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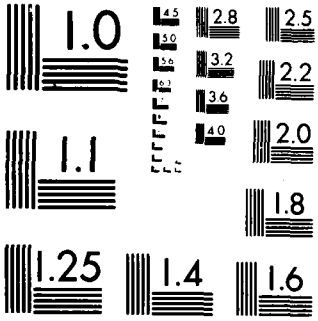

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INVOKING SUBORDINATE ATTITUDE CHANGE
THROUGH COUNTERATTITUDINAL ADVOCACY:
AN EXPERIMENT IN PERSUASION

THESIS

Jack E. Little, Jr.
Captain, USAF

AFIT/GLM/LSB/86S-44

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INVOKING SUBORDINATE ATTITUDE CHANGE THROUGH COUNTERATTITUDINAL ADVOCACY: AN EXPERIMENT IN PERSUASION

THESIS

Presented to the Faculty of the School of Systems and
Logistics of the Air Force Institute of Technology
Air University
In Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Logistics Management

Jack E. Little, Jr., B.A.
Captain, USAF

September 1986

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Jack E. Little, Jr.

Table of Contents

	Page
Acknowledgements	ii
List of Figures	v
List of Tables	vi
Abstract	vii
I. Introduction	1
The Need for Persuasion	1
Counterattitudinal Advocacy	2
Testing Counterattitudinal Advocacy	5
II. Literature Review	7
Background	7
The Attitude-Behavior Relationship	8
Defining Counterattitudinal Advocacy	10
Real World Applications	14
III. Methodology	16
The General Experimental Design	16
Reliability	16
The Experimental Design	19
Hypotheses	20
Research Objective	20
Major Problem Area	20
Expected Benefits	21
Procedure	21
The Pretest Survey	22
The Experimental Treatment	24
The Posttest Survey	26
Outbriefing the Study	27
IV. Analysis	29
Results	30

Page

V. Conclusions and Recommendations 35
Significance of Findings 35
Practical Implications 37
Justification of Effort 38
Publicity 38
Disclosure 38
Inoculation Theory 39
Training Leaders in CAA 40
Recommendations 42
Long-Term Effects 42
Future Methodology 42
Experiment Control 43
Conclusion 44

Appendix A: Survey Instrument 45

Appendix B: Reliability Analysis 49

Appendix C: Experiment Directions 61

Appendix D: Participant Feedback 63

Appendix E: Analysis of Variance 65

Appendix F: T-Test Analysis 73

Bibliography 79

Vita 81

List of Figures

Figure Page

1. The Counterattitudinal Advocacy Paradigm 11

2. Experimental Design 19

3. Raw Data Arrangement 29

List of Tables

Table		Page
I.	Analysis of Variance Summary	32
II.	T-Test Analysis Summary	33

Abstract

This study showed that counterattitudinal advocacy (CAA), a persuasive technique often employed in academic circles, may be useful for affecting attitude change in an Air Force organizational setting. The counterattitudinal process in this experiment included a pertest questionnaire to determine attitudes of 120 enlisted members assigned to a Tactical Fighter Wing maintenance complex. Participants reporting the most negative responses on the topics of retention and overtime were selected as experiment subjects. The remainder of the participants served as a control group for both topics. Subjects were asked to make video taped statements supporting the Air Force position on one of these topics (level 1) or were asked simply to agree to encode such message (level 2). Level two participants completed only a written statement. All participants then completed a posttest questionnaire to determine if attitudes had changed within the experimental group.

Results supported the hypothesis that CAA would bring about attitude change while attitudes of the control group remained constant. Furthermore, both of the topic areas addressed showed a significant change in attitude. A hypothesis concerning level of treatment was not supported.

The results of this experiment suggest that CAA may be an effective tool for Air Force leaders in bringing about attitude change in subordinates. Recommendations include

training upper level Air Force leaders in employing CAA and to explore new methods of testing CAA to determine the extent to which it is effective in Air Force organizational settings.

INVOKING SUBORDINATE ATTITUDE CHANGE THROUGH COUNTERATTITUDINAL ADVOCACY: AN EXPERIMENT IN PERSUASION

I. Introduction

The Need For Persuasion

Air Force leaders depend on the discipline and performance of their subordinates to maintain effective organizations. Usually, problems of discipline are addressed and corrected without analysis of the impact upon the organization as a whole. Clearly however, there are costs to the organization when it administers corrective action to a discrepant member. Costs could be viewed in terms of reduced performance of the individual, the general impact upon morale in the unit, and in terms of economic costs to the organization (administrative costs, etc.). With potential losses so high, one would think there would be methods available to Air Force leaders for influencing individual behavior, and in fact, there are several programs aimed at dealing with or preventing discrepant behavior. If an airman is to drive on a military installation, he must receive military driver's training (an attempt to improve driver safety). Drug awareness training is also mandatory for airmen, an attempt to discourage them from future or continued use of illegal substances. Unfortunately, many of the Air Force programs designed to assure desirable behavior

or to modify unacceptable behavior do not address the underlying attitudes which support these behaviors.

All too often, a military leader may know of the existence of an undesirable attitude in a subordinate, but may feel unable to take any action until such an attitude results in discrepant behavior. Then, any action taken by the Air Force leader will almost certainly result in some form of reprisal for the affected subordinate. For example, a leader may observe a subordinate just barely getting to work on time every day. The leader may infer from this behavior that the subordinate possesses the "wrong attitude" about reporting for work, but may also feel powerless to change the underlying attitude supporting this behavior until the behavior becomes clearly discrepant (the subordinate reports to work late). At this point, action may be taken against the individual for the improper behavior, but the question of the underlying attitude remains unresolved. An Air Force leader might well ask, "isn't there some way to change the attitude of an Air Force member before it results in unacceptable behavior?"

Counterattitudinal Advocacy

Behavior resulting from attitudes is a concept that presumes a link between attitudes and behavior that, according to some past researchers, does not exist (13:59). Fortunately for the Air Force leader, more recent studies do

suggest that there are measures of attitude which show significant correlation with measures of behavior (9:3; 15:22). In a more practical sense, one may then infer that persuading an individual to change an undesirable attitude may offer many benefits to the Air Force leader by precluding unacceptable behavior. Since more recent research does establish some degree of connection between attitudes and behavior, the question for the practicing manager would then be: "can attitude changes be invoked in subordinates who hold undesirable attitudes?" If so, how can this be done?

Although there are many theories widely advanced by persuasion researchers, few offer the practicing leader an operational means to persuade subordinates to share those attitudes deemed most appropriate within an organization. Certainly academic research is important, but the application of academic research findings would certainly be more useful to a leader working in a 'real world' environment such as the Air Force. One method of persuasion known as counterattitudinal advocacy (CAA) continues to demonstrate broad possibilities to leaders and managers who wish to mold or change the attitudes of their subordinates. In the specific context of the Air Force, such a practical method for affecting attitude change could improve the performance of a discrepant individual, if it did in fact prove operable in the Air Force environment. In

short, this research seeks to determine whether counter-attitudinal advocacy offers any observable benefits to Air Force leaders, in terms of affecting attitudes or bringing about attitude change. It would follow that if CAA could change attitudes of Air Force members toward a more desirable position, then subsequent behavior might also be expected to improve, assuming that one does not discount the cause and effect relationship between attitudes and behavior.

To determine the effectiveness of CAA within the Air Force organization, one must first understand the CAA process. In the most general sense, the CAA process involves determining the attitudes or general disposition of the targeted individual. If those attitudes are agreeable to the Air Force leader, then there is no need to involve that subordinate in the CAA process. If, on the other hand, the leader determines a subordinate does have an attitude which he or she believes should be changed, then a candidate for the CAA process has been identified. The CAA subject is selected to participate in the CAA activity, which involves the public proclamation (or perceived public proclamation) of an attitude or position known to be desired by the Air Force, but which is not held by the individual. This public support of an attitude which is counter to the subject's own position is believed (for a variety of reasons) to result in a change in attitude toward the desired condition (14:105).

Testing Counterattitudinal Advocacy

To test this scenario, subjects who possessed attitudes the Air Force would presumably like to change were identified through a pre-experiment questionnaire. Although in a real world situation a leader would probably not use this method to determine attitudes of subordinates (managers would often be able to observe attitudes of their subordinates on a day-to-day basis without requiring a survey), for experimental purposes, the pretest survey seemed to be the most appropriate means of determining attitudes on a large scale. The CAA experiment then asked subjects to encode a message counter to their attitudes and supportive of the Air Force position on a given topic. Even if CAA proved useful in an organizational setting in one such topic area, one might well argue that CAA efficacy is limited to the particular topic being addressed. Because it is possible that the benefits of CAA may be limited to a particular subject area, two topical areas were addressed in this experiment (retention and overtime hours). These diverse topics, if affected by the CAA process, would tend to support the general utility of CAA over a wide range of topic areas. Broader application of CAA's success in other topic areas may be the focus of future research. Finally, a postexperiment questionnaire was administered to determine the degree of shift in attitudes within the treatment group. A control group was surveyed in both the pretest and

posttest phases, but did not receive the experimental treatment.

This experiment was conducted within an aircraft maintenance complex in Tactical Air Command (TAC). Although the organization did not possess all possible characteristics of Air Force organizations, it did possess a large, fairly representative group of enlisted members in grades E-1 through E-5, the focus group of this research. It is in these grades that the decision to fully commit one's self to the Air Force (as evidenced by one's behavior) is least likely to have been made. Specifically, most people in these grades could not be considered "career members" since they are usually on their first or second enlistments. Thus, it is not unreasonable to assume that if one were to find attitudes counter to the best interest of the Air Force (such as poor attitudes toward overtime and retention), that this would be a likely group in which to find such attitudes. This group was also selected because the great majority of Air Force members holds one of these ranks.

Although the results of this experiment cannot be inherently considered valid for all Air Force groups, any applicability of the CAA process found in this group would certainly imply the possibility for general application to other groups within the Air Force, a possible subject for future research.

II. Literature Review

Background

The background research for this experiment centers on three key issues: the validity of the attitude-behavior relationship; exacting an operational definition of counterattitudinal advocacy; and organizational application of CAA theory. If past research has failed to establish an attitude-behavior link, one might dismiss the possibility that changing attitudes can sometimes change behavior and also dismiss the present experiment as groundless. If the desired attitude change did occur without an associated change in observed behavior, then the utility of CAA theory, despite its well established success in academic settings, would be quite limited in the organizational context. The absence of this link would certainly imply that leaders and managers could be less concerned with attitudes, since affecting those attitudes would have little associated benefit for the organization in terms of behavior. Many managers would reject this lack of association as being a function of inadequate research design, opting rather to accept the intuitive cause and effect relationship that appears obvious between attitudes and behavior under many, if not most circumstances.

Persuasion theory is a broad subtopic of communications research (16:49). It has been treated as an independent

research topic, possibly because of the many variations, forms and methods employed in studying it. Counter-attitudinal advocacy is just one of the many areas of persuasion research, but even given this narrowed scope, CAA must further be limited and defined for the purposes of this research.

Regarding the abundant variety of CAA research, at least one major consideration has not been adequately addressed. "Will attitude changes brought about during the CAA process in academic environments, using topics not necessarily of importance to the subjects, be replicable in 'real world' contexts using topics of great concern to leaders and employers?" Here is where CAA research becomes less clearly established as beneficial.

The Attitude-Behavior Relationship

The attitude-behavior relationship has come under heavy fire in past years since, according to Larson and Sanders, many studies have shown no necessary relationship between attitudes and behavior (11). They suggest that most of these studies do not deny a link between attitudes and behavior, they just have not found the means to establish it. Larson and Sander's further suggest several reasons why this might be true: First, there appears to be an inability to accurately measure attitudes. They also suggest that the relationship may be more complex and indirect than was once thought. For the purposes of this

research, one would like to be able to clearly state that any affected change in attitude will have a commensurate change in behavior, unfortunately, this point remains to be irrefutably established. Finally, Larson and Sanders assert that persuasion is a "psychosocial act." This view suggests that people tend to verbalize those attitudes which are acceptable to others and conceal those which are less acceptable. Thus, Larson and Sanders conclude in their "alignment theory" that what people say and what they do are two different things. It is therefore easy to see one of the reasons why accurately measuring attitudes can be so difficult.

Despite this study which shows that people's behavior and attitudes are not necessarily congruent, more recent study suggest that there are situations in which attitudes and subsequent behavior are quite consistent (15:22-29;20). Petty and Cacioppo (15) cite more than a dozen studies which not only demonstrate an attitude-behavior relationship, but also show which factors are best for predicting subsequent behavior. Such factors include norms, personality and habits (15:28).

In another recent study, Youngblood et al. also found that attitudes are often good predictors of future behavior (20). This study is of particular importance because it was conducted in a military environment and addresses one of the topic areas used in this experiment (retention). Youngblood

et al. measured attitudes of over 1,400 men entering Marine Basic Training. They found that on the subject of retention, attitudes were highly correlated with actual behavior (deciding to reenlist or to leave the Marines)(20:20). Thus, it appears safe to conclude that there is a link between attitudes and eventual behavior in some military contexts.

Defining Counterattitudinal Advocacy

Persuasion has been a frequent subject for research and counterattitudinal advocacy is but one form of persuasion. According to Miller, the terms "counterattitudinal behavior," "self persuasion," and "belief-discrepant behavior" are all related to CAA, but are too broad to define CAA in particular (14:106). CAA should therefore not be confused with these broader areas of study. The distinguishing feature of CAA, according to Miller is, "...actual counterattitudinal encoding of a persuasive message by an intended persuadee" (14:106). Such encoding is done under conditions of perceived freedom of action on the part of the persuadee, an important distinction from "forced compliance" where a subject may be required to encode a counterattitudinal message without the freedom to reject the encoding process.

Miller (14) developed the following model to describe the CAA process:

STAGE 1 →	STAGE 2 →	STAGE 3 →	STAGE 4 →	STAGE 5
Pretest	Commitment to Encode	Commitment Posttest	CAA Encoding	Postencoding Posttest

Figure 1. The Counterattitudinal Advocacy Paradigm (14:106)

Stage 1 in this model involves determining the initial attitude of the subject. Stage 2 involves gaining a commitment to encode a CAA message. Stage 3 measures any change in attitude since the initial measurement in Stage 1 (assumed to have resulted from Stage 2). Stage 4 involves encoding a message through a means the subject perceives as public. Finally, Stage 5 measures attitudes and looks for a shift since Stage 1 and Stage 3.

Dissonance theory is perhaps the most common explanation for the efficacy of CAA (as advanced by Festinger in his 1957 theory [8]). Under this theory, CAA works because it results in cognitive dissonance from the realization that "I believe x" but "I am advocating non-x." This dissonance arousal is highest in conditions which provide low justification for the encoding of the message, a high degree of effort is involved, and when subjects have a high degree of choice in whether or not to encode the message (14:108).

In addition to dissonance theory, Miller advances the Functional Analysis theory to explain why CAA works (14:120). Under this theory, the dissonance produced in CAA can be categorized as moral, hedonic or as consensual validation dilemmas. Moral dilemmas are those where a persuadee is engaged in an activity that society considers immoral (such as lying) (14:120). Whereas dissonance theory holds that attitude change should be facilitated by these conditions, functional analysis suggests the opposite; that attitude change would be reduced on such moral issues. Hedonic dilemmas are those where a person "...must rationalize foolish behavior or a bad bargain" (14:120). Miller suggests that "effortful" counterattitudinal message encoding with little or no compensation is such a hedonic dilemma. Since CAA in the hedonic category is enhanced by a high level of effort, it is quite consistent with dissonance theory. Finally, consensual validation dilemmas "...involve concern over the correctness of one's initial opinions" (14:121). Any change in attitude is explained as a result of the subject receiving new information through the encoding process which challenges previously held beliefs. Depending upon the category of the question at hand (moral, hedonic, or consensual validation), a greater or lesser degree of attitude change may be observed and the functional analysis theory may or may not be consistent with dissonance theory (14:121).

Miller concludes that neither of these two theories (or any other theory on why CAA works) predominates the others and that future research should continue to look for ways to optimize the CAA phenomenon (14:144). Miller points out that CAA is "an activity in which each of us has engaged on numerous occasions" (14:145). Because it is commonplace and because it is effective in changing attitudes, he suggests that it is worthy of further research in an effort to better understand the variables associated with the process.

Despite no real consensus on how or why CAA works, the dissonance interpretation seems to have gained greater favor in recent years. In a military context (5), Bridges found that dissonance reducing phenomena such as mandated social change results in less attitude change than in situations where change is not mandated. In other words, attitude change was more likely when persuadees perceived freedom to make up their own minds rather than having a particular position forced upon them (in this case, acceptance of women at the Air Force Academy). Furthermore, the level of effort justification (a key factor in dissonance theory) involved in Axsom and Cooper's study (1) suggests that higher effort justification leads to less attitude change (and less subsequent behavior modification).

Concerning justification, Benware and Deci (3) determined that justification provided by researchers in the form of monetary incentives reduced attitude change when

employing CAA (2). With regard to publicity (defined for this study as the extent to which the subject perceives his or her message as being presented to a public audience) Miller (14:105) suggests that the extent of participation (the degree of publicity in this experiment) on the part of experiment subjects is an important variable for future research efforts (14:105). For this reason, this experiment sought to vary the level of participation by separating the two topic area participants into a video taped grouped and a "written statement" group.

Dissonance theory has also received further confirmation through Croyle and Cooper's study which showed attitude change being accompanied with actual physiological evidence of dissonance (variations in heart and respiration rates) (6). Thus, for the purposes of this research, the dissonance interpretation for why CAA changes attitudes appears to be the most appropriate explanation.

Real World Applications

Despite the considerable information available concerning CAA, it seems that few if any researchers have tried to apply CAA techniques to solve organizational problems in real world situations. The reasons are uncertain but are perhaps due to the lack of classification of variables which enhance or impede the CAA process. Furthermore, the general lack of empirical evidence to support dissonance theory, a major explanation for why CAA

works, may be further confounding the application of this otherwise useful persuasive technique. By addressing topic areas important to Air Force leaders, this study sought to demonstrate that CAA can be effectively used in organizational settings to accomplish meaningful changes in attitudes. Although the military has expressed interest in attitude research (20), this study breaks new ground in establishing the utility of CAA techniques outside of the academic environment and also presents a new persuasive technique apparently unstudied in military circles.

III. Methodology

The General Experimental Design

This experiment employed much of the methodology used by Routh and Pryor (18). The experimental design follows the pattern of virtually all CAA studies reviewed by Miller and conforms to his CAA paradigm (14:106). The experiment included a written pretest attitude survey consisting of 16 attitudinal items in four categories (women's participation in the Air Force, use of and Air Force policy concerning illegal drugs, retention in the Air Force and working overtime). A posttest survey was also taken using the same survey instrument (see Appendix A). Because of instrument reliability results, two of the four topics were addressed in the experimental portion of this study (retention and overtime). A Likert-type, 7 point response scale was used because of its reported superiority to other rating scales (16:229). The survey was administered to 120 enlisted members in grades E-1 through E-5, under the sponsorship of a TAC aircraft maintenance unit. The survey was tested for internal validity on a group of ten enlisted personnel (E-1 through E-5) at Wright-Patterson AFB, Ohio, in advance of the main experiment.

Reliability

Before conducting the actual experiment, the survey instrument was tested for reliability using 10 enlisted

personnel who were demographically similar to the experimental group. The selected respondents were in grades E-1 through E-5 and each was assured of complete anonymity. The data were manually loaded into a Digital Equipment VAX 11/785 computer for analysis using the SPSSx (19) statistical package. Reliability checks were made using the "split" comparison option (Guttman Split-Half Technique)(See Appendix B). Variables to be checked were listed such that the "split" option provided an odd-even reliability check of the variables. It became apparent from this analysis that the "drug" and "women in the Air Force" categories would not be suitable for further experimentation due to low instrument reliability.

The remaining two categories (overtime and retention) appeared more suitable for field testing because honest responses to these questions would not place respondents in conflict with Air Force policies (it is not illegal to reject reenlistment but it is against Air Force policy to discriminate against women). Furthermore, the reliability figure (Spearman-Brown equal length reliability coefficient) for the retention topic was quite high (.901). The overtime topic showed the poorest reliability of the four topic areas, but did not possess the undesirable qualities of the drug and women topics where hedging on answers was likely (there could be no reprisal for reporting honestly that one disliked working overtime). For this reason, revision of

the overtime scale became desirable. By removing items one and four (numbers 13 and 16 on the survey), reliability was increased to .682, marginally acceptable for further experimentation. Despite this improved reliability, the most salient questions of the four included in the overtime topic seemed to be the two now removed from consideration. Thus, another means of assuring reliability was sought. Examination of the wording on overtime item 2 (survey item number 14) in the sample survey showed that slight rewording of this question might affect the reliability of this topic area. The original wording used to check reliability was, "If Congress cuts the military budget, overtime hours **may be required** to help keep things going." The revised version used in the actual survey was, "If Congress cuts the military budget, overtime hours **should be used** to help keep things going." Post-hoc analysis showed the Spearman-Brown instrument reliability coefficient for the retention topic to be 0.64 while the overtime reliability coefficient improved to 0.73. Reliability of the overtime topic was confirmed for experimental subjects prior to engaging them in the experiment activities. Subjects were selected in the overtime treatment by reporting highly negative attitudes toward the Air Force's overtime policies. Interviews prior to the experiment confirmed the adequacy of the survey instrument in identifying people suitable as subjects (those who reported strong objection to overtime). As for the

retention topic subjects, the reliability of the instrument was supported by also interviewing candidate subjects prior to engaging them in the experiment.

The Experimental Design

The design of this study constitutes a "two-by-two" quasi-experimental arrangement (two topics by two levels) with a control group of 72 people in both the pretest and posttest conditions. Figure 2 details the experimental design:

Topic 1, Level 1	O---X---O	(Retention, Taped)
Topic 1, Level 2	O---X---O	(Retention, Not Taped)
Topic 2, Level 1	O---X---O	(Overtime, Taped)
Topic 2, Level 2	O---X---O	(Overtime, Not Taped)
Control Group	O-------O	

Figure 2. Experiment Design

Note that the design shows only one control group. Since all participants answered all 16 survey questions, one control group served for both topic areas.

Hypotheses

The experiment was designed to answer the following hypotheses advanced in this study:

1) CAA activity will result in a reported shift in attitudes toward a more favorable position (the position preferred by the Air Force)(h1).

2) CAA will produce attitude change in both topical areas (it is not limited by topic)(h2).

3) The higher degree of participation associated with the CAA experiment will result in higher levels of reported attitude shift (h3).

Research Objective

The overall objective of this research was to determine if CAA is a functional persuasive procedure that can be employed within Air Force organizations. If so, future research should expand on the research begun with this project and eventually develop training methods for Air Force leaders in employing CAA concepts.

Major Problem Area

The major hurdle in this experiment was in gaining the sponsorship of an organization willing to support this research. It is easy to understand why a commander would be reluctant to offer his or her squadron to support such a project, since it required two surveys and an experiment, all of which took personnel away from their normal duties.

Expected Benefits

Possible areas of benefit for Air Force leaders might include improved retention and greater job commitment through acceptance of the necessity for working overtime (without compensation). Such improvements as these may improve overall unit cohesiveness, morale and/or individual performance, all of which are possible subjects for continued CAA research.

Procedure

The entire experiment was conducted over a one week period. The pretest survey was administered by a confederate, not by the actual researcher. This was to distance the survey from the experiment and to distance the survey from the researcher conducting the experiment. This is necessary according to Miller (14:124) because at least two extraneous variables were cited by Rosenberg (17) in his 1965 study regarding researcher interaction with CAA subjects. The first reason for the researcher to distance himself from the attitude survey is because the subject may perceive the experiment as a test of his or her honesty or autonomy, especially if any monetary inducement is subsequently offered by the researcher to the subject for his effort. Secondly, the subject may perceive the experimenter as engaging in trickery and therefore come to develop a dislike for the researcher. Again, Rosenberg's

example relates most closely to situations where monetary incentives are offered to induce the subject to engage in the CAA activity, but research experience would suggest that other experimental designs may be affected in similar fashion. The result if either of these variables comes into play is a reduced level of attitude change. According to Rosenberg (17) and Miller (14), both of these conditions must be carefully controlled. Using the confederate to administer the pre-test survey appeared to provide adequate separation of researcher from the survey, especially since the survey's introduction letter was be signed by another party (the research advisor). In the few instances where a direct connection was drawn between the survey and the experiment, any such connection was dismissed as purely coincidental. This is a plausible argument since the Air Force Institute of Technology sponsors hundreds of research projects every year.

The Pretest Survey. The majority of the participants were assigned to avionics repair shops although there were participants from other areas as well (jet engine mechanics, weapons loaders, flightline specialists and other maintenance specialists). The great majority of respondents were male, (82 of the total 91 participants) providing a typical cross-section of the aircraft maintenance organization represented. All respondents held grades E-1 (Airman Basic) through E-5 (Staff Sergeant).

Each respondent was assured of complete anonymity in his or her responses to the survey. Each survey was delivered to the respondent in a plain brown envelope. Inside the envelope were the instructions, the actual survey instrument, an optical scanning response sheet and a gummed label. The participants were told not to include their name or other identifying information anywhere on the optical scan sheet. They were told however, to include their last name and first initial on the gummed label provided and to seal their responses in the envelope by affixing the label over the envelope flap. This was necessary for control and administrative purposes. Respondents were assured that their names would never be linked with their responses. The survey instrument also contained a "comments" section. Several respondents used the block but only two reported any concerns regarding the anonymity of the survey. Attrition was higher than anticipated in all areas. The original design called for a control group of 72 people and an experimental group of 48 people. Attrition of approximately 5 percent was expected but actual attrition was approximately 24 percent. The main reason for attrition was authorized absence of personnel. Several people who were present for the pretest survey were unavailable for the experiment due to absence on leave, temporary duty at other locations, shift work, and two people who refused to participate in the experiment. Administrative errors also

resulted in losing three people from the study. After attrition was considered, 91 people completed the study. Thirty-six were assigned to the experimental group and 55 were assigned to the control group.

The Experimental Treatment. The experimental group included 18 people in each topic area and each topic area was divided into two levels (actually recorded on video tape or simply asked to commit to a possible video tape recording). Although subjects were randomly assigned to treatments, the first 9 people contacted in each of the four treatment groups were used; any remaining subjects previously identified within a particular group were told they would not be needed for the study.

Selection for the experimental group was based upon summed survey response scores (nonrandom with a maximum of 28 points in either category). Those respondents reporting the least positive responses in either the overtime ($x = 8.61$) or retention ($x = 10.24$) areas were selected; assignment to a group was mutually exclusive (no one was included in both topic areas of the experimental group). Each subject received an appointment slip to report to the "Combat Plans" section, the actual site of the experiment. No reason for reporting was given. Upon arrival, each subject received a verbal briefing read by the researcher concerning AFIT and its research projects. Appendix C shows the instructions read to each subject.

Before reporting to the experiment site, experimental subjects had been randomly assigned to one of two treatment levels. Upon reporting, the first level subjects were asked to make a statement supporting either the Air Force's position on overtime or retention to be shown via video tape to Air Force leaders at another Air Force base (the public audience). The second level received the same treatment but after agreeing to encode the message, they were told that they were actually "alternates" and that they would probably not have to make the tape. Second level subjects were then asked to prepare a written statement supporting either the overtime or retention topics so that they would be ready to make the tape if called upon to do so. (Before completing a posttest questionnaire, all second level subjects were completely assured that they would not have to make the video tape.) Each subject, regardless of topic or level, was assured that his or her participation was completely voluntary and that there was absolutely no obligation to participate. Thus, except that their participation would be a favor to the researcher, no justification for their actions was given since such justification could reduce attitude change (16:188).

Upon agreeing to participate, subjects were given time to prepare a statement supporting either the overtime topic or the retention topic. Subjects actually making the video taped statement were strictly limited to 5 minutes

preparation time, although actual messages ranged from a few seconds to over two minutes. Although nontaped subjects were also instructed to limit preparation time to 5 minutes, the average preparation time taken was in excess of 15 minutes. This lack of control was due to a strict time schedule and the unavailability of research assistance at the site.

Upon completion of the video tape or upon submitting written notes (depending on the treatment), each subject was highly praised for the quality of the video taped message presented or for the quality of the written message. The congratulations were to enforce the "perceived competence" variable as advanced by Bodaken et al. (4) in their 1979 work. This perception of competence, according to Bodaken et al. is positively correlated with attitude change and is thus important to this research.

The Posttest Survey. Before being dismissed, each subject was asked to reaccomplish the same survey that he or she had completed a few days earlier. The rationale given was that the original survey from Wright-Patterson AFB appeared to have been lost and since there was an AFIT researcher on-site conducting an experiment, he could easily readminister the survey and hand-carry it back to Wright-Patterson AFB (and yet remain unconnected to the survey). The experiment involved only one topic per person even though the survey contained four topics, further adding

credibility to the researcher's claim of nonassociation with the survey. While the experiment was in progress, the posttest survey was also being administered to the control group by a confederate. The posttest instrument was identical to the pretest instrument except that the optical scan response sheet was different. The posttest survey sheets were numerically controlled and linked to the names of all participants. All participant names were known by the labels they were asked to affix to the pretest survey envelopes.

In addition to providing the required second survey, the assertion that the original surveys appeared lost served another important purpose. By making this statement, participants could freely express current attitudes without regard for matching current attitudes to those recorded in the pretest survey.

Outbriefing the Study. After all posttest surveys were collected, all participants were invited to an outbriefing of the study. Although outbriefing attendance was low, feedback from participants was gained by having them respond on blanks slips of paper to several questions about the study. Appendix D lists the questions asked at the outbriefing. The responses were collected in mass to assure participants of complete anonymity in the feedback they provided. Responses to these questions were overwhelmingly positive. The overall response was that the experiment was

believed to be anonymous and that respondents were honest in their responses to survey questions. All participants were then assured that final results of the experiment would be provided to them upon completion of the data analysis.

IV. Analysis

Survey data were collected via optical scan sheets for both the pretest and posttest surveys; however, the optical scan sheet used in the posttest was slightly different from the pretest sheet. This merely made data manipulation slightly more complicated. All 42 responses to the surveys are listed by case. The first 21 columns represent the pretest data while the remaining 21 columns represent the posttest data. Case arrangement is given in Figure 3.

Case 1 through 9.....	Retention Topic, Not Recorded
Case 10 through 18.....	Overtime Topic, Not Recorded
Case 19 through 27.....	Retention Topic, Recorded
Case 28 through 36.....	Overtime Topic, Recorded
Case 37 through 91.....	Control Group

Figure 3. Raw Data Arrangement

Because of the somewhat complex experimental design, selection of appropriate statistical tests was a major concern in this study. The data collected represent responses to questions on a seven-point Likert-type scale. Thus, for all practical purposes the data can be considered at least ordinal in nature. According to Hardyck and Petrinovich, "in general, we are perfectly safe in calculating any statistics we want on any set of

measurements that have the properties of an ordinal scale. There is definitive evidence that statistics calculated on an ordinal scale are just as reliable and meaningful as statistics calculated on interval and ratio scales of measurement" (10:27). For this reason, several analyses were possible.

Simple paired T-tests were considered but rejected due to the increased likelihood of spurious significance when these tests are repeated on the same data base. Analysis of Variance (ANOVA) was selected as appropriate for two reasons. First, other similar studies have used ANOVA analysis with great success (18), and secondly, the stated hypotheses imply the collected data represent at least three levels (video taped treatment, nontaped treatment and control treatment). ANOVA was therefore selected as the fundamental statistical method for analyzing these data.

Results

Analysis was conducted on a VAX 11/785 computer using the ANOVA procedure in the SPSSx software package (19:451-462). For all measurements, 0.05 was considered the standard for significance. H1 (CAA will result in a shift in attitudes) was measured by performing ANOVA analysis between the pretest experiment and pretest control groups (see Appendix E). The hypothesized results would have to show that the experimental groups and control groups were

significantly different in the pretest condition. The reason for this is that experiment subjects were selected for having attitudes toward either the retention or overtime topics that were different from the norm as represented by the control group. The results supported the subject selection procedure. Experimental subjects in the pretest condition were significantly different from the control group for the retention topic ($F = 10.04$; $p = 0.002$) and overtime topic as well ($F = 8.814$; $p = 0.004$). Table I summarizes the ANOVA results.

In the posttest condition, ANOVA showed that h1 and h2 were partially supported. The hypothesized outcome would be that the treatment groups were significantly different from the control group in the pretest condition, but because of the CAA activity, they should not be significantly different from the control group in the posttest condition. The overtime category clearly moved from being significantly different from the control group in the pretest to no difference from the control group in the posttest condition ($F = 2.765$; $p = 0.101$), partially supporting h1 (see Appendix E). Although the retention treatment moved in the expected direction by a considerable margin, the retention group remained significantly different from the control group in the posttest condition ($F = 4.612$; $p = 0.035$).

Table I

Analysis of Variance Summary

GROUP	PRETEST		POSTTEST	
	F	p	F	p
Retention vs. Control	10.040	0.002	4.612	0.035
Overtime vs. Control	8.814	0.004	2.765	0.101

Even though the retention group remained different from the control group in the posttest condition, movement of the F score from 10.04 in the pretest condition to 4.612 in the posttest condition seemed substantial enough to support further testing. The question became, "if the retention group remains different from the control group, but did in fact experience a shift in its attitudes, is the shift itself significant when comparing the pretest and posttest scores?" This analysis was performed using the SPSSx T-Test procedure with the "pairs" subcommand to determine if the retention group's pretest score was different from the score in the posttest condition (see Appendix F). The overtime group scores were also tested using this procedure. T values were calculated for the overall retention and overtime categories as well as for each of the four items within these categories. Table II summarizes the T-Test results (one-tail probabilities).

Table II

T-Test Analysis Summary

	PRETEST		POSTTEST		
Test Group	Mean	S.D.	Mean	S.D.	1-Tail Prob.
Overtime (overall)	8.61	2.06	10.5	2.23	0.001
Item 1	3.33	1.82	3.33	1.75	0.500
Item 2	1.61	0.70	1.83	1.10	0.155
Item 3	2.00	0.84	2.78	1.70	0.022
Item 4	1.67	1.03	2.56	1.65	0.013
Retention (overall)	10.24	4.37	12.71	4.09	0.004
Item 1	2.22	1.80	2.78	1.67	0.007
Item 2	3.06	1.90	3.44	1.30	0.220
Item 3	2.76	2.14	3.06	1.79	0.118
Item 4	2.39	1.24	3.11	1.71	0.028

T-Test analysis proved supportive of ANOVA analysis, furthermore, it demonstrated that even though the retention group remained different from the control group in the posttest condition (as demonstrated by ANOVA), it realized significant change in attitude from the pretest to the posttest condition. Thus, general support was found for both h1 and h2.

H3 was not supported by this research (see Appendix E). The research was designed to vary the level of publicity and effort associated with the CAA activity. Subjects receiving the nontaped treatment averaged 15 minutes on the task, compared to those recording the message who were strictly limited to 5 minutes preparation time on their messages.

Some of the nontaped subjects took as much as 25 minutes to prepare written notes, notes which would serve as a script if called upon to deliver a CAA message via video tape. Because of this extended time period, some persons preparing a written statement probably expended far more effort than those making the video tape, thereby confounding the desired levels of treatment. Tighter controls in future experiments may in fact lend credibility to the effects of publicity and effort in enhancing the benefits of CAA.

In conclusion, analysis of the data suggest that CAA does have operable benefits in the context of real world applications, in particular, there is evidence to suggest that Air Force leaders may employ CAA techniques to affect attitude change, but that its effectiveness may be limited to certain topics or require repeated engagement in the CAA activity to achieve meaningful change in attitude.

V. Conclusions and Recommendations

Significance of Findings

The fact that reported attitudes of experimental subjects shifted toward a more desirable position suggests the general efficacy of the counterattitudinal process in an operational environment. On the retention topic, subjects remained significantly different from the control group after the experiment, but the significance level dropped from 0.002 to 0.035, corresponding to F scores of 10.04 and 4.612 respectively (see Appendix E). Subjective analysis of these findings suggests that h2 may not be supported for all topics relevant to the Air Force. One might argue that changing an attitude toward *working overtime*, a day-to-day occurrence, may very well be a simpler task than changing an attitude toward reenlistment, a commitment that represents at least four years of a person's life. This may suggest that even though the retention group experienced a change in attitude, that the shift was inadequate in this one attempt at attitude change to expect a reversal of opinions on the topic of reenlistment. Such a possibility is supported by Petty and Cacioppo's observations of the interrelationship of issue involvement and attitude change (15:228). One may venture to say that a "one-shot" treatment of counterattitudinal advocacy activity is beneficial only to topic areas of lesser concern to the

individual. Also suggested by these findings is the possibility that the benefits of CAA may be realized on more crucial subjects after repeated engagement in CAA activity. Both of these possibilities represent important areas for future research.

As for the overtime treatments, significant difference from the control group dropped from .004 to .101, corresponding to F scores of 8.814 and 2.765 respectively. Thus, the overtime topic subjects were significantly different from the control group in the pretest condition and were not significantly different from the control group in the posttest condition. This strongly suggests that CAA changed the attitudes held my members of this group.

The question of efficacy of CAA, given a particular topic remains unanswered for all practical applications, but this study has shown that even on topics important to the persuadee, attitudes can be changed through this process. Although both topic groups showed movement in the desired direction, testing a greater number and variety of topic areas seems appropriate for future research. Based on the limited test of this parameter in this experiment, one might suspect that the level of commitment to a particular position or the importance of the topic at hand to the subject may very well affect the potential benefit of the CAA process. Thus, a one-shot treatment of CAA may be useful for topics of limited importance to the persuadee,

but important topics (such as retention) may require additional CAA treatments or need to be combined with other approaches before attitude change is sufficient to expect a behavioral change on the part of the persuadee.

Practical Implications

Inasmuch as CAA is a new area of study for military applications, the potential for use of this technique seems fairly broad. Air Force Leaders faced with a subordinate possessing an attitude which is likely to lead to reduced performance or prohibited behavior may find CAA beneficial in molding the attitudes (and subsequent behavior) of such subordinates. In general, it seems reasonable to conclude that willing compliance on the part of a subordinate is superior to forced compliance. CAA may be an effective tool in gaining desired attitudes from subordinates and thus, willing compliance with Air Force policies and goals. As an example, an Air Force leader may wish for one of his subordinates to reenlist when the individual in question has fairly strong feelings about not reenlisting. If the leader can get the subordinate to publicly encode messages in favor of reenlistment, the subordinate may experience enough change in attitude to actually reenlist. To make the CAA process work however, the Air Force Leader must be aware of several important points in applying the CAA process, including justification, publicity, and disclosure of

information to the subordinate on constructing the CAA message.

Justification of Effort. Justification for engaging the individual in the CAA activity must be low, that is, the leader cannot force or coerce the individual into encoding a CAA message. As mentioned earlier in this report, providing justification for CAA seems to weaken its overall benefit. The subject should therefore receive no prompting or incentive which the subject could rationalize as being a valid excuse for encoding the message.

Publicity. Another key concern is the level of publicity associated with the CAA process. If the encoded message is perceived by the encoder to be public, the beneficial effects of CAA appear far greater. For the practicing Air Force leader, providing a public audience (or what the target individual believes is a public audience) may be the greatest challenge of all. In any case, the perception of the message being public appears quite essential in effectively employing CAA concepts.

Disclosure. The final concern for leaders involves disclosure. Employment of CAA may be ineffective if subordinates come to believe they are being manipulated. According to Petty and Cacioppo on this point, "...resistance to persuasion could be induced by warning a person in advance of an upcoming counterattitudinal advocacy on an involving issue" (15:228). They also state,

"...merely being instructed to think about an issue before being presented with a message was sufficient to induce anticipatory counterargumentation and subsequent resistance to persuasion" (15:227). In other words, if a leader tells a subordinate that he is trying to change his attitude or prefaces his request for the subject to encode a counterattitudinal message by addressing the issue at hand, the subordinate may become resistant to attitude change, despite the salience of future arguments which might otherwise have impacted upon the subordinate. It therefore becomes the imperative for the leader to not overtly disclose his intentions, but to simply have the subordinate engage in the CAA activity without explanation or with an explanation other than attitude change being given. Also, because simply presenting the topic before requesting the counterattitudinal message can damage the process, subjects should be asked to make the counterattitudinal statement without forewarning of the issue at hand.

Inoculation Theory. After gaining a commitment from the subordinate to make the counterattitudinal statement, the question of how much information the subordinate has on the topic at hand becomes an important consideration. Since the leader will often have to provide information to assist the subordinate in the development of the counterattitudinal message, it is to the advantage of the leader to invoke the phenomenon known as "inoculation

theory." Inoculation theory, according to Petty and Cacioppo (15:228) involves the presentation of information on both sides of the issue at hand by the information giver, in this case, the Air Force leader. By doing so, the subject hears arguments against the message he or she will deliver, but those arguments are refuted by the leader before the arguments can be presented by other people. Later, if others present those same arguments against the message position, the message encoder is less likely to be swayed by opposing arguments; the leader has "inoculated" the subordinate against them. This presentation of information on both sides of the issue appears especially important when the subject possesses little information on the topic at hand, the condition where CAA appears to be most effective. Petty and Cacioppo suggest that the level of involvement (or quantity of information the subject possesses on the issue) is a crucial factor in the effectiveness of the CAA process:

> When an issue is very involving, people are motivated to defend their attitudes from attack. To the extent that their attitudes are based on a great deal of information, the defense may be relatively simple [effective]; but if the person's attitude is without an extensive cognitive foundation, the attitude should be highly susceptible to change (15:229).

Training Leaders in CAA

All of these factors involving the CAA process suggest that applicability of CAA is limited to leaders at higher levels. If in fact a subordinate becomes familiar with CAA

and understands he is being manipulated, he could be expected to become resistant to any possible attitude change. Training and literature on CAA as a persuasive tool in the Air Force may therefore be best limited to those at the squadron commander or higher level. This would provide the commander with an important tool in affecting attitudes of subordinates, especially those in lower grades who would be expected to possess relatively little information on the topics of concern to them and their commanders. (This is another reason why persons in grades E-1 through E-5 were selected for this experiment; they are the group that appears most susceptible to the CAA process.)

Training might be carried out through existing Professional Military Education programs such as Air Command and Staff College. To make CAA training available at lower levels may make it an ineffective tool as a result of broader dissemination. Other areas of persuasion and communications training might also enhance the overall abilities of Air Force leaders in building and maintaining positive attitudes within his or her squadron. As previously stated, CAA is but one of many areas of research in the general areas of attitude change and persuasion. Other persuasive techniques may also prove beneficial to Air Force leaders if formal training can be made available to them.

Recommendations

Long-Term Effects. Future research should consider the long-term benefits of counterattitudinal advocacy. Longitudinal studies are believed to be superior to cross-sectional studies (such as this one) on the subject of attitude change (7:16). Longitudinal studies may be the best way to determine whether the effects of the CAA process are relatively permanent or if it must be repeated, and if so, at what frequency. Although McFarland cites previous research showing some relatively enduring benefits of the CAA process, her study suggests that attitude change brought about by CAA under public conditions may not endure (12:529). For these reasons, a longitudinal study seems imperative in future research.

Future Methodology. Procedure is another variable for future studies. If one perceives CAA as being a practical instrument for affecting attitude change in the work environment, various levels and types of procedure should be studied. In this experiment, attitudes of participants were determined by administering a pretest survey. Obviously, this would not be the normal means employed in a work environment. A leader in an operational environment may often identify subjects for counterattitudinal activity through knowledge of performance or disciplinary deficiencies. The question then arises, if the undesired behavior, underscoring an undesirable attitude, has been

untreated until the behavior becomes blatantly discrepant, is there still hope of modifying such attitudes? The leap from an academic survey as the basis for selection of CAA subjects, to an operational imperative dictated by an individual engaged in discrepant behavior may prove difficult or impossible in some instances. For this reason, other methodologies should be developed to test the effectiveness of CAA as a practical persuasion tool.

Experimental Control. Finally, closer control of the levels of CAA may demonstrate the extent to which a leader must engage a subordinate in the activity before gaining meaningful benefit from it. Although this study attempted to manipulate the level of publicity and effort associated with the CAA experiment, less than ideal controls made it impossible to demonstrate statistical significance of the benefit of one level over another. In particular, one cannot say based on this experiment that a commitment to encode a CAA message is less effective than actually having the message delivered to a public audience. For a practicing manager, it would certainly be easier to halt a CAA process at the "commitment to encode" level rather than carrying the process through to actual encoding before a public, or perceived public audience. For this reason alone, careful study of levels required to produce a meaningful shift in attitudes is necessary if the CAA process is to become useful in the organizational context.

Conclusion

Counterattitudinal advocacy has demonstrated its utility in affecting attitude change in the academic environment. This study shows that CAA also holds promise as a tool for Air Force and other leaders in real world, organizational settings. CAA is therefore a subject worthy of careful and extensive future study.

APPENDIX A: Survey Instrument

FROM: AFIT/LSB 22 Mar 86

SUBJECT: Opinion Questionnaire

TO: All Responding Personnel

1. The Air Force is full of opinions on many of the key issues it faces every day. In a society where the Air Force must regularly prove its ability to provide the most effective defense possible, it becomes important that issues such as retention in the Air Force, recruitment of women, overtime and the use of drugs be fully understood by the decision makers who govern policy for all Air Force members.

2. If Air Force leaders are to know how their members feel on these key issues, they must receive direct information, not from a committee, or from a group of commanders, or a staff agency, but from every individual. In short, **your** opinion is vitally important to providing this information. You're being asked for your opinion. It will take only a few minutes of your time, but the results are important...because they come **directly** from you.

3. As a military member, you might worry about getting in trouble for being open and honest in your opinion, but rest assured, the opinions you express will be kept **absolutely and completely confidential.** The questionnaire has an identification number for control purposes only (we need to make sure we get them all back). Your name and your responses on the attached questionnaire will never appear together.

4. The results of this research will be compiled in a report which will be made available to decision makers throughout the Air Force, including the pentagon and the Chief of Staff of the Air Force. Since you cannot be identified with your opinion, this research will provide your direct input to the highest levels in the Air Force. Use this valuable opportunity to make your feelings known. Thanks for your participation.

INSTRUCTIONS

You have been given a survey package. In the package you will find a 21 question survey and an answer sheet. You will also find an adhesive label. When placed over the flap of the sealed envelope, this label will insure that no one tampers with your responses, but will be destroyed when the survey package is reopened by the survey administrator. **Make sure to legibly print your last name and first initial on the label...but do not sign it.**

QUESTIONS 1 through 16

Questions 1 through 16 are attitude questions. There are no right or wrong answers. Read each question carefully, and select the response that best matches your attitude about the question. Then, darken the circle on your answer sheet that corresponds with your selected response.

The possible responses are:

1. STRONGLY DISAGREE
2. DISAGREE
3. SOMEWHAT DISAGREE
4. NEUTRAL
5. SOMEWHAT AGREE
6. AGREE
7. STRONGLY AGREE

Make sure to darken each response so that it can be machine scored accurately. Also be careful not to make any stray marks on the answer sheet. If you'd like to make a comment about the survey, you can do so in the space provided at the end of the survey itself, but please, not on the answer sheet.

QUESTIONS 17 through 21

These are questions we need as controls for this research. They are not an attempt to identify you or to link you with your survey responses. The questions are in similar format to questions 1 through 16. Again, select the most correct response and darken the circle on your answer sheet that corresponds with your selection.

When you finish the survey, place it in the envelope provided, and seal it. Then, place the adhesive label over the sealed flap of the envelope. Make sure your name is printed on the label. And that's all there is to it!

QUESTIONS 1 through 16. Select the response that most closely reflects your attitude toward the following statements:

STRONGLY DISAGREE	DISAGREE	SLIGHTLY DISAGREE	NEUTRAL/ DON'T KNOW	SLIGHTLY AGREE	AGREE	STRONGLY AGREE
1	2	3	4	5	6	7

1. Women in the Air Force play an important role in the defense of this nation.

2. My Air Force friends and co-workers generally agree that the Air Force should recruit more women.

3. Women are not as physically capable as men in performing many Air Force duties.

4. I think the Air Force should actively try to recruit more women.

5. The Air Force should spend more time and effort to find out who is using drugs.

6. The Air Force is too harsh in its policies on drugs (including marijuana).

7. Many of my friends and co-workers believe that occasional use of drugs (including marijuana) is acceptable for military members.

8. The occasional use of drugs has little impact on an Air Force member's duty performance.

9. I often think about getting out of the Air Force.

10. I like the idea of staying in the Air Force until retirement.

11. I often think of trying to find a civilian job so I can leave the Air Force.

12. I will probably reenlist when my current hitch is up.

13. The Air Force is justified in having me work additional hours if that's what the mission requires.

14. If Congress cuts the military budget, overtime hours should be used to help keep things going.

15. Most of my friends and co-workers in the Air Force think it is unfair to have to work overtime.

16. I don't mind working overtime, such as 12 hour shifts.

QUESTIONS 17 through 21. Select the response that most closely describes you.

17. My age is:

17-21	22-25	26-30	30-35	35 OR OLDER
1	2	3	4	5

18. My sex is:

FEMALE	MALE
1	2

19. I expect to go TDY, PCS, PCA, or separate from the Air Force within 30 days.

YES	NO
1	2

20. My education level is:

DID NOT FINISH HIGH SCHOOL	1
HIGH SCHOOL DIPLOMA	2
GED	3
SOME COLLEGE	4
2 YEAR DEGREE	5
4 YEAR DEGREE OR HIGHER	6

21. My marital status is:

MARRIED	SINGLE	SINGLE PARENT
1	2	3

If you have any comments or questions about this survey, please feel free to mention them in the space below.

APPENDIX B: Reliability Analysis

RELIABILITY ANALYSIS - SCALE (WOMEN)

WITH ALL FOUR ITEMS CONSIDERED

1. WOMEN1
2. WOMEN3
3. WOMEN2
4. WOMEN4

		MEAN	STD DEV	CASES
1.	WOMEN1	6.0000	.9428	10.0
2.	WOMEN3	5.6000	1.4298	10.0
3.	WOMEN2	4.9000	1.1972	10.0
4.	WOMEN4	5.6000	1.0750	10.0

COVARIANCE MATRIX

	WOMEN1	WOMEN3	WOMEN2	WOMEN4
WOMEN1	.8889			
WOMEN3	-.1111	2.0444		
WOMEN2	-.1111	.9556	1.4333	
WOMEN4	.3333	.0444	.7333	1.1556

CORRELATION MATRIX

	WOMEN1	WOMEN3	WOMEN2	WOMEN4
WOMEN1	1.0000			
WOMEN3	-.0824	1.0000		
WOMEN2	-.0984	.5582	1.0000	
WOMEN4	.3289	.0289	.5698	1.0000

OF CASES = 10.0

RELIABILITY ANALYSIS - SCALE (WOMEN)

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
WOMEN1	16.1000	8.1000	.0414	.2626	.6420
WOMEN3	16.5000	5.3889	.2678	.4599	.5320
WOMEN2	17.2000	4.6222	.6130	.6815	.1731
WOMEN4	16.5000	5.8333	.4280	.5871	.3771

RELIABILITY COEFFICIENTS 4 ITEMS

CORRELATION BETWEEN FORMS = .3686 EQUAL LENGTH SPEARMAN-BROWN = .5386

GUTTMAN SPLIT-HALF = .5308 UNEQUAL-LENGTH SPEARMAN-BROWN = .5386

ALPHA FOR PART 1 = -.1639 ALPHA FOR PART 2 = .7233

2 ITEMS IN PART 1 2 ITEMS IN PART 2

RELIABILITY ANALYSIS - SCALE (WOMEN)

WITH ONLY ITEMS 2 and 4 CONSIDERED

1. WOMEN2
2. WOMEN4

		MEAN	STD DEV	CASES
1.	WOMEN2	4.9000	1.1972	10.0
2.	WOMEN4	5.6000	1.0750	10.0

COVARIANCE MATRIX

	WOMEN2	WOMEN4
WOMEN2	1.4333	
WOMEN4	.7333	1.1556

CORRELATION MATRIX

	WOMEN2	WOMEN4
WOMEN2	1.0000	
WOMEN4	.5698	1.0000

OF CASES = 10.0

RELIABILITY ANALYSIS - SCALE (WOMEN)

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
WOMEN2	5.6000	1.1556	.5698	.3247	.
WOMEN4	4.9000	1.4333	.5698	.3247	.

RELIABILITY COEFFICIENTS 2 ITEMS

CORRELATION BETWEEN FORMS = .5698 EQUAL LENGTH SPEARMAN-BROWN = .7260

GUTTMAN SPLIT-HALF = .7233 UNEQUAL-LENGTH SPEARMAN-BROWN = .7260

ALPHA FOR PART 1 = . ALPHA FOR PART 2 = .

1 ITEMS IN PART 1 1 ITEMS IN PART 2

RELIABILITY ANALYSIS - SCALE (DRUG)

1. DRUG1
2. DRUG3
3. DRUG2
4. DRUG4

		MEAN	STD DEV	CASES
1.	DRUG1	5.5000	1.2693	10.0
2.	DRUG3	6.2000	1.2293	10.0
3.	DRUG2	5.2000	2.1499	10.0
4.	DRUG4	5.5000	2.0138	10.0

COVARIANCE MATRIX

	DRUG1	DRUG3	DRUG2	DRUG4
DRUG1	1.6111			
DRUG3	.1111	1.5111		
DRUG2	1.1111	-.4889	4.6222	
DRUG4	.0556	2.2222	.2222	4.0556

CORRELATION MATRIX

	DRUG1	DRUG3	DRUG2	DRUG4
DRUG1	1.0000			
DRUG3	.0712	1.0000		
DRUG2	.4072	-.1850	1.0000	
DRUG4	.0217	.8977	.0513	1.0000

OF CASES = 10.0

RELIABILITY ANALYSIS - SCALE (DRUG)

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
DRUG1	16.9000	14.1000	.2681	.3168	.4161
DRUG3	16.2000	13.0667	.4151	.8848	.3189
DRUG2	17.2000	11.9556	.1136	.4993	.5994
DRUG4	16.9000	9.2111	.4090	.8778	.2388

RELIABILITY COEFFICIENTS 4 ITEMS

CORRELATION BETWEEN FORMS = .5250 EQUAL-LENGTH SPEARMAN-BROWN = .6886

GUTTMAN SPLIT-HALF = .6350 UNEQUAL-LENGTH SPEARMAN-BROWN = .6886

ALPHA FOR PART 1 = .1329 ALPHA FOR PART 2 = .0974

2 ITEMS IN PART 1 2 ITEMS IN PART 2

RELIABILITY ANALYSIS - SCALE (REUP)

1. REUP1
2. REUP3
3. REUP2
4. REUP4

		MEAN	STD DEV	CASES
1.	REUP1	2.5000	1.7159	10.0
2.	REUP3	2.6000	1.7127	10.0
3.	REUP2	2.8000	2.0440	10.0
4.	REUP4	3.1000	2.0790	10.0

COVARIANCE MATRIX

	REUP1	REUP3	REUP2	REUP4
REUP1	2.9444			
REUP3	2.8889	2.9333		
REUP2	2.6667	3.0222	4.1778	
REUP4	2.6111	2.9333	3.8000	4.3222

CORRELATION MATRIX

	REUP1	REUP3	REUP2	REUP4
REUP1	1.0000			
REUP3	.9830	1.0000		
REUP2	.7603	.8633	1.0000	
REUP4	.7319	.8238	.8942	1.0000

OF CASES = 10.0

RELIABILITY ANALYSIS - SCALE (REUP)

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
REUP1	8.5000	30.9444	.8556	.9980	.9458
REUP3	8.4000	29.6000	.9492	.9988	.9200
REUP2	8.2000	27.0667	.8923	.9796	.9347
REUP4	7.9000	27.2111	.8616	.8769	.9457

RELIABILITY COEFFICIENTS 4 ITEMS

CORRELATION BETWEEN FORMS = .8200 EQUAL LENGTH SPEARMAN-BROWN = .9011

GUTTMAN SPLIT-HALF = .8947 UNEQUAL-LENGTH SPEARMAN-BROWN = .9011

ALPHA FOR PART 1 = .9914 ALPHA FOR PART 2 = .9441

2 ITEMS IN PART 1 2 ITEMS IN PART 2

RELIABILITY ANALYSIS - SCALE (OTIME)

WITH ALL FOUR ITEMS CONSIDERED

1. OTIME1
2. OTIME3
3. OTIME2
4. OTIME4

		MEAN	STD DEV	CASES
1.	OTIME1	6.0000	.6667	10.0
2.	OTIME3	4.0000	1.8257	10.0
3.	OTIME2	5.0000	1.7638	10.0
4.	OTIME4	2.8000	1.6865	10.0

COVARIANCE MATRIX

	OTIME1	OTIME3	OTIME2	OTIME4
OTIME1	.4444			
OTIME3	-.6667	3.3333		
OTIME2	-.4444	1.6667	3.1111	
OTIME4	.1111	-.3333	-.1111	2.8444

CORRELATION MATRIX

	OTIME1	OTIME3	OTIME2	OTIME4
OTIME1	1.0000			
OTIME3	-.5477	1.0000		
OTIME2	-.3780	.5175	1.0000	
OTIME4	.0988	-.1083	-.0374	1.0000

OF CASES = 10.0

RELIABILITY ANALYSIS - SCALE (OTIME)

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
OTIME1	11.8000	11.7333	-.4379	.3140	.3125
OTIME3	13.8000	5.5111	.1555	.4155	-.2419
OTIME2	12.8000	4.8444	.2862	.2812	-.5505
OTIME4	15.0000	8.0000	-.0699	.0148	.2083

RELIABILITY COEFFICIENTS 4 ITEMS

CORRELATION BETWEEN FORMS = .2671 EQUAL LENGTH SPEARMAN-BROWN = .4216

GUTTMAN SPLIT-HALF = .3930 UNEQUAL-LENGTH SPEARMAN-BROWN = .4216

ALPHA FOR PART 1 = -1.0909 ALPHA FOR PART 2 = -.0775

2 ITEMS IN PART 1 2 ITEMS IN PART 2

RELIABILITY ANALYSIS - SCALE (OTIME)

WITH ONLY ITEMS 2 AND 3 CONSIDERED

1. OTIME2
2. OTIME3

		MEAN	STD DEV	CASES
1.	OTIME2	5.0000	1.7638	10.0
2.	OTIME3	4.0000	1.8257	10.0

COVARIANCE MATRIX

	OTIME2	OTIME3
OTIME2	3.1111	
OTIME3	1.6667	3.3333

CORRELATION MATRIX

	OTIME2	OTIME3
OTIME2	1.0000	
OTIME3	.5175	1.0000

OF CASES = 10.0

RELIABILITY ANALYSIS - SCALE (OTIME)

ITEM-TOTAL STATISTICS

	SCALE MEAN IF ITEM DELETED	SCALE VARIANCE IF ITEM DELETED	CORRECTED ITEM-TOTAL CORRELATION	SQUARED MULTIPLE CORRELATION	ALPHA IF ITEM DELETED
OTIME2	4.0000	3.3333	.5175	.2679	.
OTIME3	5.0000	3.1111	.5175	.2679	.

RELIABILITY COEFFICIENTS 2 ITEMS

CORRELATION BETWEEN FORMS = .5175 EQUAL LENGTH SPEARMAN-BROWN = .6821

GUTTMAN SPLIT-HALF = .6818 UNEQUAL-LENGTH SPEARMAN-BROWN = .6821

ALPHA FOR PART 1 = . ALPHA FOR PART 2 = .

1 ITEMS IN PART 1 1 ITEMS IN PART 2

APPENDIX C: Experiment Directions

This research effort simply seeks to present attitudes of typical Air Force members to higher level Air Force leaders. It is sponsored by the Air Force Institute of Technology (AFIT) at Wright-Patterson AFB, Ohio. You recently responded to an attitude survey that was also sponsored by AFIT, but that survey is not related to this research.

In this research, we need to have you make comments on video tape that you might make to one of your friends concerning important Force issues.

The subject of the message will be presented to you. You will be given 5 minutes to develop your message and will be asked to limit the message to one minute or less.

Please be advised that other people will be asked to do the same thing, so anything you say about this research to others may invalidate their message on video tape. For that reason, if you decide to participate by making the video tape, you are directed not to discuss your message or the preceedings of this meeting with anyone until everyone has been given a chance to participate.

You are being **asked** to make this video tape, but you are under absolutely under no obligation to do so.

If you'd like to receive a report on the final results of this research, just let me know and I'll make sure you find out.

The Retention Message

As an Air Force enlisted member, you know many of the pros and cons of staying in the Air Force or getting out. We'd like to tap some of that information and present it to Air Force leaders at Wright-Patterson AFB on video tape.

Specifically, we'd like you to make a statement that tells why staying in the Air Force is a good idea. The statement should be as strong as you can make it and should include all the reasons you can think of for staying in that you can cram into a one minute message.

The Overtime Message

As an Air Force member, you've often had to work additional hours above and beyond your normal work schedule. This is common in the Air Force. There are attitudes both pro and con on this subject as you well know. We'd like for you to make a statement on video tape that will be shown to Air Force leaders at Wright-Patterson AFB on this subject.

Specifically, we'd like for you to present a message on why the Air Force is justified in having you work overtime. The message should be as strong as you can make it and should include as many points as you can think of and can cram into a one minute message.

APPENDIX D: Participant Feedback

QUESTIONS:

1. How does this debrief make you feel concerning this study?

2. How important to you feel this type of research really is?

3. From this experience, how would you feel about being involved in another AFIT survey or experiment?

4. How do you feel about the administrator not being able to tell you everything about the research before you consented to participate?

5. How honest were you in your survey responses? Did you "hedge" your answers and if so, on which questions?

6. Did you feel free to decline if you chose not to participate? Did you feel like it was your decision to participate?

LEGEND

A: Video Taped Treatment
B: Not Taped Treatment
C: Control Group

RESPONSES

1. Understandable - cleared up th fog. (A)
   I feel like I was doing a sort of favor. I didn't mind.(A)
   This briefing was concise and to the point. Real informative. (B)
   Cleared up reason. (C)
   Research was necessary. (A)
   Better understood. (B)

2. Important. (A)
   Average. (A)
   Real important. (B)
   Very important. Allows true Insight. Helpful to Commanders. (A)
   Important if taken seriously. (C)
   Fairly important. (B)

3. OK. (A)
   I wouldn't want to take part in a second one - personal reasons. (A)
   Wouldn't mind at all to participate. (B)
   I would like to participate in another survey. Very educational and informative. (A)
   OK if autonomy is guaranteed. (C)
   Fine. (B)

4. Understandable. (A)
   It has to be done to do the experiment precisely. (B)
   Necessary for true, meaningful responses. (A)
   Needed to collect data. (C)
   I understand your reasons. (B)
   I feel a little uneasy. (A)

5. Honest enough. (A)
   True to the utmost. (B)
   Everything I said was true and as accurate as possible. Nothing was fake or lied about. (A)
   As honest as possible. (C)
   Completely. (B)
   Very honest. (A)

6. Free as explained. (A)
   Felt free to participate, had the knowledge to refuse but accepted for I was interested. (B)
   I felt somewhat cornered only because of ill-exposure to this subject matter. I'm not used to this but felt as though it was necessary. (A)
   I wanted to take part. (C)
   Did not know it was voluntary until I got there. OK (B)
   Free to participate. (A)

APPENDIX E: Analysis of Variance

* * * A N A L Y S I S O F V A R I A N C E * * *

AREUP (retention topic - pretest)
BY TRTMNT (experiment vs. control)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	332.880	1	332.880	10.040	0.002
TRTMNT	332.880	1	332.880	10.040	0.002
EXPLAINED	332.880	1	332.880	10.040	0.002
RESIDUAL	2254.606	68	33.156		
TOTAL	2587.486	69	37.500		

M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S

AREUP
BY TRTMNT

GRAND MEAN = 14.09

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
TRTMNT							
1	17	-3.85		-3.85			
2	53	1.24		1.24			
			0.36		0.36		

MULTIPLE R SQUARED	0.129
MULTIPLE R	0.359

* * * A N A L Y S I S O F V A R I A N C E * * *

BREUP (retention topic - posttest)
BY TRTMNT (experiment vs. control)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	133.661	1	133.661	4.612	0.035
TRTMNT	133.661	1	133.661	4.612	0.035
EXPLAINED	133.661	1	133.661	4.612	0.035
RESIDUAL	2057.709	71	28.982		
TOTAL	2191.370	72	30.436		

M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S

BREUP
BY TRTMNT

GRAND MEAN = 14.70

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
TRTMNT							
1	18	-2.37		-2.37			
2	55	0.77		0.77			
			0.25		0.25		

MULTIPLE R SQUARED	0.061
MULTIPLE R	0.247

* * * A N A L Y S I S O F V A R I A N C E * * *

AOTIME (overtime topic - pretest)
BY TRTMNT (experiment vs. control)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	197.012	1	197.012	8.814	0.004
TRTMNT	197.012	1	197.012	8.814	0.004
EXPLAINED	197.012	1	197.012	8.814	0.004
RESIDUAL	1542.227	69	22.351		
TOTAL	1739.239	70	24.846		

M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S

AOTIME
BY TRTMNT

GRAND MEAN = 12.80

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
TRTMNT							
1	18	-2.86		-2.86			
2	53	0.97		0.97			
			0.34		0.34		

MULTIPLE R SQUARED	0.113
MULTIPLE R	0.337

* * * A N A L Y S I S O F V A R I A N C E * * *

BOTIME (overtime topic - posttest)
BY TRTMNT (experiment vs. control)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	61.545	1	61.545	2.765	0.101
TRTMNT	61.545	1	61.545	2.765	0.101
EXPLAINED	61.545	1	61.545	2.765	0.101
RESIDUAL	1580.427	71	22.260		
TOTAL	1641.973	72	22.805		

M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S

BY BOTIME
TRTMNT

GRAND MEAN = 13.44

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
TRTMNT							
1	18	-1.61		-1.61			
2	55	0.53		0.53			
			0.19		0.19		

MULTIPLE R SQUARED	0.037
MULTIPLE R	0.194

* * * A N A L Y S I S O F V A R I A N C E * * *

REUP (retention topic - pretest)
BY LEVEL (video taped, vs. not taped)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	8.837	1	8.837	0.447	0.514
LEVEL	8.837	1	8.837	0.447	0.514
EXPLAINED	8.837	1	8.837	0.447	0.514
RESIDUAL	296.222	15	19.748		
TOTAL	305.059	16	19.066		

M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S

REUP
BY LEVEL

GRAND MEAN = 10.24

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
LEVEL							
2	9	-0.68		-0.68			
3	8	0.76		0.76			
			0.17		0.17		

MULTIPLE R SQUARED	0.029
MULTIPLE R	0.170

* * * A N A L Y S I S O F V A R I A N C E * * *

OTIME (overtime topic - pretest)
BY LEVEL (video taped vs. not taped)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	1.389	1	1.389	0.149	0.705
LEVEL	1.389	1	1.389	0.149	0.705
EXPLAINED	1.389	1	1.389	0.149	0.705
RESIDUAL	149.556	16	9.347		
TOTAL	150.944	17	8.879		

M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S

OTIME
BY LEVEL

GRAND MEAN = 9.94

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
LEVEL							
2	9	0.28		0.28			
3	9	-0.28		-0.28			
			0.10		0.10		

MULTIPLE R SQUARED	0.009
MULTIPLE R	0.096

* * * A N A L Y S I S O F V A R I A N C E * * *

REUP (retention topic - posttest)
BY LEVEL (video taped vs. not taped)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	22.222	1	22.222	1.236	0.283
LEVEL	22.222	1	22.222	1.236	0.283
EXPLAINED	22.222	1	22.222	1.236	0.283
RESIDUAL	287.778	16	17.986		
TOTAL	310.000	17	18.235		

M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S

REUP
BY LEVEL

GRAND MEAN = 12.33

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
LEVEL							
2	9	-1.11		-1.11			
3	9	1.11		1.11			
			0.27		0.27		

MULTIPLE R SQUARED 0.072
MULTIPLE R 0.268

* * * A N A L Y S I S O F V A R I A N C E * * *

OTIME (overtime topic - posttest)
BY LEVEL (video taped vs. not taped)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
MAIN EFFECTS	2.722	1	2.722	0.139	0.714
LEVEL	2.722	1	2.722	0.139	0.714
EXPLAINED	2.722	1	2.722	0.139	0.714
RESIDUAL	313.778	16	19.611		
TOTAL	316.500	17	18.618		

M U L T I P L E C L A S S I F I C A T I O N A N A L Y S I S

OTIME
BY LEVEL

GRAND MEAN = 11.83

VARIABLE + CATEGORY	N	UNADJUSTED DEV'N	UNADJUSTED ETA	ADJUSTED FOR INDEPENDENTS DEV'N	ADJUSTED FOR INDEPENDENTS BETA	ADJUSTED FOR INDEPENDENTS + COVARIATES DEV'N	ADJUSTED FOR INDEPENDENTS + COVARIATES BETA
LEVEL							
2	9	0.39		0.39			
3	9	-0.39		-0.39			
			0.09		0.09		

MULTIPLE R SQUARED	0.009
MULTIPLE R	0.093

APPENDIX F: T-Test Analysis

- - - - - - - - - - - - T - T E S T - - - - - - - - - - - -

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR
ARETENTION (retention topic - pretest)				
	17	10.2353	4.366	1.059
	17	12.7059	4.089	0.992
BRETENTION (retention topic - posttest)				

(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
-2.4706	3.300	0.800	-3.09	16	0.007

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR
ARETENTION1				
	18	2.2222	1.801	0.424
	18	2.7778	1.665	0.392
BRETENTION1				

(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
-0.5556	0.856	0.202	-2.75	17	0.014

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR
ARETENTION2	18	3.0556	1.893	0.446
BRETENTION2	18	3.4444	1.294	0.305

(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
-0.3889	2.090	0.493	-0.79	17	0.441

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR
ARETENTION3	17	2.7647	2.137	0.518
BRETENTION3	17	3.0588	1.784	0.433

(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
-0.2941	0.985	0.239	-1.23	16	0.236

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR
ARETENTION4	18	2.3889	1.243	0.293
BRETENTION4	18	3.1111	1.711	0.403

(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
-0.7222	1.487	0.351	-2.06	17	0.055

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VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR
AOVERTIME (overtime topic - pretest)				
	18	8.6111	2.062	0.486
	18	10.5000	2.229	0.525
BOVERTIME (overtime topic - posttest)				

(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
-1.8889	2.139	0.504	-3.75	17	0.002

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR
AOVERTIME1				
	18	3.3333	1.815	0.428
	18	3.3333	1.749	0.412
BOVERTIME1				

(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
0.	1.534	0.362	0.	17	1.000

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR
AOVERTIME2	18	1.6111	0.698	0.164
BOVERTIME2	18	1.8333	1.098	0.259

(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
-0.2222	1.003	0.236	-0.94	17	0.361

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR
AOVERTIME3	18	2.0000	0.840	0.198
BOVERTIME3	18	2.7778	1.700	0.401

(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
-0.7778	1.517	0.358	-2.18	17	0.044

VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION	STANDARD ERROR
AOVERTIME4	18	1.6667	1.029	0.243
BOVERTIME4	18	2.5556	1.653	0.390

(DIFFERENCE) MEAN	STANDARD DEVIATION	STANDARD ERROR	T VALUE	DEGREES OF FREEDOM	2-TAIL PROB.
-0.8889	1.530	0.361	-2.47	17	0.025

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VITA

Captain Jack E. Little, Jr. was born on 23 February 1957 in Naples, Florida. He graduated with honors from Brandon High School, Brandon, Florida, in 1975 and enlisted in the Air Force in January, 1976. He enrolled at the University of Central Florida in 1979 as an Air Force ROTC scholarship student and graduated Magne Cum Laude in 1981 with a Bachelor of Arts degree in Communications. He received his Air Force commission upon graduation and became a Distinguished Graduate of the Aircraft Maintenance Officer's Course (AMOC), Chanute Air Force Base, Illinois, in 1982. His first assignment upon completion of AMOC was to the 56th Tactical Training Wing, MacDill AFB, Florida, where he served as Assistant Officer-in-Charge of the 61st and 62nd Aircraft Maintenance Units. He was then assigned to the 1st Tactical Fighter Wing, Langley AFB, Virginia, in 1983 as Assistant Officer-in-Charge of the 71st Aircraft Maintenance Unit. He became Officer-in-Charge of the 1st Tactical Fighter Wing's Avionics Branch in December of 1983 and then served as Maintenance Supervisor of the 1st Component Repair Squadron from March 1985 until his assignment to the Air Force Institute of Technology, School of Systems and Logistics, in May, 1985.

Permanent Address: 710 W. Everina Circle
Brandon, FL 33511

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This study showed that counterattitudinal advocacy (CAA), a persuasive technique often employed in academic circles, may be useful for affecting attitude change in an Air Force organizational setting. The counterattitudinal process in this experiment included a pretest questionnaire to determine attitudes of 120 enlisted members assigned to a Tactical Fighter Wing maintenance complex. Participants reporting the most negative responses on the topics of retention and overtime were selected as experiment subjects. The remainder of the participants served as a control group for both topics. Subjects were asked to make video taped statements supporting the Air Force position on one of these topics (level 1) or were asked simply to agree to encode such a message (level 2). Level two participants completed only a written statement. All participants then completed a posttest questionnaire to determine if attitudes had changed within the experimental group.

Results supported the hypothesis that CAA would bring about attitude change while attitudes of the control group remained constant. Furthermore, both of the topic areas addressed showed a significant change in attitude. A hypothesis concerning level of treatment was not supported.

The results of this experiment suggest that CAA may be an effective tool for Air Force leaders in bringing about attitude change in subordinates. Recommendations include training upper level Air Force leaders in employing CAA and to explore new methods of testing CAA to determine the extent to which it is effective in Air Force organizational settings.

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