of target ($F = 4.31$, $p < .04$). Table 4 summarizes the analysis for this question. A comparison of the means indicated that regardless of level of fear or parenthood, when the message was aimed at the listener it caused greater

concern for the safety of lives and valuables in and around "my dwelling." Collapsing across levels of fear and parenthood, the mean for all groups who also received the listener targeted message was 1.52, while the corresponding mean for the family targeted conditions was 1.70. Again, the finding is not in line with the prediction and will be dealt with further in the discussion section.

Finally, questions four through seven yielded no significant differences. Question four dealt with attitudes toward alarm system installations, while questions five through seven examined intent to buy or recommend a system to friends.

TABLE 4

ANALYSIS OF VARIANCE OF THE EFFECTS OF FEAR,
PARENTHOOD AND TARGET ON CONCERN
FOR LIVES AND VALUABLES

Source of Variance	SS	df	MS	F	p
Main Effects	6.13	3	2.04	2.05	0.11
Fear	0.32	1	0.32	0.32	0.56
Par	0.82	1	0.82	0.83	0.36
Tar	4.28	1	4.28	4.31	0.04
2w. Interaction	0.43	3	0.14	0.14	0.93
Fear Par	0.30	1	0.30	0.30	0.58
Fear Tar	0.10	1	0.10	0.10	0.75
Par Tar	0.00	1	0.00	0.00	0.99
3w. Interaction	1.04	1	1.04	1.05	0.30
Fear Par Tar	1.04	1	1.04	1.05	0.30
Explained	7.61	7	1.08	1.95	0.37
Residual	99.30	100	0.99		
Total	106.91	107	0.99		

DISCUSSION

[In sum, no support was obtained for the prediction that the levels of fear appeal and the target would interact such that high fear arousal would produce more attitude change when the target was the family, and low fear arousal would be more effective when the target was the listener.]

Even though levels of fear were clearly validated, and efforts to tap message effects included both the use of attitude and intention measures, none of the seven questionnaire items yielded support for the predictions. In addition, the target main effect, obtained on the question involving concern for one's property and family, was in the opposite direction to that expected. Here, the generalized wording of the question may have precluded demonstration of high levels of concern for loved ones. The question was worded as follows: "I am at present very concerned for the safety of lives and valuables in and around my dwelling." Since this question did not specify a concern for loved ones, but rather for "lives" and "valuables," an appeal to the safety of family members may have had little relevance.

Furthermore, the three-way interaction found in question one was perplexing. Any attempt to explain this interaction would

stretch the limits of logic and plausability. Since so many statistical comparisons were made, it is possible that this is a chance finding. Replication is the only means of assessing the validity and reliability of this result.

It would be shortsighted to conclude that the results of the present research rule out the possibility that high fear is an effective strategy when the target is the family. There are several methodological factors which may have militated against finding support for the prediction. These factors became obvious only after analyzing the data. The intention, consistent with Higbee's (1969) call for replication of fear appeal studies, was to make methodological refinements of Powell's (1965) design and thereby provide a valid test of the prediction. However, one of the "refinements" appears to have produced a new source of bias. According to responses to the open-ended question and the observations of the confederate, source credibility appears to have served as an inadvertent intervening variable. First, some of the answers revealed the presence of hostility against the police department as such, and also a suspicion and anger as to why the department would get involved in a "public educational campaign." For example, one respondent wrote, "When did the police department start peddling alarm systems? Stick to your job. Let salesmen do this. I haven't seen it (the burgular alarm system), but I am angry that the police force is trying to get into the alarm business." Another subject queried, "Is this a campaign

for a product or a genuine attempt to educate the community?" A third subject suggested, "Spend the money on more protection." In addition, the "police representative" (confederate) also received a few verbal and countless non-verbal hostility messages aimed at him as a person, and at the source of the taped message, the "Police Captain." Such observations clearly suggest that perceptions of source credibility may have been low. Consequently, results must be interpreted in the context of findings on fear appeals when combined with low credibility sources.

As mentioned earlier, Hewgill and Miller (1965) attempted to manipulate levels of credibility when combined with levels of fear. They hypothesized that high fear arousal aimed at the family would be more effective when combined with high source credibility, and low fear arousal aimed at the family would be more effective when combined with low source credibility. The rationale for their hypotheses was explained via dissonance theory. The assumption was that subjects would adhere to a message aimed at members of their family because not to do so would be socially unacceptable and therefore would cause dissonance or psychological discomfort. Therefore, optimal levels of fear would be partially contingent upon source credibility. Hewgill and Miller (1965) cited two threats to the validity of their study. First, of the three dimensions of fear (competence, trustworthiness and dynamism) only competence

was clearly manipulated. Second, high versus low levels of fear were not obtained for the low credibility conditions. Still, results partially supported their hypotheses. High fear arousal aimed at the family did produce greater attitude change than the low fear family condition. In spite of the shortcomings of that study, at least one conclusion can still be reached, namely, that a persuasive message aimed at the family can be effective when high fear arousal is combined with high source credibility.

A careful examination of the Powell (1965) study also reveals the importance of source credibility. Powell did not attempt to manipulate levels of credibility, but held high credibility constant across levels of fear and target audience. Again, it was found that high fear arousal aimed at the family was effective under the circumstances.

In sum, the findings of Hewgill and Miller (1965) and Powell (1965) suggest that the inadvertently obtained low levels of source credibility in the present research may have mitigated against the effectiveness of the high fear appeal. Thus, in spite of the clearly manipulated high versus low levels of fear, persuasion could not occur as predicted, as a result of this intervening variable. It follows that a carefully planned future study may obtain the predicted results if (1) the presently validated high versus low levels of fear were combined with previously validated high source credibility; (2) the high source credibility is held constant across levels of fear,

and target audience; and (3) a trustworthy (credible) confederate presents the message to the subjects. For example, members of the "neighborhood crime watch" organization seem to enjoy high credibility on the burglar alarm issue. Perhaps a participant of "crime watch" may be used as both the confederate and the alleged source of the message.

Next, the difficulty in obtaining the required subjects may have created a threat to external validity. According to the design of the present study, it was important to find groups of subjects where parent versus non-parent representation was roughly equal. Such samples were difficult to find, especially since it was important to make the data collection as non-restrictive as possible. After numerous attempts with various organizations, adult education courses and university basic speech classes, the employment of several University of Central Florida graduate classes in the College of Education seemed to be the best choice. However, since these subjects are relatively well educated, one may question the degree to which they represented the general population. This potential limitation can be examined in light of theory and research findings. Some of the research results which seem to indicate that levels of education and/or intelligence may have an effect on persuasiveness are found in the Singer (1965) and the Stukat (1958) studies. Singer (1965) found that high fear arousal aimed at low intelligent subjects was more successful than when it was aimed at highly

intelligent subjects. Additionally, Stukat (1958) found that highly intelligent subjects were more resistant to pressure (persuasion) from their peers than were their less educated counterparts. These findings seem to suggest that the presently employed subjects may have resisted the persuasive attempt not only because it originated from a low credible source but also because of their own high level of intelligence. Therefore, future research may be more successful if the experimental subjects were drawn from a population which better represents the general public. Perhaps tenants of several apartment complexes, where "crime watch" is in operation and has a good reputation, and where single versus married tenants are about equally represented, would be the best place to obtain subjects. Such places usually have a recreational hall where a meeting for the alleged educational program on computer home burglar alarm systems could be organized. Again, it is possible that such experimental settings would lead to results which are more in line with the prediction of the present experiment.

An additional problem which may have affected validity was a "ceiling effect" regarding beliefs about burglar alarm systems. An examination of control group means showed that original beliefs on two of the seven questions were in almost total agreement to begin with ($\bar{X} = 1.05$ on question one, and $\bar{X} = 1.32$ on question three), and original beliefs on the other questions were relatively high on agreement also, with means

ranging from $X = 2.05$ to $X = 3.05$. Therefore, initial extremity of beliefs made it difficult to demonstrate message impact.

Conclusions

Given the results of the studies by Hewgill and Miller (1965) and Powell (1965) which indicated a high level of concern for loved ones when the message contained high levels of threat, and the current results, which yielded no significant differences in this direction, it seems that the relationship between fear, target and persuasion is still ambiguous.

Yet, the present experiment may still be viewed as a significant step toward clarification, in light of the fact that it produced clearly validated high versus low levels of fear arousal. Consequently, a careful replication of this research may supply more meaningful information about the persuasive effect of levels of fear. Again, such replication must contain certain methodological refinements, including better control over source credibility and a less unique sample of subjects.

It is important that fear appeal research be continued since reliable results would supply meaningful tools for persuasion, especially in the field of applied communication. Results which clarify what levels of fear work best under what conditions could conceivably work for the good of the public in various ways. Such an understanding could help law

enforcement officials to better deal with the problem of drunken driving; it could help government officials to improve message strategies designed to induce seat-belt wearing. Insight into optimal uses of fear appeals could provide information for social workers and counselors on how to prevent and deal with drug problems. Meaningful research findings could also guide advertisers toward the use of proper levels of fear. Increased understanding of fear appeals can influence such agencies to provide better services, become better problem solvers, educators and counselors, and may induce advertisers to use levels of fear in a more responsible and judicious manner.

The 50's and 60's produced a large body of research on fear arousing communication. In the 70's such theoretical efforts were de-emphasized in favor of applied studies. While it is important to pursue applications of communication theories, we must take care not to follow such pursuit at the expense of continued theory development. The relationships between levels of fear and many source, message, channel, receiver, and environmental factors are still relatively unexplored. As Higbee (1969) suggested, communication researchers still need to do a little more digging in one spot. This is to say that the careful and deliberate process of theory development through systematic empirical research should remain of paramount concern, especially in an area so complex and little understood as the effects of fear appeal on human responses.

APPENDIX A
FEAR APPEAL MESSAGES

STOP BURGLARS BEFORE THEY ENTER

High Fear Appeal Message

Aimed at the Family

Safety is becoming a serious problem in Florida. Thousands of households lose precious heirlooms, valuables, money, and even lives to prowlers daily. In May, 1981, a mother of four was caught by surprise by a burglar who had entered her home in broad daylight. She was robbed and stabbed to death. In June, a four-year-old girl was kidnapped through her bedroom window while the family was asleep. In August, a 29 year-old University of Central Florida student, a father of two, was shot to death when he entered his home. And in October, 74 housewives were victimized by rapists.

Last year in Orlando our crime rate doubled, and most of it occurred in our very own homes. During 1981 in Orlando alone, over 8000 reported break-ins, 823 reported rapes, and 112 reported killings occurred in our neighborhoods. In addition, many more of these crimes went unreported. Your home or apartment may be the next target because burglars choose the easy targets. They look for unprotected houses and apartments, even if they may gain less than from an expensive, well-protected home. How would you feel if one of your family members became the victim of a criminal next week, all because he found your

your home to be an easy target?

Because safety is becoming a serious problem in our neighborhoods, we have to find a way to stop burglars before they enter. The Greater Orlando Police Department has been studying several protection devices and ideas. We have found that a computer-operated burglar alarm system is one of the best ways to deter would-be burglars. For example, the so-called "Burglar Brain" is quite inexpensive and is locally available. You can purchase the initial package for about \$185.00, with the provision of a thirty-day trial period. This package consists of a small 8 x 12 twenty-button key console, a powerful remote horn, two transmitters, five magnetic contacts, three decals (warning strangers about the protection of your home), and instructions. Once the "Burglar Brain" is on duty, small sensors will monitor your doors and windows ready to signal from as far as 250 feet in the event of an attempted break-in. The "Brain" will process each signal immediately and will sound an 85 db internal siren and a 95 db remote siren to alert you, your family, your neighbors, the police, and thereby scare the criminal away before he enters. If power fails, the system has a battery backup, so you and your family can feel safe at any time.

As the crime rate increases, it becomes more and more important that we find a way to stop burglars before they enter.

STOP BURGLARS BEFORE THEY ENTER

High Fear Appeal Message

Aimed at the Listener

Safety is becoming a serious problem in Florida. Thousands of people lose precious heirlooms, valuables, money, and even lives to prowlers daily. In May, 1981, a 21 year-old coed was caught by surprise by a burglar who had entered her apartment in broad daylight. She was robbed and stabbed to death. In June, a 19 year-old University of Central Florida student was shot by a hysterical robber as he entered the home. During the month of August alone, at least 121 women were beaten and raped. And in October, 63 men were reportedly injured as they tried to fight off would-be burglars.

Last year in Orlando our crime rate doubled, and most of it occurred in our very own homes. During 1981, in Orlando alone, over 8000 reported break-ins, 823 reported rapes, and 112 reported killings took place in our neighborhoods. In addition, many more of these crimes went unreported. Your home or apartment may be the next target because burglars choose the easy targets. They look for unprotected houses and apartments even if they may gain less than from an expensive but well-protected home. How would you feel if one of your family members became the victim of a criminal next week, all because he found your home to be an easy target?

Because safety is becoming a serious problem in our neighborhoods, we have to find a way to stop the burglars before they enter. The Greater Orlando Police Department has been studying several protection devices and ideas. We have found that a computer-operated burglar alarm system is one of the best ways to deter would be burglars. For example, the so called "Burglar Brain" is quite inexpensive and is locally available. You can purchase the initial package for about \$185.00, with the provision of a thirty-day trial period. This package consists of a small 8 x 12 twenty-button key console, a powerful remote horn, two transmitters, five magnetic contacts, three decals (warning strangers about the protection of your home), and instructions. Once, the "Burglar Brain" is on duty, small sensors will monitor your doors and windows ready to signal from as far as 250 feet in the event of an attempted break-in. The "Brain" will process each signal immediately and will sound an 85 db internal siren and a 95 db remote siren to alert you, your neighbors, the police, and thereby scare the criminal away before he enters. If power fails, the system has a battery backup, so you can feel safe at any time.

As the crime rate increases, it becomes more and more important that we find a way to stop burglars before they enter.

THE ADVANTAGES OF BURGLAR ALARM SYSTEMS

Low Fear Appeal Message

Aimed at the Family

Safety is becoming a serious problem in Florida. Last year in Orlando our crime rate doubled, and most of it occurred in our very own homes. During 1981 in Orlando alone 8000 reported break-ins, 823 reported rapes, and 112 reported killings occurred in our neighborhoods. In addition, many more of these crimes went unreported.

Because of this problem the Greater Orlando Police Department has been studying several protection devices and ideas which you may be able to use in order to protect your property and loved ones. We have found that a computer-operated burglar alarm system is one of the best ways to deter would-be burglars. For example, the so-called "Burglar Brain" is quite inexpensive and is locally available. You can purchase the initial package for about \$185.00, with the provision of a thirty-day trial period. This package consists of a small 8 x 12 twenty-button key console, a powerful remote horn, two transmitters, five magnetic contacts, three decals, and instructions. Once the "Burglar Brain" is on duty, small sensors will monitor your doors and windows ready to signal from as far away as 250 feet in the event of an attempted break-in. The "Brain" will process each

each signal immediately and will sound an 85 db internal siren and a 95 db remote siren to alert your family, your neighbors, the police, and should thus scare the criminal away. If power fails, the system has a battery backup, so you and your family can feel safe at any time.

As the crime rate increases, it becomes more and more important that we find a way to stop burglars before they enter.

THE ADVANTAGES OF BURGLAR ALARM SYSTEMS

Low Fear Appeal Message

Aimed at the Listener

Safety is becoming a serious problem in Florida. Last year in Orlando, our crime rate doubled. During 1981 in Orlando alone, over 8000 reported break-ins, 823 reported rapes, and 112 reported killings occurred in our neighborhoods. In addition, many more of these crimes went unreported.

Because of this problem the Greater Orlando Police Department has been studying several protection devices and ideas which you may be able to use in order to protect yourself. We have found that a computer-operated burglar alarm is one of the best ways to deter would-be burglars. For example, the so-called "Burglar Brain" is quite inexpensive and is locally available. You can purchase the initial package for about \$185.00, with the provision of a thirty-day trial period. This package consists of a small 8 x 12 twenty-button key console, a powerful remote horn, two transmitters, five magnetic contacts, three warning decals, and instructions. Once the "Brain" is on duty, small sensors will monitor your doors and windows ready to signal from as far away as 250 feet in the event of an attempted break-in. The "Brain" will process each signal immediately and will sound an 85 db internal siren and a 95 db remote siren to alert you, your

neighbors, the police, and would thus scare the criminal away. If power fails, the system has a battery backup so you can feel safe at any time.

As the crime rate increases, it becomes more and more important that we find a way to stop burglars before they enter.

APPENDIX B
QUESTIONNAIRE

"EVALUATION SHEET"

Below is a series of statements. Please indicate how you feel about each by circling the appropriate numbers in the right margin. Be sure to mark each item. Use the point system described below to evaluate your feelings. Thank you for your cooperation.

- 1 = I definitely agree
 2 = I mildly agree
 3 = I have neutral feelings
 4 = I mildly disagree
 5 = I definitely disagree

1. I feel that there is reason to be concerned with the safety of property and lives in the Orlando area 1 2 3 4 5 B
2. I believe a public education campaign on burglar alarm systems is a good idea 1 2 3 4 5 B
3. I am at present very concerned for the safety of lives and valuables in and around my dwelling 1 2 3 4 5 B
4. I think the installation of a computer operated home burglar alarm system is an effective way to provide the needed safety and peace of mind 1 2 3 4 5 B
5. I think \$185.95 is a good investment for protection 1 2 3 4 5 B
6. I am interested in the purchase of the basic kit 1 2 3 4 5 P
7. I plan to recommend the installation of an alarm system to my local friends and acquaintances . . . 1 2 3 4 5 P

PLEASE TURN THE PAGE.

8. I felt quite concerned for my safety while listening to the burglar alarm speech 1 2 3 4 5 *A*

9. I felt quite concerned for the safety of my loved one(s) while listening to the burglar alarm speech 1 2 3 4 5 *A*

10. My age: Marital status: Single Married

Class: Freshman Sophomore Junior Senior

Sex: Female Male I am the parent of ...# of child(ren)

In the space below please discuss briefly the reasons for your personal feelings about the computer operated home burglar alarm system:

.....
.....
.....
.....
.....

If you would like to receive additional information regarding a home security system please give us the following information:

Name:

Address:

.....Zip.....

Phone Number(s):

APPENDIX C
CONFEDERATE'S MESSAGE

THE CONFEDERATE'S MESSAGE
TO THE EXPERIMENTAL GROUPS

My name is John Paul Zepp. I am here to represent the Orlando Police Department.

Toward the end of 1981, our department decided to conduct a public educational campaign on home burgular alarm systems. We have prepared a taped message for the campaign and would like to explore its educational value. Therefore, since I am also a UCF student, I was asked to present our tape to several UCF classes, and ask for evaluation.

Since your professor was kind enough to allow me to use this class, I would like to ask you to listen carefully to the tape and afterwards fill out a short questionnaire on its educational value as honestly as possible, for some important and expensive departmental decisions may result from your evaluation.

Thank you very much!

By the way, the speaker you will hear on the tape is Captain John Blake.

(After the tape was played) The questionnaire consists of two pages. Please do not turn to page two until I ask you to.

(After everyone finished page one) Please turn to page two.

(When page two was finished by all) Please pass forward

the questionnaires. Thank you very much, once again, for your time and effort.

THE CONFEDERATE'S MESSAGE
TO THE CONTROL GROUP

My name is John Paul Zepp. I am here to represent the Orlando Police Department.

Because crime became a serious problem in our state, our department decided to conduct a public educational campaign on home burglar alarm systems. Since this is an expensive undertaking, the department would like to explore how the public feels about such a campaign and the alarm system. Therefore we are asking for some feedback from several college classes.

In a moment I will give you a questionnaire. Please fill it out as honestly as possible, because your opinion will influence some very important and expensive decisions.

(After distribution and completion of the questionnaires)
Please forward the questionnaires. Thank you very much for your time and effort.

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