Distraction and Dissonance: A Model of the Persuasive Process

Davis Albert Foulger

University of Central Florida

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DISTRACTION AND DISSONANCE: A MODEL OF THE PERSUASIVE PROCESS

BY

DAVIS ALBERT FOULGER
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THESIS

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Abstract
After exploring the successes, failures, and conflicting explanations for results in two communications research traditions, distraction and counter-attitudinal advocacy, an attempt was made to explain these results in terms of a more comprehensive theory. Distractions were organized into classes defined by their strength and relevance to the message, demonstrating how these and other factors affected the persuasiveness of a message. On the basis of this theory an untested class of distractions, cognitive distractions, were hypothesized. This class of distraction, related to cognitive dissonance, was then used to integrate the conflicting research in counter-attitudinal advocacy. On the basis of this theory, a model of the persuasive process was constructed and an experiment testing the basic components of the model devised. It was hypothesized that in the counter-attitudinal encoding situation, reward and initial attitude would be significant predictors of counter and consonant argument, which in turn would be significant predictors of persuasion. A central portion of the hypothesis predicted the manner in which attitude and reward would affect counter and consonant argument. If persuasion was caused by a search for justification
for encoding a counter-attitudinal message, the dissonance view, then reward would predict consonant argument. If the persuasion was due to distraction, then reward would predict counter argument. A path analysis strongly supported the experimental model. Persuasion was predicted by counter and consonant argument. Consonant argument was significantly predicted by initial attitude. Counter argument was significantly predicted by reward and reward X initial attitude. As such, the results supported the distraction hypothesis over the dissonance hypothesis as the source of persuasion in the counter-attitudinal situation.
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Chapter I - Introduction

The campfire, long bright, begins to dim. The excitement of the early songs and fellowship slowly gives way to slower music, more serious interactions. Finally, the fire reduced to a glow of darting ashes, red with the heat of the fire that was, the storyteller rises. The story he tells is one that he had no witness to, and in his first lines he says so, tracing the story back through a friend who knew someone who heard the story from someone... who knew. The stories were incredible tales of feats hardly within the imagination, never mind the physical grasp, of other men.

The council/camp fire has long been one of the most common story-telling settings. The stories may have been the legends and mythologies of ancient or tribal cultures or the horror stories more common to modern culture, but the place where they most often and most effectively were told was the fireside. The most reasonable explanation for this is natural selection. Day was a time for work with little time left for the luxury of legend. In contrast, night provided enforced relaxation. Fire provided light to see by and heat to warm by. It was not light enough to work, but it provided an attractive
relaxed atmosphere, one conducive to fellowship and storytelling.

There is experimental evidence, however, that indicates that the campfire may have been more than an attractive setting for storytelling. It may also have been an important factor in the success of the story, in the persuasiveness of the story. If so, the choice of the fire for such activity may not have been a product of what could and couldn't be done at night so much as what the fire could do for the story. Ancient campfire mythologies provided their peoples at once with a natural history, religion, explanation of the world and standard for social order. The campfire, in this setting, may have acted as a distraction, diverting the wandering mind from mentally counter arguing with the story and thereby giving the story, the tribal mythology, more persuasive impact.
Chapter II - A Theory of Distraction

The concept that distractions could enhance the persuasiveness of a message came in the wake of a methodological error in an experiment done by Allyn and Festinger (1961). Their purpose had been to test the effect on persuasibility of forewarning the receivers of an impending persuasive communication. Forewarning should, according to the prediction, decrease a subject's persuasibility by allowing him the opportunity to marshal arguments counter to those which might be used in a persuasive message. The prediction was supported.

Because the non-forewarned group was instructed to concentrate on the personality of the speaker, an instruction not given to the forewarned group, Festinger and Maccoby suggested that the results might have been confounded. Forewarning should, according the experimenter's prediction, decrease a subject's persuasibility by allowing him to marshal arguments counter to those which might be used in the persuasive message. But distracting the subject's attention from the message by instructing him to concentrate on the speaker instead of the message might have prevented the subject from marshalling counter-arguments during the speech, thereby
increasing his persuasibility. A question of whether the results were attributable to decreased persuasibility of the forewarned group or the increased persuasibility of the distracted group had been raised. The distraction hypothesis was born.

Festinger and Maccoby (1964) took the view that most of the result was due to distraction in the non-forewarned group and constructed a series of three experiments specifically designed to test the distraction effect. A simple obvious distraction was constructed into one of two filmed persuasive communications. In the non-distracting version, an edited comic film short accompanied the same vocal persuasive communication. The comic film, it was hypothesized, would act as a distraction, breaking up audience concentration on the speaker's message, attenuating counter argument and increasing persuasion.

In two experiments (University of Minnesota, San Jose State College) only two experimental groups were used. A committed audience (they had taken action on their attitudes) was exposed to a persuasive message (Fraternity members heard arguments against Fraternities). The message was delivered to one group via the distracting film. A second group viewed the non-distracting message. In the third experiment (University of Southern California) six conditions were tested. Both Fraternity members and Independents viewed the films. A no message control group
was added for each sample.

Although the manipulation worked, the experiment failed to indicate clearly why the distraction succeeded in increasing persuasion. Four explanations for the success were advanced; of these, three were suggested by the experimenters. The first and strongest reasoning was that the audience had indeed been distracted from counter arguing. But it remained possible that instead of inhibiting counter arguing, the manipulation had merely forced the audience to concentrate more intently on the message. Increased persuasion might, under these circumstances, be attributable not to decreased counter argument, but rather to increased comprehension, increased learning, and ultimately, increased persuasion.

A third explanation was that the distraction, a comic film, may have been an enjoyable one. The audience's enjoyment of this distraction stimulus may have been transferred to the message. This transfer of positive feeling from the distraction to the message may have, according to this explanation, served as a positive reinforcement aiding in the audience's acceptance of the message.

A fourth explanation was offered by Rosenblatt (1966). He explained that the distraction may have served to disguise the experiment as one testing comprehension of the message. Under this condition subjects might fail to
suspect the message as a persuasive one and fail to counter argue.

The traditional campfire, viewed with respect to distraction, might then have become the home of the storyteller because it helped the story. Fire has been said to fascinate men. If so, then a fire might, like the film in the Festinger/Maccoby (1964) experiment, have acted as a distraction stimulus, inhibiting an audience's ability to counter argue. A story told under these circumstances might be more effective than the same story told under other circumstances.

At least one observer would disagree with this view. McGuire (1966), looking at the manipulation from the perspective of learning theory, suggests that distraction should have the opposite effect, interfering with the subject's comprehension of the message and attenuating its persuasive effects. You cannot, according to McGuire, be persuaded by a communication that you don't fully receive.

If McGuire's argument has a fault, it lies in his assumption that a person cannot succeed in doing two things at once. If one is to accept McGuire's arguments whole, then one is led to conclude that one cannot learn a song from the radio when driving a car, understand a lecture while taking notes on it, or comprehend a friend's reasoning when an attractive member of the opposite sex
passes by. However, one excellent point stands out. One cannot be persuaded when a communication is not received.

Indeed, at least from the surface, the results of the distraction experiments have not been at all conclusive. Although experiments by Festinger and Maccoby (1964), Freedman and Sears (1965), Rosenblatt (1966), Kiesler and Mathog (1968), Osterhouse and Brock (1970), Zimbardo, Thomas, Snyder, Gold, and Gewertz (1970) and Keating and Brock (1974) have supported the distraction hypothesis, studies by Haaland and Venkatesan (1968), Silverman and Regula (1968), Vohs and Garrett (1968), Regan and Cheng (1973), Ware and Tucker (1974), and Silverthorne and Mazmanian (1975) have failed to do so.

Search for an explanation for this inconclusiveness in terms of selection bias yields little. The experiment measures relatively basic human responses, making a selection bias difficult. As yet, only one personality factor, intelligence, has even been suggested as a relevant factor in the outcome of a distraction manipulation. How it might affect results is another question. However, low intelligence may allow a subject fewer counter-arguments under all conditions, making him more susceptible to persuasion under any distraction condition. Intelligence subjects might, on the one hand, find themselves capable of counter argument and thus more suscep-
tible to reduction of counter argument under distraction conditions, but might also find themselves more capable of counter arguing under multiple message conditions, and therefore less susceptible to persuasion. In any case, until intelligence is experimentally manipulated, no conclusions can be drawn.

Other methodological errors are also unlikely culprits. The Festinger/Maccoby (1964) design is rather simple. It would take an effort to confound it. The hypothesis predicts that the distraction condition will yield more persuasion than will the no distraction conditions. Assuming random assignment, a comparison of these post-test results should yield the differing levels of persuasion under distraction and non-distraction conditions. Thus only a post-test is necessary to obtain results.

The manipulation, like the testing, is rather spartan. One needs only to obtain an effective persuasive appeal, construct a distraction, and proceed. As long as the appeal and other external factors are kept constant for both distraction and non-distraction conditions, internal validity should be strong. The simplicity of the manipulation along with the post-test only design make this experimental model difficult to confound and highly attractive to researchers. In fact, except for
the addition of secondary manipulations and the varying of distracting stimuli, this design has survived intact in all but the most recent distraction manipulations.

In all fairness, distraction manipulations have not been wholly free of methodological bias. One consistent research oversight in distraction experiments has been the failure of several researchers to utilize a no message control group. While this oversight has not really affected the experiments ability to test the distraction hypothesis, such data might have proven valuable in attempts to evaluate the results from other perspectives.

But if the inconclusiveness of distraction research cannot be blamed on methodology, to what can it be attributed? One conclusion might be that the counter argument distraction hypothesis as set forth by Festinger and Maccoby (1964) is faulty. Indeed, as noted above, several alternative hypotheses have been formulated. However, none of these alternative hypotheses really do a better job of explaining the results of distraction experiments than does the concept of reduced counter argumentation.

Festinger and Maccoby's (1964) suggestion that the effect of the distraction stimulus of persuasion might be due to positive impact of the distraction stimulus lost credence with Rosenblatt's (1966) manipulation. Here distraction was found effective in increasing the
effectiveness of a persuasive message despite the negative content (sets of slides drawn from dental hygiene and psychology) of the distraction. This hypothesis failure has been confirmed several times since in experiments using both negative and neutral distractions.

Rosenblatt (1966) himself suggested that distracted subjects might not have the need to counter-argue because the distraction disguised the experiment as a comprehension test. Some support is generated for this hypothesis in his study's measure of suspicion of persuasive intent. Suspicion was significantly reduced among subjects exposed to distractions. Support, moreover, has been generated from other sources. Baron, Baron, and Miller (1973) point out that lowered suspicion of persuasive intent should increase source credibility and cite several studies (Allyn & Festinger, 1961; Festinger & Maccoby, 1964; and Haaland & Venkatesan, 1968) where this effect was reported. At best, however, none of this support is strong.

It is difficult to find an experiment where suspicion of persuasive intent cannot be in some way connected to the distraction. Experimental methods inevitably take on the appearance of some kind of test, whether it be of comprehension, coordination, or some other dependent vari-
able. However, in several experiments subjects have been explicitly told that they were involved in a test of comprehension (Allyn & Festinger, 1961; Festinger & Maccoby, 1964; Rosenblatt, 1966; Osterhouse & Brock, 1970). Being told that they would be tested on the contents of the speech, it hardly seems probable that distracted subjects would reduce counter argument because the distraction disguised the experiment as a test of comprehension. It already was. Indeed, nondistracted subjects were as justified as distracted subjects in reducing counter argument because persuasion was not an important aspect of the proceedings. All these experiments nevertheless reported increased persuasion due to distraction. Because of these results it seems more reasonable to view suspicion of persuasive intent as a form of counter argument and to attribute reduced suspicion to reduced counter argument instead of attributing reduced counter argument to reduced suspicion of persuasive intent.

A third explanation of how distractions act in increasing the persuasiveness of a message rotates around the amount of effort expenditure necessary to overcome the distraction. It states that justifying the increased effort necessary to understand a message under conditions of distraction involves cognitive dissonance.
Under dissonance theory as originally formulated this would be a valid argument. The unrewarded effort would indeed be good reason to expect that dissonance underlay the increased persuasion. But this effort involves no public and little personal commitment, thus reducing the effect of dissonance both as it has come to be understood more recently, and as it will be presented in Chapter 3.

Effort should not, however, be discarded as an element working to increase a subject's persuasibility under conditions of distraction. It has been consistently shown that increasing the difficulty of obtaining a given goal also increases the value the goal will have upon attainment. The classic study of this effect, done by Aronson and Mills (1959) demonstrated that subjects who exerted great effort in order to join a group valued the group more highly than those subjects whose effort expenditure was minimal. Although none of the surveyed distraction experiments actually measured the effort expended by subjects in hearing the communication, it seems safe to assume, pending confirmation, that it requires more total effort to comprehend a message when distracted than when undistracted. This increased effort may evidence itself in the upward re-valuing of the message by distracted subjects.
It is this increased concentration on comprehending the message that lies at the very root of the distraction hypothesis. The extra effort required to overcome the distraction has to be drawn from other activities. Counter argument appears to be important among the activities seriously attenuated by this rechanneling of available energy.

In this model increased effort is not seen as a mechanism inducing cognitive dissonance. Some dissonance may be induced by an interaction of high effort and attitude discrepant message, but at best this would only add to robustness of the distraction result. The real action of increasing effort to overcome a distracting stimulus is that of attenuating the effort expended on counter arguing. Ultimately this action attenuates counter argument and enhances persuasion.

It is readily apparent that this exploration of the alternatives to Festinger and Maccoby's (1964) primary hypothesis of attenuated counter argument has led us right back to that same hypothesis. Counter argument, however, at least on the surface, has proved to be less than fully effective in predicting the effects of distraction on persuasion. McGuire's learning hypothesis is no more successful. In fact, where results cannot be explained by counter argument reduction, there is
often evidence that learning has been attenuated. Likewise, where no attenuation of learning is apparent, counter argument reduction finds ready support.

Brock (1967) developed a tool for measuring counter arguments. Keating and Brock (1974) and Zimbardo et al (1970) have used this tool successfully. It seems to correlate well with the level of persuasion, demonstrating that distraction stimuli can both reduce counter argument and increase persuasion significantly. Zimbardo et al (1970) was also able to show that at least one class of distraction was capable of reducing a subject's comprehension of a message, thus supporting McGuire's learning hypothesis.

Thus, while there is evidence that distraction can reduce counter argument and increase persuasion, there is also evidence that it can reduce comprehension and decrease persuasion. Either position in the question of what effect distraction has on persuasion can be supported. Experiments by Festinger and Maccoby (1964), Rosenblatt (1966), and Keating and Brock (1974) support increased persuasion due to distraction. Vohs and Garrett (1968) support decreased persuasion due to distraction. Zimbardo et al (1970) supports both increased and decreased persuasion due to distraction. Finally, Friedman and Sears (1965) supports neither.
Although the results of these studies are varied, it seems apparent that there is a pattern to the success and failure of these manipulations. Tests of the distraction hypothesis have utilized a wide variety of distracting stimuli. Upon examination these stimuli break down into several broad classes. Three of these classes involve stimuli irrelevant to the persuasive communication. These distractions can be described as secondary and wholly separate messages. They have no real relation to the persuasive communication. Another three classes of distractions are composed of stimuli relevant to the message. Although they too may be considered separate messages, they are intrinsically connected to the persuasive communication.

Self-induced distractions provide the first and weakest category of irrelevant distraction stimuli. This type of distraction occurs when one concentrates on something other than the content of the message. Examples of this class of distraction include evaluating the speaker's non-verbal behavior, evaluating his sentence structure, and concentrating on the speaker's personality. The latter of these was the flaw in the Allyn and Festinger (1961) experiment and the subject of the Friedman and Sears (1965) controlled replication.

Friedman and Sears (1965) is, logically speaking,
the experiment that Festinger and Maccoby should have run, providing a more direct test of their explanation (distraction from counter argument) of the Allyn and Festinger (1961) experiment. Ultimately, it is the experiment that best demonstrates the power of the self-induced distraction when operating alone. Essentially, the experiment is a controlled replication of Allyn and Festinger (1961). However, two hypotheses, one stating that forewarning a subject of the topic of an impending communication would decrease persuasion, and another stating that concentrating on the personality of the speaker rather than on the content of the message would increase persuasion, were advanced. Instead of two experimental groups, moreover, this manipulation utilized five. They included an unforewarned group who were instructed to concentrate on the personality of the speaker, a two minute warning group instructed to concentrate on the message, no warning and 10 minute warning groups instructed to concentrate on the message, and a 10 minute warning group instructed to concentrate on the personality of the speaker. A pre-/post-test design was utilized. The results supported the warning hypothesis \((p < .02)\) but indicated only a trend for the distraction hypothesis, \((p < .10)\).

The second class of irrelevant stimuli include camp-
fires, out of sync audio/visual presentations, amplifier feedback, and attractive members of the opposite sex. These environmental stimuli are, in real life situations, beyond our control. Experimental examples of environmental stimuli include the irrelevant films of Festinger and Maccoby (1964), and Haaland and Venkatesan (1968), the irrelevant slides of Rosenblatt (1966), the irrelevant music of Regan and Cheng (1973), the flashing light panels of Osterhouse and Brock (1970), and Keating and Brock (1974), and the two digit list of Kiesler and Mathog (1968).

The third class of irrelevant distraction can be labeled evaluative stimuli. In this type of distraction the subject participates in some form of problem solving while listening to a persuasive message. Although, like self-induced distractions, evaluative distractions center on the evaluation of something other than the message, the two classes are distinctly different. Under self-induced distraction, attention is directed somewhere other than the message, but nothing keeps it there. Evaluative distraction in contrast, forces attention to a second message. This type of manipulation has been used in experiments by Haaland and Venkatesan (1968), Vohs and Garrett (1968), and Zimbardo et al. (1970).

Relevant distractions differ from irrelevant dis-
tractions in that the distractions relate directly to the persuasive message. The first class of these relevant distractions, those that are intrinsic to the persuasive presentation, make direct contribution to the persuasive appeal. These stimuli may evidence themselves in charts, diagrams, pictures, cartoons, films and other accessory materials that a speaker might use in reinforcing his arguments. This class of relevant distraction, because of its close relation to the actual presentation, is probably the weakest of the relevant distraction stimuli. In the absence of any hard data relevant to the effect of this class of distraction, however, this can only be speculated.

A second relevant class evidences itself in extrinsic distractions, those relating directly to the message but not intrinsic to the presentation. These distractions include various forms of audience feedback (heckling, laughter, and applause). Research in the area of extrinsic distractions has been limited thus far to the effects of heckling (Ware & Tucker, 1974; and Silverthorne & Mazmanian, 1975), but can be expected to extend to other areas.

Extrinsic distractions can be expected to break down into two subclasses. The research to date has been on those extrinsic distractions which reflect negatively on
the communication. These distractions (including heckling and derisive laughter) act to point out counter arguments to the listener, effectively distracting the subject from focusing on the speaker's persuasive arguments and from his own consonant arguments. The result is the attenuation of persuasion and reduction of speaker ethos (Ware & Tucker, 1974; and Silverthorne & Mazmanian, 1975).

A second subclass of extrinsic distraction can be expected to emerge, however, in those distractions (including cheering and applause) that reflect positively on the communication. Positive extrinsic distraction should point out consonant arguments, focusing the audience's attention on those arguments which are most persuasive. Under these conditions effort should be distracted from counter argument to consonant argument.

A third class of relevant distraction, cognitive distractions, should serve to accentuate this effect.

Cognitive distractions are strongly related to self-induced irrelevant distractions. However, while self-induced irrelevant distractions focus the subject's attention on a stimulus wholly unrelated to the message, cognitive distractions involve focusing the subject's attention on how his approval of the message is dissonant with his existing attitudes. When confronted with a dissonant
situation, the subject focuses his attention on resolving the dissonance. This distracts him from counter arguing. The resulting attenuation of counter argument enhances persuasion in the direction of the message, thus resolving the dissonance.

While cognitive distractions involve the same mechanisms as the other classes of distractions, they differ markedly. The other five classes of distraction involve an audience in behavior which distracts it from counter arguing with a message from a persuasive other. Cognitive distractions involve distracting a persuader from counter-arguing with his own counter-attitudinal message. This principle difference not only acts to differentiate these classes of distraction, but ties distraction research to the already voluminous counter-attitudinal research. Because of these differences it will be necessary to consider cognitive distractions at some length. This discussion will, however, be best reserved until after we have considered a number of issues related to audience distractions.

The six classes of distraction as presented divide distraction research into related groups. While all the stimuli act to distract a subject, each does so in a different way. Relevant distractions relate directly to a message. Irrelevant distractions do not. Self-
induced distractions are imposed by, rather than on, a subject. Evaluative stimuli require the viewer to solve problems, to make arguments not at all related to the persuasive communication, while listening to that communication. While these classes relate to each other, each has its own characteristics. Each may, moreover, affect counter argumentation differently.

Relevance represents the first of at least seven factors which can affect the result of a distraction manipulation. The second of these factors, distraction strength, was tested by Rosenblatt (1966). Rosenblatt hypothesized that distraction affected persuasion in a curvilinear manner. To test this he set up three distractions of various strengths. He found that the stronger the distraction was, the greater was the resulting attitude change. Experiments by Osterhouse and Brock (1970), and Keating and Brock (1974) have confirmed this finding and increased its strength by also demonstrating that increases in distraction strength decrease counter argument production.

There is evidence, however, that there is a limit above which distraction strength decreases persuasion by inhibiting an audience's ability to understand a message. This distraction strength threshold takes control of persuasion at that point when the bulk of the subject's
effort is focused on the distraction. At this point, the distraction becomes the message and the persuasive message becomes the distraction. This learning threshold may account for the failure of two experiments, Vohs and Garrett (1968) and Haaland and Venkatesan (1968). These experiments used evaluative distractions, distractions which require an audience to construct arguments irrelevant to the persuasive message. Under these circumstances, the distraction can easily become the message. Evidence for this threshold is refined in Zimbardo and associates (1970).

Zimbardo and associates (1970) sought to manipulate the effect of distraction strength by manipulating the third factor, the subject's evaluative focus. They therefore instructed their subjects to concentrate on either the persuasive message, an evaluative distraction (math problems), or gave no instruction, leaving this last group unfocused. Subjects instructed to concentrate on the message experienced similar levels of comprehension to undistracted subjects, but experienced less counter argument and greater persuasion. Subjects instructed to concentrate on the distraction and those distracted but left unfocused, experienced lower levels of comprehension, counter argument, and persuasion than the message focused and undistracted subjects. These findings support and
give direction to the concept of distraction strength, particularly as relates to evaluative distractions. They show, moreover, the power of the otherwise weak self-induced distraction, the class of distraction on which evaluative focus centers, can have when they are used in combination with other classes of distraction.

Message complexity provides a fourth factor which may affect the results of distraction manipulations. Regan and Cheng (1973) used both simple and complex messages in conjunction with a distraction manipulation to determine what effect message complexity would have on both persuasion and the distraction effect. Their results indicate that distraction is most effective with a simple persuasive message, becoming ineffective (actually reducing persuasion) when used with a complex message.

The importance of effort in distraction is strongly underlined by the concepts of evaluative focus, message complexity, and distraction strength. A concept formulated by Cattell (1948) in his group syntality theory may be useful in understanding just how effort operates under these conditions. Synergy, in Cattell's formulation, is the sum of the individual energies brought to a group by its members. Personal energy in this formu-
lation, refers to the sum of the energies which an individual can allocate at any one time to a set of tasks.

In this, as in Cattell's (1948), hypothesis, there are two kinds of energy. Maintenance energy is the effort which is expended in the course of maintaining personal harmony. Effective energy is that energy which is left for the achievement of the various goals a person sets for himself. It is to be assumed that all available energy will be allocated at any given time.

When a person listens to a persuasive message, he expends effective energy in the act of comprehending the argument. If the attitudes expressed are discrepant with his own, he expends further energy in counter arguing. Distraction disrupts the balance by attacking a person's cognitive harmony. If the person is to continue comprehending the incoming information at the pre-distraction level, energy must be expended to overcome the distraction, to maintain cognitive harmony. But if all personal energy is allocated, this expenditure requires drawing on energy previously allocated to other projects.

As the distraction grows stronger, larger maintenance energy expenditures become necessary. Medium strength environmental distractions cut into the counter argument allocation, attenuating counter argument and enhancing
persuasion. Stronger evaluative distractions cut into the energy expenditures for both counter argument and learning, attenuating comprehension and persuasion. If, however, attention is focused on the message, comprehension can be restored with an enhancement of persuasion.

A complex message is less likely to be comprehended in the presence of distraction because more energy is required for comprehension than would be required for a simple message. Thus when personal energy is re-allocated in the effort to overcome the distraction, the complex message is more quickly affected by energy loss.

The fifth factor which can affect the outcome of a distraction manipulation is hardly a surprising one. Communicator status appears to affect results in most persuasive situations. Distraction manipulations are no exception. Kiesler and Mathog (1968) tested this hypothesis by attributing messages to either high or low credibility sources. They found that distraction was most effective in increasing persuasiveness when the persuader was highly credible.

Vohs and Garrett (1968) credit the failure of their manipulation to lack of topic familiarity. They assert that their subjects might not have been familiar with the topic of their persuasive appeal and therefore could
not be expected to be able to counter argue successfully. Although their results seem more likely a product of the strength of their distraction, lack of topic familiarity cannot be wholly rejected. It cannot be expected that distraction will attenuate counter argument if there is none. It should be recognized, however, that circumstances under which a subject would be unable to counter a persuasive appeal are highly unusual.

Experiments testing the effects of heckling on persuasion, (Ware & Tucker, 1974; and Silverthorne & Mazmanian, 1975) have also failed to support the counter argument hypothesis. Message relevant stimuli like heckling, applause, laughter, and silence can't really be classified with irrelevant stimuli. Irrelevant stimuli act to discourage argument, but these stimuli may well act to encourage argument. Heckling should act to point out the counter arguments to the persuasive message as conceived by the audience. Indeed, at the very least it should point out one counter argument, that the speaker's beliefs are not shared by the audience. The effects of these arguments may be dependent, however, on a factor, the subjective orientation of the distraction. A positive stimuli like applause or a speaker's accessory materials should act to point out and encourage consonant arguments, thus increasing persuasion.
These factors point the way to an explanation of the inconsistent results reviewed earlier in this paper. The hypothesis against which the results were gaged, that of decreased argumentation through distraction, although not incorrect, was not complete. It was, moreover set in competition with a learning hypothesis, a hypothesis with which it may actually interact.

A reconciliation of Festinger and Maccoby's (1964) distraction hypothesis with McGuire (1966) learning prediction facilitates the formulation of a more comprehensive set of distraction hypotheses. The following two hypotheses attempt to both reconcile counter argument with learning and give consistency to the results of the research to date. Unlike many reconciling hypotheses, most of which set limits on the scope and usefulness of research, sometimes reducing results to the trivial, this set of hypotheses seeks to broaden both the scope and usefulness of distraction theory, at once setting limits and opening horizons.

The first hypothesis states that irrelevant distractions to a persuasive message will act to inhibit counter argumentation (provided the subject is capable of counter arguing) and increase persuasion. Evaluative distractions may also inhibit learning, with a resulting decrease in
persuasion. This effect will evidence itself in a curvilinear manner, with the curve based on strength of distraction. Distraction strength will interact with the complexity of the message, the evaluative focus of the audience, and the status of the speaker to determine the apex of this curve. Greater message complexity will be expected to reduce this threshold, beyond which both counter argument and learning are attenuated and greater focus on the message will both be expected to increase this threshold.

The second hypothesis states that relevant distractions to a persuasive message will act to encourage counter or consonant argument (provided the subject is capable of counter or consonant argument). In doing so it will differentially increase or decrease persuasion. Negative relevant distractions will encourage counter arguments, decreasing persuasion. Positive relevant distractions will encourage consonant arguments, increasing persuasion.

This explanation of the differential effects of relevant and irrelevant distractions on persuasion suggests a new understanding of the ways in which people are persuaded, of the workings of the storyteller and the campfire. The fire and the storytellers movements act as
an environmental distraction. The way in which he manipulates the evaluative focus of the audience works on the audience as a self-induced distraction. Together, these distractions act to attenuate counter argument and enhance persuasion. If the audience is responsive, they may add the dimension of relevant distraction in their responses, focusing attention, depending on the response, on either consonant or counter arguments. A warning, moreover, to potential storytellers is implicit in the observation that telling a story while the audience is engaged in another activity may prove counter productive.

The effects of these various strengths of distraction seem relatively clear cut. Less clear is the effect distraction may have on the storyteller. To this we now turn our attention.
Chapter III - Cognitive Distraction

Cognitive distraction represents a significant departure from the distractions discussed to now in that it involves the counter-attitudinal persuasion paradigm. Although experimenters involved in both counter-attitudinal and distraction research have inferred some relationship between these areas of interest, this relationship has not been specified.

Festinger and Maccoby's (1964) effort hypothesis, which was discussed in Chapter 2, used cognitive dissonance as a secondary explanation for observed distraction. Baron (1973), in an attempt to bolster this same effort hypothesis, uses an example from dissonance research (Zimbardo, 1963). The effort hypothesis states that distraction can cause dissonance because the expenditure of energy to hear a persuasive message might require justification. As noted, however, this expenditure, being private, would involve neither public nor private commitment to the message. Under such circumstances, it could hardly be expected that a great deal of dissonance would be aroused. It is possible, however, to take the opposite view, that dissonance causes, and in effect is a distraction. Our purpose here will be to show
that dissonance can cause distraction.

Counter-attitudinal advocacy has been examined from a variety of perspectives, two of which, the dissonance and incentive interpretations, remain at the center of critical debate. The dissonance perspective claims that persuasion in counter-attitudinal situations is the result of dissonance, a recognition that one's actions are not congruent with one's attitudes. Theoretically, when one feels dissonance, an unpleasant experience, one will attempt to justify one's actions, to reduce that dissonance by whatever means are available. Counter-attitudinal advocacy, in this perspective, is a dissonant situation. The subject, having agreed to encode a message which is contrary to his own feelings, feels, and must resolve, dissonance. One of the most important potential outlets for resolving the dissonance is attitude change.

Incentive theorists take a different perspective, claiming that persuasion in the counter-attitudinal situation varies with the incentive the individual has to encode the counter-attitudinal message. Positive incentives, good reasons for encoding the message, cause the individual to concentrate on the consonant arguments he is encoding and suppress arguments which are counter
to those he is encoding. This process is called biased scanning, the method by which the attitude is modified.

The difference between these two perspectives is fundamental. One perspective says that persuasion results from accumulated unresolved bad feelings (dissonance). The other says that persuasion results from accumulated good feelings (incentive). The result has been a series of conflicting predictions. Dissonance theorists (Festinger & Carlsmith, 1959; Brehm & Cohen, 1962; Carlsmith, Collins, & Helmrich, 1966) have predicted and confirmed that paying subjects small amounts of money (low reward) produced more attitude change than large amounts of money (high reward). Incentive theorists (Rosenberg, 1965; Carlsmith, Collins, & Helmrich, 1966) countered by predicting and confirming that high reward produced more attitude change than low reward.

Incentive theorists had also predicted and confirmed an effect for source credibility. Elms and Janis (1963) and Janis and Gilmore (1965) hypothesized that counterattitudinal essays written for a positive sponsor (low dissonance sponsor) would engender greater attitude change than essays written for a negative (high dissonance) sponsor. The hypothesis was confirmed. Under slightly different circumstances, the opposite effect has also
been shown. Zimbardo, Weisenberg, Firestone, and Levy (1965) found that subjects engaged in a counter attitudinal activity (eating grasshoppers) experienced more attitude change (persuasion) when offered the grasshoppers by an unpleasant (negative) person than by a pleasant one. This persuasion did not result from the actual encoding, by the general principle, that action x is contrasted with attitude not x, remains the same, leaving the influence of source credibility unresolved. This confusion of results intensifies upon examination of several later studies (Helmrich & Collins, 1968; Linder, Cooper, & Jones, 1967; and Burgoon, Miller, & Tubbs, 1972) in which both incentive and dissonance predictions are supported. In the midst of this range of results, only one hypothesis remains clearly supported, that the counter-attitudinal encoding situation engenders attitude change in the direction of the message. Throughout the research, even where the attitude change has not been significant, some movement in the direction of the message has been demonstrated. Although this movement has not always been significantly different from no message control conditions, the consistency of this movement suggests that it is meaningful. Indeed this hypothesis need not be limited to counter-attitudinal advocacy.
Consonant argument encoding has been shown not only capable of consonant persuasion, but subject to the same effects of reward that are observed in the dissonant encoding situation (Nuttin, 1966; Kiesler & Sakamura, 1966).

The resulting hypothesis, that any attitude encoding situation engenders some attitude change in the direction of argument, bears closer examination, especially as it is subject to neither dissonance nor incentive predictions. At first glance the hypothesis seems a reasonable prediction of self-perception theory (Bem, 1965, 1968). Attitude does appear to follow from behavior. Although self-perception theory offers a process by which attitude change should occur, logical inference from the context of the behavior, there appears to be no way in which this logical inference can be measured. Indeed, this process is so broad as to defy usefulness, for what, whether it be status, dissonance, incentive, or room color is not a part of a behavior context.

A more promising explanation comes from the comprehensive theory of distraction presented in chapter one. In this model, the act of concentrating on the construction of a message serves as a self-induced distraction
which attenuates counter argument. Although the effect, as is to be expected from self-induced distractions, is a weak one, the increase in persuasion can be expected to approach and even occasionally achieve conventional significance levels. The question here is, of course, not of significance, but of meaningfulness. Most experiments in counter-attitudinal advocacy engage forty to fifty subjects. Samples of this size, while generally sufficient to the task of preventing spurious significance are not generally sufficient to the task of preventing spurious non-significance. It can therefore be expected that as sample size decreases, the likelihood of assigning statistical significance to a weak, yet potentially meaningful effect will also decrease.

It should be noted that some similarity exists between this formulation and the incentive concept of biased scanning (Hovland, Janis, & Kelley, 1953). The biased scanning hypothesis states that the counter-attitudinal encoder focuses on consonant arguments and suppresses counter-arguments. The distraction hypothesis doesn't assume an expenditure of effort in the act of suppressing counter-arguments. Instead, it states that the act of encoding distracts the encoder from counter-argument, that the re-allocation of energy made necessary
by the act of encoding draws energy that would otherwise be used in counter-arguing. In the absence of strong counter argument, the individual is persuaded.

The hypothesis that any attitude encoding situation will engender some attitude change in the direction of argument, while clearly the most supportable among the available explanations for persuasion in the counter-attitudinal encoding situation, does little to explain the differing levels of persuasion observed in the research. Efforts to reconcile the differing predictions and results made and obtained by dissonance and incentive theorists has shifted from attempts to disconfirm the perspectives to the task of finding mediating variables.

Perhaps the most promising research in this area involves the manipulation of choice. The concept that the amount of choice an individual feels in deciding to counter-attitudinally encode might be important in determining the level of persuasion comes from the dissonance perspective. It was hypothesized that manipulating the degree of choice, would vary the level of dissonance felt by the individual. Low pressures for compliance would make the decision to encode counter-attitudinally highly dissonant. High pressure to encode would reduce that dissonance.
Essential to this prediction is acceptance of the hypothesis (Festinger, 1967) that an individual acting in a dissonant situation (a situation where action x is contrasted by belief not x), will attempt to reduce that dissonance. The concept is an appealing one. People who don't act on their convictions are supposed to feel both the discrepancy and some remorse. Nevertheless, there is evidence that dissonance is not a universal phenomena. Burgoon, Miller, and Tubbs (1972) hypothesized that people who enjoy manipulating others would not feel dissonance in the counter-attitudinal encoding situation. To test this prediction they measured Machiavellianism (Christy & Geis, 1970), a measure of this manipulative tendency, and gave subjects the opportunity to counter-attitudinally encode under varying magnitudes of reward. The results supported the prediction. Low reward, low machiavellians were significantly more persuaded than any other group. High reward and high machiavellian conditions experienced similar levels of persuasion in relation to the no message control condition.

This study stands as compelling evidence for the dissonance approach. However, it also demonstrates that the dissonance approach has some definable limitations. The hypothesis that an individual who feels dissonance
when acting in a dissonant situation will attempt to reduce that dissonance is, therefore, more acceptable.

If an individual can feel dissonance it is conceivable that the magnitude of that dissonance can be manipulated. Among the factors capable of affecting dissonance is pressure for compliance. Linder, Cooper, and Jones (1967) ran two experiments to test this hypothesis. In the first experiment a 2 x 3 design was utilized. Three levels of monetary payment were used to test the dissonance monetary prediction with two levels of pressure for compliance. High pressure subjects were assumed, as volunteers in the experiment, to be willing to counter-attitudinally encode, even though they had volunteered without knowledge of the task. Low pressure subjects were informed of the counter-attitudinal task and asked if they would be willing to encode the message. If a subject refused, he was not pressed to participate. The hypothesis, that high choice subjects would be persuaded according to the dissonance monetary prediction and low choice subjects persuaded according to the incentive prediction, was supported.

The second experiment attempted to explore how narrow a range of compliance pressure might produce this effect. The manipulation, a controlled replication of Rosenberg
(1965), demonstrated that the difference between high and low pressure for compliance need not be at all large. Subjects in all experimental groups, after blindly volunteering to participate in the experiment were told that the task they would be asked to complete was totally voluntary and they didn't have to participate. However, $.50 ($2.50) would be paid the subjects if they would encode a counter-attitudinal message. High pressure for compliance was induced by moving the subjects directly into the task of counter-attitudinally encoding. Subjects in the low pressure groups were, however, asked once more if they would be willing to encode before starting the task. The results, although less robust than those in the first experiment, demonstrate that even this small difference in compliance pressure can induce persuasion corresponding to both dissonance (in low pressure conditions) and incentive (in high pressure conditions) predictions.

It should be clear, on the basis of the Linder, Cooper, and Jones (1967) manipulations, that pressure for compliance serves as a mediating variable between the dissonance and incentive predictions. However, a hypothesis stating that the effect of monetary incentives varies with amount of pressure for compliance would be premature.
Early dissonance research indicated that the mode of counter-attitudinal encoding might mediate between predictions. The original Festinger and Carlsmith (1959) dissonance manipulation was a role play. Incentive predictions had been confirmed using essay writing (Elms & Janis, 1963; Janis & Gilmore, 1965). Although Cohen's (1962) essay results had supported the dissonance prediction, a replication by Rosenberg (1965) had supported the incentive prediction.

Carlsmith, Collins, and Helmrich (1966) made a specific test of this hypothesis in a replication of Festinger and Carlsmith (1959). After completion of the dull task subjects were asked to counter-attitudinally encode in either a face to face role play situation or an essay writing condition. As expected, role players were persuaded according to dissonance predictions while essay writers were persuaded as incentive predicted. These results indicated that essay writing and role playing had differing effects on persuasion in the counter-attitudinal encoding situation.

Later experiments show these effects to be anything but clear cut. Helmrich and Collins (1968) used high pressure for compliance in all conditions as they demonstrated that varying the extent to which the subject was
identified with his role play message could produce a dissonance effect in the high identification (videotape) condition. The low identification (anonymous audio-tape recording) condition experienced an incentive effect. Linder, Cooper, and Jones (1967) only used the essay condition in demonstrating the effects of pressure for compliance.

Individually, neither pressure for compliance nor encoding condition fully explain the effects of counterattitudinal message encoding. However, it is possible to view both as affecting the level of commitment the encoder brings to the message. Low pressure for compliance lays the decision to encode on the encoder. He cannot lay the blame elsewhere. He has committed himself of his own free will. Similarly, role playing makes the act of encoding public, and as the amount of evidence as to who the encoder is increases, his ability to deny that message decreases. The greater public commitment of the role play condition over the essay condition or even the anonymous tape recorder condition increases the encoder's commitment to what he has said.

This action of commitment has evidenced itself in experiments to date as an interaction. In low commitment situations (high pressure for compliance experiments
utilizing reasonably anonymous encoding techniques) persuasion has conformed to incentive predictions (Elms & Janis, 1963; Rosenberg, 1965; Carlsmith, Collins & Helmrich, 1966; Lindner, Cooper, & Jones, 1967; and Helmrich & Collins, 1968). In high commitment situations (those utilizing low pressure for compliance and/or public encoding techniques) persuasion has conformed to dissonance predictions (Festinger & Carlsmith, 1959; Cohen, 1962; Carlsmith, Collins, & Helmrich, 1966; Lindner, Cooper & Jones, 1967; and Helmrich & Collins, 1968) for those who felt dissonance (Burgoon, Miller, & Tubbs, 1972).

Increasing commitment to a counter-attitudinal message should make the disparity between attitude and advocacy more salient, increasing dissonance. Decreasing commitment to that message makes the disparity less salient, decreasing dissonance. On the basis of this, a series of hypotheses can be generated.

The first hypothesis states that decreasing the level of encoder anonymity associated with the counter-attitudinal task will increase the degree of personal commitment. The second, that decreasing the pressure for compliance will increase the degree of personal commitment. Third, that in low commitment situations, the person who
feels dissonance will be able to reduce that dissonance without adjustments in attitude. Fourth, that as the degree of commitment increases, dissonance, if felt, will increase.

Little presented in this chapter to this point represents a particularly new perspective on either distraction or counter-attitudinal advocacy. Most of the concepts forwarded are common knowledge to communications researchers. It has been my intention to present these concepts in a usable framework, rather than in the piece-meal fashion in which they are usually presented, in order to make the relationship between the dissonance and incentive predictions clear. This accomplished, it would be helpful to explore the nature of this relationship more fully.

Viewing degree of commitment as the key to dissonance induction makes it possible to look at the high and low monetary payments that are common to counter-attitudinal research not as rewards or incentives, but rather as a type of pressure for compliance. Amounts of monetary reward considered barely sufficient to the task could not be expected to exert much pressure on the subject in making his decision to encode. But as the reward increased
the promise of payment could be regarded as a greater and greater reason, greater and greater pressure to comply with the request of the experimenter. Where the existing pressures to encode are small, the pressure induced by increasing the monetary reward could have a substantial effect in reducing personal commitment to the message and attenuating the level of persuasion. Where, on the other hand, the existing pressures for compliance are already large, the size of the reward would not be expected to affect the already attenuated commitment to the message in the same way it would were the existing pressures smaller.

This approach helps clarify the results of monetary manipulations in counter-attitudinal advocacy manipulations. Festinger and Carlsmith (1959), in a manipulation where verbal pressure for compliance was small, found that small rewards enhanced persuasion to a greater extent than did large reward. Janis and Gilmore, in an experiment where pressure for compliance was large (and subject decision freedom small) found little difference between monetary conditions. The comparative results of these two experiments appears in Figure 1. These results are remarkably similar to those presented in Lindner, Cooper,
and Jones (1967), Collins and Helmrich (1968), and Burgoon, Miller, and Tubbs (1972).

Taken together, this evidence underlines a corollary to the set of hypothesis just presented. Increasing levels of reward for counter-attitudinal encoding will increase pressure for compliance and decrease dissonance. A second corollary hypothesis, that monetary rewards will be minimally effective under conditions of existing low commitment, can be inferred, but lacking more evidence any such hypothesis would be premature.

This second hypothesis would be a serious challenge to the incentive hypothesis. Although Janis and Gilmore (1965) felt no predictions about the effects of reward could be made based on incentive theory, a series of experimenters have predicted, based on incentive formulations, that high reward subjects would be more persuaded in counter-attitudinal encoding situations than low reward encoders. Experimental evidence has consistently supported this incentive effect, although the effect has been strong in only two experiments.

These exceptions, Rosenberg (1965) and Carlsmith,
Collins, and Helmrich (1966), seem worthy of closer examination. The experiments share a common aspect in their use of a disguised post-test measure. Although use of a disguised post-test should enhance the validity of experimental results, there is some evidence that in the Carlsmith, Collins, and Helmrich experiment, it acted as an intervening variable, skewing the results in the direction of high reward. In the experiment subjects were exposed to a dull task. At the completion of the task they were asked to encode a message to the effect that the task was enjoyable. The manipulation was two-fold, with subjects either offered a high or low reward, and asked to encode either actively (to a prospective subject) or passively (in an essay). Subjects were then told that another experiment was in progress nearby. The second experiment was really nothing more than a well disguised post-test in which the experimenter, after showing the subjects how the experiment worked, professed that he, although knowing very little about the experiment they had just left, needed to get their reactions to the task they had been involved in. Between the task and the post-measure, however, another test of sorts had occurred in the act of counter-attitudinal encoding. As such, the post-test was not a measure of reaction to the dull task,
but rather to the entire experiment. It seems to me that if I had been asked by an experimenter to evaluate a test that had been given to me by another set of experimenters, I would respond in terms of everything the experimenters had asked me to do, not just the first part of an experiment which the questioner professed to knowing little about. I think, moreover, that I would respond more positively to the act of writing an essay if I earned more money for doing so. Although this post-test flaw by no means invalidates the experiment, I do believe that it has skewed the results toward the high reward condition. The result is a set of overly high essay condition means and somewhat low role play condition means.

The post-test is probably not responsible for the results of the Rosenberg (1965) manipulation. Here the experiment may have been confounded by the instructions. These instructions, given by experimenter 1, described experimenter 2 (who was to offer money for encoding) negatively. Because of this, it seems possible that the poor status of the experimenter may have been attenuated by the high reward condition and accentuated in the low reward condition.

Status predictions are, of course, central to the incentive hypothesis. But status is an accepted enhancer
of persuasion and there is no apparent reason why a high status sponsor shouldn't enhance the credibility of his position for an audience. This view invalidates attempts to predict sponsorship effects according to either dissonance or incentive predictions. Generally speaking, high status can be expected to enhance the attractiveness of the sponsor's viewpoint, just as it enhances the attractiveness of a speaker's viewpoint.

The prediction raises the question of why this status doesn't counterbalance the effect of dissonance, with high reward enhancing status and persuasion sufficiently to counter-balance the effect of dissonance in the low reward condition. Examination of the source credibility phenomenon yields an interesting answer to this question. In chapter 1, three types of message relevant distractions were introduced, one of which, extrinsic distraction, involved focusing an audience's attention on either consonant (in the positive condition) or counter (in the negative condition) arguments. Source credibility may cause a focusing of attention on positive or negative attributes of the speaker, rather than on message. As such, source credibility may act as an extrinsic distraction, accentuating either consonant or counter argument. How-
ever, while positive credibility can be expected to enhance consonant argument and negative credibility can be expected to enhance counter argument, the dual effect of the cognitive dissonance/distraction process in enhancing consonant and attenuating counter argument should be more than a match for credibility. If, for instance, counter argument is already attenuated under the distracting influence of dissonance, how effective can the additional counter arguments of low sponsor credibility be, except perhaps to increase personal commitment and distraction. How much can positive source credibility add to already heightened consonant arguments.

This leads naturally into another hypothesis. Where dissonance is resolved, communication is subject to the usual persuasion variables, including sponsor credibility. This hypothesis effectively subordinates the entire incentive perspective to dissonance and distraction predictions. In Rosenberg (1965) pressure for compliance removed the effect of dissonance. In its absence, high reward was able to raise the status of the experimenter/sponsor, with a consequent increase in influence. High reward, in this case, became effective not because of the power of the incentive, but rather because dissonance was resolved before money entered the picture. From this per-
spective, his results are remarkably consistent with Elms and Janis (1963) and Janis and Gilmore (1965).

This hypothesis leads us to the heart of the chapter. Cognitive dissonance, while a powerful explanation for the persuasion process is, like gravity, difficult to prove extent. Falling, when the laws of gravity say we should, is no better a proof of gravity than being persuaded, when dissonance predicts we should be, is a proof of dissonance. The problem involved with understanding gravity is that we don't fully understand the processes involved. Once that same problem inhibited our understanding of fire. In point of fact, fire was once considered, as gravity and persuasion are now, to be something that just happened, as a basic element of the system in which we live. Now, of course, we know that fire is the result of combustion, a process of molecular rearrangement, but gravity, and to a greater extent, cognitive dissonance, remain mysteries, elements of life for which we fail to understand the process, the method of combustion.

The following hypothesis is an attempt to define the process of cognitive dissonance. If successful, it may serve as support for the dissonance hypothesis. In situations where dissonance is not reduced, people will
be distracted by that dissonance from counter arguing with their counter-attitudinal message and will be persuaded. This persuasion will, in turn, reduce the dissonance, reduce the distraction, and, ultimately, slow the process of persuasion. This process, which is called cognitive distraction, has the potential of extreme power because it is a focused evaluative distraction resulting from a direct, self-induced attack on our own cognitive system.

Together, these hypotheses describe a system in which persuasion can occur. Many of the hypotheses which form this system are the results of work of the researchers from whose work the entire system was drawn and demonstrated. The system is made possible by three hypotheses. The first is the refinement of the concept of public commitment, what is sometimes called new dissonance theory, to that of personal commitment, of which public commitment can be a cause. The second is the recognition that source credibility is not an unusual persuasion variable and the specification that such standard persuasion variables can only be effective where dissonance has been resolved. The third and most important is the demonstration that distraction and dissonance are strongly interrelated. This allowed counter-attitudinal
advocacy results is to be viewed in relation to results in other research traditions a task which had, in the past, been made difficult by the seeming discrepancies of counter-attitudinal results with those of other traditions. Of the hypotheses presented in this chapter, only these hypotheses (and those that follow directly from them) are mine. The hypotheses on which these are built belong to the studies which demonstrated them. With the system of distraction described in my chapter two hypotheses, cognitive distraction can be built into a greater whole. This whole is the subject of the next chapter.
Chapter IV - A Model of the Persuasive Process

The hypotheses generated in chapters 2 and 3 suggest a model of the persuasive process. It is a tentative model, and a large number of variables could not be considered in its formulation. Many variables relating to two of the more important research disciplines in persuasion, distraction and counter-attitudinal advocacy, have, however, been reviewed in some depth. Formalizing the persuasive model in which these variables operate may be useful in clarifying their interaction.

At the basis of any such persuasive model is the process of persuasion. Part of this process, an action involving message counter and message consonant argument, has been implicit in our discussion of both distraction and dissonance. In this basic model, persuasion is caused by maximizing message consonant argument and minimizing message counter argument in the persuadee. Thus in the basic model, depicted in Figure 2, the connections from message counter and consonant argument to persuasion
indicate that argument influences persuasion, that persuasion can be predicted from argument.

Irrelevant distraction, according to the hypotheses of chapter 2, enhances persuasion by reducing message counter argument. Relevant distraction does so by enhancing either message counter argument (with negative relevant distractions) or message consonant argument (with positive relevant distractions). Cognitive dissonance, according to the traditional interpretation, induces persuasion by forcing the subject to justify his actions, if by no other means, than by finding good reasons, such as message consonant arguments, for the action. The chapter 3 view of cognitive dissonance states that this act of finding good reasons drains energy that might otherwise be used for counter argument, allowing cognitive distraction to occur. In this sense, dissonance may be an optimal instrument of persuasion insofar as it both maximizes consonant argument by forcing the persuadee to look for good reasons for his actions and minimizes counter argument by distracting the subject from counter argument.

It is believed that this basic model provides a reasonable process through which distraction and dissonance can operate in enhancing the persuasive process.
The model also works in explaining other aspects of the persuasive process. Inoculation theory, for example, predicts that giving a persuadee material and motivation will bolster his ability to counter argue with a message. This concept of counter argument bolstering is extremely consistent with the model. So too is McGuire's (1964) finding that supplying a persuadee with the material and motivation necessary to counter argue is effective in reducing persuasion.

The model is also effective in explaining findings showing that one sided persuasive messages can be more effective than two sided persuasive messages. One sided messages present only message consonant arguments while two sided messages also provide, even when presented in refutational context, message counter arguments. The superiority of emotional persuasive messages over logical ones is also implicit in this model. The possibility of another viewpoint is implicit to logical argument, but is rarely admitted in the emotional appeal.

Finally, the model explains persuasion decay over time. If, indeed, persuasion is the result of increased message consonant and/or decreased message counter argument, then persuasion can be said to result from an imbalance between counter and consonant argument. It
should be expected that, while an imbalance of this sort should be easy to maintain for short periods, the subjects cognitive balance should be restored over a period of time. This may evidence itself in two ways. First, consonant arguments may be rejected or forgotten, resulting in a reduction in persuasion. Persuasion should also be reduced when counter argument increases. This should make persuasion due to distraction particularly vulnerable to reduction over time.

It would appear that this basic model is reasonably parsimonious with a variety of approaches to the persuasive process. In communication research, however, persuasion is rarely treated directly as a dependent measure. It is instead implied through the differences in the final attitudes of experimental groups. This implies a second segment in our basic persuasive model. This segment, depicted in Figure 3, represents the most basic prediction of the persuasive process, that final attitude is the sum of initial attitude and persuasion. This prediction is rather obvious and stands, in this study as an operational definition. Its purpose in the model is not, as
will be the case in the rest of the model, that of showing how persuasion can be influenced, but rather to act as a reminder that persuasion represents a change in attitude. Implicit to this reminder is an implied feedback loop between initial and final attitude. In fact, the only aspect of the two that allows separation is the fact that attitudes can change over a period of time.

Given this basic model, it becomes possible to depict the ways in which attitude can be affected through persuasion. The first major area of influence comes from what might be called standard persuasion variables. These variables are standard, first, because they have an effect in almost every persuasive situation and, second, because they belong to no specific theory of persuasion. These variables, as depicted in Figure 4, affect persuasion through their effect on message counter and consonant argument.

First among these variables is source credibility. Source credibility, as hypothesized in chapter 3, acts...
as a distraction, affecting either counter or consonant argument. Generally speaking, increased credibility should increase message consonant argument while decreased credibility should increase message counter argument.

A second important variable is learning. Learning involves the process of obtaining message counter and consonant arguments. As, however, the principal component of a persuasive message is consonant argument, learning, during a persuasive message, usually involves only consonant argument. Learning is, in turn, affected by a variety of variables, only one of which, message complexity, is distinct enough from the variables yet to be presented to allow inclusion as a standard variable. Generally, increasing message complexity should reduce learning and consonant argument.

Message complexity leads naturally into the distraction variables, especially since stronger distractions can have a profound effect, as noted in chapter 2, on learning. Distraction strength is, in fact, the most important of the distraction variables. The stronger the distraction the more acute its effect in attenuating first counter argument and then learning. In Figure 5 this
effect is shown by the connections between these variables. It should be noted, however, as was pointed out in chapter 2 that the effect on learning is not major except for the strongest class of distractions.

Evaluative focus can be an effective weapon in reducing the effect stronger distractions can have on learning. As such, its effect is not on counter argument, but rather on learning. For this reason, evaluative focus is shown influencing learning in the model. Focus may influence counter argument also, in weaker distractions, but there is, at present, no evidence to support that contention.

The third variable in the distraction group, relevance, notes that distractions which are related to the message have different characteristics than those which are not. Relevant distractions can bolster either message counter or consonant argument. This is shown in the model, but it should be remembered that relevant distractions can only bolster one or the other, not both, at any given time.
Although only three variables have been directly attributed to distraction in the model, it should be remembered that two of the standard variables, source (sponsor) credibility and message complexity, have an impact on the process of distraction. Another factor that affects distraction, cognitive dissonance, involves a set of variables in and of itself. Figure 6 depicts the central variables in the cognitive dissonance process. As a group these variables affect dissonance by varying personal commitment.

The first of these variables, personality, cannot be said to be entirely unique to the dissonance process.

PLACE FIGURE 6 ABOUT HERE

The effect it does have is, however, important, especially where Machiavellianism is concerned. As was noted in chapter 3, people who score high in Machiavellianism often fail to evidence dissonance in the counter-attitudinal framework. Thus, personality plays a critical role in the dissonance process.

Less ambiguous in their relationship to dissonance are the variables choice and reward. Of the two choice may be the more important, for low levels of choice provide an easy and immediate avenue for non-attitudinal dissonance reduction. High choice levels, on the other
hand, force responsibility on the subject, allowing him no one to blame for his actions but himself. Reward affects dissonance, in a sense, by manipulating choice. A high reward should prove more lucrative to a subject, harder to refuse, than a low reward. High reward also provides its own outlet for dissonance reduction, for counter-attitudinal behavior can be justified in terms of the high reward.

Although less important than the preceding variables, anonymity can also affect dissonance. A person faced with encoding a message that will never be heard by anyone else, or with which he will never be associated, should be expected to care less about what is said than would a person who can be identified as the speaker and who knows his message will be used to influence others. Thus anonymity can be expected to affect dissonance. Indeed, several of the experiments described in chapter 3 have shown just such an effect.

It is important to note that each of the dissonance variables affects dissonance, either increasing it or decreasing it. Dissonance in turn affects message consonant and counter argument. The effect of dissonance in increasing message consonant argument is related to the original theory of cognitive dissonance. It is, in fact, the attempt to justify the dissonant behavior. The effect of dissonance in decreasing message counter
arguments, on the other hand, is related to distraction. In a very real sense, the effect, although expected to prove important, is secondary to the other dissonance variables, for cognitive distractions are caused by the rechanneling of energy into the act of justifying behavior. The rechanneling is caused by the dissonance which, in the end, is the product of the dissonance variables.

Other variables also play a role in the dissonance process. Of particular importance is attitude. A message must be at least somewhat counter-attitudinal in order to arouse dissonance. Moreover, as the process of dissonance begins to affect attitude, the attitude change also affects dissonance. This feedback process, although an important dissonance prediction, cannot be depicted in the model and is, from a practical standpoint, a difficult prediction to measure.

Together, the several models presented in this chapter form a larger model of the persuasive process. This larger model, shown in Figure 7, is really nothing more than an ordered combination of the several small models. The explanation offered for each of these models should, therefore, hold true. The purpose of the model

PLACE FIGURE 7 ABOUT HERE

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is to show clearly how the depicted persuasion variables affect each other. An important product of this understanding is the causal flow of variables which is implicit to the model. Varying reward affects first dissonance, then message consonant and counter argument, and finally persuasion and attitude. Increasing distraction strength affects counter argument, then learning and consonant argument, and ultimately persuasion and attitude. This causal flow allows us a format in which we can systematically vary aspects of the model experimentally. It is to this process that we now turn.
Chapter V - An Experimental Model

Thus far the thrust of this research has not been in the direction finding unidentified persuasion variables, but rather of taking established variables and finding their common aspects. The comprehensive theory of distraction and expanded theory of cognitive dissonance presented in chapters 2 and 3, and the model of the persuasive process presented in chapter 4, raise many new questions about how the various persuasion variables interact.

Previous studies have provided ample support for much of the theoretical model, but several aspects of the framework have not been tested adequately. Although they are not the only parts of the model which demand testing in the near future, two parts, the basic model and the concept of cognitive distraction, deserve more immediate attention. The basic model demands attention because of its pivotal nature. It is the connection from message counter and consonant argument to persuasion that allows the rest of the model to tie together. If the basic model works, it is a strong argument not only for the basic model, but for the entire model. Cognitive distraction demands attention because it demon-
strates the inter-relationships between the varied theories of persuasion.

Some evidence already exists to support the basic model. Several experiments have measured counter argument production and at least one has employed a system for measuring both counter and consonant argument. In each case, counter and consonant argument have been treated only as dependent measures. In the model, message counter and consonant argument serve a dual function. They are dependent to the various persuasion variables but should also be viewed as independent variables in studies of persuasion. The basic model, then, while supported in other studies, has yet to be adequately tested.

Direct experimental support for the concept of cognitive distraction, by contrast, is almost non-existent. Indirect support abounds, but as the only criterion measure used in most tests of cognitive dissonance, is attitude change, it is difficult to attribute the persuasion to either dissonance or distraction with any great degree of accuracy. However, difficulty can be overcome through the use of the basic model. The attempt to overcome cognitive dissonance should evidence itself in increased consonant argument. The energy-draining effect of the dissonance, the distraction, should result in decreased counter argument. This combined effect of
dissonance and distraction is yet to be tested.

The model in Figure 8 outlines an experiment in which both the basic model of persuasion and the concept of cognitive distraction can be tested. The model is based on the more comprehensive model outlined in chapter 4. The experimental design implied in the model involves manipulating two of the variables which affect cognitive dissonance, initial attitude and reward. Manipulation of these two variables should, in turn, affect message consonant and counter argument. Reward should affect message consonant argument negatively and message counter argument positively. The effect of initial attitude should be harder to predict. It would be reasonable to expect that a more favorable initial attitude toward a message would indicate greater message consonant argument and less message counter argument than a less favorable attitude. In terms of cognitive dissonance and distraction, however, message consonant argument production should decrease and message counter argument increase, as attitude becomes more favorable.

As independent variables, message counter and consonant argument should effect persuasion. As consonant argument increases, persuasion should be expected to increase, a positive relationship. As counter argument increases, persuasion should be expected to decrease, a
negative relationship. Persuasion should, in turn, be expected, along with initial attitude, to predict final attitude. Duration and post-test order effects, which also appear in Figure 8, are control variables.

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PLACE FIGURE 8 ABOUT HERE

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Their role in the experiment will become clear in the methodology.
Using the test model outlined in chapter 5, an experiment was devised and executed. Subjects were drawn from the student population at Florida Technological University. Most, but not all, of these subjects were fulfilling communication department research requirements. This requirement is imposed on all students taking Speech 101, a course required of all students, regardless of major. The resulting sample population should be considered representative of the entire student body, not just of communication department majors. The experiment can be divided into three parts. The first part was a pre-study involving about 25 upper level communication department students. It was performed in July, 1976. The second part was a control study involving 151 students. Most of these students came from Speech 101 classes. About 20 came from an upper level course in communication. Five subjects from this sample were dropped because of incomplete questionnaires. The last part of the manipulation, the actual experiment, involved 56 volunteer subjects drawn from a second group of about 150 Speech 101 students. One subject was dropped because an incomplete post-test precluded evaluation. Both
the second and third segments of the experiment were conducted in October, 1976.

**The Pre-study**

The objective of the pre-study was to determine a message topic for use in the experiment. Several current issues were examined from the perspective of two selection criteria. The first criteria was that opinions on the issue were well mixed. The second criteria was that opinions on the issue be predictable from the Rokeach Value Scales (Rokeach, 1973). Both criteria had to be met in order for the issue to be considered. To test the issues on these criteria, subjects were administered two questionnaires, one a survey of opinions on current issues and the second the Rokeach Value Scales. Divergence of opinion was measured by computing means and standard deviations. Predictability was evaluated through forward (stepwise) multiple regression (Nie et al., 1975) of the Rokeach values on those issues which appeared to meet the criteria of mixed attitudes.

Several topics met both criteria. Since the topic, "God and the Bible are man's attempt to explain the world" most successfully satisfied the criteria, it was used in a first attempt at the experiment. The topic, however, proved too salient. A high refusal rate (only 1 of 16 subjects actually encoded a message) finally forced
cancellation of the experiment. The second best topic, "the military budget should be cut to allow greater spending on social welfare programs," was then selected for use in the experiment.

The Control Sample

The control sample was collected in order to develop a regression equation for use in predicting initial attitude in the experiment. Subjects were therefore asked to complete the pre-test prediction instrument, the Rokeach Value Scales, and the post-test instruments, a political survey containing the measure of post-test attitude, Brock's (1967) measure of counter argument production, and a list of arguments used during the experiment. In order to test for possible order effects, that is, persuasion due to the order in which the questionnaires were administered, the questionnaires were distributed in six different orders. The positions of the Rokeach scale, the political survey, the arguments, and an unrelated scale administered during the experiment were manipulated. The Brock measure of counter argument was always at the end of the questionnaire booklet. Its order was also manipulated, however, as subjects were asked to complete the scale either at the very beginning of the survey period or after 5, 10, or 12 minutes.
At the beginning of the survey period subjects were informed that the data was being collected in conjunction with an experiment. The survey booklets (in the six orders) were distributed randomly in each class. If the class was among those asked to complete the Brock measure first, they were instructed to turn to the back of the survey booklet and complete the measure of counter argument. At the end of three minutes they were instructed to stop and complete the rest of the questionnaire. Other classes were told to begin the questionnaire, but that they would be asked to stop at some point to do something else. After the specified period of time these classes were also given their three minutes to complete the measure of counter argument.

Analysis of the data involved two methodologies. A composite post-test measure was developed using principal component analysis (Nie et al., 1975) with the component criteria set at 1. The two factor matrix was obliquely rotated to obtain the direct oblimin loadings with delta set at zero. Component scores were computed for each subject. A regression equation for use in rebuilding the first component scores from responses to the post-test political survey was computed using forward (stepwise) multiple regression (Nie et al., 1975). A second regression equation was computed for use in pre-
dieting first component scores from the Rokeach Value Scales. The effects of the varied orders on attitude were assessed via forward (stepwise) multiple regression.

**Experimental Procedures**

Before arrival at their appointments, subjects were aware that they would be participating in a series of experiments. This was, to an extent, true, but most of their activity centered around the manipulation. Upon arrival they were given the Rokeach Value Scales and told that the experimenter would return in a few minutes. The value scales (Rokeach, 1973) are two ordinal scales of 18 values. Subjects are asked, on each instrument, to rank the values according to importance. Research involving the scales indicates that they are powerful predictors of personality, demographic factors, and even product preferences. Those interested in specific results should see Rokeach's (1973) own excellent review of the research.

In this experiment the scales were used as a pre-test predictor of attitude. A particular strength of the scales are their topic neutrality. It would be difficult for a subject to draw any conclusions about the nature of the experiment from the value scales. This strength is the basis of this experiment, for the use of any pre-test which might have indicated what was expected of the
subjects would have seriously compromised the results.

After completing the value scales, subjects were brought to a second room. It was here that the fundamental manipulation occurred. Subjects were seated in front of a desk on which a tape recorder rested and told the following. "This part of the experiment really isn't an experiment at all, but rather a preparation for an experiment we are planning on doing in a few weeks. In that experiment we are going to try to persuade people to another point of view. Usually, in this kind of experiment they use actors. That's great for those experiments because, as you can imagine, actors, with their training, can be very persuasive. What it doesn't tell us is how persuasive real people in the real world are. That's what we want to find out in this experiment. So what we're asking people to do is record a short persuasive message on a topic. We're asking everybody to record the same message on the same topic."

"The topic is that 'military budgets be reduced in order to allow greater spending on social programs.' Now I don't know how you feel about this issue and quite frankly, I don't care. However, we can offer you $.50 ($1.50) to record a message on this topic." At this point the experimenter told subjects in the low reward ($.50) condition that: "I realize that $.50 isn't a lot
of money, but that it’s more money than you’ll have if you don’t encode the message.”

This was done to make the low reward appear salient. The experimenter then reminded the subjects that they didn’t have to encode the message and asked if they would be willing to encode a persuasive message for the amount of money offered. Indeed, the number of questions related to the message were analyzed. At the completion of the message, subjects were paid and post-tested.

The post-test included four measurement instruments, two of which, collected in conjunction with other studies, were irrelevant to the experiment. The purpose of these tests will be described later. This post-test will be administered to a third room where subjects who decided to encode their message on the tape recorder were ready. Subjects recorded their messages in the third measure, a political survey, which was administered to a third room. Indeed, the medium (tape) provided low channel visibility. The messages were recorded anonymously and the medium used was a tape recorder. The messages were anonymous and the medium used was a tape recorder. The messages were recorded anonymously and the medium used was a tape recorder. The messages were recorded anonymously and the medium used was a tape recorder. The messages were recorded anonymously and the medium used was a tape recorder.

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the criterion measure of attitude used only three of these five questions. The questions were posed in a likert scale format. In the final instrument the measure of counter argument, subjects were given three minutes to record the possible effects of reducing military spending and increasing social spending.

In a very real sense, the measure of counter argument was the only measure which could have violated the experiment's internal validity. First, as it involved the topic of the persuasive message, it was possible that the measure could have given the subject an idea of what was being looked for. Second, it could have served as the equivalent of encoding a second persuasive message, with a consequent effect in either inducing or reinforcing persuasion. For this reason, the administration of the instrument was manipulated by giving the instrument either before or after the criterion political survey. Here, it was hypothesized that if the instrument violated the experiment's validity significantly, the effect could be measured in the post-test attitude scores.

In recording perceived 'effects,' as was done in the measure of counter argument, subjects are not limited to writing counter arguments. This is the basis of the measure, because subjects, when left free to record any possible 'effects,' whether message counter and consonant
arguments, should be expected to write down those arguments which are most salient, which have been recently considered. As such, the measure, when used soon after a persuasive appeal, can be expected to measure those arguments, both counter and consonant, which the subject considered as a result of that message. The instrument should, however, be considered as a measure not only of counter argument, but of consonant argument. It has been used, in this experiment, to measure both. Being an open ended scale, the argument measure required judging. An upper level communication class was recruited for this purpose. The judges (18 of them) were told that they were engaged in judging the results of an experiment. They were not told anything about the nature of the experiment. Written instructions were handed out. The instructions stated that a consonant argument was one which might be used in supporting the position(s) that the military budget should be reduced and/or that social spending should be increased. Counter arguments were those that might be used in supporting the position that the military budget should be increased and/or social spending should be decreased. The judges were asked to tally the counter, consonant, and neutral arguments on each measure. On the average, each measure was judged independently by four judges. Inter-rater re-
liability was high, over .90 in every case.

Considered as a whole, the procedures conform to the test model depicted in chapter five's Figure 8. Subjects were manipulated on the basis of pre-test attitude, reward (using nth number randomization techniques) and post-test order effects. It was predicted that reward and pre-test attitude would affect persuasion. No prediction was made on the effect of post-test order, and it was hoped that no effect would be found. Message duration was measured to determine its possible effect on persuasion. Message counter and consonant argument were measured as endogenous variables, variables which were both independent in predicting persuasion and dependent in their predictability from the manipulated variables. Finally, post-test attitude was measured. An index of persuasion was constructed by subtracting the pre-test attitude prediction from the post-test attitude.

Analysis of the data involved a variety of techniques. Path analysis (via multiple regression) was used as the principle test for the model, but an analysis of variance cell structure was utilized to clarify, through the calculation of means and standard deviations, the actual effect of the variables on persuasion. One variable, the interaction of reward and pre-test attitude, was added to
the path model during the course of analysis because an analysis of variance indicated that the effect of reward and attitude on persuasion was best indicated in the interaction.
Chapter VII - Results

As the analysis of the experimental data was dependent on the results of the control manipulation, the control data was analyzed first. The most immediate concern was over the effect questionnaire order had on attitude. It was felt that any effect could have profound implications on both the control and experimental data. No significant or near significant effects of order were found, however. This result bolstered the manipulations by demonstrating several things. First, it showed that the pre-test and post-test instruments had no effect on each other. Second, it demonstrated that the list of arguments given subjects during the manipulations was not persuasive in and of itself, that persuasion in the experiment could not be attributed to this list of arguments. Third, it was shown that the measure of counter argument had no persuasive impact of its own. This result was later confirmed in the experiment, where a similar manipulation yielded the same result.

Satisfied that the experiment was shown reasonably pure of confounding effects, the experimenter turned to the concern of developing a good predictor of pre-test attitude. Here, the first responsibility involved in-
creasing sensitivity by developing a composite attitude measure. It was felt that five questions on the post-test instrument related directly to the topic of the persuasive message. To clarify these relationships the questions were compared using principle component analysis. The analysis yielded two components which were then obliquely rotated. Examination of these components indicated that the second was not meaningful as a post-test measure. The first component, as can be seen in Table 1, was very meaningful.

Component one involves three questions from the post-test measure. Two, positively related to the component, advocate increasing spending on social programs. The third, negatively related to the component would seem to involve spending priorities. Subjects who advocate increased military spending do not advocate increased social spending, and vice versa. This interpretation is, of course, highly consistent with the topic used in the experiment, that 'military spending should be decreased in order to allow greater spending on social programs.' The second component involved two questions, both of which would appear to support the increased
social spending perspective. It can be argued, though, that educational quality can be improved and welfare systems shifted to jobs systems, without a major spending increase. Indeed, such shifts could involve a decrease in costs. Component two appears to reflect this perspective.

On the basis of this analysis, component scores were computed for the first component. The scores, the composite measure of attitude served as the basis for the final phase of analysis on the control data. The purpose of this analysis was to devise a system for recreating these component scores, first from the post-test and, second, from the pre-test. The method used in formulating both predictive equations was forward (stepwise) multiple regression.

As the component scores were derived from the post-test survey, the correlation between the factor scores and the post-test attitude regression predictions were assured of identity. As shown in Table 2, this was the case. The three principal questions correlate .99 with the component scores, indicating that the two questions not attributed to the component have, in fact, little
impact. Predicting the component scores from the post-test proved more difficult. According to Rokeach (1968) an attitude is a system of beliefs and values. Theoretically, by tapping the values belonging to an attitude's belief-value system, the attitude can be predicted. The value component of one such system, one surrounding social and military spending priorities, is recounted in

PLACE TABLE 3 ABOUT HERE

Table 3. Here the system is presented in the form of a multiple regression equation.

The table actually shows two equations. The first, titled standardized partial regression coefficients (betas) shows the relative importance of the variables to the equation. Higher standardized betas indicate the greater importance of a variable as a predictor of the dependent variable. The second equation, titled unstandardized partial regression coefficients, is the actual prediction equation.

The 11 values which form the value system represent about one third of the Rokeach Values. The entire value scales can account for about 40% of the variance in attitude on the post-test measure. The 11 variables in the
equation correlate almost as well; their .61 multiple correlation indicating a 37% prediction accuracy. The 3% difference in prediction accuracy is small, especially when it is considered that the additional variance is accounted for by 25 variables. The 11 variable equation has, moreover, a lower standard error than other competing equations.

The components of the equation make sense as the value system surrounding attitudes on social and military spending priorities. The meaningfulness of the first value, national security, should be rather obvious. It should be expected that a person concerned about national security would also favor military spending. A predisposition toward military spending does not, however, preclude a favorable attitude toward social spending. This can be clarified, however, by consideration of the next two variables, equality and freedom. Rokeach (1973) demonstrates the importance of these two values in determining political ideology. In terms of American politics, liberalism and conservatism can be predicted on the basis of the ranking of equality, liberalism increasing as equality becomes more important. A liberal, in American politics, would be expected to favor social priorities while a conservative would be expected to favor military priorities. Rankings of freedom should further clarify
this liberal/conservative breakdown. Low rankings of freedom should indicate extreme feelings, leanings past liberalism toward communism and past conservatism toward fascism.

The fourth and fifth variables in the equation, true friendship, and honesty, although not directly associated with the dependent measure, are meaningful predictors. Their effect is felt through the suppressor relationships they have with the variables already in the equation, notably national security. True friendship and national security, considered together, would seem to form an index of defensiveness or trust, with security increasing as friendship decreases. The nature of this suppressor relationship can be examined in Table 4. True friendship is correlated only .04 with the dependent measure, but is correlated -.26 with national security, the most important variable in the equation. The result, as shown in Table 3, is its standardized beta, a direct effect equivalent to a .18 correlation.

Honesty's suppressor relationship is also with national security. The importance of security increases
as the importance of honesty decreases. It would appear that people who feel honesty unimportant probably think others feel the same way. Ultimately, then, a way of defending oneself from the dishonesty of others (whether the other is another person or another nation) is through a strong national security. The next variable, independence, can be grouped with honesty because, again, the variables suppress one another. Together, these variables measure part of what may be the Machiavellianism, Dogmatism, Intolerance of Ambiguity personality variable group (Rokeach, 1973). It would be expected that as dogmatism increased the prevailing national thought pattern, which, in the United States at this point in time, seems to favor military over social spending, would take priority.

Pleasure is related to freedom and equality, particularly equality, and draws additional strength from these variables. Pleasure appears to be related to political ideology, as is a world at peace. This effect is apparent not only in this study but in Rokeach's (1973) study of the effect of value change on political ideology. The effect of these variables is to clarify the attitude prediction due to political ideology.

A world of beauty is perhaps the least correlated variable in the entire value system. It can work alone
as a predictor. A world where military spending could be easily reduced so that social spending could be increased would indeed be a more beautiful world. As such, the prediction due to a world of beauty could be said to be a measure of idealism, of a utopian ethic. Rokeach (1973) shows that concern with this value declines with age, a hint that the generation gap of the late 1960's and early 1970's, which made itself most clearly in terms of attitude toward the military, may have been due in part to differences in idealism rather than to differences in political ideology.

The three remaining variables in the equation, obedient, cheerful, and clean, might be referred to as boy scout values. Their function appears to be that of clarifying variables which are already in the system. obedient and cheerful are both suppressed by independent. As such they can be interpreted as contributing to Machiavellianism/Dogmatism prediction. This interpretation is consistent with the findings summarized by Rokeach (1973), where both obedience and cheerful were predictors of these and other related personality measures. Cheerful and clean seemingly are suppressed by value rankings of a world of beauty. From a logical standpoint, as both of these variables involve modes of beauty, they may act
to reinforce the utopian concept discussed earlier. At any rate, cheer and cleanliness are ideal end states.

The value system, considered as a whole, can be said to reflect four components of attitudes on social and military spending priorities. The first rotates around political ideology, with liberalism associated with social spending priorities. The second involves trust and the need for security against the supposed dishonesty of others. The third involves idealism, orientation toward a better world. The last reflects personality as measured in dogmatism, machiavellianism, authoritarianism, intolerance of ambiguity, and other related personality measures. The 37% accuracy with which this values system can measure attitudes on social and military spending priorities is not, perhaps, optimal. One would prefer such a measure to predict better than this does. It is, however, sufficient to the task of making a pre-test prediction. On balance, when one considers that the value scales measure only 36 values out of a pool of over 100 different values, when one remembers that the value system is only a part of a much larger belief system, when one recalls that the opinions of friends and family can also affect attitude, the predictive accuracy of these few values is rather remarkable.
With the analysis of the control survey data complete, it was possible to turn to the task of analyzing the actual experimental data. The first step in this analysis involved determining whether either initial attitude or the amount of money offered influenced subjects' decision to encode the message. It had been expected that both reward and pre-test attitude would affect the subject's decision to encode the message, with those in the more dissonant conditions, low reward and negative attitude, less likely to encode the message. No support was generated for these expectations. The F-ratios for both main effects and the interaction were less than one.

Using the data from the 39 subjects who actually encoded the message, the effects of the actual manipulation were tested. Although regression analysis would be used in subsequent analysis and would have yielded more sensitive measurements in this case, the test was made using analysis of variance with initial attitude split into two groups at the mean. The resulting 2 x 2 (initial attitude x reward) analysis of variance tested for differences in post-test attitude. If there had been no persuasion, a main effect would have been expected for initial attitude. Developing expectations of what the analysis would look like were there no persuasion was more
difficult. In fact, no main effect for initial attitude would have been a meaningful indicator of attitude change. The prime expectations were reserved for reward and the interaction. The theoretical construct would predict, for subjects with a positive initial attitude (message consonant subjects) a slightly higher post test attitude in the high reward condition. Subjects with negative initial attitudes (message dissonant subjects) on the other hand, should have much higher post-test attitudes in the low reward than would be found in the high reward condition. This was expected to show itself in a near significant effect for reward and a highly significant interaction effect.

Table 5 shows the results of this analysis of variance. The effect of initial attitude is non-significant, indicating that there was substantial persuasion as a result of the manipulation. In contrast, the interaction is highly significant. This indicates that the persuasion occurred in the predicted directions. But reward makes no approach of significance. This indicates an unexpected balance in persuasion, with high reward
equally different from low reward, although in opposite directions, regardless of initial position. The non-significant difference on initial attitude, however, erases the possibility of this effect being due to persuasion in the positive initial attitude conditions.

Examination of the means, shown in Table 6, confirms this interpretation. Expected means for post-test attitude in both the positive and negative initial attitude conditions were determined from the control sample. Comparison of these means with the experimental means shows, first, that there was very little attitude change for high reward in either initial attitude condition, and

second, that there was a great deal of attitude change for low reward in both attitude conditions. For the negative initial attitude low reward condition, this change indicated persuasion. But for subjects with positive initial attitudes, low reward provides a major and unexpected surprise. Subjects were actually dissuaded.

It was tempting to view this result as spurious, so the result was analyzed more closely. Means for persuasion, which was operationally defined as final atti-
tude minus initial attitude were therefore calculated for the four cells of the experiment and the two control conditions. The control conditions in Table 7 show means equivalent to no change in both conditions. Both high reward conditions showed a non-significant amount of persuasion. Negative initial attitude low reward subjects were highly persuaded. Both of these results are highly consistent with expectations. Once again, however, the positive initial attitude low reward condition is, contrary to expectations, highly dissuaded. The analysis of variance for this cell breakdown, shown in Table 8, confirms the significance of the persuasion. The interaction is once again significant. This is no surprise and is meaningful only in that it underlines the fact that most movement is in the low reward conditions. But, while there are no significant differences in reward, there are significant differences in initial attitude conditions, indicating first that attitude movement is
balanced in reward conditions, and second that this movement is in opposite directions.

Although these results seemed to support the dissuasion phenomena, it was possible that the effect was due to the extreme scores of a few individuals in the experimental group. Examination of the individual scores does not support this interpretation. None of 11 subjects in the positive initial attitude group were dissuaded. Neither of the persuaded subjects were highly persuaded, but eight of the dissuaded subjects were.

The best conclusion that can be reached concerning this dissuasion effect is that it is real. The effect holds true both in comparisons with non-experimental control subjects and with the subjects' own initial attitude. It cannot, moreover, be localized to only a portion of the experimental group. Ultimately these results leave us with an exclamation point and a question mark. First, the hypothesis that persuasion in the negative initial attitude conditions could be explained in terms of traditional dissonance hypothesis was supported. But the second hypothesis, that persuasion in positive initial attitude conditions could be explained by standard persuasion variables (an incentive hypothesis), while supported, leaves us with a question. What could possibly
explain dissuasion in an encoding situation? An inter­
teresting answer forwards itself, but it would be better to hold the problems of the question mark until the implications of the exclamation point have been explored more fully.

The overall success of the basic experimental manipu­
ation allows exploration of the experimental model. This model, as presented in chapter 5 and summarized in Figure 8 is a four level causal structure flowing from independent (exogenous) to dependent (endogenous) variables. The experimental model involves two causal and two non-causal (control) exogenous variables. The first of these variables, which was labeled post-test order effects was significantly correlated with only one variable, duration, a fellow non-causal variable. It can be said without question that this is a spurious effect as the message (and its duration) preceded the randomly assigned post-test in time.

Duration, the second non-causal exogenous variable was significantly related to both initial and final attitude. Because of this relationship, message duration was re-assigned to the second level of the causal structure as an endogenous variable. The effect, although not hypothesized, is not surprising. The duration of a per-
suasive message should be expected to influence the effectiveness of that message. But the nature of the effect is not what one would expect. Discussion of this effect will be reserved briefly.

Implicit to the manipulation of reward and initial attitude is the manipulation of a third variable, their interaction. In path analysis, treatment of a variable interaction as an element of the causal flow violates the techniques assumption that the relationships between the variables are additive. As interactions are essentially multiplicative, the effect of this assumption is to prohibit attempts to predict interactions additively from the interacting variables. Such an attempt would make little sense, as interactions are generally relatively orthogonal to the interactees. This orthogonality should preclude additive prediction in any case. The interaction remains a manipulated variable, however, and as such may have importance as a predictor of subsequent variables. This is especially true in the encoding situation.

Where the interaction is placed at the same inclusion level as the interacting variables, however, there is no implicit violation of the path assumptions. First, there is no attempt to additively predict the interaction from
the interacting variables. Second, there is no problem of shared residuals, as the variables are reasonably orthogonal to one another. Third, there is no violation of the assumption that changes in system variables always occur as a linear function of changes in other variables. Rather, this assumption is strengthened with the corollary that variables at the same inclusion level are linear functions only of those variables at preceding inclusion levels, an assumption already enunciated in the path assumption of a systems having no reciprocal causations or feedback loops. Finally, it should be reasonably "undeniable" that there is no causal relationship between a variable and its interaction. Rather, they are separate variables which co-vary only insofar as a change in one implies a change in the other. The changes, although mutually occurring, do not imply correlation between the variables.

Two interaction effects will be examined in the experimental model. As both interactions, the interaction of reward and initial attitude, and the interaction of message counter and consonant argument, are both examined at the same inclusion level as and are reasonably orthogonal to, their components, there is no weakening of the path assumptions. The inclusion of these two interactions,
as well as the aforementioned shift of duration from exogenous to endogenous status, should be a good hint that the experimental model did not survive intact. This is indeed the case, and before presenting the model as supported in the data, it would be well to examine the reasons for the changes that were made.

The interaction of reward and initial attitude was added because the principle effect of these two variables on persuasion is in their joint effect. The combination of dissonance and incentive predictions gives maximum persuasion to the cross-products, not the main effects. This is not to say that reward and attitude do not have individual effects. As was seen in the analysis of variance and will be seen below, they do. Rather, the prediction is such that the interaction cannot be ignored.

The next set of changes resulted from the reciprocal effects of counter and consonant argument. The correlations between the two variables were such that it was impossible to either reject causation between the variables or establish a non-reciprocal causal flow between the variables. The only solution to this problem was to create a composite message argument variable. This difference variable (message counter argument was sub-
tracted from message consonant argument) was highly successful. It correlated highly with both component variables as well as accounting for nearly all of the variance accounted for by the two variables in multiple regressions on persuasion and final attitude. The interaction of the two variables accounted for additional variance and, as we shall see later, provides a key explanation of the question mark effect noted above.

The only other change in the model was, as has been explained, message durations shift from exogenous to endogenous status. This leaves three variables at the first (exogenous) inclusion level. The relationships between these variables, as given in the system, need not be explained causally. There are, however, relationships among these variables. Reward and the interaction are correlated at the .02 level, which is hardly cause for concern, and the interaction is non-significantly correlated .21 with initial attitude. Reward and initial attitude, however, are correlated -.31. This correlation is not only significant, ($f=4$, $df=1/37$, $p<.05$), but significant in the wrong direction. Apparently there was a tendency for those in the high reward condition to have somewhat lower initial attitudes than those in the low reward condition. This correspondence could have had an
effect in obscuring significance in the variables. Low reward subjects were expected to move to a higher final attitude, especially where their initial attitudes were low. Higher initial attitudes in the low reward condition could have obscured this persuasion, an effect that could be expected to evidence itself in suppressing reward and initial attitude. This suppression, although evident in the analysis, never proved to be a difficult problem.

Manipulation of the exogenous variable system should effect changes in the rest of the model. The most immediate effects in this system should be on the actual act of encoding, the second level of the experimental model. The second level, as originally outlined was composed of counter and consonant argument. These components, for reasons outlined above, were converted into interaction and difference variables. In addition, the variable message duration was moved to a position between the first and second inclusion levels. In Table 9, a summary of

PLACE TABLE 9 ABOUT HERE

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the entire path analysis, message duration is the first dependent variable analyzed. Three variables, reward,
initial attitude, and reward x initial attitude, precede it in the system. Of these, only one, initial attitude, is a significant predictor ($f=5.17$, $df=1/35$, $p=.05$) of message duration. The direct effect of initial attitude is represented by its standardized partial regression coefficient, $1.37$, a figure which compares well with its zero order correlation of .42, indicating that subjects with positive initial attitudes spoke longer.

As message duration is the first endogenous variable in the system, there are no indirect effects at its level. The multiple correlation of the three exogenous variables with duration is .44.

The next level involves the interaction and difference components of counter and consonant argument. The two variables are correlated -.01, underscoring the lack of causal relationship. The interaction of message counter and consonant argument is significantly predicted by only one variable, message duration, ($f=4$, 15, $df=1/34$, $p<.05$) but the indirect effect of initial attitude through duration allows the otherwise weak effect of initial attitude to become a trending direct effect of .30($f=2.69$, $df=1/34$, $p=.11$). The multiple correlation of the preceding system variables on message counter x consonant argument is only .37, an indication that these variables
account for only a small portion of the variance in the interaction.

The difference measure of counter and consonant argument, called argument in Table 9, is predicted by all of the three exogenous measures, but is not related to the fourth preceding measure, message duration. The strongest predictor of argument is initial attitude, \( f=5.65, df=1/35, p<.025 \) a variable whose total effect of .35 is composed largely of its direct effect. Reward \( \times \) initial attitude is the second significant predictor \( f=4.10, df=1/35, p<.05 \). The effect of reward alone results in a trend \( f=3.2, df=1/35, p=.08 \) which may be more important than its significance level would indicate.

Persuasion is the major interchange of the model. It is here that the threads of direct and indirect effects take action in modifying attitude. Up to this interchange, indirect effects, the effects variable A has on variable C by way of its effect on variable B, have been minor. Here they take on a great deal of importance. Because of this, the results are rather complex. The reader is directed to Table 9, where these results are clearly summarized. Reward, with a direct effect of -.01, has no direct influence on persuasion in the model.
The direct effects of initial attitude and initial attitude x reward, -.60 and .31, respectively, are significant. These results are highly consistent with those obtained in the analysis of variance depicted in Figure 8.

The direct effects of message counter and consonant argument also proved meaningful indicators of persuasion. The difference measure (consonant-counter argument) was the more important of the two, its .55 partial beta an indicator of its strength in predicting the persuasion. The interaction (consonant x counter argument) was less important, with a -.24 partial beta, but remains significant. Interpretation of these results in terms of the hypotheses is difficult, and until we can look at these composite measures in terms of their components, it should be remembered that these are composite scores. It can be noted, however, that these measures are effective predictors of persuasion.

Although no hypothesis had been forwarded concerning the effect message duration would have on persuasion, the author was surprised to find duration had a direct effect of -.32. It seemed reasonable to expect that increased message duration would increase both commitment to the message and message consonant argument, thus in-
creasing persuasion. It can be concluded from this result, that if duration increased either commitment or consonant argument, the effect was more than balanced by some other effect. There appear to be two explanations for the negative correlation between duration and persuasion. The first, that message counter argument increases with duration, may have some influence, but cannot be accepted due to the low correlations between duration and the measures of argument. The second, that message duration is positively related to initial attitude, which in turn is negatively related to persuasion, makes more sense in light of the results.

It has already been noted that initial attitude effects message duration directly. The raw correlation is .42. Its direct effect in the presence of reward is .37. Initial attitude is negatively related to persuasion because only those with anti-message initial attitudes can be expected to experience and attempt to reduce dissonance. As such they are more persuasible than those initially pro-message. Message duration reflects this effect isolating those who initially agree with the message and are likely both to speak longer and to be less persuaded from the rest of the sample. An important aspect of this direct effect of message duration on per-
suasion is the indirect effect of initial attitude on persuasion.

Table 9 shows an indirect effect of -.12 for initial attitude on persuasion via message duration. Although the effect appears small and is counter-balanced by the indirect effect of initial attitude via the difference measure of message counter and consonant argument, it should not be regarded lightly. Although the direct effect of duration is significant, its total effect takes into account two positive indirect effects of .09 and .06. Although neither effect is large, they reduce the total effect of message duration to a non-significant -.19. The most meaningful indirect effects in this portion of the model are those of reward and reward x initial attitude, -.14 and .15, respectively. These effects act first in enhancing the total effect of the interaction and second, in demonstrating that reward has some effect all its own. Interpretation of these indirect effects is not possible without examining the components of the composite measure of counter and consonant argument and will, as such, be reserved until later.

It can be seen in these results, that self-persuasion in the encoding situation is a highly complex process. No less than five significant main effects have traced
their way into the process. It must be noted, however, that these five threads and their intertwinnings do a remarkably credible job of explaining the process of persuasion. The multiple correlation achieved in the regression of these variables on persuasion is .84, an accounting of 70% of the variance in the dependent variable. This correlation is extremely significant ($F=12.78$, $df=6/32$, $P=5.3 \times 10^{-17}$). Thus while it must be said that the process is a complex one, it should not be inferred that it is too complex to be understood.

The last stage of the model, Final Attitude, is something of an anti-climax after the heavily trafficked intersection that precedes it. There are only two direct effects, initial attitude and persuasion. The multiple correlation is 1.00, a perfectly understandable result when one recalls that persuasion is a linear combination (the change score) of initial and final attitude. The important results here are the indirect effects, all of which occur via persuasion. None but one bear remarking on further than has already been done except to say that a direct effect on persuasion is an indirect effect on attitude. This, of course, is not a result, but a matter of definition. Initial Attitude has both direct and indirect effects on Final Attitude. Interestingly, these
effects balance each other, leaving initial attitude with almost no total effect on final attitude.

Having arrived at final attitude, the model is complete. The balance of the model is excellent, as can be seen in the joint or spurious effects of Table 9. No joint or spurious effect exceeds .02, which speaks well for the model. There are questions which remain to be answered, however, particularly as concerns effects on the individual components of the difference measure of counter and consonant argument. Tables 10 and 11 depict the multiple regression of initial attitude, reward and their interaction on both message counter and consonant argument. The results are expressed in the form of an analysis of variance table with the change variance ($r^2$ change) of each variable substituted for the sum of squares.

The effects, as can be seen in Tables 10 and 11, are fairly straightforward. Message consonant argument is significantly predicted by only one variable, initial attitude, while message counter argument was significantly predicted by both reward and the interaction but not by
initial attitude. The correlation of counter and consonant argument ($r=-.51$) tends to blur these results somewhat, when indirect effects are considered, but the direct effects of reward, initial attitude and their interaction on message counter and consonant argument is unmistakable. These results indicate that the level of message consonant argument is determined largely by the subjects' initial attitude. The relationship, with a correlation of .52, is positive, indicating that, as might be expected, subjects with more favorable initial attitudes used more message consonant arguments.

The influence of reward on message counter argument was equally straightforward, with its simple association ($r=.32$) positive, indicating that higher rewards were accompanied by higher levels of counter arguments. The interaction of reward and initial attitude is more difficult to interpret, however. Its negative correlation with message counter argument ($r=-.38$) indicates that the highest levels of counter argument occurred in the favorable initial attitude, low reward and the unfavorable initial attitude, high reward conditions. Together, the effects of reward and reward x initial attitude leave the unfavorable initial attitude, high reward condition with the highest level, the two favorable
initial attitude conditions with smaller and approximately equal levels, and the most dissonant condition, the unfavorable initial attitude, low reward condition, with the smallest level of message counter argument.

In chapter 5 it was hypothesized that cognitive dissonance could evidence itself in either or both of two ways. It was first hypothesized that the act of overcoming cognitive dissonance would result in increased message consonant argument. This hypothesis follows from the existing literature on cognitive dissonance. The second hypothesis, built on the theoretical construct presented in chapters 2, 3, and 4, predicted that the effort involved in overcoming the dissonance would result in decreased message counter argument. The high positive correlation between initial attitude and message consonant argument, although a perfectly reasonable result, does not support the first of these two hypotheses. This result is not nearly as important to the hypothesis as is the non-significance of reward and reward x initial attitude, at least one of which should have differentiated between levels of message consonant argument. These results fail to support the traditional dissonance viewpoint, that persuasion under dissonant conditions is the direct result of justifying
actions with attitudes, of finding good reasons for one’s actions. The effects of reward and reward x initial attitude on message counter argument provide excellent support for the second hypothesis, however. The least counter argument occurs in the $0.50 dissonant condition, the most dissonant condition. Of the three variables, only initial attitude did not significantly predict counter argument. Finally, both reward and the interaction have the correct relationship to message counter argument.

Implicit to these results, that persuasion due to dissonance was not due to justifying actions with attitudes, but rather the result of distraction from considering existing attitudes, is an explanation for the dissuasion observed in the favorable initial attitude, low reward condition. Table 12 displays the means of the experimental groups on several of the experimental variables. Several patterns emerge from close examination of these means. The first, which can be observed in the message counter and message consonant argument columns, is the isolation of those subjects in the negative
initial attitude, high reward group. All of the significant differences, as determined by t-ratios, in these columns, were with this group. The negative initial attitude encoders had the highest means for counter argument and the lowest means for consonant argument. The second pattern, seen in the counter X consonant argument column, is the isolation of the low reward, negative initial attitude group. The groups mean on the interaction is significantly lower than those of the other groups.

The third pattern involves the clear separation of nearly all the variables in the duration column. There is only one non-significant difference here, that between the highly persuaded low reward, negative initial attitude group and the high reward, positive initial attitude group. The high reward, negative initial attitude condition lies significantly below these groups. The low reward positive initial attitude group lies significantly above them. This pattern is important in and of itself, because it is firmly contrary to the expectations of the incentive perspective. Higher rewards, in incentive theory, yield greater effort. Here, however, the opposite holds true, with low reward yielding increased message duration in both positive and negative
initial attitude groups. With respect to the dissuasion in the low reward, positive initial attitude group, this same pattern gives an important clue.

The high reward, negative initial attitude group has the shortest mean message duration, an indication, that the group didn't put as much into the message as the other groups. Incentive and dissonance theorists might argue for a lifetime over the meaningfulness of this result, but it makes sense in terms of other measures used in the experiment. Simply, the group has the highest level of counter argument and the lowest level of consonant argument. It might be said that the group did an excellent job of 'biased scanning,' favoring counter arguments over consonant. Having found few consonant arguments, they recorded a short message.

The low reward, positive initial attitude condition has the longest mean message duration. Here the difference does not appear to be due to doing a good job of biased scanning, but rather the opposite. Although the group has the highest mean for consonant argument, it also has the second highest mean for counter argument. This movement is reflected in the counter X consonant argument column of Table 12. The group's score, the
highest in the column, is indicative of a generally low level of bias in considering arguments.

By contrast, the low reward, negative initial attitude group did an excellent job of biased scanning. The group has the lowest level of message counter argument and the second highest level of message consonant argument. Ultimately, however, the group's strongest evidence of good biased scanning is in the interaction of counter and consonant argument. Its score here, easily the lowest, argues that more than one subject had zero in the counter argument column.

The explanation, as outlined above, lies in the incentive concept of biased scanning, a concept which was shown in chapter three to be strongly related to that of cognitive distraction. For the purpose of this experiment, the high reward conditions of both the positive and negative initial attitude groups serve as reference points to demonstrate how biased scanning operates. The high reward, negative initial attitude group functions pretty much the way a group might be expected to where dissonance could be reduced through channels other than attitude change. They perceive arguments supporting their position. They fail to perceive non-supportive (message consonant) arguments. In the low reward, negative attitude group,
the reward left no alternative dissonance reduction channel open. They therefore channeled their available energy into finding good reasons for their actions, diverting energy from the act of counter arguing. The imbalance created by finding the good reasons (consonant arguments) while not message counter arguing yielded persuasion and a reduction of dissonance. This is clearly biased scanning, but it is composed of as much of a reduction in message counter argument as it is of an increase in message consonant argument.

Using the high reward, positive initial attitude group as a base point, biased scanning in the absence of cognitive dissonance can be observed. It should be expected that subjects who initially agree with a message will be biased toward message consonant arguments. This is in fact the case in both the high and low reward conditions of the positive initial attitude group. The low reward condition, however, has higher means for both counter and consonant argument. It can be argued that the differences between the means for counter and consonant argument are about the same for both groups and that the means do not significantly differ from each other, but the increase in counter argument production is a signal of poor biased scanning in the low reward, positive
initial attitude group.

This signal is strengthened by the interaction of counter and consonant argument. Here, the strength of the difference between the means of the low reward, positive initial attitude group and the other groups appears to vary directly with the quality of the biased scanning in the comparison group. Thus the difference between low reward, positive initial attitude and low reward, negative initial attitude, the group whose scanning bias was clearly the most effective, is significant ($t=3.04$, $df=18$, $p=.007$). With the next most effective group, high reward, positive initial attitude, the difference is a trend ($t=1.5$, $df=20$, $p=.149$). With high reward, negative initial attitude, the difference is not significant ($t=1.19$, $df=20$, $p=.248$).

Together these results make an interesting picture. Where there is dissonance, low reward increases biased scanning and effort. Where there is no dissonance, low reward decreases biased scanning and increases effort. The latter result may seem somewhat incongruous. How, one might ask, can effort increase as bias decreases. A look at the correlations between the various sets of means clarifies this. The interaction of counter and consonant argument, an interaction that might well go by
the name biased scanning, for that is what it appears to represent, correlates \(-.9969\) with the means for persuasion. Despite the small df, this relationship is highly significant \((F=477.93, df=1/3, p=.0002)\), indicating that the two measures are much more highly related than was indicated in the model. Duration and consonant argument are also highly correlated \((.9544)\). This relationship is also significant \((F=30.65, df=1/3, p=.01)\). Finally, counter argument is correlated \(-.85\) with final attitude, a near significant relationship \((F=7.98, df=1/3, p=.06)\).

Together, these correlations paint an interesting picture of a three tiered model of cause and effect in persuasion. Manipulation of reward and attitude affect counter argument, consonant argument, and through them biased scanning. These affect, respectively, final attitude, duration, and persuasion. Although this model is simplistic, it underlines the separation between effort and biased scanning. One need not expend great effort to perceive selectively. Similarly, poor biased scanning does not preclude high degrees of effort.

The picture, however, based as it is on \(t\)-ratios and correlated means, should be viewed with great caution. The statistics with which the picture is painted are weak ones, and their use is only justified by the post hoc
nature of this portion of the results. The important thing is the logic and consistency of the explanation they support. Biased scanning makes sense, not only as the mechanism which in imbalance can yield persuasion, but as a source of dissuasion when exercised poorly. The picture is, moreover, consistent with the results surrounding the model, notably the positive relationships that initial attitude has with consonant argument and duration, and that reward x initial attitude has with counter argument.
Chapter VIII - Discussion

Before exploring the implications of the results outlined above, it would be well to consider any weaknesses apparent in the experiment. The only real problem area involves the measuring instruments used in the experiment. As has already been pointed out, the pre-test attitude measure accounted for only 37% of the sum of squares in the post-test attitude measure. The problem here is not serious enough to threaten the experiment, but it urges caution in interpreting results. This caution, in the form of multiple tests of significance and consideration of corollary evidence, has been exercised throughout the experiment and the discussion of results. The pre-test/post-test discrepancy is not the only source of error in the experiment, however. The measures of message counter and consonant argument are, at best, only reflections of a subject's thoughts during the manipulation. Because of variations in delivery, message duration cannot be considered an entirely accurate measure either. These potential sources measurement error can be expected to multiply in the composite measures of persuasion and message counter and consonant argument, resulting in no less than eight sources of measurement error.
The focus of this error is persuasion, the difference measure constructed by subtracting the already standardized measures of initial attitude from final attitude. The measure is subject to three sources of error in the reliability of the pre-test value scales and the post-test questionnaire, as well as the less than ideal correlation between the two measures. Among the measures regressed on persuasion are initial attitude, duration, and the composite measures of message consonant and counter argument, all of which are potential sources of error. The focus of this potential error is persuasion and it is there that we see just how potential this error is.

Between reward, initial attitude, reward \times initial attitude, duration, consonant minus counter argument and consonant \times counter argument, 70\% of the variance in persuasion can be accounted for. If we make the unlikely assumption that as much as 5\% of this variance is spurious, that leaves 35\% of the variance unaccounted for. The conclusion that all of this variance is due to error would compliment to the model but ignores factors which are already known to affect persuasibility, including personality, message salience, and problems of history, including selective pre-experimental inoculation due to
factors like membership in R.O.T.C. or past service in the armed forces. Thus, while measurement error had a tremendous potential for confounding the experiment, it can only be concluded that this potential was never realized.

This unrealized potential underscores the success of the manipulation. Nearly every hypothesis offered was supported. Where theoretical constructs conflicted, the evidence left little doubt as to which was to be preferred, at least within the constraints of the design. Unexpected results were provided with ample evidence of both their validity and their sources. Finally, the results were defined with enough clarity that it was possible to demonstrate at least part of the spurious significance which is almost unavoidable when working with numbers of variables.

The strength of the experiment was its control. Although only two variables were directly manipulated, it had been hypothesized that these manipulations would indirectly affect other variables, including counter argument, consonant argument, and message duration. These variables were also measured, allowing assessment of the overall effect the five variables had on attitude change. The conditions of the experiment were designed
to provide maximum separation between tasks. Thus pre-testing was done in one room, the manipulation performed in a second, and the post-testing done out of sight in a hallway. Subjects were drawn from a community which could be expected to be representative of the entire university rather than communications majors. Finally, the conditions of the experiment were, for the most part, rather relaxed.

The small separation between rewards is a potential weakness of the manipulation. Certainly, as both rewards are low when compared to those offered in many experiments, a certain degree of caution is warranted in comparing these results with those of other experiments. But the success of the manipulation despite the small difference between a low reward of $.50 and a high reward of $1.50 speaks for the strength of the theoretical construct on which the experiment was based, especially when one considers that the differences attributable to reward were often as great or greater than those attributable to initial attitude.

The validity of the test measures was established in the control sample. Although the 150 subjects comprise a relatively small sample for use in a 36 variable step-wise multiple regression procedure, about four subjects
for each input variable, the final equation used only 12 variables, leaving a respectable ratio of about 12 subjects per variable. Of particular note was the performance of the Rokeach Value Scales. The multiple correlation with the final attitude measure, .61, is not, perhaps, as high as one might desire, but it is substantial, especially when the indirect nature of the measurement is considered.

Comparability of the results with previous experiments was established using analysis of variance statistics. In many ways the analysis duplicated the multiple regression statistics used later in the results. Analysis of variance is really a generalized version of the multiple regression statistic. But besides providing a reference point for those unfamiliar with multiple regression and path analysis, the statistics served as a check against measurement error and regression effects in the data.

The heart of the manipulation was the experimental model. It was here that all the diverse measurements employed in controlling the experiment were brought together into a cohesive framework. The model itself was based on the research set forward in chapters 2 and 3, and formalized in the fourth and fifth chapter. The
larger model, outlined in chapter 4, described a broad portion of the persuasive process. Although it was based on research in distraction and counter-attitudinal advocacy, it may well apply to a much larger portion of the persuasive process than that represented by its forebears. The experimental model was much more limited, testing critical portions of the larger model. Both models, of course, are purely theoretical, but they are based on and make sense in terms of existing research.

The post-experimental version of the smaller model is depicted in Figure 9. The figure is a graphical presentation of Table 9 and is explained in detail in the results. The flow of the variables from independent to dependent is clearly visible. The connections represent the meaningful direct effects discerned in the study. Although the normal cutoff point for direct effects in a path analysis is $r > .05$, this criterion of meaningfulness originates in the large scale observational studies which are characteristic of research in sociology rather than the more tightly controlled small to medium sample studies which are characteristic of communication.
research. For the purposes of this experiment, $r > .20$ is a more practical cutoff for judging the meaningfulness of direct effects. Thus in Figure 9 arrows connect variables only if the direct effect exceeds .20. Indirect effects can be calculated from the diagram by multiplying the direct effect of the affective variable on the mediating variable by the direct effect of the mediating variable on the affected variable.

The model seen in Figure 9 is not the same model that was presented in chapter 5. One of the results of the experiment is an increase in our knowledge of the persuasive process. This knowledge has allowed and to a certain degree, demanded changes in the theoretical framework. It should not be concluded, however, that these changes were statistically motivated. The path diagram is not a statistical construct, but a theoretical construct governed by such rules as are necessary to allow controlled statistical testing and, where the model is adequate, prediction.

A test of the model in its original form (see Figure 8, chapter five) showed certain flaws in its construction. Message counter and consonant argument were obviously far too highly correlated to exist as separate variables in a non-causal sequence. The interaction of counter and
consonant argument proved too important an indicator of dissonance to be left out of the model. As an indicator of biased scanning, the interaction of counter and consonant argument proved too important to ignore. Message duration proved to be more than a simple control variable. Adjustments were made in the model to account for these factors and the revised model in Figure 9 is the result.

The revised model differs from its original in two ways. First, it is more complete, accounting for the effects of selected interactions. This accounting would have been made on a non-selective basis in an analysis of variance. Second, it is more parsimonious, with only those variables which could truly be called exogenous enjoying that designation and the joint and spurious effects of the variables reduced to zero.

Neither model could be said to be more in accordance with the theoretical construct presented in chapters 2, 3, and 4, although the revised model represents the concepts underlying the theoretical construct more fully.

This last point is important for, although there undoubtedly is a unique best model of the process of persuasion, the experimental model is only of limited
scope and accuracy. Indeed, although most of the causal flow depicted in Figure 9 will probably stand up to the test of time, there are questions that need to be answered before it can be wholly accepted. Of particular concern is the location of duration in the causal flow. The path analysis seemed to support the flow indicated in the figure, but the simple correlation of group means for consonant argument and duration argues that duration may follow consonant argument in the causal flow. Certainly, it can be safely assumed that increased duration does not cause increased message consonant argument.

Although the model is consistent with theory in persuasion it does not fully accept any of the traditional views of the counter-attitudinal process. The central hypothesis of incentive theory, a positive relationship between reward, effort, and persuasion, received no support in the presence of dissonance. In the non-dissonant conditions the direction of the persuasion was right, but was due not to persuasion in the high reward condition, but to dissuasion in the low reward condition. The biased scanning hypothesis, by comparison, fared quite well, although the workings of the mechanism are described somewhat differently than they were originally.
The hypothesis of cognitive dissonance, that reward was negatively related to persuasion in the presence of dissonance, received considerable support, but the reason for the persuasion, a search for a justification of action and attitude, was not supported. Only initial attitude significantly affected consonant argument. Dissonance affected counter argument, creating support for cognitive distraction and biased scanning as the mechanisms underlying persuasion due to unrelieved cognitive dissonance. It can be said, then, that the model combines the best components of several theoretical viewpoints into a larger and more comprehensive theory.

In reality, the only experimental result that was not totally in harmony with the larger construct outlined in the early chapters was the dissuasion in the low reward, positive initial attitude group. The construct did not allow for dissuasion in an attitudinal encoding situation. It appears, however, that poorly rewarding an encoder with a positive initial attitude can result in poor biased scanning. It should be imagined that this can only occur where personal commitment is not high. Using reward to dissuade a missionary is unlikely to have the desired effect. The missionary likely sees other rewards in attitudinal encoding. But where there is neither
a missionary type commitment nor a dissonant aversion to a message, low reward may well have a deleterious effect on attitude.

The evidence supporting the poor biased scanning explanation is not the best offered by this experiment. It is however, very consistent and highly significant. Although the dissuasion is, at least in terms of this study, very real, the phenomenon demands further research in which depth of conviction is measured along with the reward and initial attitude variables. Despite the chapter three claims to the contrary, the dissuasion in this experiment is not an isolated incident, even among the experiments reported. Nuttin (1966) notes a similar dissuasion pattern in his experiment. Close examination of Janis and Gilmore (1965) indicates, moreover, that the persuasion reported in their positive sponsor conditions may actually have been dissuasion due to poor biased scanning in their negative sponsor conditions. This evidence serves notice not only of the reality of dissuasion due to poor biased scanning, but of the dangers of tunnel vision in the early stages of research.

The defeat of the hypothesis that any message en-
coding situation will yield persuasion in the direction of argument is not a major defeat for the theoretical construct. In fact, it tightens the theory. In the presence of the hypothesis it was impossible to say whether the cognitive distraction was due to the effort of encoding the message or the dissonance caused by the disparity between action and attitude.

With the hypothesis discarded the distraction can be attributed to the dissonance. It is noteworthy that biased scanning may have two edges, that one can scan poorly and be affected by that act.

Overall, the results give a little more insight into how attitudes fluctuate and can be controlled. It was a little scary to think that an employer would get the most loyalty from the employee he pays least. Now one can be encouraged in the knowledge that after winning loyalty with low salary, an employer will have to pay to keep that loyalty. The results also point up the near perfection of the Judeo-Christian, Moslem message of salvation. To the non-believer, the message holds a low reward, allowing persuasion through unrelieved dissonance. Upon conversion, however, the message, salvation, becomes a high reward, encouraging maintenance.
This interpretation is supported in the pre-study results forwarded in chapter 6. Respondents, when filling out the Rokeach Value Scales, almost invariably rank salvation either first or last. The correlation between this ranking and church attendance exceeds $r > .90$. Apparently, then, the converted rank religion's message high while the unconverted do the opposite. Thus the message for those who wish to remain agnostic is 'Beware of he who comes bearing gifts of salvation.'
Chapter IX - Conclusions

Coming to the conclusion of an experiment as successful as this has been is a pleasure, because it's fun to write about things that have gone well. In review, however, the author began by examining the research in persuasion due to distraction. There proved to be enough consistency in the data to organize distractions into a variety of categories. The effects of the distractions in the various categories differed, but there was a clear linear flow to the differing categories and their effects. Two comprehensive hypotheses were offered and a hypothetical, but untested, category of distraction was examined in depth.

This category, cognitive distraction, was offered as the mechanism by which cognitive dissonance affected persuasion. A review of the research in counter-attitudinal advocacy provided support for the hypothetical mechanism. The mechanism proved useful, moreover, in organizing the research in a consistent theoretical framework. A series of hypotheses were forwarded and the author proceeded to formalize the hypotheses offered in both the distraction and counter-attitudinal frame-
work into a single comprehensive model of the persuasive process. Although the model is incomplete, it shows promise for integrating other theoretical frameworks, including that of inoculation theory.

A more restrictive experimental model was then offered to test some of the key concepts of the larger theory of persuasion, notably the basic persuasive mechanism and the concept of cognitive distraction. The model was then tested experimentally. The manipulation was carefully executed. A control sample of over 150 subjects established the validity of the measuring instruments and a total of 56 volunteer subjects participated in a two by two plus two experimental design in which reward was manipulated randomly, initial attitude was manipulated blindly, and subjects who refused to encode the message around which the experiment revolved were still administered the pre and post test as a control on selection. The lack of evidence of any selection bias is already the subject of a second study.

The experiment was highly successful, with both the basic model of persuasion and the concept of cognitive distraction receiving strong support. The resultant model of the persuasive process shows that where there
is dissonance, persuasion results from cognitive distraction, a form of biased scanning. Where, moreover, there is no dissonance, it was shown that poor biased scanning may result in dissuasion. As such, the results explicitly supported none of the traditional theories of counter-attitudinal advocacy and role playing nearby as well as they supported the experimental model.

It was possible, on the basis of these results, to refine the experimental model and ultimately, the larger model of the persuasive process. The revised larger model, depicted in Figure 10, differs from that presented in chapter 4 only in the elimination of two lines, each representing a hypothesized causal link between two variables. Initial attitude is no longer expected to affect counter argument. Dissonance is no longer expected to affect consonant argument. It is possible, of course, that as the research expands, both lines may be restored.

* * * * * * * * * * *

PLACE FIGURE 10 ABOUT HERE

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The key to this experiment is in that last statement,
because by supporting two key elements of the larger model, the entire model is bolstered. Much of the model remains to be tested sufficiently for firm conclusions to be drawn, but the success of this manipulation should encourage the testing that will be needed if the entire model is to be validated. It should also encourage attempts to incorporate other theories of the persuasive process into the model.

Validation and expansion of this or some alternative model of the persuasive process is important to research in persuasion because it provides the basis for a program of systematic research. I know of no systematic program of research in the area of persuasion. To my knowledge, the last true series in persuasive research was McGuire's research in inoculation theory, research which was concluded in the early 1960's. Most of the research in the area over the last few years has been unfocused variations on past experiments, what might be called "what if" experiments. There's nothing wrong with "what if" experiments. They increase our knowledge of persuasion. But there has been little done in the area of tying all the "what if" experiments together in order to run "research indicates" experiments. Some have
gone so far as to think that the various research disciplines can't be tied together. It is hoped that this experiment may help to dispel that notion. More important, however, it is hoped that it may prove the basis for a systematic program of research aimed at eventually establishing a validated comprehensive model of persuasion.
FIGURE 1

Control

LOW

HIGH

REWARD

HIGH PERSUASION

LOW

*FESTINGER & CARLSMITH (1959)

**JANIS & GILMORE (1965)
FIGURE 2  The Basic Model

MESSAGE CONSONANT ARGUMENT

MESSAGE COUNTER ARGUMENT

PERSUASION

FIGURE 3  The Definition of Persuasion

PERSUASION

FINAL ATTITUDE

INITIAL ATTITUDE

FIGURE 4  The Standard Persuasion Variables

MESSAGE COMPLEXITY

LEARNING

MESSAGE CONSONANT ARGUMENT

SOURCE CREDIBILITY

MESSAGE COUNTER ARGUMENT
FIGURE 5  The Distraction Variables

FIGURE 6  The Dissonance Variables
FIGURE 7  The Model of the Persuasive Process

- Personality
- Reward
- Choice
- Anonymity
- Initial Attitude
- Message Complexity
- Evaluative Focus
- Strength of Distraction
- Relevance of Distraction
- Source Credibility
- Message Consonant Argument
- Message Counter Argument
- Persuasion
- Final Attitude
FIGURE 8  The Experimental Model

IN\textsc{itial Attitude}

MESSAGE CONSONANT ARGUMENT

MESSAGE COUNTER ARGUMENT

PERSUASION

FINAL ATTITUDE

REWARD

DURATION

ORDER EFFECTS
Path Co-efficients and their corresponding arrows less than .20 have been omitted.
FIGURE 10
The Revised Model of the Persuasive Process
<table>
<thead>
<tr>
<th>Question</th>
<th>Sense</th>
<th>Factor One</th>
<th>Factor Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Educational Quality should be improved</td>
<td>0.19</td>
<td>0.59</td>
</tr>
<tr>
<td>9</td>
<td>Shift spending from military to social</td>
<td>0.80</td>
<td>0.13</td>
</tr>
<tr>
<td>11</td>
<td>Weapons research should be expanded</td>
<td>-0.73</td>
<td>0.21</td>
</tr>
<tr>
<td>13</td>
<td>Welfare should be replaced by jobs</td>
<td>-0.15</td>
<td>0.85</td>
</tr>
<tr>
<td>15</td>
<td>National Health Insurance is needed</td>
<td>0.61</td>
<td>0.12</td>
</tr>
</tbody>
</table>
Table 2- Regression of Post-Test Questions on Factor One

<table>
<thead>
<tr>
<th>Question</th>
<th>Multiple Correlation</th>
<th>Standardized Partial Betas</th>
<th>Unstandardized Partial Betas</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>.99</td>
<td>.52</td>
<td>.261</td>
</tr>
<tr>
<td>11</td>
<td>.46</td>
<td>-.256</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>.36</td>
<td>.192</td>
<td></td>
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</tbody>
</table>

Table 3- Regression of Rokeach Values on Factor One

<table>
<thead>
<tr>
<th>Value</th>
<th>Multiple Correlation</th>
<th>Standardized Partial Betas</th>
<th>Unstandardized Partial Betas</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Security</td>
<td>.61</td>
<td>.35</td>
<td>.07</td>
</tr>
<tr>
<td>Equality</td>
<td>-.33</td>
<td>-.06</td>
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</tr>
<tr>
<td>Freedom</td>
<td>.17</td>
<td>.04</td>
<td></td>
</tr>
<tr>
<td>True Friendship</td>
<td>.18</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>Honest</td>
<td>.16</td>
<td>.04</td>
<td></td>
</tr>
<tr>
<td>Independent</td>
<td>.11</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>Pleasure</td>
<td>-.19</td>
<td>-.04</td>
<td></td>
</tr>
<tr>
<td>A World of Beauty</td>
<td>-.09</td>
<td>-.02</td>
<td></td>
</tr>
<tr>
<td>Obedient</td>
<td>-.11</td>
<td>-.03</td>
<td></td>
</tr>
<tr>
<td>A World of Peace</td>
<td>-.11</td>
<td>-.02</td>
<td></td>
</tr>
<tr>
<td>Cheerful</td>
<td>-.10</td>
<td>-.02</td>
<td></td>
</tr>
<tr>
<td>Clean</td>
<td>.09</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>constant</td>
<td></td>
<td></td>
<td>-.03</td>
</tr>
<tr>
<td>Values</td>
<td>V.12</td>
<td>V.6</td>
<td>V.8</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------</td>
<td>-----</td>
<td>------</td>
</tr>
<tr>
<td>National Security</td>
<td>1.00</td>
<td>.11</td>
<td>.25</td>
</tr>
<tr>
<td>(V.12)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality</td>
<td>1.00</td>
<td>.17</td>
<td>.01</td>
</tr>
<tr>
<td>(V.6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freedom</td>
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<td>-.13</td>
<td>.05</td>
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<tr>
<td>(V.8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>True Friendship</td>
<td>1.00</td>
<td>-.01</td>
<td>-.10</td>
</tr>
<tr>
<td>(V.17)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Honest</td>
<td>1.00</td>
<td>-.20</td>
<td>-.00</td>
</tr>
<tr>
<td>(V.27)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Independant</td>
<td>1.00</td>
<td>-.01</td>
<td>-.03</td>
</tr>
<tr>
<td>(V.29)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pleasure</td>
<td>1.00</td>
<td>-.17</td>
<td>-.09</td>
</tr>
<tr>
<td>(V.13)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A World of Beauty</td>
<td>1.00</td>
<td>.00</td>
<td>.13</td>
</tr>
<tr>
<td>(V.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obedient</td>
<td>1.00</td>
<td>-.05</td>
<td>-.18</td>
</tr>
<tr>
<td>(V.33)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A World of Peace</td>
<td>1.00</td>
<td>.09</td>
<td>.03</td>
</tr>
<tr>
<td>(V.4)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cheerful</td>
<td>1.00</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td>(V.22)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean</td>
<td>1.00</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td>(V.23)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FACTOR ONE</td>
<td>.31</td>
<td>-.28</td>
<td>.22</td>
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</table>
Table 5- Analysis of Variance for Final Attitude

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>S.S.</th>
<th>df</th>
<th>M.S.</th>
<th>F Ratio</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Attitude</td>
<td>.726</td>
<td>1</td>
<td>.726</td>
<td>1.091</td>
<td>.304</td>
</tr>
<tr>
<td>Reward</td>
<td>.359</td>
<td>1</td>
<td>.359</td>
<td>.540</td>
<td>.468</td>
</tr>
<tr>
<td>Reward X Initial Attitude</td>
<td>13.040</td>
<td>1</td>
<td>13.040</td>
<td>19.605</td>
<td>.00009</td>
</tr>
<tr>
<td>Residual</td>
<td>23.280</td>
<td>35</td>
<td>.665</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>37.575</td>
<td>38</td>
<td>.989</td>
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<td></td>
</tr>
</tbody>
</table>

Table 6- Group Means for Final Attitude

<table>
<thead>
<tr>
<th>Cells</th>
<th>$ .50</th>
<th>Control</th>
<th>$1.50</th>
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</thead>
<tbody>
<tr>
<td>Dissonant</td>
<td>.85</td>
<td>-.46</td>
<td>-.55</td>
</tr>
<tr>
<td>Consonant</td>
<td>-.14</td>
<td>.46</td>
<td>.65</td>
</tr>
</tbody>
</table>

Table 7- Group Means for Persuasion

<table>
<thead>
<tr>
<th>Cells</th>
<th>$ .50</th>
<th>Control</th>
<th>$1.50</th>
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</thead>
<tbody>
<tr>
<td>Dissonant</td>
<td>1.19</td>
<td>.03</td>
<td>.25</td>
</tr>
<tr>
<td>Consonant</td>
<td>-.71</td>
<td>-.03</td>
<td>.27</td>
</tr>
</tbody>
</table>

Table 8- Analysis of Variance for Persuasion

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>S.S.</th>
<th>df</th>
<th>M.S.</th>
<th>F Ratio</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Attitude</td>
<td>6.89</td>
<td>1</td>
<td>6.89</td>
<td>10.359</td>
<td>.0028</td>
</tr>
<tr>
<td>Reward</td>
<td>.02</td>
<td>1</td>
<td>.02</td>
<td>.030</td>
<td>.86</td>
</tr>
<tr>
<td>Reward X Initial Attitude</td>
<td>10.11</td>
<td>1</td>
<td>10.11</td>
<td>15.200</td>
<td>.0004</td>
</tr>
<tr>
<td>Residual</td>
<td>23.28</td>
<td>35</td>
<td>.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>37.58</td>
<td>38</td>
<td>.99</td>
<td></td>
<td></td>
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</tbody>
</table>
Table 9- Direct and Indirect Effects of Variables in Path Model

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variable</th>
<th>Total Effect</th>
<th>Direct Effect</th>
<th>Indirect Effects</th>
<th>Joint Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration</td>
<td>Reward</td>
<td>-.25</td>
<td>-.14</td>
<td>-.14</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Initial Attitude</td>
<td>.42</td>
<td>.37</td>
<td>.37</td>
<td>0.00</td>
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<tr>
<td></td>
<td>R x I.A.</td>
<td>.10</td>
<td>.02</td>
<td>.02</td>
<td>0.00</td>
</tr>
<tr>
<td>Counter X Consonant Argument</td>
<td>Reward</td>
<td>-.10</td>
<td>-.05</td>
<td>-.10</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Initial Attitude</td>
<td>.18</td>
<td>.17</td>
<td>.30</td>
<td>-0.13</td>
</tr>
<tr>
<td></td>
<td>R x I.A.</td>
<td>.01</td>
<td>-.02</td>
<td>-.01</td>
<td>-0.01</td>
</tr>
<tr>
<td>Counter + Consonant Argument</td>
<td>Reward</td>
<td>-.37</td>
<td>-.25</td>
<td>-.24</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>Initial Attitude</td>
<td>.48</td>
<td>.35</td>
<td>.31</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>R x I.A.</td>
<td>.36</td>
<td>.28</td>
<td>.28</td>
<td>0.00</td>
</tr>
</tbody>
</table>

continued next page
Table 9 continued

<table>
<thead>
<tr>
<th></th>
<th>C X C</th>
<th>C + C</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Persuasion C X C</td>
<td>-.28</td>
<td>-.24</td>
<td>-.24</td>
<td>.00</td>
</tr>
<tr>
<td>(R^2=.70)</td>
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<tr>
<td>C + C</td>
<td>.27</td>
<td>.55</td>
<td>.55</td>
<td>.00</td>
</tr>
<tr>
<td>Duration</td>
<td>-.32</td>
<td>-.19</td>
<td>-.32</td>
<td>.09</td>
</tr>
<tr>
<td>Reward</td>
<td>.08</td>
<td>-.09</td>
<td>-.01</td>
<td>.04</td>
</tr>
<tr>
<td>Initial Attitude</td>
<td>-.45</td>
<td>-.57</td>
<td>-.60</td>
<td>-.12</td>
</tr>
<tr>
<td>R X I.A.</td>
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<td>.46</td>
<td>.31</td>
<td>-.01</td>
</tr>
<tr>
<td>Final Attitude</td>
<td>.81</td>
<td>1.10</td>
<td>1.10</td>
<td>.00</td>
</tr>
<tr>
<td>(R^2=1.00)</td>
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<td></td>
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<td></td>
</tr>
<tr>
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<td>-.26</td>
<td>.00</td>
<td>-.26</td>
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<tr>
<td>C + C</td>
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<td>.60</td>
<td>.00</td>
<td>.61</td>
</tr>
<tr>
<td>Duration</td>
<td>.08</td>
<td>-.20</td>
<td>.00</td>
<td>-.21</td>
</tr>
<tr>
<td>Reward</td>
<td>-.12</td>
<td>-.10</td>
<td>.00</td>
<td>-.10</td>
</tr>
<tr>
<td>Initial Attitude</td>
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<td>.02</td>
<td>.65</td>
<td>-.65</td>
</tr>
<tr>
<td>R X I.A.</td>
<td>.52</td>
<td>.51</td>
<td>.00</td>
<td>.51</td>
</tr>
</tbody>
</table>


### Table 10- Stepwise Multiple Regression Analysis of Variance on Counter Argument

<table>
<thead>
<tr>
<th>Variable</th>
<th>R²</th>
<th>df</th>
<th>(R²)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reward X Initial Attitude</td>
<td>.14137</td>
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<td>.14137</td>
<td>6.738</td>
<td>.0138</td>
</tr>
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<td>Reward</td>
<td>.09423</td>
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<td>.09423</td>
<td>4.492</td>
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</tr>
<tr>
<td>Initial Attitude</td>
<td>.03014</td>
<td>1</td>
<td>.03014</td>
<td>1.437</td>
<td>.2390</td>
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<tr>
<td>Residual</td>
<td>.73427</td>
<td>35</td>
<td>.02098</td>
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</tr>
<tr>
<td>Total</td>
<td>1.0</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 11- Stepwise Multiple Regression Analysis of Variance on Consonant Argument

<table>
<thead>
<tr>
<th>Variable</th>
<th>R²</th>
<th>df</th>
<th>(R²)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Attitude</td>
<td>.26826</td>
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<td>.26826</td>
<td>13.781</td>
<td>.0007</td>
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<td>.03032</td>
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<td>.03032</td>
<td>1.558</td>
<td>.2205</td>
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<td>.02011</td>
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<td>.68131</td>
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<td>.01946</td>
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</tr>
<tr>
<td>Total</td>
<td>1.0</td>
<td>38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cell</td>
<td>Counter Argument</td>
<td>Consonant Argument</td>
<td>Duration (seconds)</td>
<td>Counter X Consonant</td>
<td>Persuasion</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>---------------------</td>
<td>------------</td>
</tr>
<tr>
<td>$.50 dissonant</td>
<td>.8</td>
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<td>83.75</td>
<td>.74</td>
<td>1.19</td>
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<tr>
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<td>1.73</td>
<td>3.97</td>
<td>98.55</td>
<td>6.32</td>
<td>-.71</td>
</tr>
<tr>
<td>1.50 dissonant</td>
<td>3.78</td>
<td>1.28</td>
<td>64.80</td>
<td>3.88</td>
<td>.25</td>
</tr>
<tr>
<td>1.50 consonant</td>
<td>1.37</td>
<td>3.43</td>
<td>84.40</td>
<td>3.52</td>
<td>.27</td>
</tr>
</tbody>
</table>
References


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Burgoon, M., Miller, G. R., & Tubbs, S. L. Machiavellianism, justification, and attitude change follow-


Elms, A. C., & Janis, I. L. Counter norm attitudes induced by consonant versus dissonant conditions of role playing. *Journal of Experimental Research in Personality*, 1965, 1, 50-60.


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